Ubuntu Desktop Training

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Course Overview

About the Course and Objectives Ubuntu is a community developed Linux-based operating system freely available and suitable for laptops, desktops and servers. This course is based on Ubuntu 7.10 and aims to train new users of Ubuntu how to use key applications including mainstream office applications, Internet connectivity and browsing, graphics arts tools, multi-media and music. After completing this course, you will be able to:

- Understand the concepts of open source and how they tie in with Ubuntu
- Identify the benefits of using Ubuntu
- Customise the look and feel of the Ubuntu desktop
- Navigate through the file system and search for files
- Connect to and use the Internet
- Perform basic word-processing and spreadsheet functions using OpenOffice.org
- Install and play games
- Add, remove and update applications
- View, draw, manipulate and scan images
- Play, edit and organize music and video files
- Seek help on Ubuntu from free and commercial sources
- Create partitions and dual-boot options

Target Audience and Pre-requisites

This course provides both home and office users with hands on training on Ubuntu. No prior knowledge of Ubuntu is required, although computer literacy is assumed and is a pre-requisite. Ubuntu 7.10 must be installed on the computer hard disk before starting this course.

The Ubuntu desktop course is designed to be modular. If studied in a classroom in its entirety, it should be completed within two full days. However, topics and lessons can be selected as required and a day's content designed to suit the key learning objectives.

Sample material for various exercises is available through the ubuntu-desktop-course-resources package. The most current package is available through the canonical-training PPA (Personal Package Archive) in Launchpad: https://launchpad.net/~canonical-training/+archive.

Instructor Notes:
The ubuntu-desktop-course-resource package should be installed on all systems before the course starts. The sample files are placed in /usr/share/ubuntu-desktop-course. It is recommended to add a link to the directory on the students desktop.

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Student Responsibilities

- Students should arrive on time and stay until the session is dismissed. The instructor should be notified if you expect to arrive late.
- Participation in class discussions is strongly encouraged. Even when some topics are already familiar to some, sharing relevant experiences can be very helpful to other people.
- Cell phones and pagers should be placed on silent mode during class.
- Feedback is vital to the improvement of our course development and delivery. All students must complete the course evaluation form at the end of the last day in order to receive a certificate of completion.
- Please provide any and all feedback regarding this course to: training@canonical.com.

Ubuntu Session Plan

Session	**Duration (in minutes)**
DAY 1	
Welcome and Course Overview	**20**
Introducing Ubuntu	**60**
About Open Source	
Free Software Movement, Open Source and Linux	
About Ubuntu	
Software Repositories and Categories	
Key Differences between Ubuntu and Microsoft Windows	
Lesson Summary	
Review Exercise	

Exploring the Ubuntu Desktop	**75**
Ubuntu Desktop Components	
Changing the Default Language	
Creating a User Account and Fast User Switching	
Adding/Removing Applications	
Desktop Effects - Compiz Fusion	
Desktop Search Tracker	
Lesson Summary	
Lab Exercise	

Using the Internet	**100**
Connecting to and Using the Internet	
Browsing the Web	
Accessing Newsreaders	
Sending and Receiving E-mail Messages	
Instant Messaging	
Making Phone Calls using Softphones	
Review Exercise	
Lab Exercise	

Using OpenOffice Applications	**180**
Introducing the OpenOffice.org Suite	

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Using OpenOffice.org Writer	
Using OpenOffice.org Calc	
Using OpenOffice.org Impress	
Using OpenOffice.org Draw	
Using OpenOffice.org Math	
Additional Applications	
Lesson Summary	
Review Exercise	
Lab Exercise	

Ubuntu and Games	**40**
Installing Ubuntu Games	
Playing Ubuntu Games	
Playing Other Popular Games	
Lesson Summary	
Lab Exercise	

Session	**Duration (in minutes) excl. exercises**
DAY 2	
Customising the Desktop and Applications	**80**
Introduction	
Customising the Desktop	
The 3D Effects	
Working with Files Using Nautilus	
Adding and removing applications using Add/Remove and Synaptic Package Manager	
Installing a Single Package File	
Software Repositories	
Adding New Language Settings	
Lesson Summary	
Review Exercise	
Lab Exercise	

Making the Most of Images and Photos	**60**
Introducing Graphics Applications	
Viewing Images with gThumb	
The GIMP	
Managing Photos with F-Spot	
Drawing with Inkscape	
Using a Scanner	
Lesson Summary	
Review Exercise	
Lab Exercise	

Playing Music and Videos	**60**
Legal Restrictions	
Playing Music Files	
Playing and Extracting Audio CDs	
Burning Audio CDs	

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Playing Music and Videos	**60**
Playing Proprietary Multimedia Formats	
Using an iPod	
Creating and Editing Audio Files	
Using DVDs	
Playing Online Media	
Editing Videos	
Lesson Summary	
Review Exercise	
Lab Exercise	

Ubuntu: Help and Support	**60**
Introduction	
Free support resources	
System documentation	
Online Documentation	
Community Support	
Launchpad	
The Fridge	
Paid for Commercial Services	
Lesson Summary	
Review Exercise	

Partitioning and Booting - optional	**60**
What is Partitioning	
Creating a Partition	
Boot-up Options	
Lesson Summary	
Review Exercise	
Lab Exercise	
Course Summary	

Instructor Responsibilities

Instructors are:

- Responsible for conducting classes professionally and ensuring that the classroom environment is conducive to learning; this includes adhering to the schedule for start times, breaks, and lunches.
- Available during lab sessions to answer questions and assist students in completing the exercises.
- Committed to delivering a positive learning experience for all students.
- Responsible for providing students with a course feedback questionnaire at the end of the course.

Pre-Training Preparation/Checks

- Familiarise yourself with the student profile and expectations. Some elements of the course may need to be customised.
- Pre-run and check all student and instructor computers and make sure they are functional and running well on Ubuntu.
- Ensure you check the classroom set-up guide, test each lab exercise and troubleshoot problems encountered, if any.
- Go through the Instructor Guide and the presentation slides in detail before getting into the classroom.

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- Students may not be able to answer all the questions based on the content in the presentation slides. Please ensure to cover the related topics prior to posing the questions to the students.
- It is highly recommended that you teach each topic covered in the training material. However, if you are running short of time, optional topics are indicated in the Instructor Notes of each lesson.

Instructional Methods

Here are some instructional methods that will be used to teach:

- Slides and lecture: Slides will be used to explain concepts and also illustrate the step-by-step procedure to perform each task.
- Demonstrations: Instructor will perform live demonstrations of procedures that may be complicated for students, before doing a hands-on exercise.
- Review questions: Should be interspersed throughout each lesson, to ensure student understanding of key concepts.
- Lab exercises: At regular intervals, students will be performing hands-on lab exercises that replicate the real life scenarios.

Instructional Tips/Guidelines

- Use conversational language that is easy to understand and sounds natural to the students.
- Create a comfortable, relaxed environment throughout.
- Be prompt with your responses to student queries. If you are not sure about anything, inform them and get back with your response the next day.
- Circulate around the room as students complete the exercise and reach out to students struggling with the exercise.
- Use technology (slides, demos, and guided lab exercises) in the most appropriate ways depending on the audience profile and their comfort with Ubuntu.
- Use presentation slides to stay on topic and avoid getting lost and cover the main points without forgetting anything. Glance at a specific point and quickly return attention to the students. Avoid reading out the slide word by word.
- To encourage interactivity, use the lab exercises throughout the lesson.

Lecture Components

Each lecture can be divided in the following components.

Introduction

On the first day,

1. Welcome the students and introduce yourself followed by students introducing themselves - name, professional background, and company, expectations and level of experience with Linux OS.
2. Clearly state the purpose and objectives of the training in general terms.
3. Establish the ground rules for breaks.

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Context Setting

Use any/all of the following methods:

- Giving out a brief introduction to the topic.
- Explaining why the topic is important from learner's perspective.
- Providing a link from the previous to the current topic.

Main Body

You could use any or all of the Instructional methods listed above. However, depending on the student profile and the complexity of the content piece to be taught, choose any combination of the above mentioned methods. Using a wide range of teaching styles and methods is also a good instructional practice as it brings in variety and breaks monotony.

- For complex topics, demonstrate the procedure and then have the students practice the lab exercise. If the topic is fairly simple, put up the slides illustrating the procedure and have the students perform the associated lab simultaneously.
- Explain how and when to use each option on the interface.

Summary

Always summarize key points of the lesson: The lecture can be summarized by:

- Asking for questions.
- Asking questions.
- Using the Lesson Summary presentation slide, which highlight the main points.
- Reiterating how the topic relates with the learner's job.

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Chapter 1

Introducing Ubuntu

Objectives In this lesson, you will learn:

- About the fundamentals and concept of open source
- The link between the Free Software Movement, open source and Linux
- How Ubuntu ties in with open source
- How Ubuntu is developed
- About Ubuntu versions
- The key differences between Ubuntu and Microsoft Windows

1.1 About Open Source

Instructor Notes:
The focus of this topic is to help students understand the concept of open source, which is the underlying foundation of Ubuntu. Briefly explain the dictionary meaning of 'open source' in general and move on to establishing how the open source ideology developed in the context of Linux. Present this as a story spread over different phases: Free Software Movement, Open Source Movement initiation and its formal launch. Explain the Ubuntu release schedule, naming convention and Ubuntu promise in detail.

Ubuntu is a Linux-based open source operating system. The term 'open source' can be defined as a set of principles and practices that promotes access to the design and production of goods and knowledge. Open source is generally applied to the source code of software and is available to users with relaxed or no intellectual property restrictions. This enables users to distribute, create and modify software content, either individually to meet their specific requirement or collaboratively to improve the software. Both open source and Linux have transitioned through various phases to reach their present form.

The idea behind openly distributed source code is to encourage the voluntary, collaborative development of software. Users continuously enhance the software, fix bugs, develop new features and share it with others.

As a result of collaborative software development which involves a large number of programmers, users receive software that is often better in quality and performance than proprietary alternatives. Users are encouraged to customise the software to their own personal requirements, which in itself is a huge step away from the 'one size fits all' philosophy.

Open source projects call on the talents of many people with skills other than programming. Many projects involve artists, musicians, user-interface designers and documentation authors to create a complete product.

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1.2 Free Software Movement, Open Source and Linux

There is often confusion between open source, free software and Linux. While all three are inter-linked, there are distinct differences which are made clearer when looking at their evolution.

1.2.1 The Free Software Movement

In the 1960s, it was typical for software to be distributed freely by companies such as IBM and shared amongst users. Software was then considered an enabler for the hardware, around which the business model of these corporations was built. Software was provided with source code that could be improved and modified; this was therefore the very early seeds of open source software. However, as hardware became cheaper and profit margins eroded in the 1970s, manufacturers looked to software to provide additional revenue streams.

In September 1983, Richard Matthew Stallman, former programmer at the MIT Artificial Intelligence Lab launched the GNU project to create a free UNIX-like operating system (OS). He was concerned with growth in proprietary software and users' inability to access and modify programmes on their computers. Developer constraint, as opposed to freedom was prevalent. With the launch of the GNU project, Stallman started the Free Software Movement and in October 1985, set up the Free Software Foundation.

Stallman pioneered the definition and characteristics of open source software and the concept of copyleft. He is the main author of several copyleft licenses, including the GNU General Public License (GPL), which is the most widely used free software license.

Nice to Know:
For more information on Richard Stallman and the GNU project, refer to the following URL: http://en.wikipedia.org/wiki/-Richard_stallman.

By 1991, a number of GNU tools, including the powerful GNU compiler collection (GCC), had been created. However, a free kernel was not yet available to build a free OS that would use these tools.

1.2.2 The Open Source Movement and Linux

The difference between free software and open source can be defined as the difference between a social movement (free software) and a development methodology (open source). Linux refers to the kernel, or the backbones of the open source architecture.

In August 1991, Linus Benedict Torvalds, a Finnish second-year student of computer science at the University of Helsinki, started working on Minix.

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Figure 1.1: Linus Benedict Torvalds

Nice to Know:
Minix is a UNIX-like OS built with open source code that Prof. Andrew S. Tanenbaum created with the intention to teach his students the internal processes of an OS.

Linux was initially designed to be a Minix-like operating system that Linus Torvalds could use on his home computer. By mid-September, Torvalds released the first Linux kernel version 0.01. In 1994, Linux kernel version 1.0 was released under the GNU GPL. The free kernel and GNU tools provided a fertile environment for enthusiasts. By staying close to its UNIX roots, Linux provided a Command Line Interface (CLI) first; the adaptation of the X Window System made a graphical user interface (GUI) available at a later stage.

Nice to Know:
Linux is not owned by any individual or company, not even Linus Torvalds who started Linux. However, Torvalds is heavily involved in the main kernel development process and owns the trademark, Linux.

Linux open source code:

- Is available and accessible to everyone
- Can be customised according to an individual's requirements and the platforms used
- Can be freely redistributed in its current or a modified form

Initially, Linux was a very technical, hard core open source programming tool. Thousands of developers contributed to its evolution as it became more user friendly. This has resulted in the launch of hundreds of commercial and non-commercial distribution versions, designed for everyday application use which are now available.

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In 1998, Jon "maddog" Hall, Larry Augustin, Eric S. Raymond, Bruce Perens et al formally launched the Open Source Movement. They promoted open source software exclusively on the basis of technical excellence.



Figure 1.2: Founders of the Open Source Movement

The open source movement and the dot.com boom of the late 1990s coincided, resulting in the popularity of Linux and the evolution of many open source friendly companies such as Corel (Corel Linux), Sun Microsystems (OpenOffice.org) and IBM (OpenAFS). In the early 21st century when the dot.com crash was at its peak, open source was in a prime position as a viable alternative to expensive proprietary software. Its momentum has strengthened since with the availability of many easy to use applications.

As such, what started off as an idea became a passion to revolutionise a patent and license intense industry. With a significantly cheaper return on investment and enhanced usability features, Linux is now rooted as a viable option for enterprises and home users.

1.3 About Ubuntu

Instructor Notes:
The focus of this topic is to make the students understand the origins of Ubuntu, the development cycle, version releases and the importance of community contributions towards its development.

Ubuntu is a community developed, Linux-based operating system that is perfect for laptops, desktops and servers. It contains all the applications you need - including a Web browser, presentation, document and spreadsheet software, instant messaging and much more.

Nice to Know:
Ubuntu is an African word meaning ’Humanity to others’, or ’I am what I am because of who we all are’.

The history of Ubuntu dates back to April 2004 when Mark Shuttleworth formed a group of open source developers to create a new Linux OS.

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Figure 1.3: Mark Shuttleworth

Based on the principles of time-based releases, a strong Debian foundation, the GNOME desktop, and a commitment to freedom, this group operated initially under the auspices of http://no-name-yet.com.

In a little over three years, Ubuntu has grown to a community of over 12,000 members and an estimated user base of over 8 million (as at June 2007). Canonical is the commercial sponsor of Ubuntu.

Instructor Notes:
If the students are interested to know more about Mark Shuttleworth, present the following content as a story.
Mark Shuttleworth is an African entrepreneur with a love for technology, innovation, change and space flight. Shuttleworth studied finance and information technology at the University of Cape Town and went on to found Thawte, a company specialising in digital certificates and cryptography. He sold Thawte to the U.S. company VeriSign in 1999 and founded HBD Venture Capital and the Shuttleworth Foundation. He moved to London in 2001 and began preparing for the First African in Space mission, training in Star City, Russia and Khazakstan. In April 2002, he became a space traveller as a member of the cosmonaut crew of Soyuz Mission TM34 to the International Space Station. In early 2004, he founded the Ubuntu project, which aims to produce a free, high-quality, user friendly OS available for everybody.

1.3.1 The Ubuntu Promise

Instructor Notes:
Stress on the Ubuntu promise because it holds the very essence of the spirit and success of the software.

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- Ubuntu will always be free of charge, including enterprise releases and security updates.
- Ubuntu comes with full commercial support from Canonical and hundreds of companies around the world.
- Ubuntu includes the best translations and accessibility infrastructure that the free software community has to offer.
- Ubuntu CDs contain only free software applications; Ubuntu encourages you to use free and open source software, improve it and pass it on.

1.3.2 Ubuntu Versions

In October 2004, Ubuntu released its first version. A new version of Ubuntu is released every six months and upgrades to new releases are free of charge. Users are encouraged to upgrade with each new release in order to enjoy the latest features and applications. Its versions are named using the Y.MM (name) scheme, where Y indicates the year and MM refers to the month of release. The name in brackets is a code name given to the version pre-release.

Each release is supported for 18 months; Long Term Support releases (LTS) are supported for 3 years on the desktop and 5 years on the server.

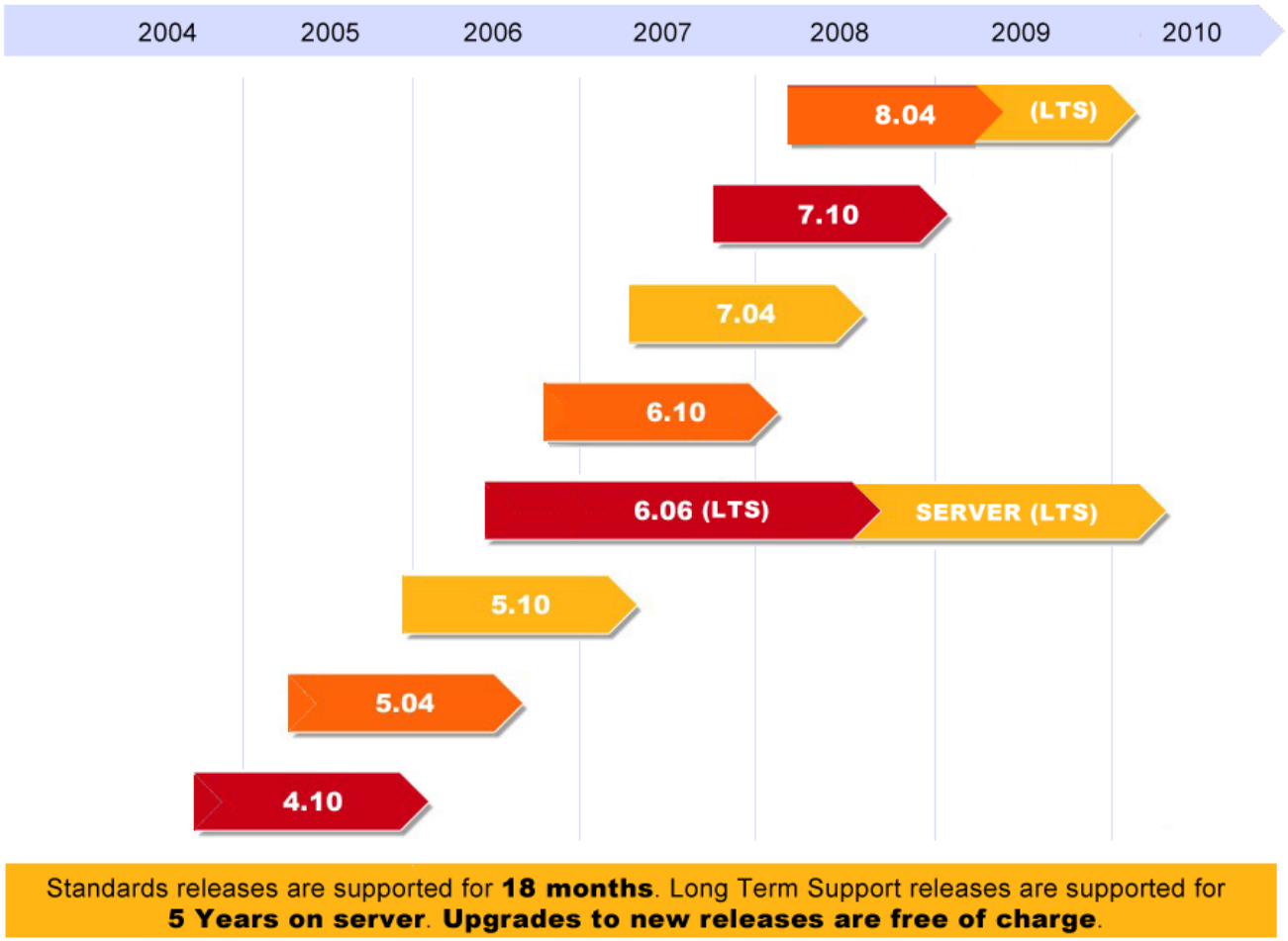


Figure 1.4: Ubuntu Versions

A brief history of releases:

- **Ubuntu 4.10 (Warty Warthog)** Ubuntu 4.10 was the first release of Ubuntu in October 2004; supported until April 2006.

> **Nice to Know:**
> The early testing community of version 4.10 was called the Sounder, named after the collective noun for warthogs. The Sounder mailing list continues today as an open discussion forum for the community.

- **Ubuntu 5.04 (Hoary Hedgehog)** Released in April 2005; supported until October 2006.
- **Ubuntu 5.10 (Breezy Badger)** Released in October 2005; supported until April 2007.
- **Ubuntu 6.06 LTS (Dapper Drake)** The first release with Long Term Support (LTS); it was released in June 2006. Long-term support version refers to guaranteed three years of support on the desktop and five years on the server. All other releases are provided with 18 month support for desktops and servers. The extended support period provides reassurance and makes it easier and more practical for large deployments of Ubuntu. Desktops supported until June 2009; servers supported until June 2011.
- **Ubuntu 6.10 (Edgy Eft)** Released in October 2006. This version guarantees a robust boot process; supported until April 2007.
- **Ubuntu 7.04 (Feisty Fawn)** Released in April 2007. This version introduced significant improvements to network roaming; supported until October 2008.
- **Ubuntu 7.10 (Gutsy Gibbon)** Released in October 2007. Key features include spectacular visual effects by default, fast user switching, printer auto-detection and easier desktop file searching and tracking; supported until April 2009.
- **Ubuntu 8.04 LTS (Hardy Heron)** Scheduled for release in April 2008 and will form the second Long Term Support release of Ubuntu. Desktops will be supported until April 2011; servers supported until April 2013.

1.3.3 Ubuntu Derivatives

Ubuntu is also available in several editions such as Ubuntu, Edubuntu, Kubuntu and Xubuntu. Edubuntu is Ubuntu customised for the school environment. Kubuntu is an official derivative of Ubuntu using the KDE environment instead of GNOME. Xubuntu is intended for users with less-powerful computers or those who seek a highly efficient desktop environment on faster systems.

1.3.4 Ubuntu Development and the Community

Ubuntu is a joint collaboration project comprised of Ubuntu community members all around the world. Since its inception in 2004, thousands of contributors have joined the Ubuntu community. These users contribute towards Ubuntu development through writing code, advocacy, artwork, translations, testing and documentation (to name just a few). The development process of Ubuntu is open and transparent to all, whether you are a novice Ubuntu user or an experienced Ubuntu developer - everyone is welcome to get involved with and improve Ubuntu. Canonical also employs developers to contribute to Ubuntu.

How you can get involved The Ubuntu community comprises of many individuals and teams who work on different aspects of Ubuntu. If you are a developer, you can participate in the core development, write new applications, package additional software and fix bugs. If you are an artist, you can add value to the look and feel and functionality of Ubuntu. You can also provide online support, write documentation, assist with training material, join Web forums and the mailing lists of Ubuntu. There are lots of ways to get involved!

Developer Zone The developer zone is comprised of developers who create and package software, fix bugs and maintain Ubuntu. They are responsible for ensuring that Ubuntu has a wide catalogue of software and it operates reliably and smoothly. A great way to get started as a packager is to join MOTU - see https://wiki.ubuntu.com/MOTU/GettingStarted.

Idea Pool If you have ideas for projects, proposals and enhancements but do not necessarily want to implement them, you can add the ideas into the idea pool available at https://wiki.ubuntu.com/IdeaPool.

Technical Users If you have the requisite technical skills, you can contribute to the Ubuntu community in the following ways:

- Test the pre-release versions of Ubuntu to help find bugs before the final release.

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- Report bugs and help the development team analyse them.
- Triage (edit and categorise) bugs to read, assess and sort them before they can be fixed.
- Join an e-mail support list or discussion list on the Ubuntu mailing lists.
- Join Web forums and respond to requests.
- Join the Ubuntu support and discussion Internet Relay Chat (IRC) channel, which is a form of real-time Internet chat.

Non-Technical Users Even if you do not have technical knowledge of Ubuntu, you can help Ubuntu users through the following projects:

- Artwork and design
- Translation and localisation
- Writing and updating documentation
- Advocacy

Ubuntu Desktop Course Development Part of Canonical's mission is to enable the widest deployment of Ubuntu on as many computers and servers, in as many corners of the world as possible. Training is seen as a core enabler for the adoption of Ubuntu and as such courses are designed to certify Ubuntu professionals, assist partners to deploy Ubuntu and show desktop users (such as yourselves) how to use and get the most out of it. For more information on Ubuntu course availability and certifications, please refer to http://www.ubuntu.com/training.

As with software development, the community contributes towards the development and enhancement of this desktop course. As Ubuntu experts, the community defines the scope and structure of the training by identifying requirements from the users' perspective; they also assist the Canonical and third-party content writers in developing content and reviewing it. More information on the Ubuntu Training community effort can be found at http://wiki.ubuntu.com/Training.

The entire content development process is in the true spirit of Ubuntu's philosophy and the open source tradition.

1.4 Ubuntu and Microsoft Windows: Key Differences

Open source differs from the proprietary software model in that it:

- Encourages customisation and variation as opposed to a one size fits many approach.
- Relies on a 'services attached' business model rather than per license and seat basis.
- Believes that the benefits of collaboration and multi-developer contribution outweigh those of controlled project work of smaller, paid developer teams.

Looking at each element outlined in the table in greater detail:

Associated Costs: The Microsoft Windows OS is proprietary and the overall price increases with added functionality and applications. The associated price is sometimes a factor of using third party applications and not just a Microsoft decision. With Ubuntu new release versions and applications are free.

New version releases: There is only one released version of Ubuntu and therefore features available to home and professional users are the same. The Home and Professional editions of Microsoft Windows are not the same. For example, Microsoft Windows Professional editions have more security features than Home editions.

Ubuntu's 6 monthly release cycle also makes it very easy for users to have access to all the latest applications. An upgrade from one release to the next is free and fully supported. Microsoft scheduled releases are less frequent and less visible to the public.

Security aspects: Ubuntu is rarely targeted by malware and viruses. The administrative user root is locked by default in Ubuntu and only certain tasks are run with administrative privileges. Microsoft Windows provides an environment where people can access administrative user directly.

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Attribute	Ubuntu	Microsoft Windows
Costs	• Free of licensing charges	• Charges per user license and/or for a fixed term
Versions Released	• Same version and features for home and professional users • Six-monthly fully supported free release	• Separate Professional and Home editions • Less frequent and less visible release schedule
Security	• Locked administrative user root • Rarely targeted by malware and viruses	• Enables easy access to administrative user • Regularly targeted by malware and viruses
Customisation	• Easy to design and personalise • Can run different flavours of Ubuntu in parallel	• Standard OS with limited options to personalise • Paid for additional applications
Data Storage	• Easy to upgrade and downgrade • User data stored in home directory • Easy to migrate and replicate user data and configuration to another computer	• User data saved in multiple locations • Difficult to backup and migrate to computer

Table 1.1: Key Attributes

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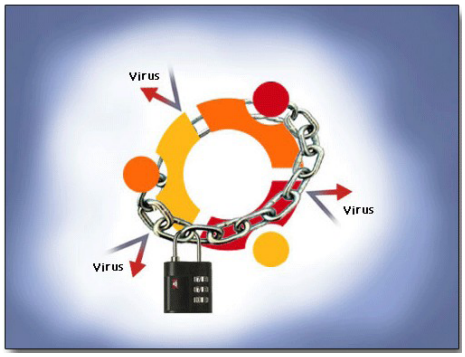


Figure 1.5: Ubuntu Security

Customisation: As you will discover throughout this course, Ubuntu is yours to design and personalise. You can have different flavours of Ubuntu running parallel; for example, you can install the Kubuntu (KDE) desktop together with Ubuntu (GNOME) and then select the desktop environment you want to use. More than 17,000 packages are available and easily accessible through the Internet. As a result, you are not stuck with using one version because it was the first you installed.

Microsoft Windows is a standard OS with some options for customization. While many applications are available, most are proprietary software which incur a license fee.

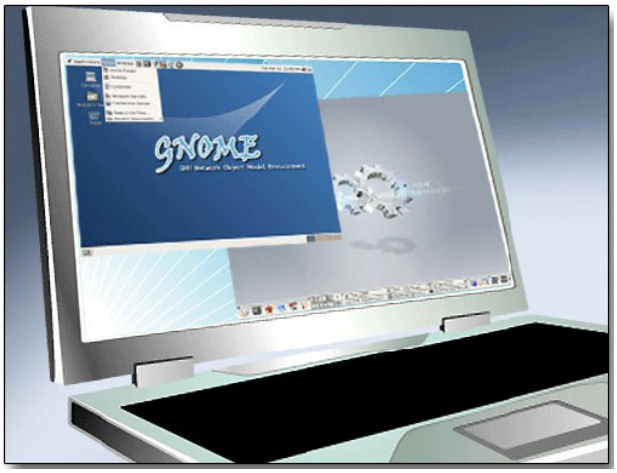


Figure 1.6: Desktop Customisation

Data Storage: User data is often located in multiple locations in Microsoft Windows, which can make backing up and migrating from one computer to another tricky. Ubuntu saves your user information in one place - the home directory. This makes the migration of data from an old computer to a new one easy, as well as keeping user specific backup data separate.

1.4.1 Installation

- **OS Installation:** Both Microsoft Windows and Ubuntu come as pre-installed OSs on computers. However, to install post-purchase, Ubuntu can be freely downloaded from the Internet or a free CD can be requested. Any Microsoft Windows version will need to be purchased.

  Ubuntu comes in live-CD mode which means you can use the OS directly from the CD without installing it on a host computer. If you like what you see, install it. If you don't, pass it on to a friend. The live-CD option is also useful for system recovery.

  The installation of Microsoft Windows and Ubuntu is easy and conducted by running the installation CD and booting the computer. Both installations vary in length according to how powerful your computer is, with an average install taking 20 - 30 minutes.

Installation	Ubuntu	Microsoft Windows
OS Installation	• Freely downloadable from the Internet or using a free CD • Can be used directly from the live-CD	• Purchase required • OS must be installed on computer hard drive
Software Installation	• Huge variety of applications available by default • All freely downloadable from the Internet	• Limited selection of software available by default • Users can purchase and download some software online, others can only be manually installed

Table 1.2: Installation Differences

- **Software Installation:** You can add software on Ubuntu by using the Add/Remove Applications and Synaptic Package Manager. The Add/Remove Applications allows you to search the entire directory of free applications recommended for Ubuntu and install the ones you want. In Microsoft Windows, each programme supplies its own installation method. Microsoft Vista has a Digital Locker feature enables users to purchase software online and download it in a protected manner.



Figure 1.7: Installing Software Applications

1.4.2 Applications

The table below displays a comparison between Ubuntu and Microsoft Windows applications:

Looking at each element outlined in the table in greater detail:

Networking, Web browsing and E-mail Network setup on both Ubuntu and Microsoft Windows is easy. Web browsing features are more or less the same on both OSs.

Mozilla Firefox is loaded as the default browser on Ubuntu, and Internet Explorer is the default browser on Vista. You can also install Firefox on Microsoft Windows.

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Applications	Ubuntu	Microsoft Windows
Web browsing and E-mail	• Firefox Web browser by default • Evolution e-mail client by default	• Internet Explorer Web browser by default • Outlook e-mail client by default
Word Processing	• OpenOffice.org suite	• WordPad by default
Multimedia	• Includes several default multimedia programmes, such as Sound Juicer, Rythmbox, Serpentine, Movie Player and Sound Recorder	• Includes Microsoft Windows Media Player 11 (WMP) and Microsoft Windows Media Center (WMC)
Image Editing and Picture Management	• F-Spot photo manager • Gimp for image editing	• Picture Gallery application • Paint

Table 1.3: Application Based Differences

Evolution is the default e-mail client on Ubuntu. It connects to POP accounts, conventional UNIX mailboxes and Exchange servers via Outlook Web Access. Evolution also has a built-in Personal Information Manager (PIM) and a calendaring and appointment system. The Microsoft Windows Mail application in Vista is a rewritten version of Outlook Express, with a stripped down calendar or appointment application, Microsoft Windows Calendar. An upgrade to Outlook is suggested if you use the calendar often or if you have a full PIM. Ubuntu users enjoy the out-of-the-box mail client setup facility.

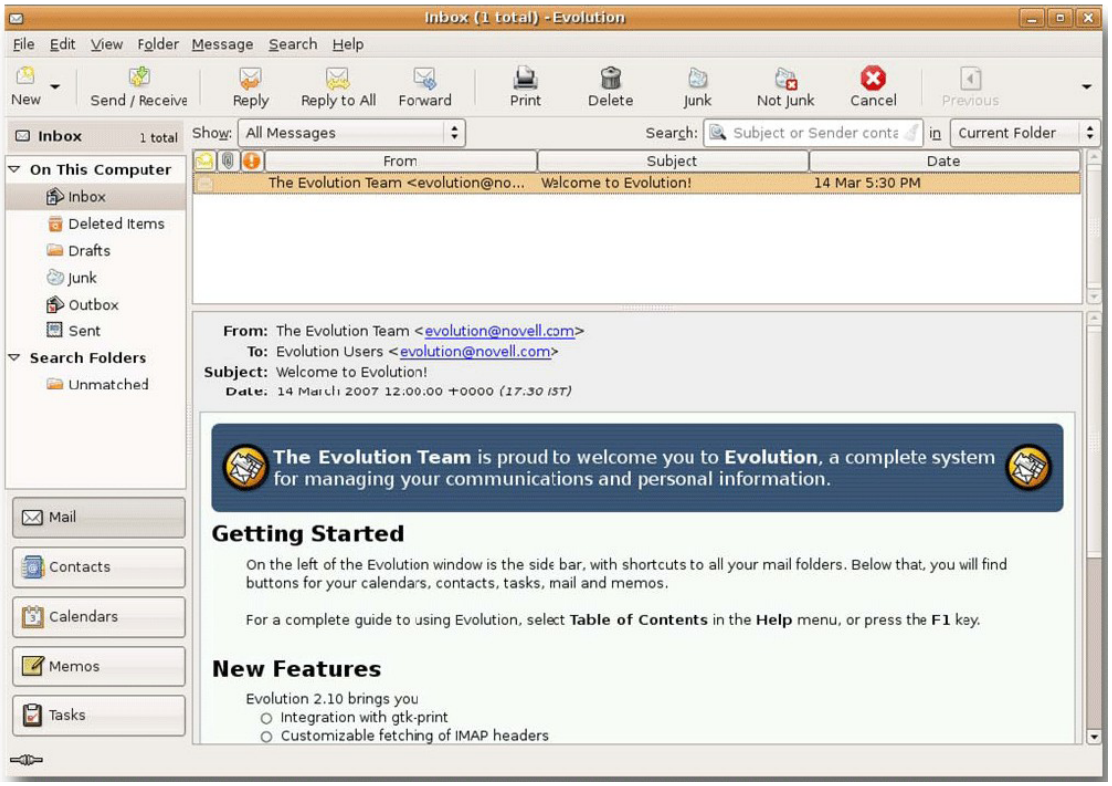


Figure 1.8: Evolution E-mail Client

Word Processing: The OpenOffice.org suite is installed on Ubuntu by default and provides many features of Microsoft Office. Vista comes with WordPad by default; the full version of Microsoft Word (or Office) for Microsoft Windows, is available at an additional cost.

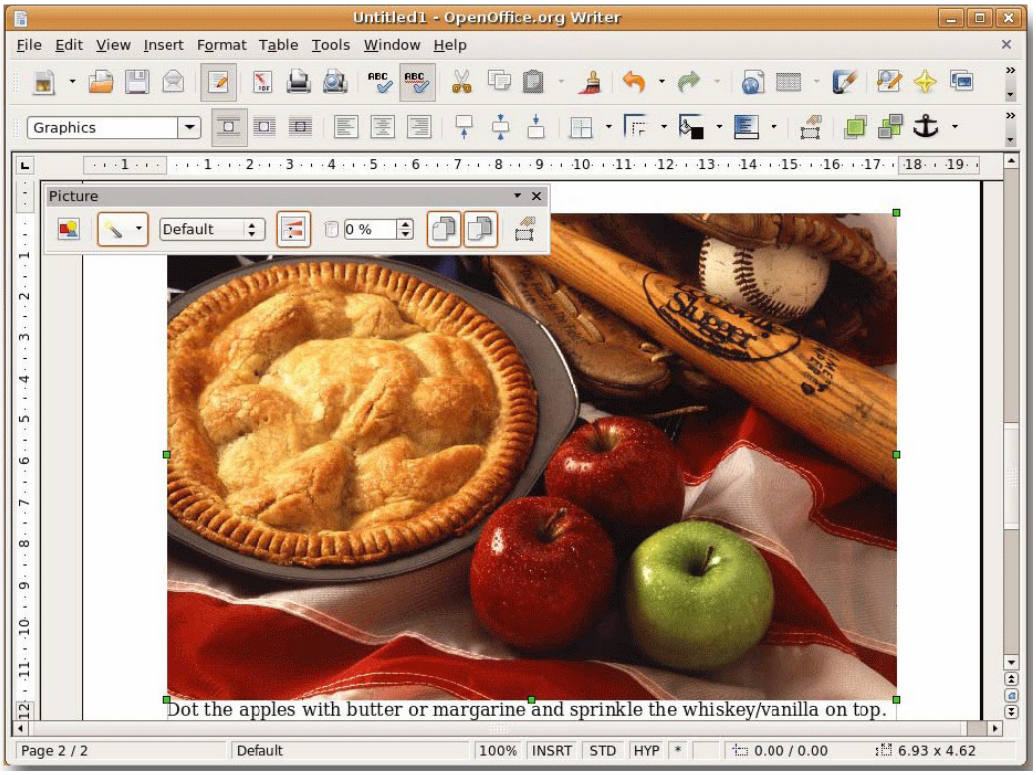


Figure 1.9: *OpenOffice.org Writer*

Multimedia: Several multimedia programmes are configured by default on Ubuntu, such as Sound Juicer, Rythmbox, Serpentine, Movie Player and Sound Recorder. Sound Juicer is the default application for playing audio CDs. If you plug-in an iPod on Ubuntu, Rhythmbox organises music and creates playlists for you. This is similar to Microsoft Windows Media Player. You can use Serpentine to author audio CDs.

To play the mp3 format on Ubuntu, you need to install a codec pack. This is because Ubuntu is not distributed with mp3 codecs due to licensing restrictions. Playback of mp3 files is enabled by default on some versions of Microsoft Windows.

Vista has two multimedia programmes, Windows Media Player 11 (WMP for short) and Windows Media Center (WMC for short). WMP is best for playing music, and WMC is useful if you are using the computer as your core entertainment system. WMP can contain a large music library. With the index search system of WMP, you can search music numbers by a particular artist or search for specific numbers.

Image Editing and Picture Management: With the Picture Gallery application of Microsoft Vista, you can upload thousands of images and add tags. You can also organise the images quickly and work on them easily because you can tag them with one click. F-Spot photo manager organises your personal photos on Ubuntu. It integrates seamlessly with popular Web based image databases, such as Flickr and Picasa Web.

Ubuntu provides GIMP for image editing which is a powerful Photoshop-like application. Microsoft Windows Vista provides 'Paint' for basic image editing.

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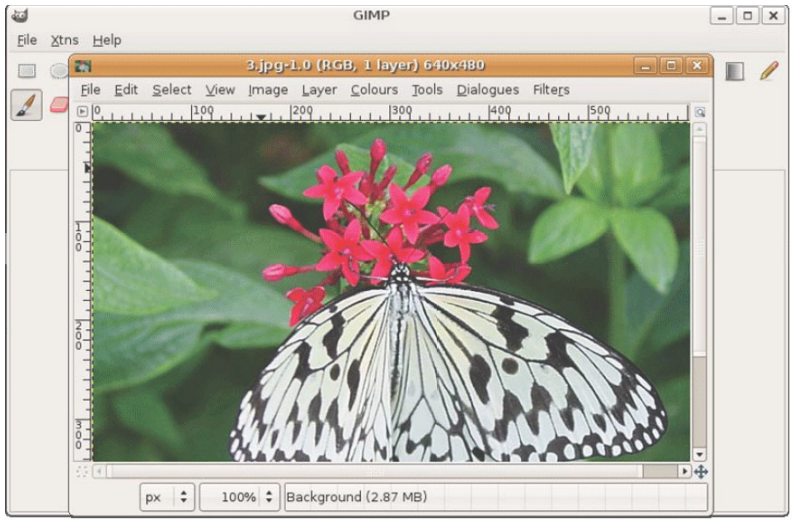


Figure 1.10: GIMP

1.5 Lesson Summary

In this lesson, you learned about:

- The fundamentals and concept of open source
- The link between the Free Software Movement, open source and Linux
- How Ubuntu is developed
- Ubuntu versions
- Key differences between Ubuntu and Microsoft Windows

1.6 Review Exercise

Instructor Notes:
If you are running short of time, administer this exercise when Exploring the Ubuntu Desktop in Chapter 2.

Question: What is meant by the term free software?

Answer: Quoting the Free Software Foundation's 'What is Free Software', the freedoms at the core of free software are defined as:

- The freedom to run the programme, for any purpose.
- The freedom to study how the programme works and adapt it to your needs.
- The freedom to redistribute copies so you can help others.
- The freedom to improve the programme and release your improvements to the public, so that everyone benefits.

Question: What is the Ubuntu promise?

Answer: The Ubuntu promise is:

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- Ubuntu will always be free of charge, including enterprise releases and security updates.
- Ubuntu comes with full commercial support from Canonical and hundreds of companies around the world.
- Ubuntu includes the best translations and accessibility infrastructure that the open source community has to offer.
- Ubuntu CDs contain only open source applications; Ubuntu encourages you to use free and open source software, improve it and pass it on.

Question: Match the Ubuntu versions with the years in which they were released.

1) 7.04	a) June 2006
2) 4.10	b) October 2007
3) 6.06	c) April 2007
4) 7.10	d) October 2004

Answer:

1) 7.04	c) April 2007
2) 4.10	d) October 2004
3) 6.06	a) June 2006
4) 7.10	b) October 2007

Question: List 3 ways in which non-technical users can contribute towards the development of Ubuntu.

Answer: The three ways in which non-technical users can contribute towards Ubuntu development are artwork, translation and localisation and document solutions.

Question: The default web browser on Ubuntu is _____.

Answer: The default web browser on Ubuntu is Mozilla Firefox.

Question: The default e-mail client on Ubuntu is _____.

Answer: The default e-mail client on Ubuntu is Evolution.

Question: What are the advantages of Ubuntu 6 monthly releases?

Answer: Quicker upgrade and availability of new applications, as well as improved functionality.

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Chapter 2

Exploring the Ubuntu Desktop

Objectives In this lesson, you will learn:

- The highlights of Ubuntu desktop
- How to change the default language
- How to create a new user account and enjoy fast user switching
- To add and remove applications
- How to enable 3D Desktop effects
- To use the desktop search tracker

Instructor Notes:
All the topics in this lesson are mandatory. To familiarise the students with the basic features of the new desktop, this lesson should primarily be a hands on session.

This section serves as a quick tour of the Ubuntu desktop. The course will go into more detail in later lessons, but this will give you a taste of what's ahead.

2.1 Ubuntu Desktop Components

Instructor Notes:
Highlight the fact that unlike other operating systems, Ubuntu comes with a completely clean desktop, by default. Users are free to add icons and files on the desktop according to their preferences.

GNOME is the default desktop environment for Ubuntu. GNOME (GNU Network Object Model Environment) is an international effort to build a complete desktop environment—the graphical user interface, which sits on top of a computer operating system—entirely from free software. This goal includes creating software development frameworks, selecting application software for the desktop and working on the programmes which manage application launching, file handling and window and task management. Community members worldwide contribute to the translation and accessibility of the desktop in multiple languages. (Reference: http://en.wikipedia.org/wiki/GNOME)

Key Desktop Components on Ubuntu When you start your computer, the first screen displayed on Ubuntu is the logon screen, where you type your user name and password. The next screen displayed is the Ubuntu desktop. Ubuntu comes with a completely clean desktop background, free of icons by default.

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Instructor Notes:
Ensure that you browse through each element very quickly because more details will be covered in the subsequent lessons.

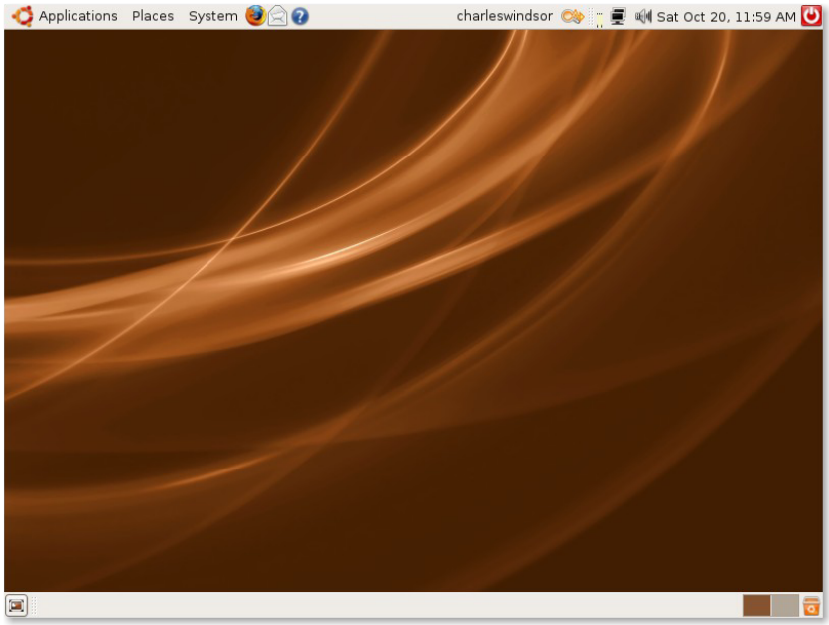


Figure 2.1: Default Ubuntu Desktop

You can arrange icons and files on the desktop to access them quickly. If a CD, hard disk or any other external device is connected to your computer, Ubuntu automatically displays its icon on the desktop to allow easy access to the device.

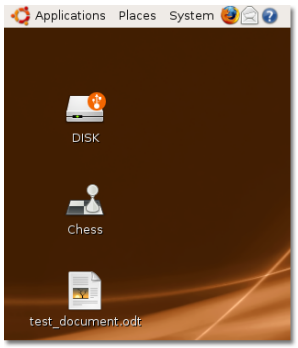


Figure 2.2: Desktop Icons

At the top and bottom of the desktop are two bars, called panels.

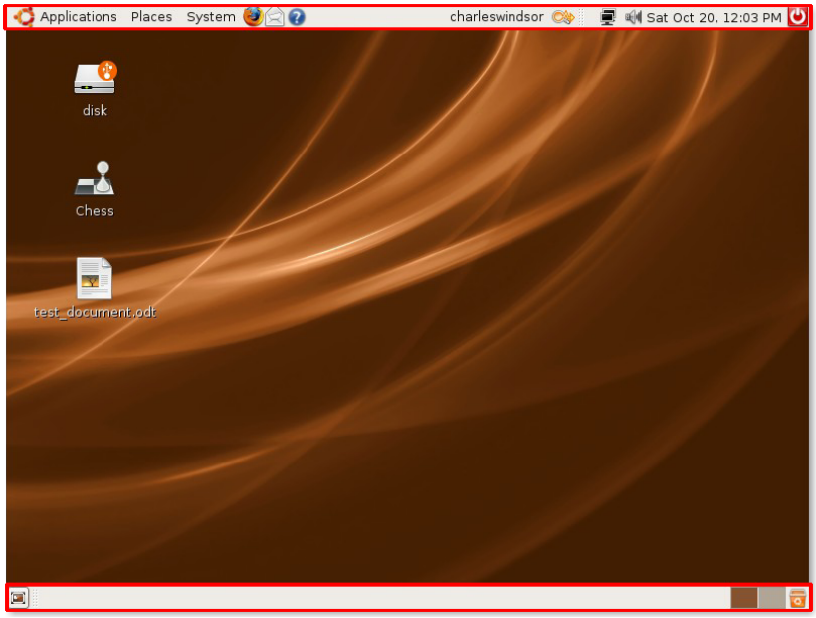


Figure 2.3: Desktop Panels

There are three main menus in the left pane of the top panel: Applications, Places and System.

- **Applications:** This menu contains all the applications installed on your computer such as games, music players, Web browsers and e-mail clients.

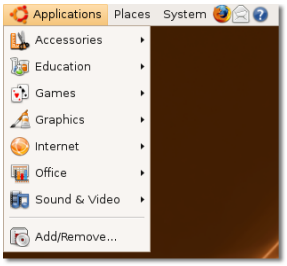


Figure 2.4: The Application Menu

- **Places:** This menu provides access to your home directory, external devices and network on your computer.

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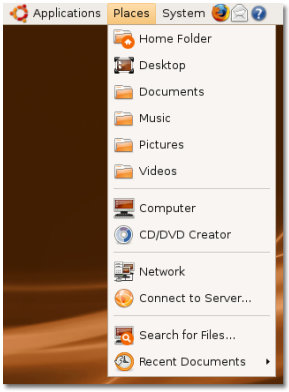


Figure 2.5: The Places Menu

Note:
The Home directory is created by default for every user and automatically takes the username. It contains all user-specific files. In a multi-user system, every user stores personal data in a sub-directory of this directory.

- **System:** This menu enables you to change the computer settings. You can also access the Ubuntu help system and turn off your computer here.

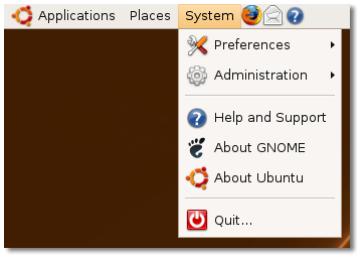


Figure 2.6: The System Menu

By default, there are three shortcut icons next to the menus on the top panel: Mozilla Firefox, Evolution and Help. You can create additional shortcuts to any applications and place them here for quick access.



Figure 2.7: The Shortcut Icons

1. Right-click the blank area of the top panel and click **Add to Panel**. The **Add to Panel** dialogue box appears.

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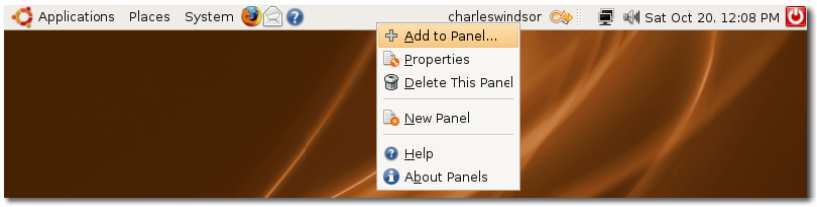


Figure 2.8: Adding a Shortcut Icon

2. The **Add to Panel** dialogue box displays a list of applications available on your computer. Select an application and click **Add** to add it to the blank area of the desktop. If you want to launch the programmes available on the **Applications** menu, click **Application Launcher**.

Note:
Alternatively, you can drag an application icon from the Add to Panel dialogue box and drop the icon on the panel to create a short cut to the application.

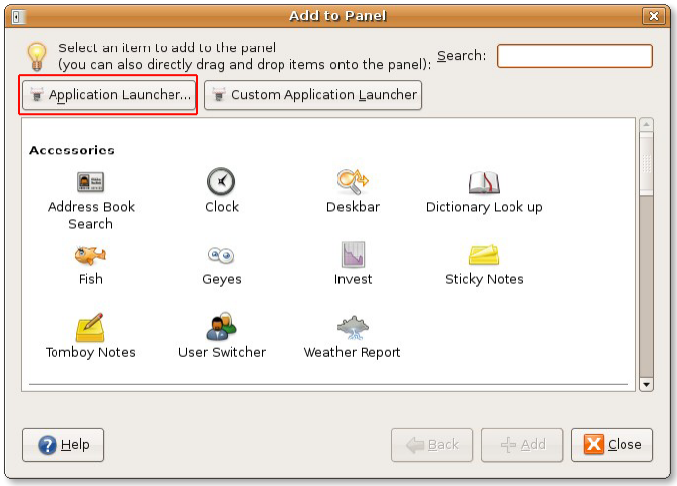


Figure 2.9: Adding Application Launchers

3. The applications grouped in a category similar to the **Applications** menu appears. Select an application from the available list, and click **Add**.

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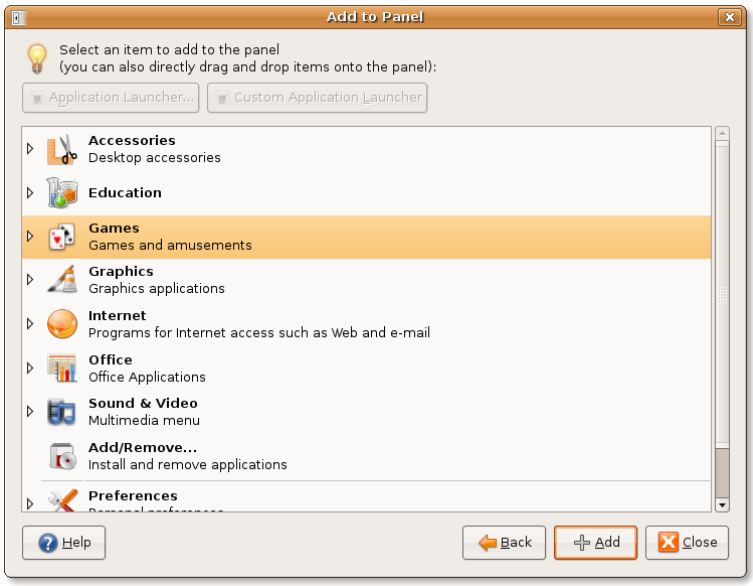


Figure 2.10: Selecting Applications

The icon of the selected application will be displayed on the blank area of the top panel.

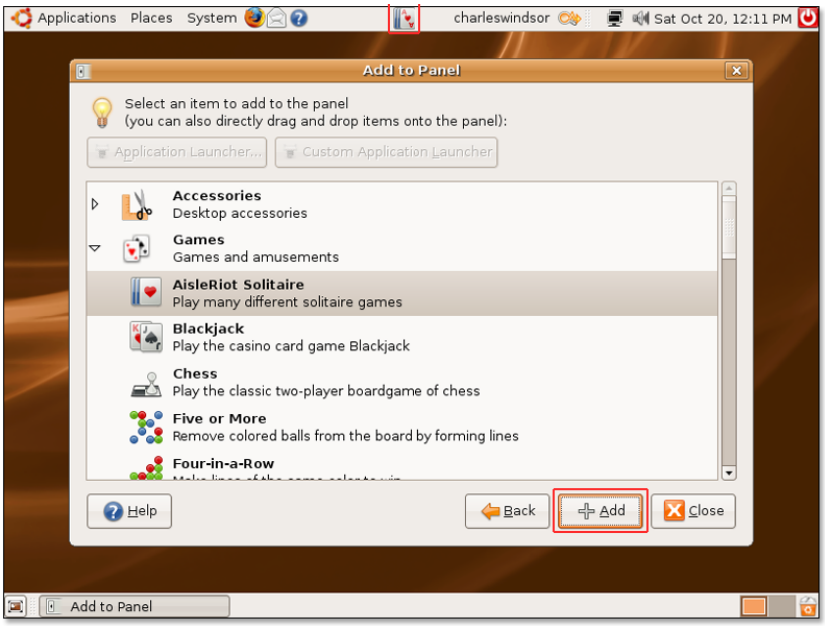


Figure 2.11: Adding Application Launchers

You can change the location of the newly created shortcut icon by right-clicking it and selecting **Move**. Move the icon anywhere on the top panel and left-click the icon to freeze its location.

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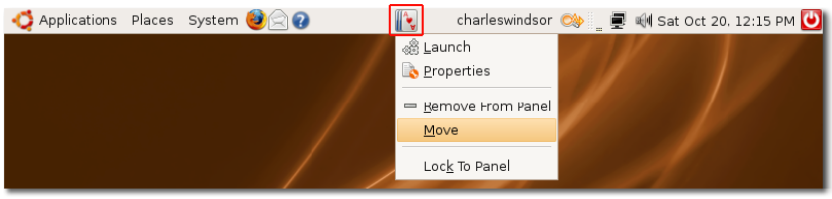


Figure 2.12: Moving Shortcut Icons

Next to the blank area on the top panel (where you can create short cuts of the application) is the fast user switch icon. This icon shows the current user of your computer. You can click the icon to view other users on the computer and switch to another user.

Note:
You will learn more about fast user switching in the **Fast User Switching** topic of this lesson.



Figure 2.13: The Fast User Switch Icon

Next to the fast user switch icon is the search tool icon. This icon helps you search information on your computer. Clicking this icon displays the **Deskbar Applet** dialogue box, where you can type a search keyword in the **Search** box. You can also open this dialogue box by pressing the F11 key.

This dialogue box also helps you to:

- Launch applications by searching for either the application name or its executable file name.
- Look up a word in the dictionary.

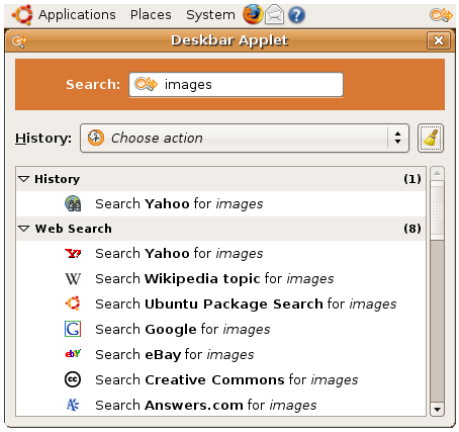


Figure 2.14: The Search Tool

Adjacent to the search tool icon is the System tray. It contains the network and sound icons for quick access to network and sound settings. You can check the network configuration of the computer and adjust the volume of your computer's speaker.

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The current date and time is displayed next to the System tray. If you click the date and time, a calendar is displayed.

The last icon on the top panel shuts down, restarts, hibernates, locks your computer and places it on standby.

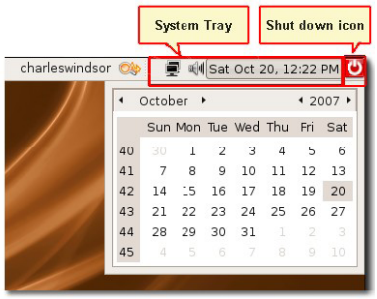


Figure 2.15: Top Panel Icons

The first icon on the bottom panel provides quick access to the desktop. If multiple windows are open on your desktop and you would like to minimise all of them together, click this icon. Clicking again will display your windows in their original state, before you minimised them.



Figure 2.16: Show the Desktop

Next to the icon used to minimise the windows is a blank area in which the list of open application windows appears, similar to the taskbar in Windows. When you open an application, it's listed on this area for easy access, as shown in the bottom panel of the following screen:



Figure 2.17: Open Applications

The next icon, workspace, enables you to split the windows that are open on your desktop into multiple workspaces. You can then navigate among the workspaces by pressing and holding down the CTRL+ALT keys, and then pressing either the left or the right arrow key. This reduces the clutter on your desktop and eases navigation between windows.

For example, you might have the Firefox window, an OpenOffice application, a search window and a calculator window open on the desktop.

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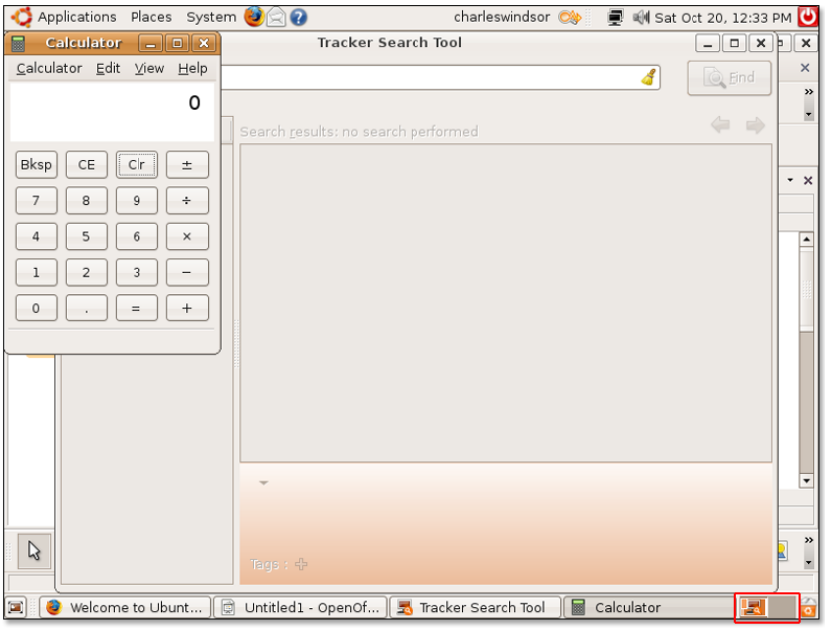


Figure 2.18: The Workspace Icon

You can move the Firefox window to a separate workspace by pressing and holding down the CTRL+ALT+SHIFT keys and then pressing the left or the right arrow key. Two workspaces will be displayed in the bottom-right corner of the desktop - one workspace with the Firefox window and the original workspace with the other windows.

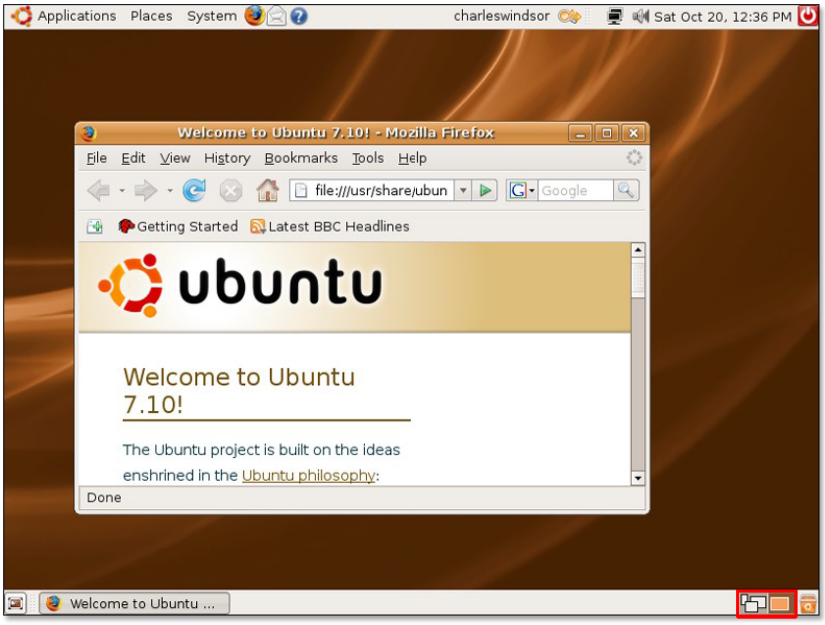


Figure 2.19: Switching Workspaces

Now, you have two separate workspaces. Notice that the Firefox window has shifted to the original workspace. So, depending on the task you perform, you can split the windows into different workspaces.

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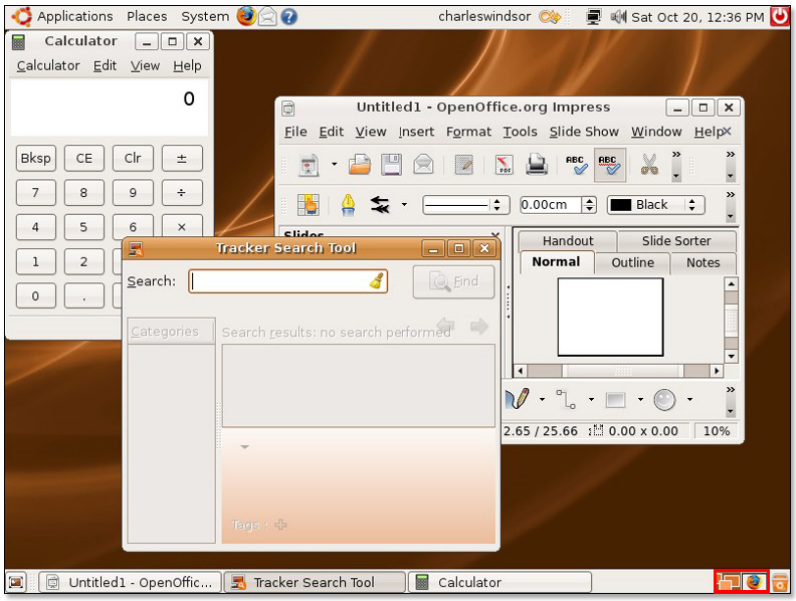


Figure 2.20: Splitting Windows into Workspaces

By default, Ubuntu provides two workspaces. If you want to split the windows into more workspaces, you have to add the workspace to the desktop by right-clicking the workspace icon and then clicking **Preferences**. The **Workspace Switcher Preferences** dialogue box appears.

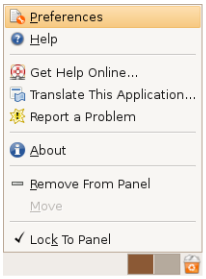


Figure 2.21: Creating New Workspaces

In the **Workspace Switcher Preferences** dialogue box, type or select the number of workspaces from the **Number of workspaces** list and click **Close**.

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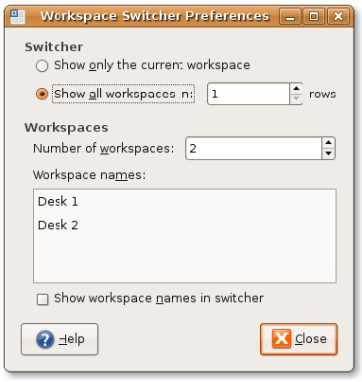


Figure 2.22: Workspace Switcher Preferences

The specified number of workspaces will be displayed in the bottom-right corner of the desktop.

The last icon in the bottom panel is the **Waste basket**. It contains the files you deleted from your computer. Right-click the icon and click **Open** to open the **Trash** window.

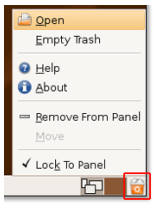


Figure 2.23: The Waste Basket Icon

You can delete an item permanently from the computer by pressing the DELETE key.

Note:
Alternatively, you can right-click the item and click **Delete from Trash** to permanently delete it from the computer.

If you want to restore the deleted item to the desktop, drag that item to the desktop from the **Trash** window.

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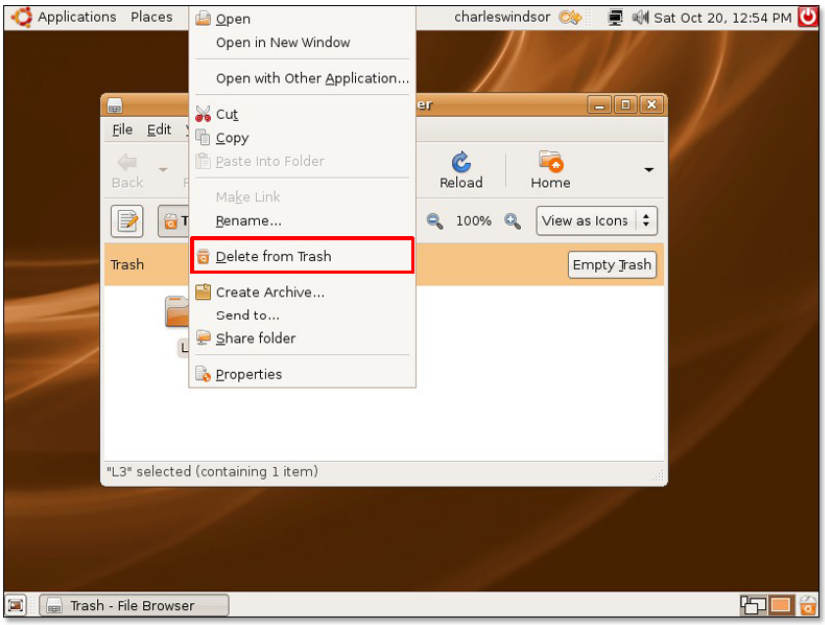


Figure 2.24: Deleting Items from Trash

2.2 Changing the Default Language

Ubuntu supports more than 100 languages. You can set the default language of your computer either during the installation of Ubuntu or at a later stage.

To change the default language during the installation, select the required language when prompted.

1. On the **System** menu, point to **Administration** and click **Language Support**. The system prompts you to install language support if updates are available for your selected language.

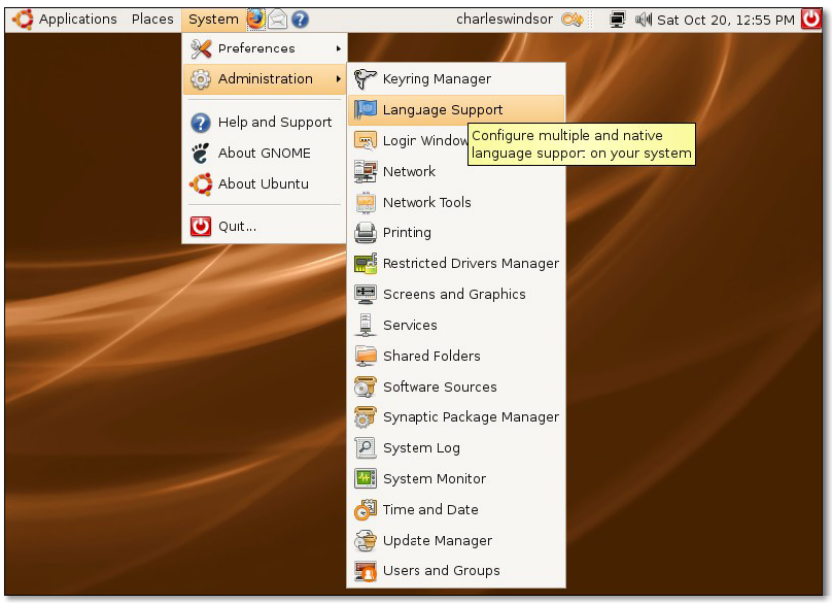


Figure 2.25: Configuring Language Support

2. Click **Install** to continue. On completing the updates, the **Language Support** dialogue box opens.

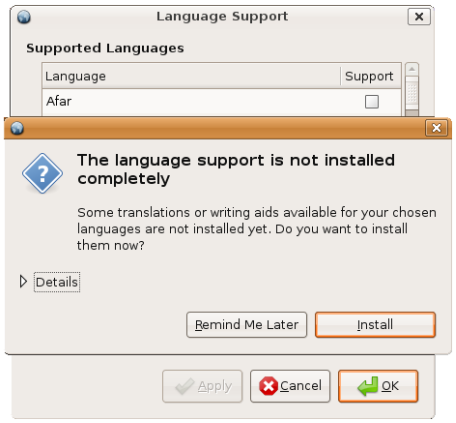


Figure 2.26: Installing Language Support Updates

3. In the **Language Support** dialogue box, from the **Supported Languages** section, select the check box for the language you want to use for support functions in Ubuntu.



Figure 2.27: Installing Default Language Support

4. Click **Apply** and then click **OK**. Ubuntu downloads and installs the necessary packages on your computer. The language you selected will now appear in the **Default Language** box.
5. Select the language that you want set as default, and click **OK**.
6. For the changes to take effect, log off and then log on again.

Nice to Know:
You can change the language as many times as you would like and this can depend on your location. For example, changing the language to Russian may be a nice touch when presenting in Russia during a business trip.

2.3 Creating a User Account and Fast User Switching

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Instructor Notes:
Advise students that to understand the concept of fast user switching, they need to have more than one user account on their computer. Walk the students through creating a new user on their computer, and then move on to the concept of fast user switching.

You may have multiple users who want to access your system. In this case, there is a risk of data being manipulated or corrupted by other users. To prevent this from happening, you can create user accounts for each individual who wants to use your computer, giving each user an individual account with personalised user settings. For example, it is useful to give children their own accounts on the computer to prevent then from changing your settings or accessing unsuitable files and applications..

1. On the **System** menu, point to **Administration** and click **Users and Groups**. The **User settings** dialogue box appears.

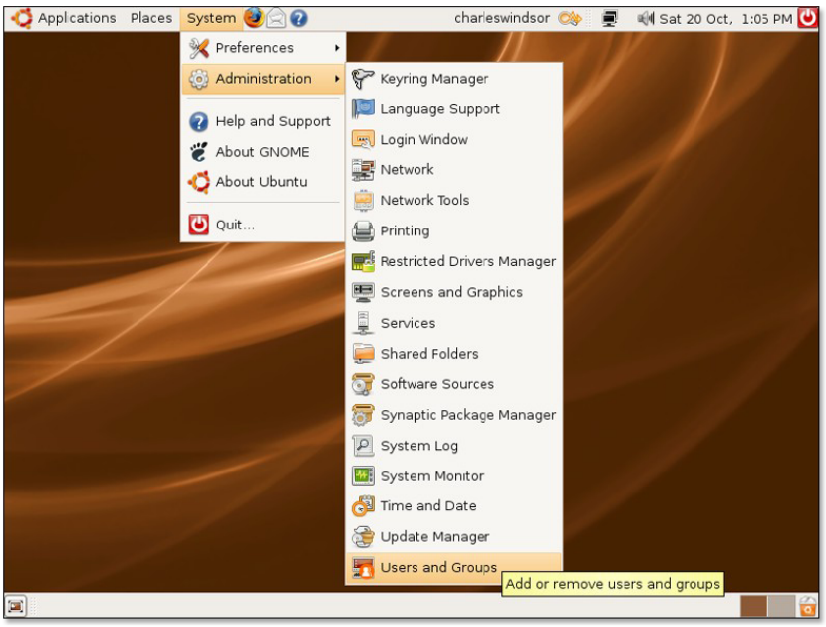


Figure 2.28: Adding/Removing Users

2. In the **User settings** dialogue box, click **Add User** to add a new user account on your computer. The **New user account** dialogue box opens.

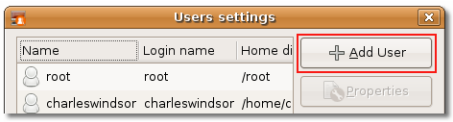


Figure 2.29: Adding a User

3. Specify the user accounts' basic settings, contact information and password information in the **New user account** dialogue box.
   (a) Type the name with which you want to log on to your computer in the **Username** box.
   (b) Type your full name in the **Real name** box.
   (c) Select your user type from the **Profile** box.
   (d) Type your office location in the **Office location** box.

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(e) Type your work phone number in the **Work phone** box.

(f) Type your home phone number in the **Home phone** box.

(g) Type the password for your user account in the **User password** box.

Note:
This information is for record keeping only, and other users cannot view it.

Click **Close** to save the settings.



Figure 2.30: Configuring New User Account

4. A new user account will be displayed in the User settings dialogue box. This dialogue box displays the new user's full name and login name. It also tells you the location of the new user account created.

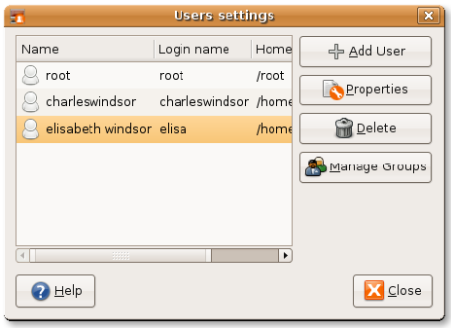


Figure 2.31: The New User Account

Now, if you click the fast user switch icon, there will be two users displayed and the current user logged on to the computer will be marked.

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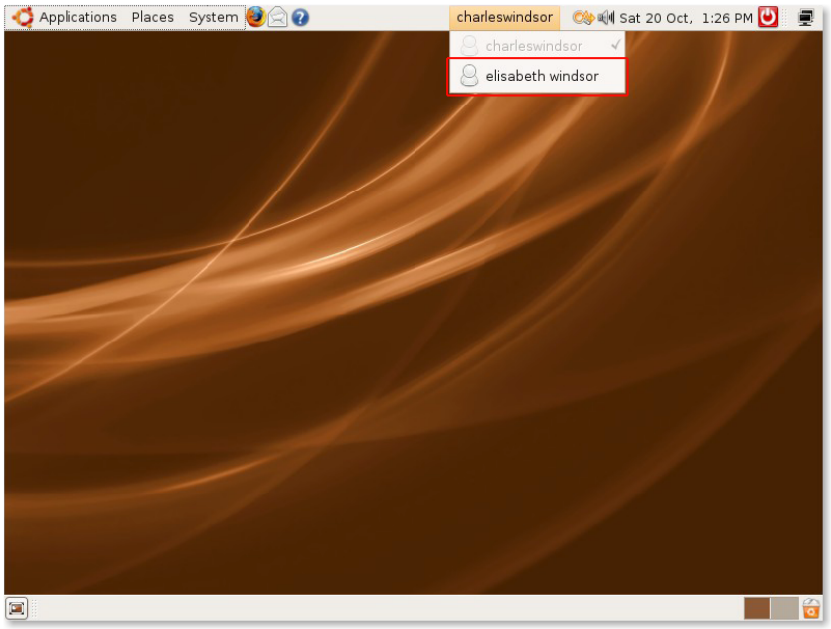


Figure 2.32: Switching Users

This feature prevents you from logging off and logging on all the time to switch users. It allows multiple users to switch quickly while staying logged on. By simply clicking the fast user switching icon, a list of the user names appears. Select the user name and you will be directed to the logon screen. Type the user name and password, and you will be on a desktop of the new user. When you switch to another user, the previous user screen is locked by default, so the other person cannot make any profile changes.

2.4 Adding/Removing Applications

Instructor Notes:
Advise students that you will cover this topic in detail while teaching the **Customising Ubuntu and Applications** lesson of this course. This topic is just an introduction.
Tell the students that you will cover this topic in detail while teaching the **Customising the Desktop and Application** lesson of this course. This topic is just an introduction.

USE THE ADD/REMOVE APPLICATIONS WHEN YOU NEED TO:

- Use software not provided as a default application on Ubuntu.
- Try an alternative application to the one already installed

Ubuntu contains pre-loaded software that you can easily install on your computer when required. You can install this software by using the Add/Remove application or the Synaptic Package Manager utility of Ubuntu. To access the Add/Remove application, on the **Applications** menu, click **Add/Remove**.

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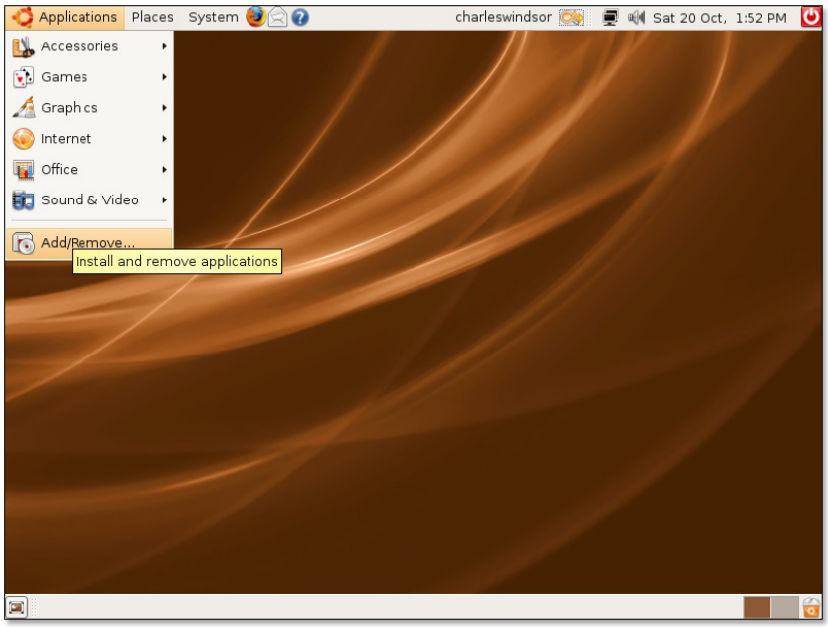


Figure 2.33: Launching Add/Remove Applications

To access Synaptic Package Manager, on the **System** menu, point to **Administration** and click **Synaptic Package Manager**.

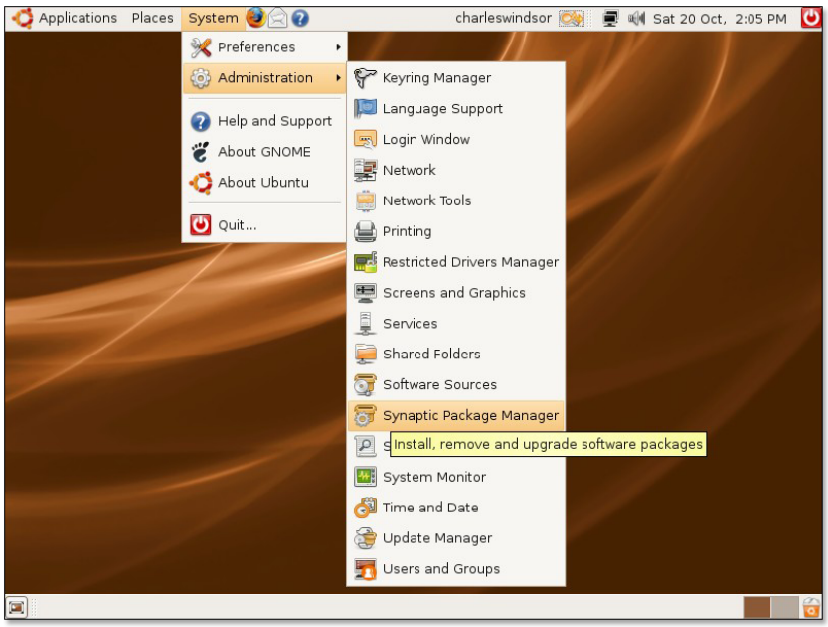


Figure 2.34: Launching Synaptic Package Manager

Synaptic offers an advanced way of installing packages. If you do not find a software programme in the Add/Remove tool, you can search for it in Synaptic. It searches all software in the available repositories on Ubuntu.

2.5 Desktop Effects - Compiz Fusion

Instructor Notes:
Advise students that to view desktop effects, computers must have a 3D-enabled graphic card.

Compiz Fusion is a 3D window manager that makes use of 3D accelerated graphics cards found today on many desktops and laptops. It provides a number of visual effects that makes the Linux desktop more powerful and intuitive, as well as easier and more fun to use. For example, you can place workspaces on a cube, which enables you to move from one workspace to another easily.

Compiz Fusion is enabled by default on Ubuntu 7.10 with appropriate graphics cards. It enables the 3D desktop visual effects that improve the usability and visual appeal of the system. You really have to see and play with this application to appreciate the benefits.

1. On the **System** menu, point to **Preferences** and click **Appearance**. The **Appearance Preferences** dialogue box appears.

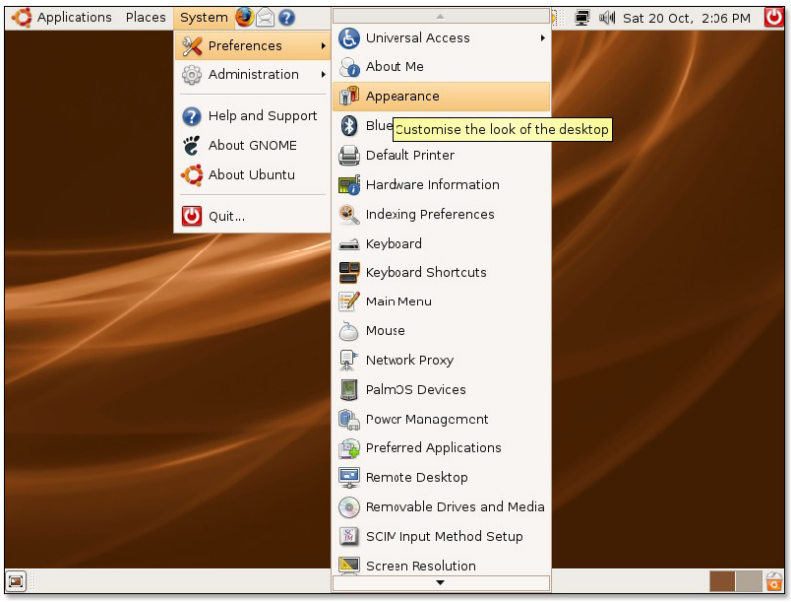


Figure 2.35: Opening the Appearance Preferences Dialogue Box

2. In the **Appearance Preferences** dialogue box, there are three pre-configured levels of special effects settings: No effects, Normal effects and Extra effects. You can select any one of them:

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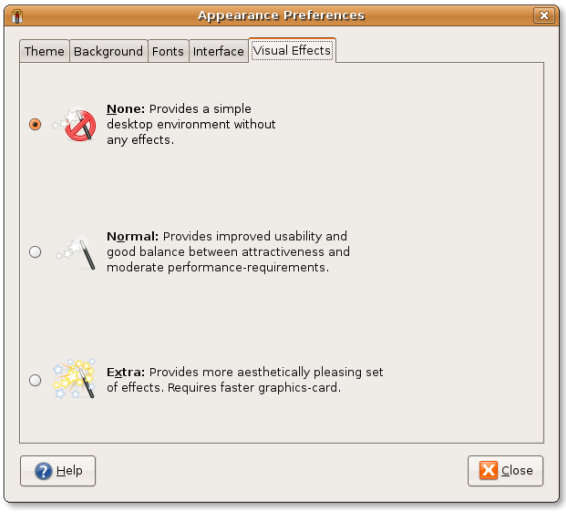


Figure 2.36: Configuring Visual Effects

If you want a simple desktop without any special effects, select **None**. If you want a desktop with a balance of attractiveness and average performance, select **Normal**. If you want various desktop effects, such as wobbly windows, desktop cube and many more, select **Extra**. For example, while you are waiting for an update to complete or an e-mail client to import e-mail messages, you can turn on the Wobbly effect. The windows will start dancing and displaying the 3D effects. Play with it a little, it's fun!

2.6 Desktop Search Tracker

If you have a large number of documents stored on a high-capacity hard disk, it is difficult to search for a required document without using a search tool. Ubuntu uses the Desktop Search tool, which includes an indexing programme called **tracker** to easily access specific files. To access this tool, on the **Applications** menu, point to **Accessories** and click **Tracker Search Tool**. The **Tracker Search Tool** window appears.

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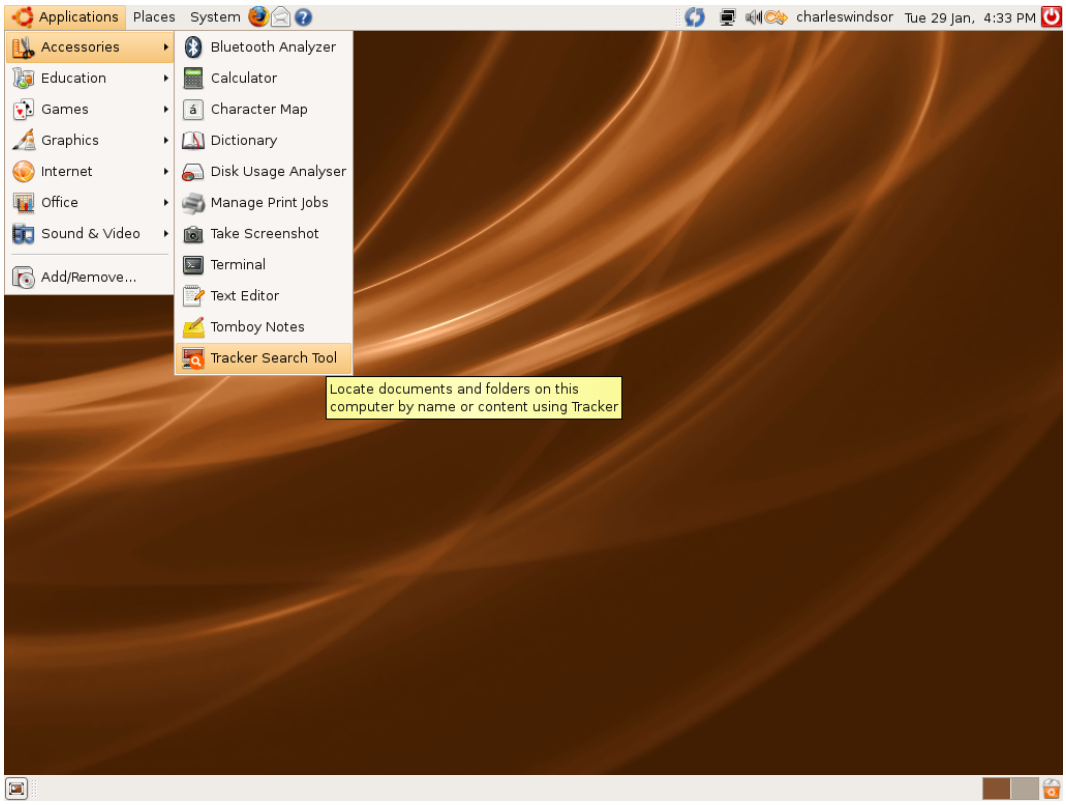


Figure 2.37: Launching Tracker Search Tool

The tracker searches for important information in all the files in your home directory and compiles the search result into a huge database. So, if you are looking for all documents on the computer that contain a single word such as, 'music', tracker looks up all the files that contain the word *music* and displays them in the search results.

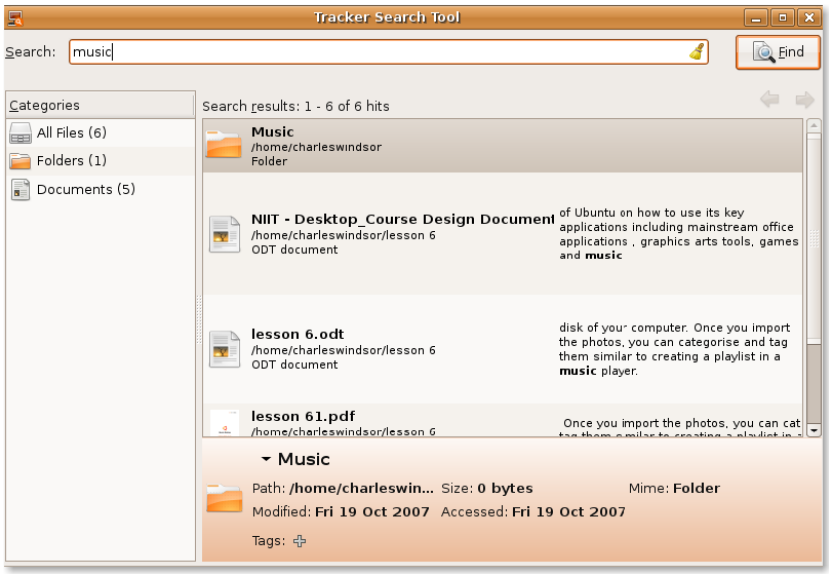


Figure 2.38: Running a Search

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2.7 Lesson Summary

In this lesson, you learned that:

- Ubuntu utilises the GNOME desktop by default
- You can set the default language of your computer either during the installation of Ubuntu or at a later stage
- Fast user switching enables you to share your computer with other users without sharing your files
- You can install software by using the Add/Remove application or the Synaptic Package Manager utility of Ubuntu
- Compiz Fusion is enabled by default on Ubuntu 7.10 and provides fun, 3D desktop visual effects
- Ubuntu uses a Desktop Search tool, which includes an indexing programme called Tracker.

2.8 Review Exercise

Question: At the top and bottom of the desktop, you have two bars, called _____.

Answer: At the top and bottom of the desktop, you have two bars, called panels.

Question: Which are the three shortcut icons already present on the top panel?

Answer: Mozilla Firefox, Evolution e-mail client and Ubuntu help.

Question: What is fast user switching?

Answer: Fast user switching is a feature that avoids you having to log off and log on all the time to switch users. It enables multiple users to switch quickly while staying

Question: Name the new search tool used in Ubuntu 7.10.

Answer: The Tracker Search tool is the new search tool used in Ubuntu 7.10.

2.9 Lab Exercise

Exercise: You have bank-related information on your computer and want to block others' access to it. Your friend wants to use your computer for some time. To handle this situation, create a new user account for your friend and use the fast user switch feature.

1. On the **System** menu, point to **Administration** and click **Users and Groups**. The **User settings** dialogue box opens.
2. In the **User settings** dialogue box, click **Add User.** The **New user account** dialogue box appears.
3. In the dialogue box, specify the following information:
   (a) Type charles in the **Username** box.
   (b) Select Desktop user from the **Profile** box.
      i. Type charles windsor in the **Real name** box.
      ii. Type England in the **Office location** box.
      iii. Type 111111 in the **Work phone** box.
      iv. Type 99999 in the **Home phone** box.
      v. Type password@1 in the **User password** box.
      vi. Click **Close** to save the settings.
4. Click the fast user switch icon on the top panel. Click charles. The logon screen appears.

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5. Type charles in the **Username** box and password@1 in the **Password** box.
6. Your friend can now work on this desktop.

Your friend cannot access your user account because the computer will ask for your password to log on to the account. So, your personal data is safe.

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Chapter 3

Using the Internet

OBJECTIVES

- Connect to the Internet
- Browse the Web
- Access various news sources
- Send and receive e-mail messages
- Use various tools for instant messaging
- Make phone calls using Softphones

Instructor Notes:
It is recommended to cover all the topics in this lesson. However, if you are running short on time, you can omit the following optional topics: Using Dial-up, Alternative E-mail Client and WengoPhone.

3.1 Connecting to and Using the Internet

The Internet is used by millions of people daily for work and entertainment. Searching for information all over the world, corresponding with friends and relatives, participating in discussion forums, reading the news, playing games, has never been easier... or more accessible.

The means of connecting to the Internet is not always a choice and depends greatly on where you live and/or work and the surrounding infrastructure. The pre-requisites to connect to the Internet are an Internet Service Provider (ISP) subscription and a functional Internet connection in your area. Configuring the Internet connection requires minimal involvement from you. Ubuntu supports most connection types. This lesson will cover: Broadband (cable or ASDL), dial-up and direct access through Local Area Network (LAN).

Broadband connections are fast and reliable connections that users subscribe to for a monthly fee. Broadband companies offer packages with different speed specifications and bandwidth limits. If you travel and need Internet access, you can purchase a wireless Internet connection. If your computer does not have one pre-installed, you will need to install a wireless card. This connection is similar to a satellite connection, where data is transmitted through the airwaves.

Dial-up access uses the same lines as your phone connection, except that the parties at the two ends are computers. This is a slow and cheap connection that uses a phone line to connect to a local server. Your computer dials a phone number that is provided by your ISP and connects to the server. Consequently, you cannot make phone calls while you are connected to the Internet. This is the oldest and slowest means of connecting; carrying out many functions using this mode can be very tedious and frustrating.

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3.1.1 Network Manager

The Network Manager on Ubuntu is a simple to use and powerful utility to stay connected with wired and wireless adapters. It is located on the top menubar at the outer right corner. A left-click will reveal if your computer is already connected to a wired or wireless network. In case of a wireless network that is protected by a password, a dialogue will appear and ask for the password. The password can then be stored in your keyring, where it will automatically be used when needed. However, you may be asked for your keyring password if you have to log out.



Figure 3.1: Network Manager

You can also right-click on Network Manager to enable and disable wireless and wired connections. The connection information allows access to the network parameters currently used.

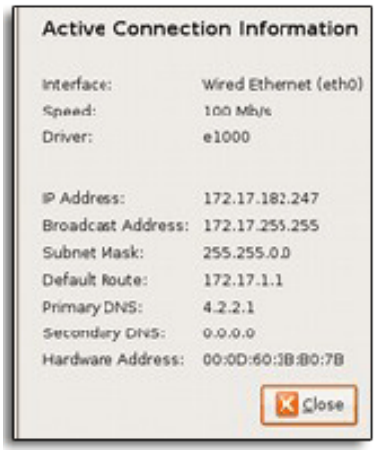


Figure 3.2: Network Manager Connection

If Network Manager does not automatically configure your network connections, you can fall back to manually configuring them.

3.1.2 Using a Cable Connection

1. On the **System** menu, point to **Administration** and click **Network**. The **Network Settings** dialogue box will be displayed.

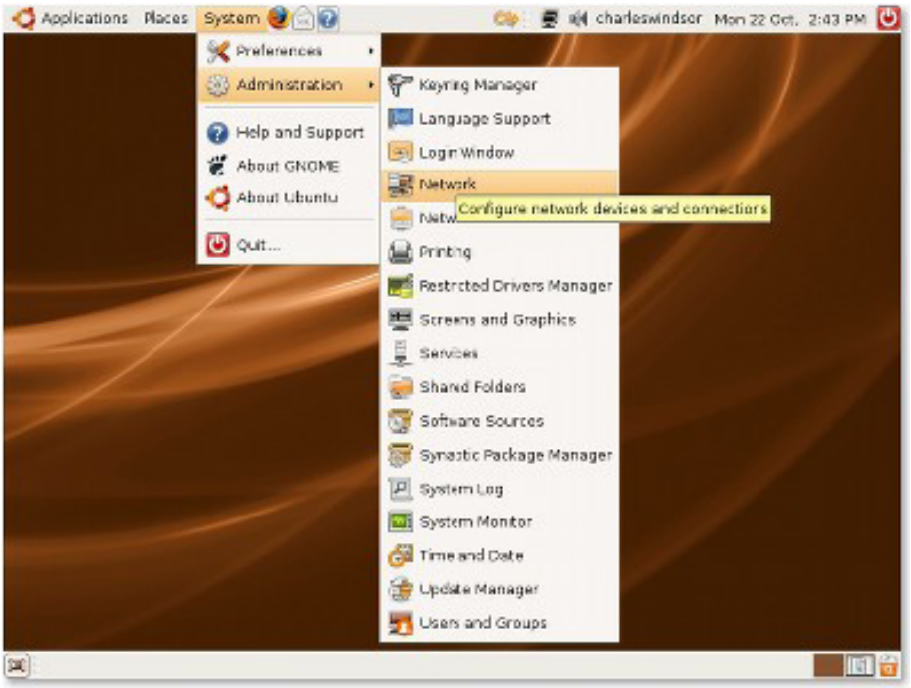


Figure 3.3: Accessing Network Settings

2. On the **Connections** page, select the connection to use. Click **Properties**. The **eth0 Properties** dialogue box will be displayed.

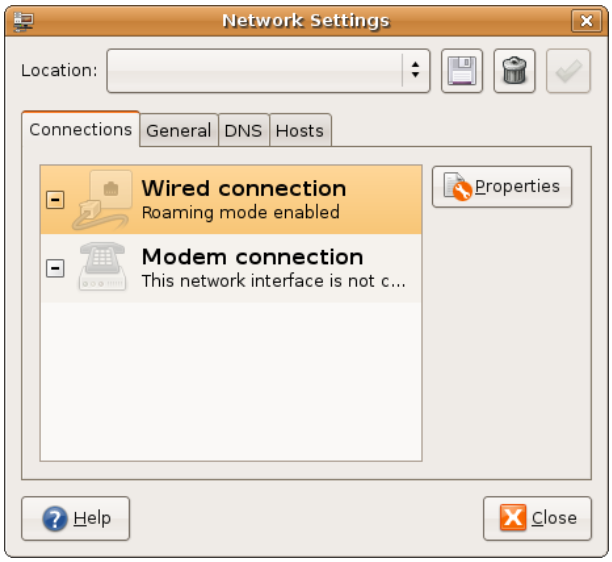


Figure 3.4: Network Settings

3. Clear the **Enable roaming mode** check box to enable the connection.

Note:
Your Internet Service Provider (ISP) or network administrator should provide you with an IP address, subnet mask and gateway address which need to be specified in the connection information.

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(a) In the **Configuration** box, select the **Static IP address** option.

(b) Type the IP address of your computer in the **IP address** box.

(c) Type the subnetwork (subnet) mask of your computer's IP address in the **Subnet mask** box.

> **Note:**
> A subnet mask divides a network of IP addresses into groups, which facilitates routing of data.

(d) Type the IP address of your ISP in the **Gateway address** box.

> **Note:**
> A gateway is a device that connects a user to the Internet. It is provided by the ISP.

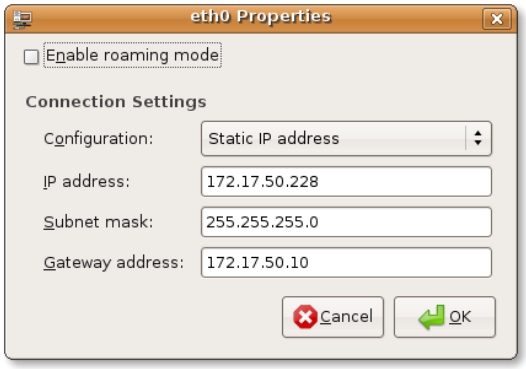


Figure 3.5: eth0 Properties

4. Click **OK** to complete the configuration for the cable connection.

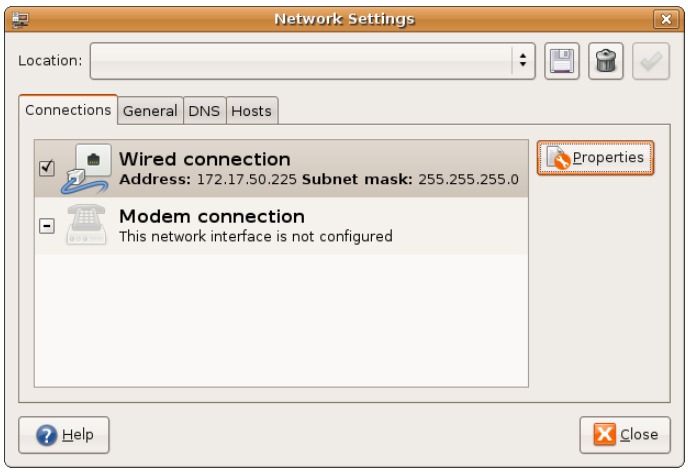


Figure 3.6: Network Settings

Now, you can connect to the Internet by using the cable.

3.1.3 Using a Wireless Card

Ubuntu automatically detects support for various wireless cards.

1. On the **System** menu, point to **Administration** and then click **Network**. The **Network Settings** dialogue box will be displayed.
2. If the wireless card on your computer is listed, you can use the same procedure as listed in the **Using Cable Connection** section to connect to the Internet.

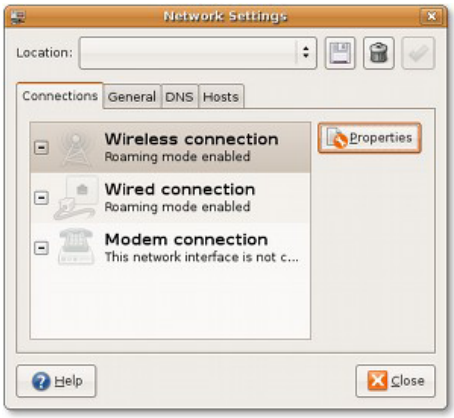


Figure 3.7: Choosing a Wireless Connection

Alternatively, left-click on Network Manager and discover any detected wireless networks in range.

Nice to Know:
To view the complete list of wireless cards that work with Ubuntu, refer to: https://help.ubuntu.com/community/WifiDocs/-WirelessCardsSupported.

Some wireless cards are not listed on the Ubuntu Web site because open source drivers for these are not available. Therefore, these cards do not work automatically with Ubuntu. If your wireless network card does not have an open source driver, you can make it work by using **ndiswrapper**.

Using Ndiswrapper with a Wireless Card Ndiswrapper is a Linux module that allows Ubuntu to use Microsoft Windows drivers for wireless cards. The utility to configure ndiswrapper can be installed comfortably via **Add/Remove Applications**. The **Windows Wireless Drivers** setup programme can be found in **System Administration**.

3.1.4 Using a Dial-up Connection

A dial-up connection uses a modem to connect to the Internet. You can use the ScanModem tool to identify the type of modem. This tool recognises the type of modem-whether it is a Peripheral Component Interconnect (PCI) or a Universal Serial Bus (USB) modem.

Nice to Know:
To download the ScanModem tool, refer to: https://help.ubuntu.com/community/DialupModemHowto/ScanModem.

---

1. Download, configure and install your modem's driver. If an open source driver is not available, contact your vendor for other options.

Note:
To download the open source driver, refer to www.modemdriver.com.

---

2. CONFIGURE THE DIAL-UP CONNECTION TO YOUR ISP:

   (a) On the **System** menu, point to **Administration** and click **Network**. The **Network Settings** dialogue box will be displayed.

   (b) In the **Network Settings** dialogue box, select **Modem connection** and click **Properties.** The **ppp0 Properties** dialogue box will be displayed.

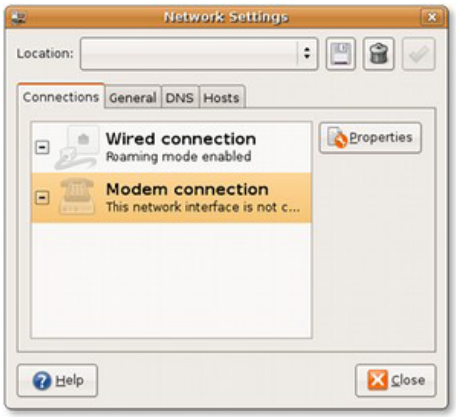


Figure 3.8: Network Settings

   (c) In the **ppp0 Properties** dialogue box, select the **Enable this connection** check box to activate the connection.

   (d) Specify your ISP's information and your account information, which you can obtain form your ISP.

   Type the phone number in the **Phone number** and the dial prefix in the **Dial prefix** box, which the modem uses to connect to the server. Type your dial-up account name in the **Username** box and the password in the **Password** box. The user name is the one that is registered with your ISP.

   (e) Specify the modem setting on the Modem tabbed page. Click the **Modem** tab. Type or select the modem port in the **Modem port** box. Select the dial type from the **Dial type** box. You can select the types of phone dial used in the **Dial type** box. Dial type depends on your phone company and may be **Tones** or **Pulses**. If you do not know which dial type to choose, contact your phone company. Irrespective of the dial type, the modem will make some noise while connecting to the ISP server. You can set the volume of this noise by selecting the appropriate volume options from the **Volume** box-it is recommended that you select **Off** or **Low**.

   (f) Specify the connection settings. Click the **Options** tab and select the **Set modem as default route to Internet** check box to specify the dial-up modem as the default Internet connection. If you use a laptop on a local area network (LAN), clear the **Set modem as default route to Internet** check box. Select this option only if you use a dial-up connection.

   As part of modem connection settings, you need to assign a host name to an IP node to identify it as a TCP/IP host. You can select your ISP server for this name resolution of hosts, which maps a host name to an IP address successfully. For this, select the **Use the Internet service provider nameservers** check box.

   If the Internet connection breaks, your modem will automatically try reconnecting to the Internet if the **Retry if the connection breaks or fails to start** check box is selected.

   (g) Click **OK** to complete the dial-up configuration.

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Figure 3.9: pppo Properties

Now, you can connect to the Internet using a dial-up connection.

Instructor Notes:
If students need to connect to the Internet with the modem integrated into a mobile phone or configure Point-to-Point (PPP) dial-up through a Bluetooth-compatible mobile phone, refer to: https://help.ubuntu.com/community/BluetoothDialup.
To connect to the Internet through a mobile phone over a USB cable, refer to: https://help.ubuntu.com/community/CableDialup.

3.2 Browsing the Web

Mozilla Firefox is the default web browser on Ubuntu. It is open sourced, developed by the Mozilla Corporation and many external contributors and is fully compatible with Ubuntu. To open a Firefox Web browser, on the **Applications** menu, point to **Internet** and click **Firefox Web Browser**.

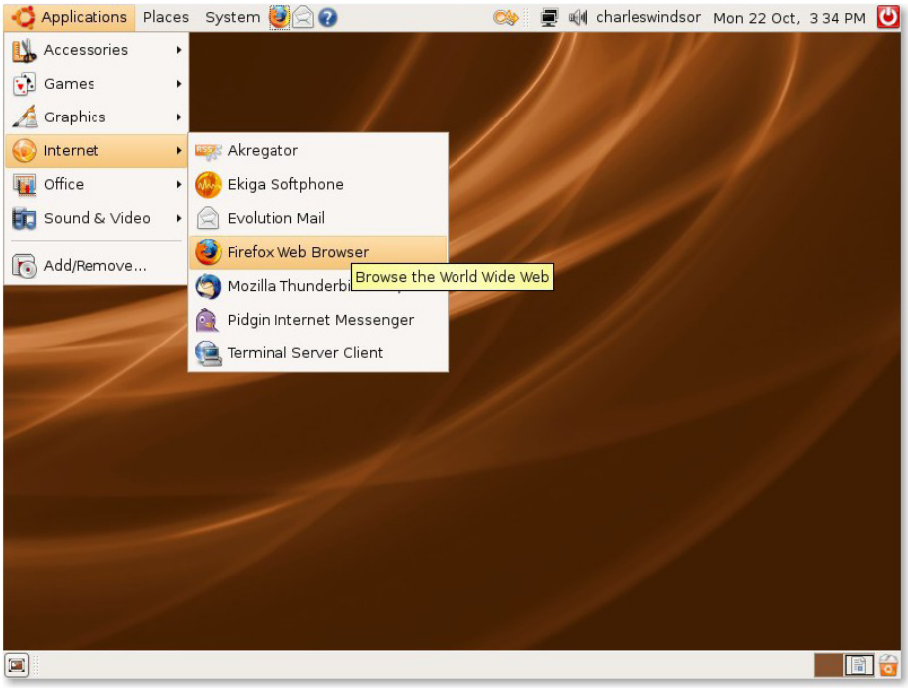


Figure 3.10: Launching Firefox Web Browser

Firefox includes two powerful features that make your online experience more productive - an integrated search system and live bookmarking.

Instructor Notes:
Ask students to open this browser and try performing a search.

Integrated Search This feature enables you to search for and find any information. The Search bar comes pre-loaded with search engines for Google, Yahoo!, Amazon, eBay, Answers.com and Creative Commons. You can enter a search term in the Search bar and receive immediate answers from the search engine you choose. You can select a new search engine from the Search bar menu at any time and add search engines from favourite Web sites.

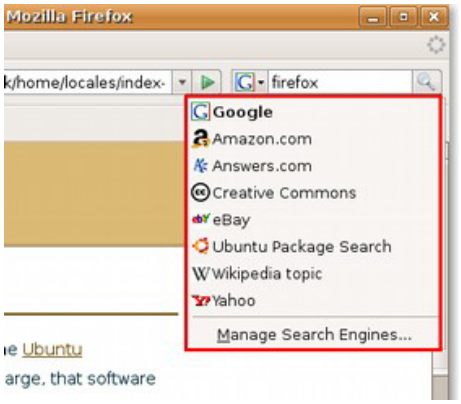


Figure 3.11: *Available Search Engines*

Search Suggestions To further ease your search-related tasks, some search engines such as Google, Yahoo and Answers.com in Firefox, suggest search terms. Begin typing into the Search bar and a list of suggestions will appear.

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For example, if you type **king** in the Search bar, a list of suggestions to complete your search keyword is displayed. So instead of typing the complete term, you can select the required term from the list. This makes the search easy and quick.

The following graphic shows a list of suggestions, when you start typing in the Search bar:

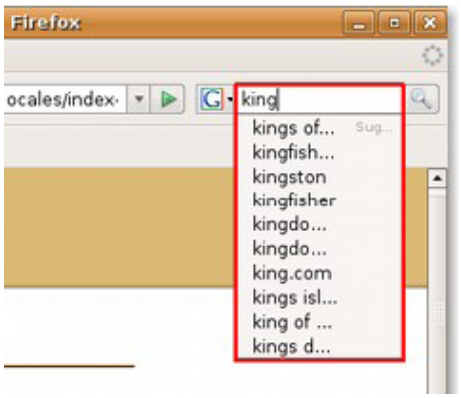


Figure 3.12: List of Suggestions

Live Bookmarks If you come across an interesting Web site over the Internet and would like to keep it for future reference, without trying to remember the URL, create a bookmark. The next time you are online, simply click the link to go to that Web page. You can view Web feeds such as news and blog headlines in the bookmarks toolbar or menu. A Web feed or feed is an XML Web page that contains a list of links to other Web pages. You can quickly review the latest headlines from your favourite sites and click to go directly to chapters of interest.

Note:
A Bookmark in Firefox, similar to favourites in Internet Explorer, is a useful browser feature.

---

1. Open the Firefox Web browser. On the **Bookmarks** menu, click **Organise Bookmarks**.

   The **Bookmarks Manager** window will be displayed.

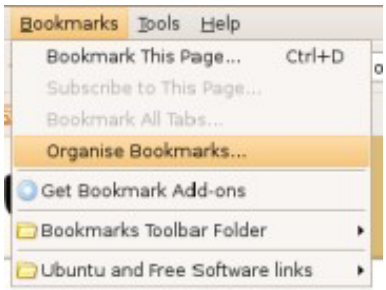


Figure 3.13: Organising Bookmarks

2. On the **File** menu, click **New Live Bookmark**. The **Properties for New Bookmark** dialogue box will be displayed.

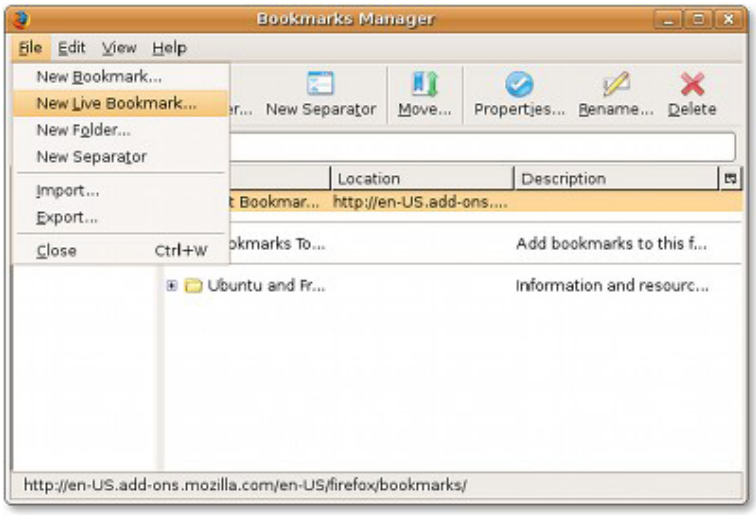


Figure 3.14: Adding Live Bookmarks

3. In the **Name** box, type the name you want to give to the feed. Make sure that the name reflects the contents of the Web site and includes enough information to uniquely identify the data file. Type the feed location-the URL of the feed in the **Feed Location** box and the description of the feed in the **Description** box. If you want, you can skip giving the description, though these can be used to categorise various feeds under groups. Click **OK** and close the **Bookmarks Manager** window. This sets the bookmark.

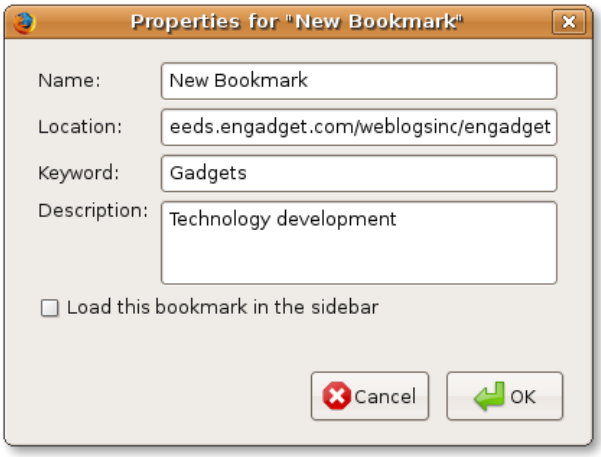


Figure 3.15: Viewing Bookmark Properties

4. In the Firefox Web browser, on the **Bookmarks** menu, point to **New Live Bookmark**. This displays the list of feeds, their respective locations and description. To locate the one you are looking for, you can sort this list on name, location or description. Just click the one you want to quickly browse through. It opens in the Mozilla Firefox window.

3.3 Accessing News

News can be retrieved from the Internet in different ways. Using Usenet and RSS for access is covered below.

Newsgroups are online notice boards where people post comments and discuss subjects of mutual interest. They are technically distinct from, but functionally similar to discussion forums on the World Wide Web. Anyone can participate in the discussion

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and post thoughts. At the rate at which newsgroups are growing, it is safe to say that there are groups covering most subjects imaginable; from computers to social issues, pet advice, literature and science, job postings and housing to rent etc. It is a fast and easy way to communicate, share views and advertise to people all over the world. Newsreaders are the applications used to access newsgroups.

USEr NETwork (Usenet) is the main source of newsgroups and newsfeeds. It is an Internet discussion system where people read and post e-mail-like messages called posts to one or more of a number of newsgroups.

To join a newsgroup, you create a subscribed list and your newsreader stores the information. You will receive alerts when people have posted new listings and when you check to read the latest update, there will be a posting and bunch of messages from several people. You will see something that looks similar to your e-mail inbox. You can decide whether to reply to the newsgroup, the author or to both. Some people prefer not to constantly receive email messages and log in from time to time to see the latest updates. The news server posts do expire after a certain length of time, as determined by the person running the server.

There are two types of newsreaders, online and offline. The online newsreader downloads just the message headers, and you see what looks like a mailbox. The messages themselves however, are not on your machine. As you access a particular message, the newsreader retrieves it from the server. When you are done reading a message, it is not stored on your machine, unless you save it specifically. Offline newsreaders, on the other hand, connect to the server, download all new messages for the newsgroups to which you are subscribed, upload any posts you wrote since the last time you connected to the server, and then disconnect. You can then read the messages as you wish, composing replies and new posts to be uploaded next time you choose to connect.

Many news related Web sites do offer news feeds that allow you to see when Web sites have added new content. You can get the latest headlines and video in one place, as soon as it is published, without having to visit the Websites you have taken the feed from. Feeds, also known as Really Simple Syndication (RSS), are just Web pages.

In this section we will cover two types of Newsreaders, Linux Feed Reader (Liferea) for news feeds and Thunderbird for Usenet news.

3.3.1 Liferea Newsreader

Instructor Notes:
While teaching, demonstrate how to access Liferea and Thunderbird.

Liferea is an online RSS feed reader. It is a fast, easy-to-use and easy-to-install news accumulator for GTK/GNOME.

Note:
You can install Liferea on Ubuntu using the Synaptic Package Manager by following the procedure described in **Using Alternative E-Mail Client** section.

The Web sites that offer RSS feeds display an RSS feed symbol next to its URL.

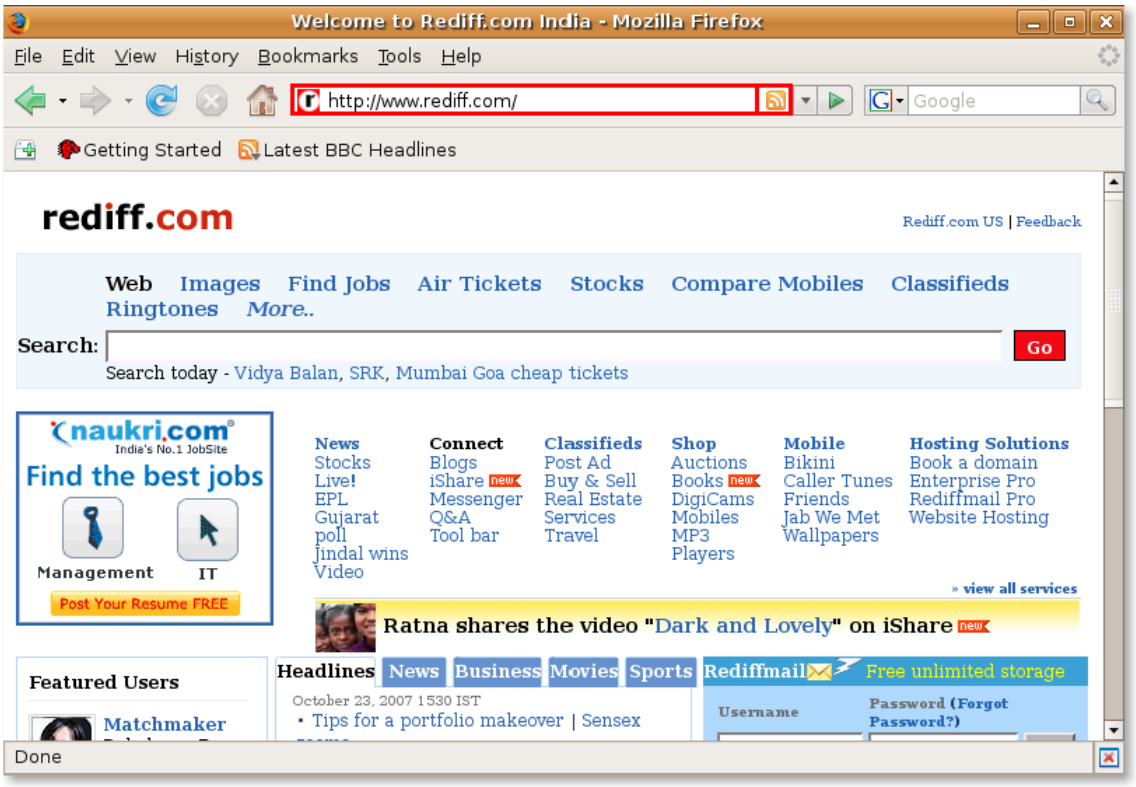


Figure 3.16: Identifying RSS Feed Providing Web Sites

Accessing Liferea

Note:
You have to search the Web site that offers RSS feeds to access Liferea. Look through the complete list of newsgroups on your server to search for the group that interests you.

1. Open the Web page that offers RSS feeds.

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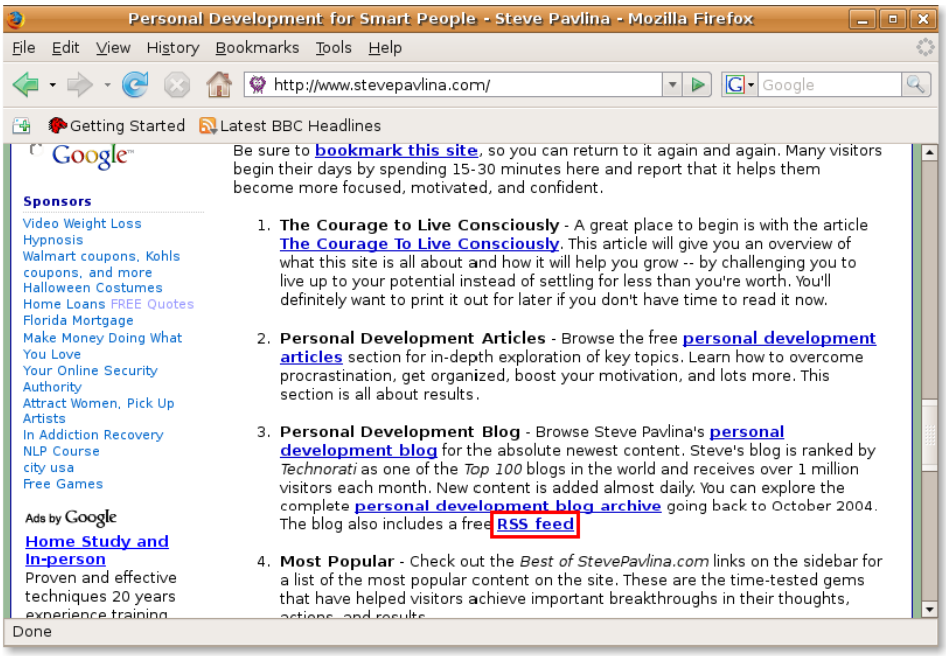


Figure 3.17: Opening RSS Feed Web Page

2. On this Web page, search for the link that offers RSS feed. Click the link and save the URL of that link. This URL will be the feed.

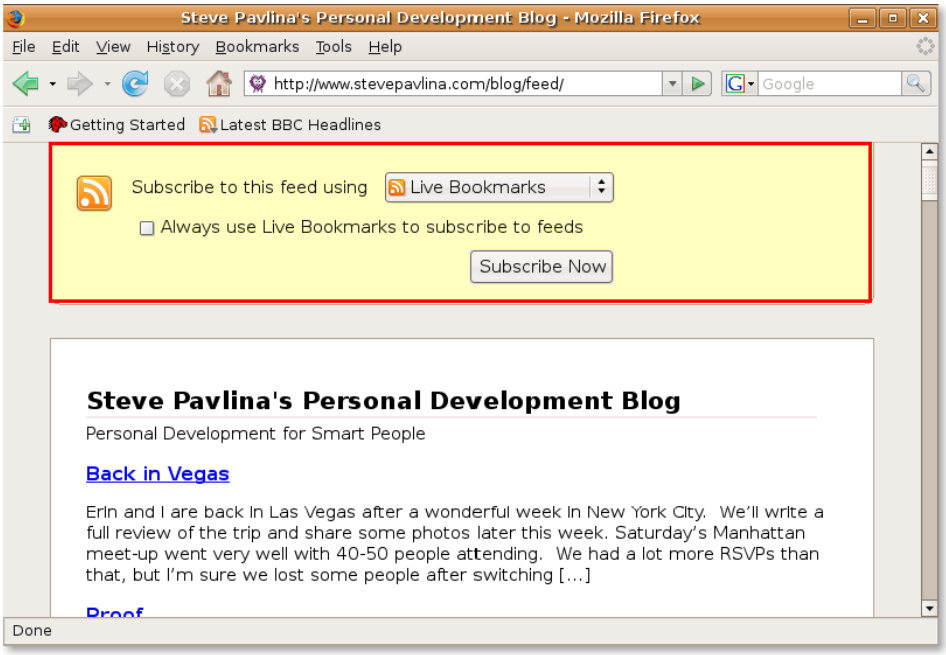


Figure 3.18: Searching the Link

3. Open Liferea. On the **Applications** menu, point to **Internet** and click **Liferea Feed Reader.**

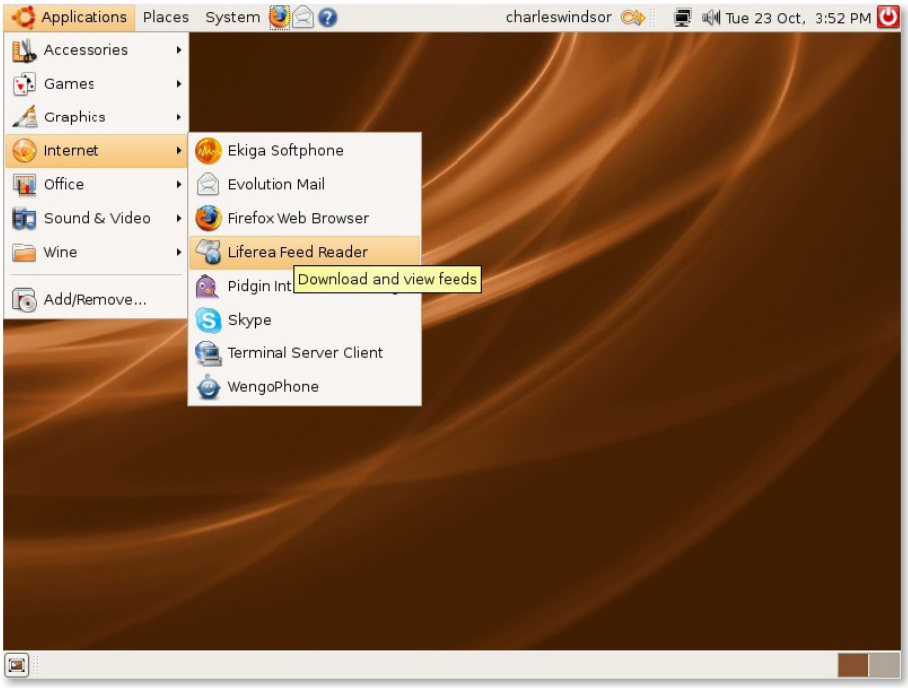


Figure 3.19: Launching Liferea Feed Reader

4. To subscribe to the feed, right-click anywhere on the left-pane of the Liferea window, point to New and click **New Subscription**. The **New Subscription** dialogue box will be displayed.

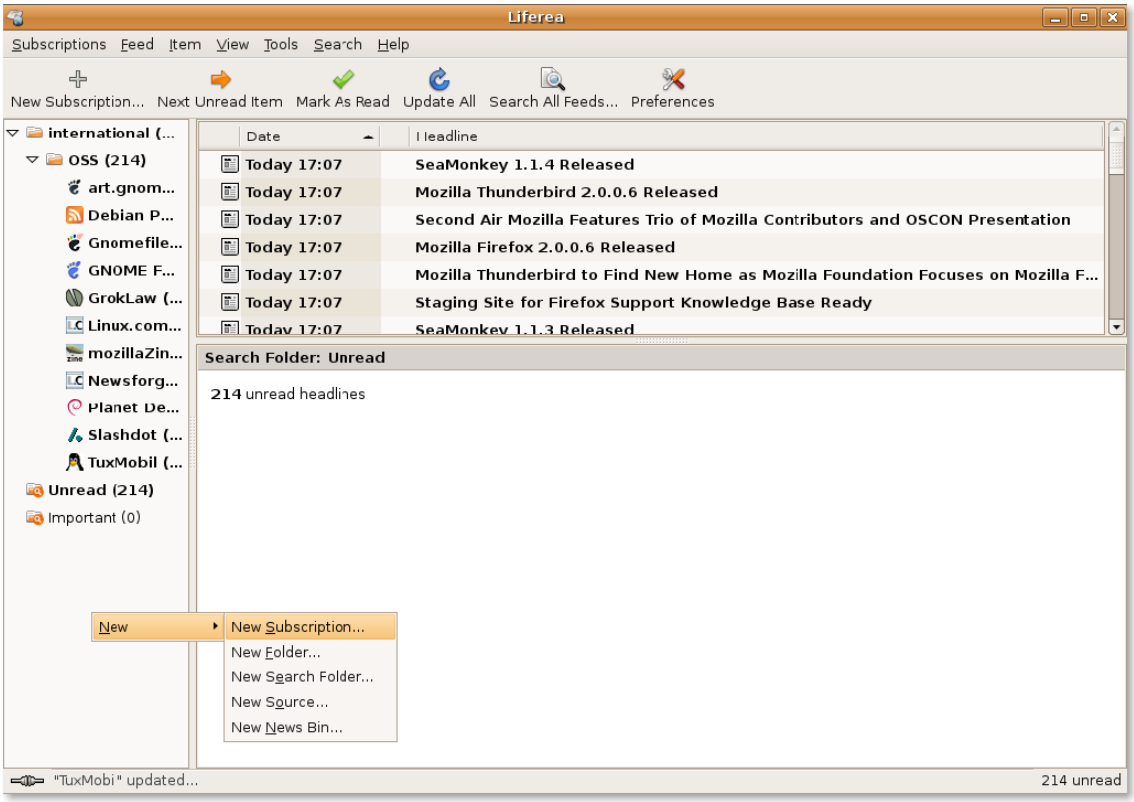


Figure 3.20: Subscribing to RSS Feeds

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5. In the **New Subscription** dialogue box, paste the URL, which is the feed, and click **OK**. You will see a new feed in the **Liferea** window.



Figure 3.21: Entering Feed Source

The following graphic shows the new feed in Liferea.

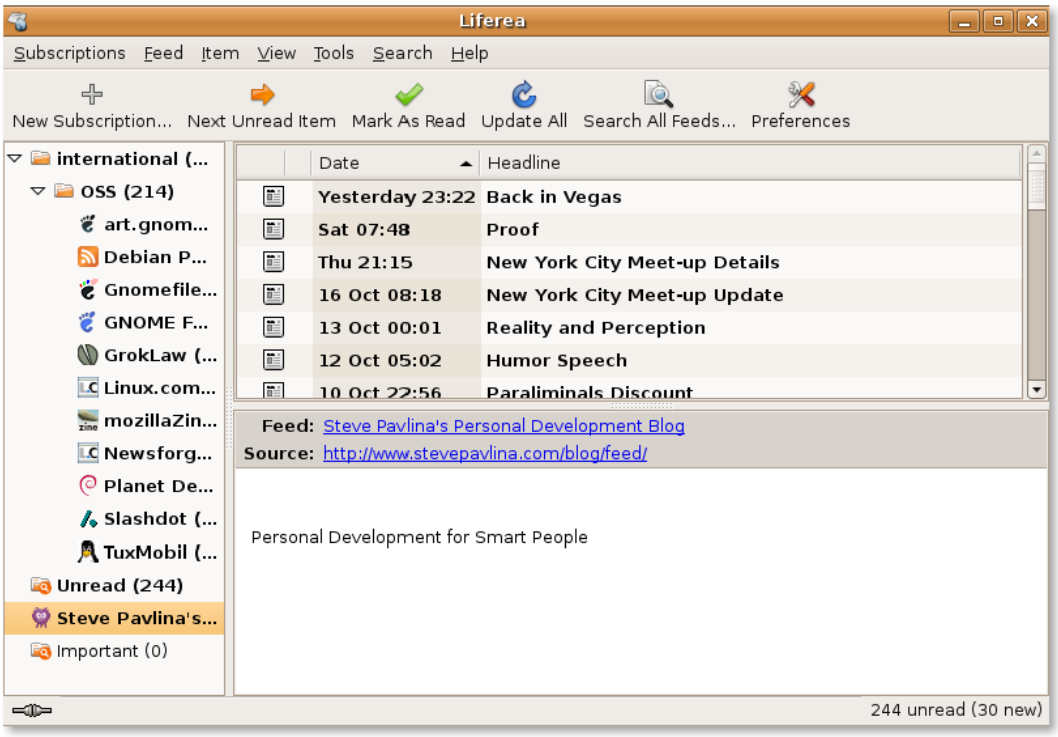


Figure 3.22: Viewing New Feeds

1. Liferea Feed Reader has multiple RSS subscriptions by default.
2. If you do not want a chapter to be deleted after some time, you can flag it and tag it as an important item.
3. You can use the search function to search through the downloaded items to quickly access the information needed.
4. You can also use an online search engine to search for additional news.

Instructor Notes:
The change in feeds properties is required if it needs HTTP authentication or other feed specific options.

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3.3.2 Thunderbird

1. When you open Thunderbird for the first time, the **Account Wizard** helps you to configure an account. On the **New Account Setup** page, select **Newsgroup account** option and click **Next**. This page informs you about how this wizard will collect information to set up a mail or a newsgroup account. You can also contact the system administrator or the ISP for information.

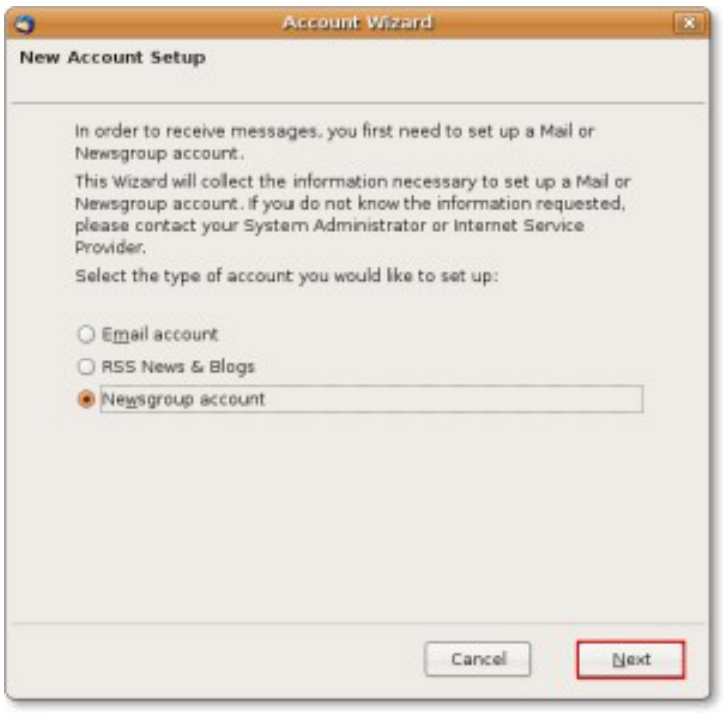


Figure 3.23: Creating Thunderbird Newsgroup Account

2. On the **Identity** page, in the **Your Name** box, type your name that you would like to use when sending messages and in the **Email Address** box, type the e-mail address where you would like others to send you e-mail messages. Click **Next**.

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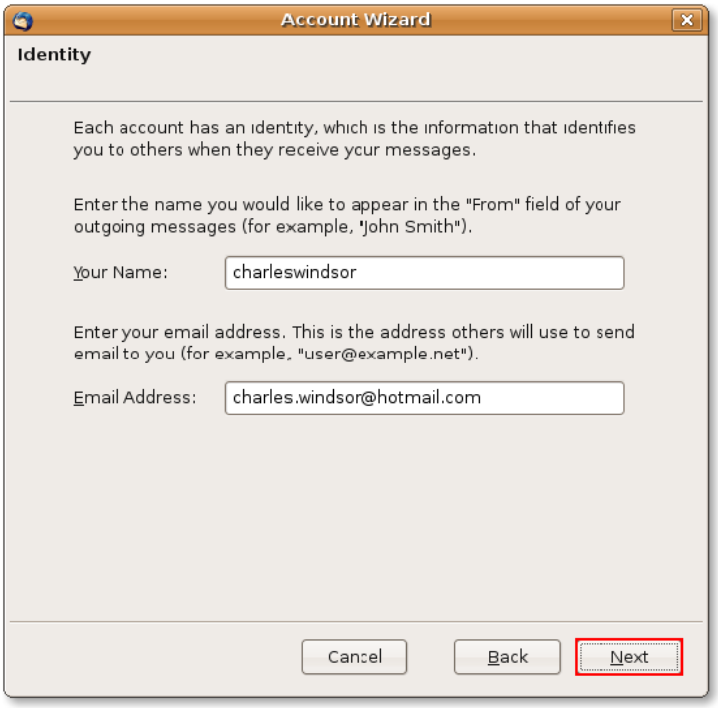


Figure 3.24: Creating Account Identity

3. On the **Server Information** page, type the name of your newsgroup server in the **Newsgroup Server** box. You can also type the server address here instead of the server name. Then, click **Next**. This server name will connect you to different newsgroups.

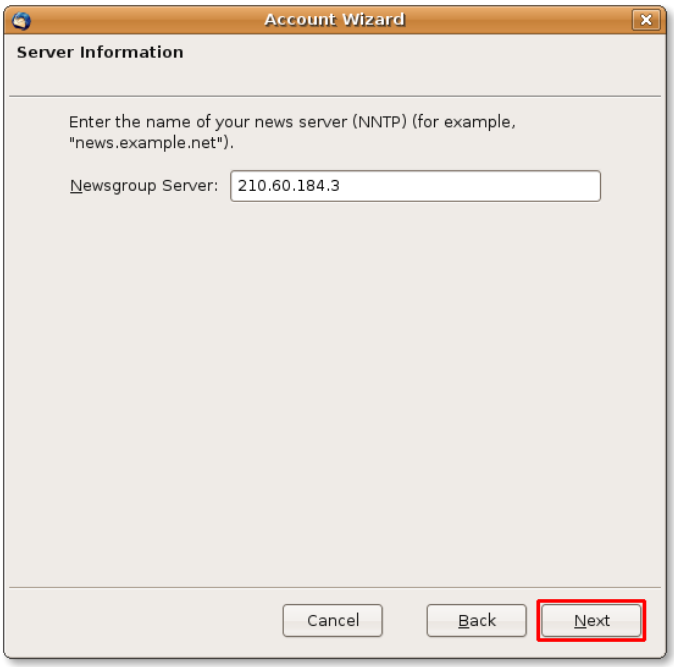


Figure 3.25: Providing Newsgroup Server Information

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4. On the **Account Name** dialogue box, type the account name in the **Account Name** box. This name is for your reference only. Click **Next**.

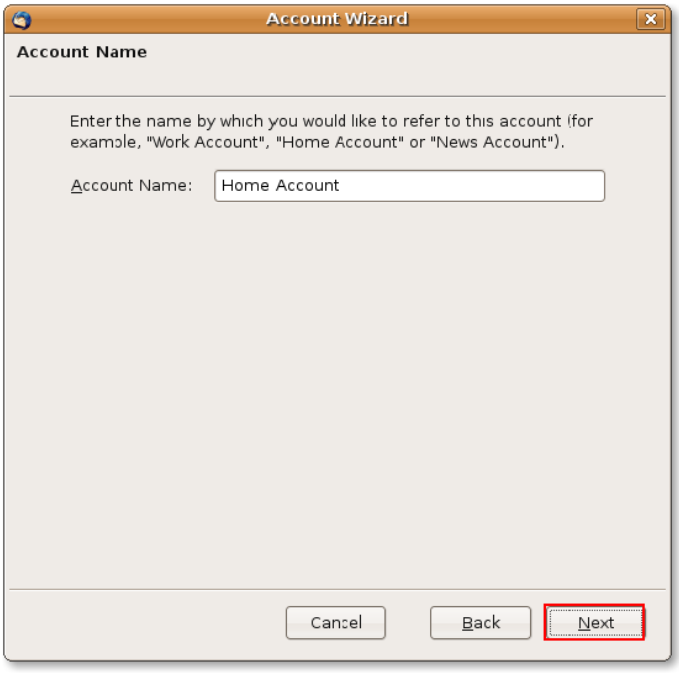


Figure 3.26: Specifying Account Name

5. You have completed setting up a newsgroup account. Make sure you verify the information before you exit this wizard. Navigate through the pages using the **Next** and **Back** buttons and make appropriate changes, if required. Otherwise, click **Finish** to save the settings. The **News Account-Thunderbird window** will be displayed.

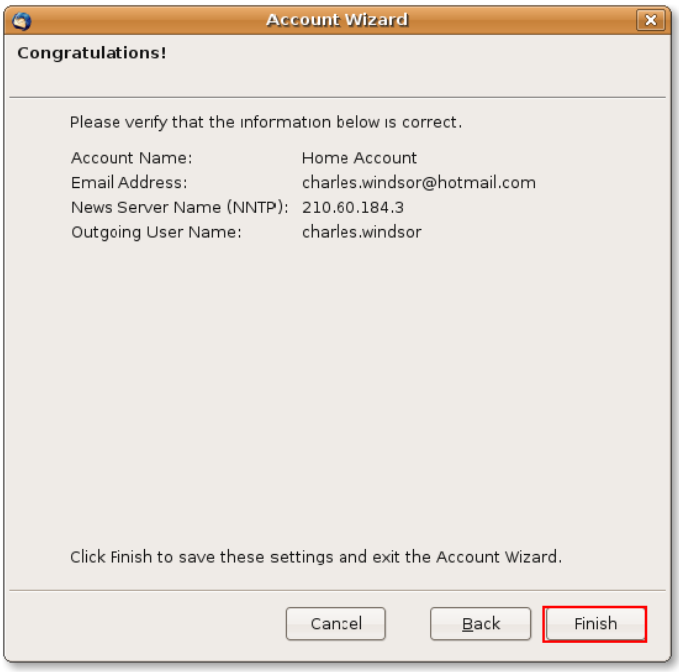


Figure 3.27: Account Information

6. In the **News Account-Thunderbird** window, click **Manage newsgroup subscriptions** to subscribe to a newsgroup. The **Subscribe** dialogue box will be displayed.

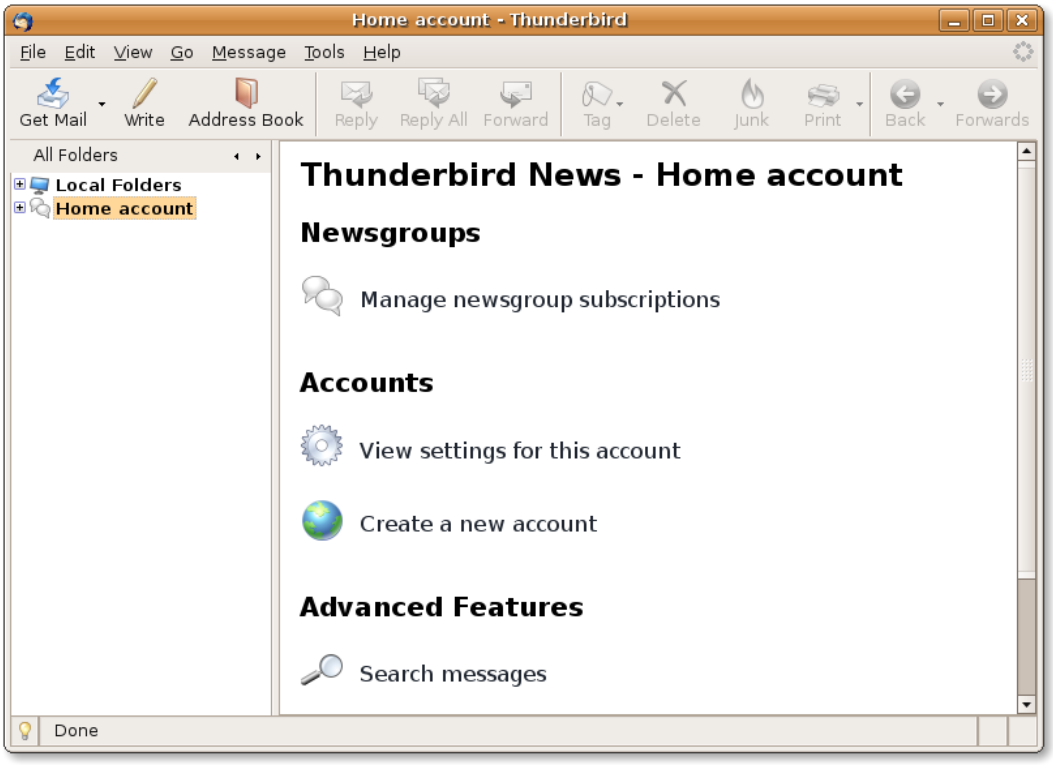


Figure 3.28: Subscribing to a Newsgroup

7. Several newsgroups will be downloaded from the server address you mentioned during the configuration process.

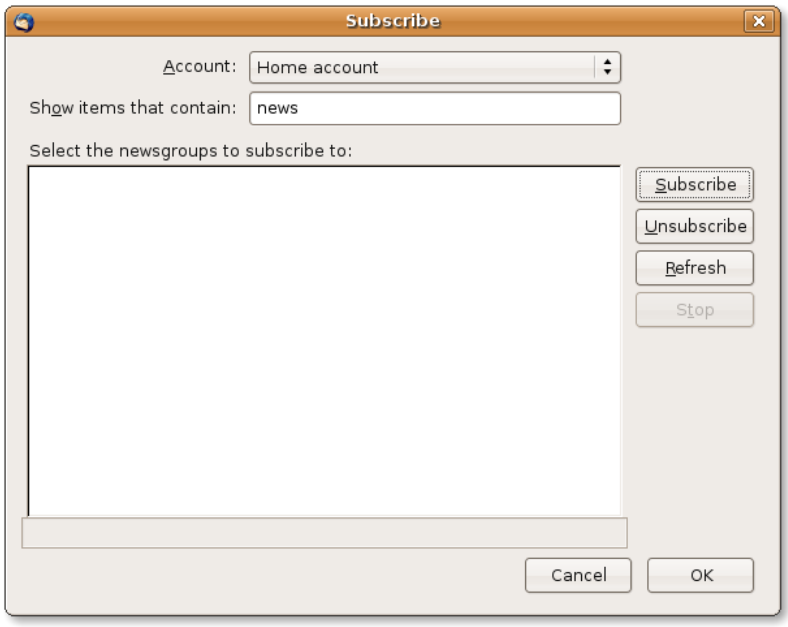


Figure 3.29: Viewing the Download Process

8. If you want to subscribe to a newsgroup on a specific subject, you can search for your search criteria. Type the search term in **the Show items that contain** box. The newsgroups related to the search term will be displayed in the **Select the newsgroups to subscribe to list**. Select any newsgroup from the displayed list and click **Subscribe**. Click **OK** to close the **Subscribe** dialogue box.

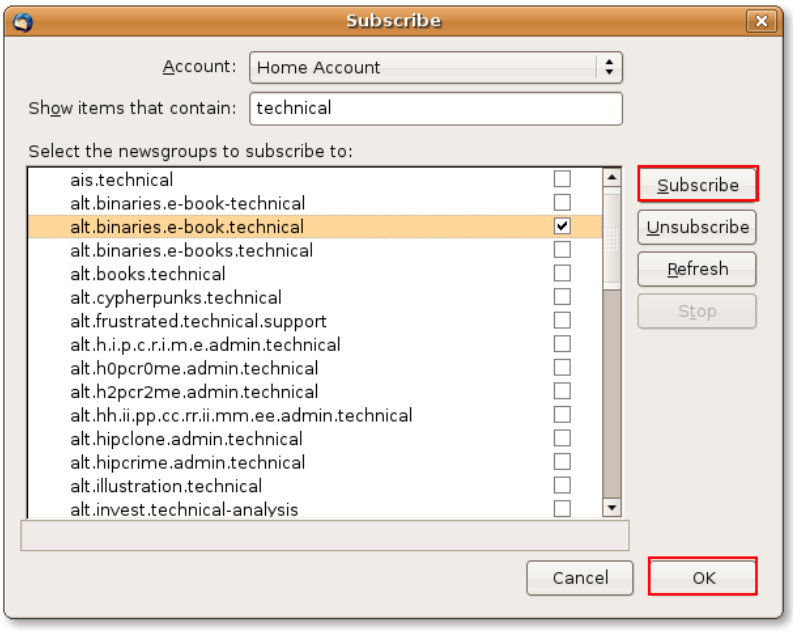


Figure 3.30: Selecting the Newsgroup to Subscribe

9. After the subscription is completed, you will start receiving newsletters from the subscribed newsgroup. The following graphic shows the newsgroup and related e-mail messages in the Thunderbird window:

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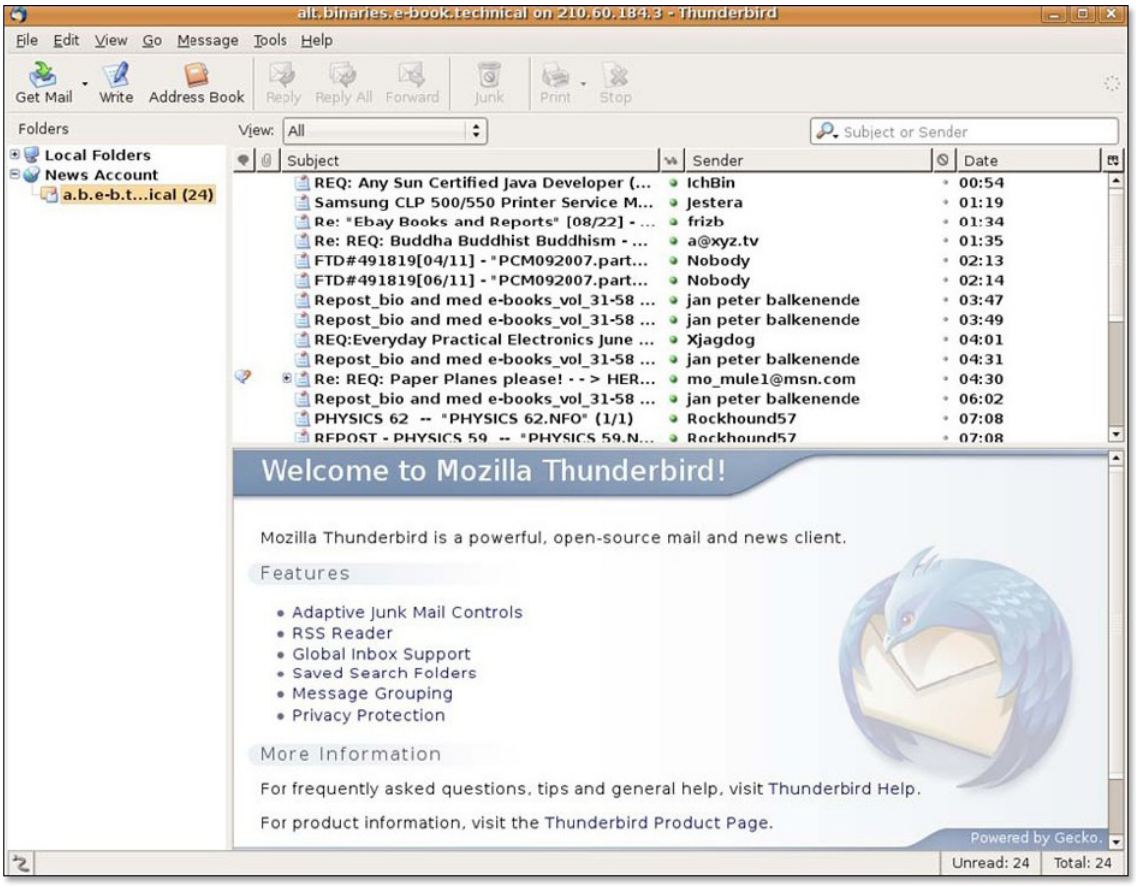


Figure 3.31: Viewing Newsgroup E-mails

When you open Thunderbird to read news letters, there will be a bunch of messages from several people. You can read these just like e-mail messages. The difference is that the message is addressed to the group you were interested in and not just to you. Similarly, if you reply to a message you are reading, you need to decide whether to reply to the newsgroup, to the author or to both.

Nice to Know:
Pan Newsreader is another news reader that works with Usenet. It is an open source newsgroup client, which is available for various platforms. You can install Pan Newsreader from Synaptic Package Manager on Ubuntu.

3.4 Sending and Receiving E-Mail Messages

Evolution is the default e-mail client for Ubuntu. It combines mail, calendar and tasks in one powerful application.

3.4.1 Using Evolution Mail

Instructor Notes:
The focus of this section is to configure Evolution e-mail client with Post Office Protocol (POP) as the sending server. If the students want to learn more, they can refer to: https://help.ubuntu.com/community/EmailClients.

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1. On the **Applications** menu, point to **Internet** and click **Evolution Mail**.

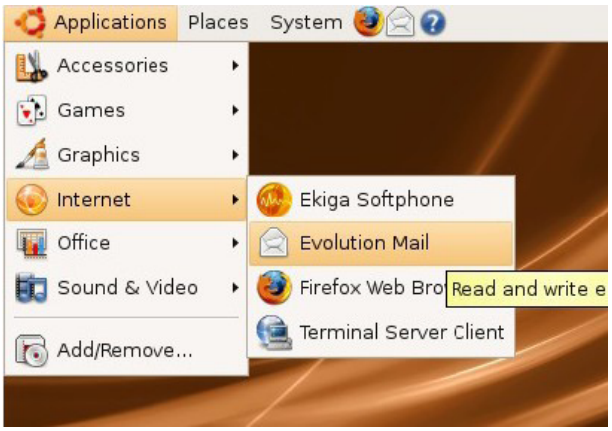


Figure 3.32: Launching Evolution Mail

Nice to Know:
The **.evolution** directory is created in the home directory when you run Evolution for the first time. It saves its local data in this directory. Then, it opens a first-run assistant to help you set up the e-mail accounts. User specific settings for evolution are also stored in **.gconf/apps/evolution**.

The **Evolution Setup Assistant** is displayed and guides you through various steps to enable Evolution to connect to your e-mail accounts and import files from other applications. Click **Forward**.

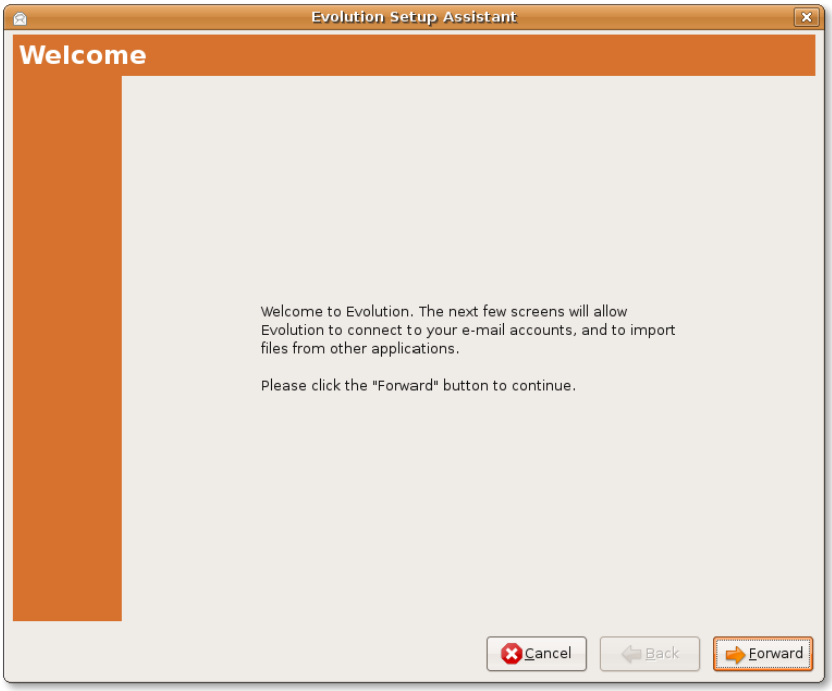


Figure 3.33: Configuring New E-mail Account

2. Evolution offers an integrated backup system. If you migrate your Evolution data from one system to another, use this dialogue. On the **Restore from backup** page, you can restore the backup files such as, e-mails, memos, address book, personal files and many more from your older version of Evolution.

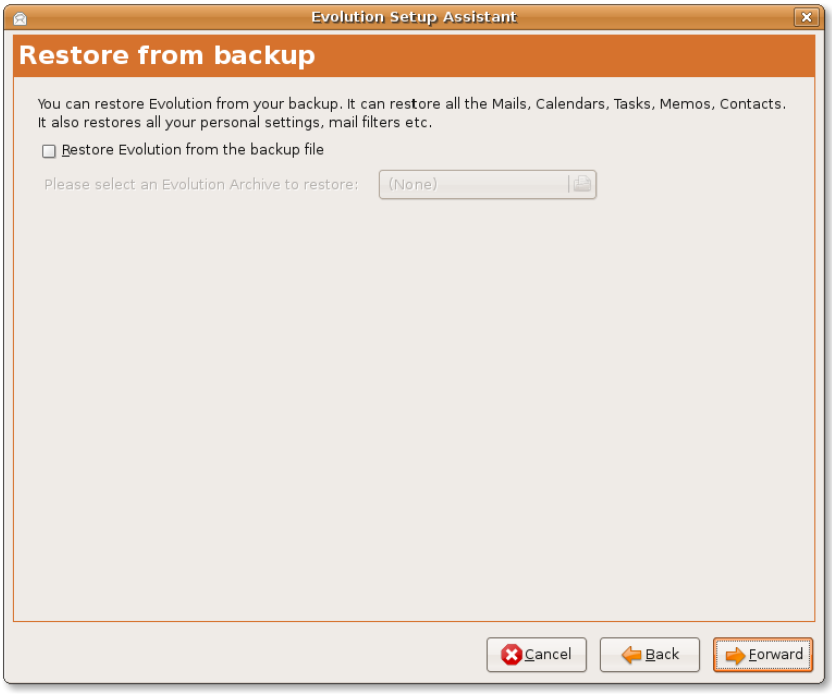


Figure 3.34: Restoring Evolution

3. On the **Identity** page, type your full name in the **Full Name** box and your e-mail address in the **E-mail Address** box. This is the e-mail address that your ISP provides. Your Evolution account is configured with this information. Click **Forward**.

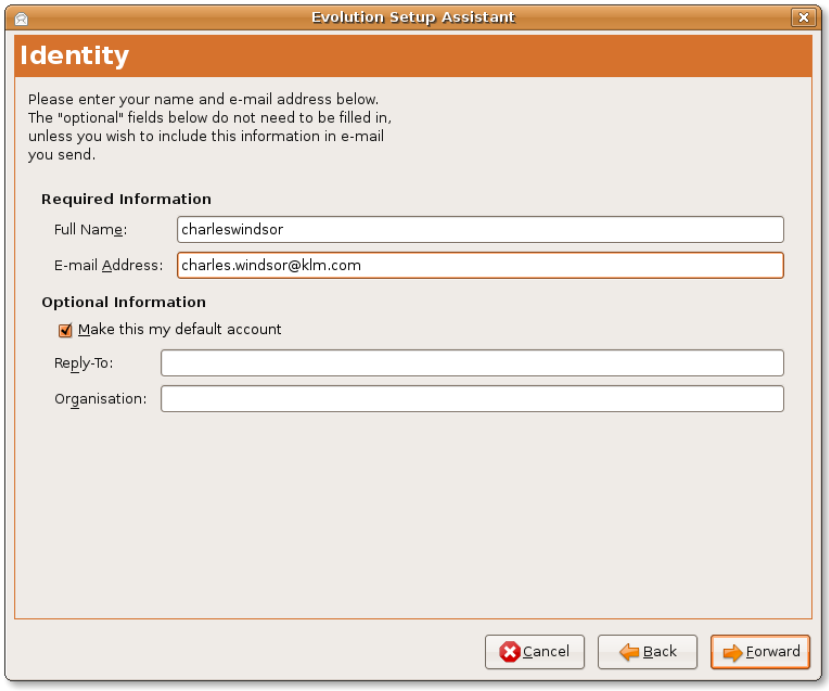


Figure 3.35: Setting up Account Identity

Note:
You can skip the information in the **Optional Information** section. You are required to type the information in the **Reply-To** and **Organisation** boxes, only if you want to include this in the e-mail messages you send. In **Reply-To** box, you can type your name, favourite quotes or any other information and, in the **Organisation** box, type any name such as that of your organisation, school or college.

4. On the **Receiving E-mail** page, in the **Server Type** box select the type of server your ISP provides. Evolution is compatible with numerous server types, but POP is commonly used to receive e-mail messages.

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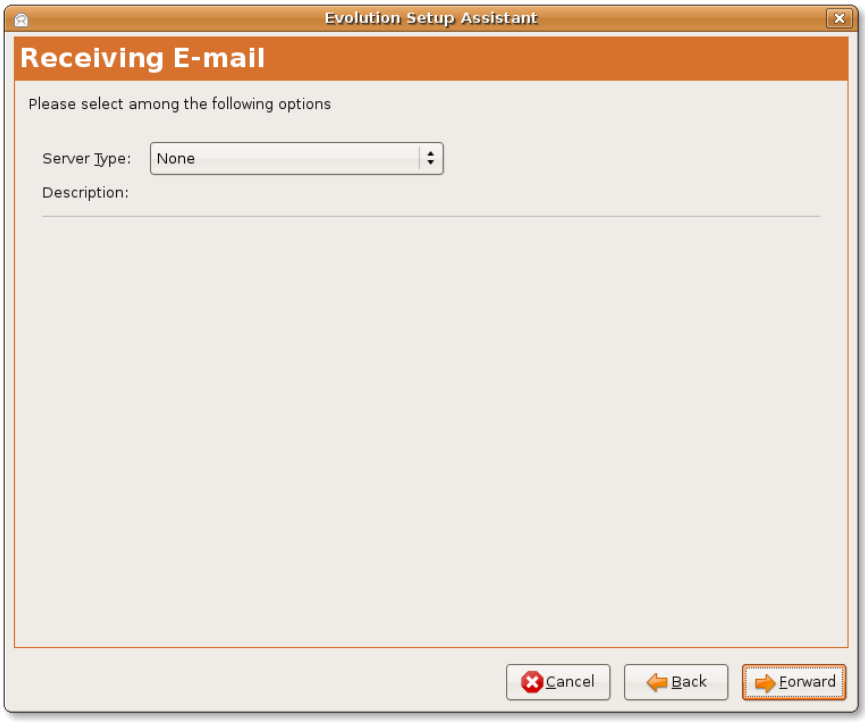


Figure 3.36: Selecting Server Type for Receiving E-Mail

Note:
If you do not know the server information, you should contact your system administrator or ISP.

(a) Select **POP** from the **Server Type** box to connect to and download mail from POP servers. The Receiving E-mail page will further prompt you for the configuration information.

Note:
For more information about server types, refer to: https://help.ubuntu.com/community/EmailClients.

(b) Type the receiving e-mail server name in the **Server** box and your account user name in the **Username** box. This is not your login name to your PC but your login name to your ISP's e-mail account.

(c) In the **Security** section, you can select **Encryption** or **No encryption** in the **Use Secure Connection** box. Encryption makes the message unreadable by anyone other than the intended recipient.

(d) Select **Password** in the **Authentication Type** box or click **Check for Supported Types** to have Evolution check for supported authentication types. The crossed out authentication types are not supported. Generally, the password is the way you authenticate with the server.

Note:
Contact your system administrator or ISP to know about the authentication type supported.

(e) Click **Forward**.

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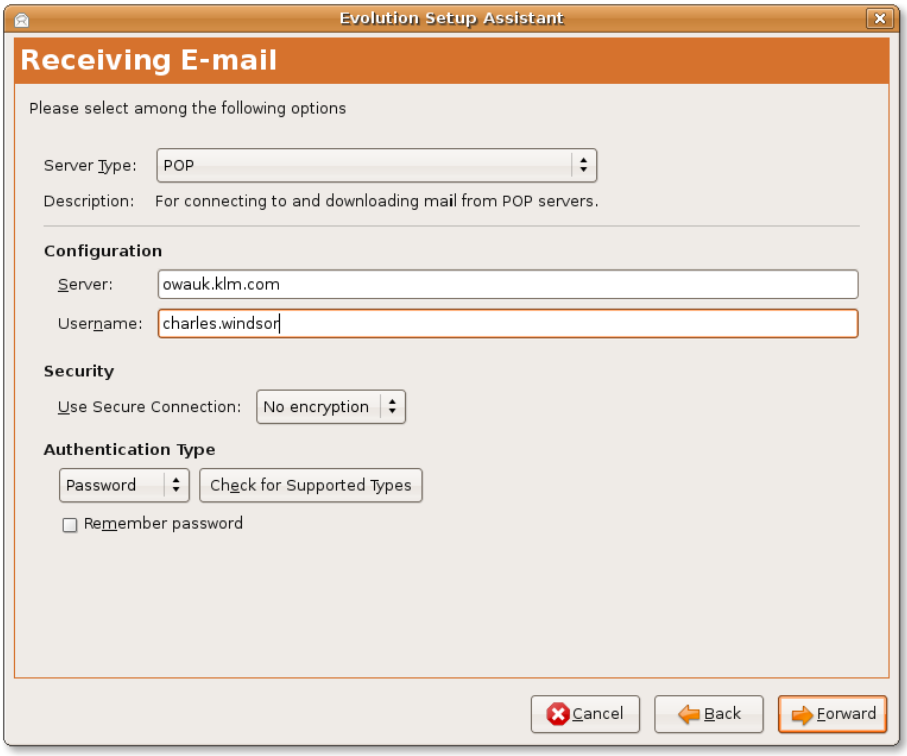


Figure 3.37: Providing POP Server Information

5. On the **Receiving Options** page , select the following options, if required:

   (a) To automatically check e-mail messages after a particular interval of time, select **Automatically check for new mail every** check box. Specify the duration of the interval in the **minutes** list.

   (b) In the **Message storage** section, select **Leave message on server** check box **,** if you want to leave a message on the server.

   (c) Select **Disable support for all POP3 extensions** check box, if you want to disable POP3.

   (d) Click **Forward**.

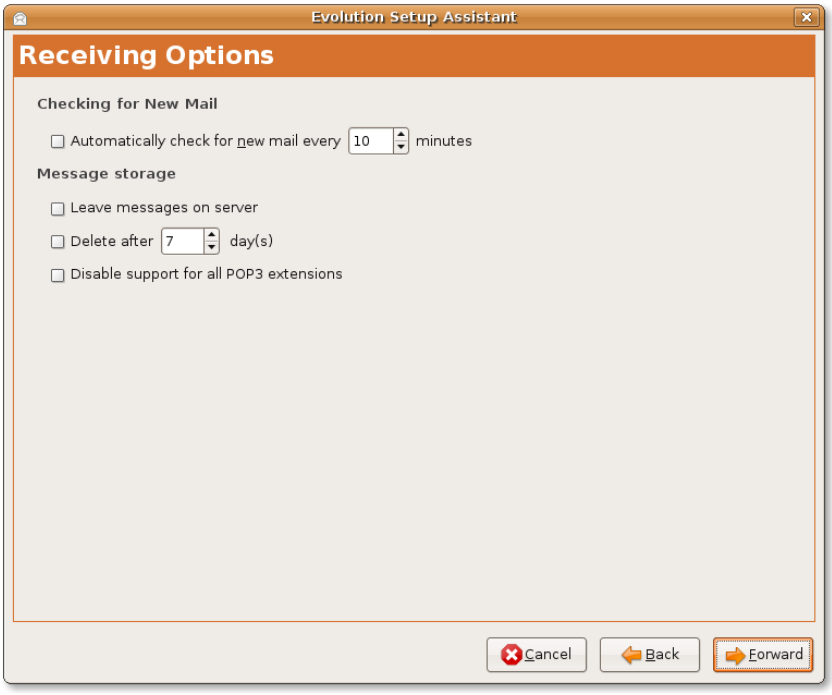


Figure 3.38: Specifying Mail Checking and Storage Options

6. On the Sending E-mail page, specify the information according to the way you want to send e-mail messages. Select the outbound mail server in the **Server Type** box.

   (a) There are two methods you can use to send e-mail messages, SMTP and Programmes Send Mails. SMTP is the common method that is used to send e-mail messages. Select **SMTP** as your outbound mail server type in the **Server Type** box.

   (b) Specify the outbound server configuration:

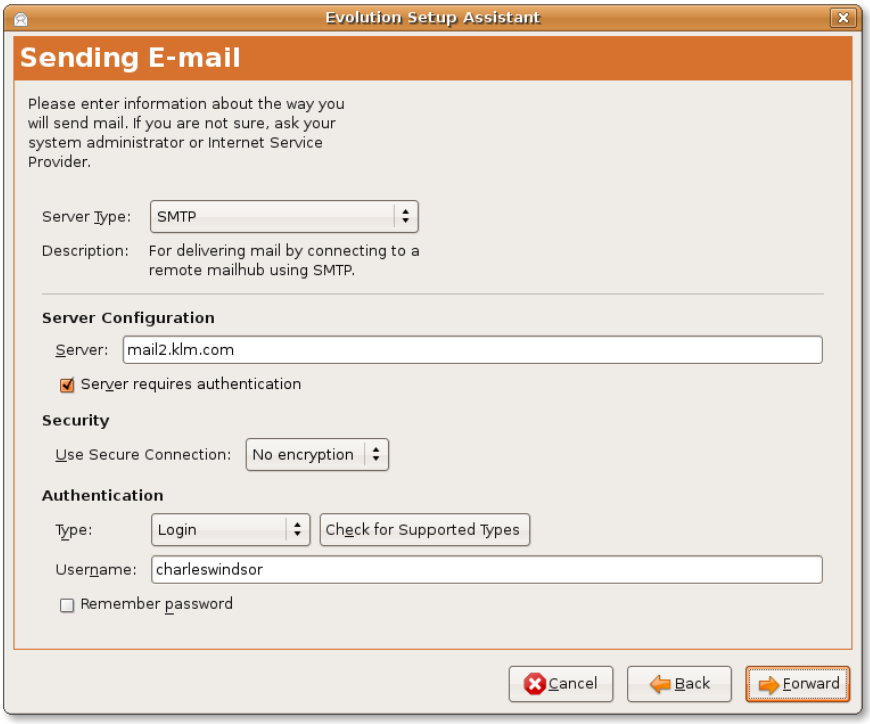


Figure 3.39: Providing SMTP Server Information

i. Type the host address in the **Server** box. This is the address of the outbound server that your ISP provides.
ii. Specify how you want the server to authenticate. Select **Server requires authentication** check box, if your server requires authentication. You will be asked to select your authentication type in the **Type** box. You can also click **Check for Supported Types** to have evolution check for supported types.
iii. Type the evolution account user name in the **Username** box.
iv. Select **Remember Password** check box, if you want evolution to remember your password. Then, click **Forward**. The **Account Management** page is displayed.

7. It is possible for Evolution to access multiple e-mail providers. To differentiate between them, you can give each e-mail provider a name. Type a name for this configuration or your account in the **Name** box. You can type any name you prefer as this is only for your reference. Then, click **Forward**.

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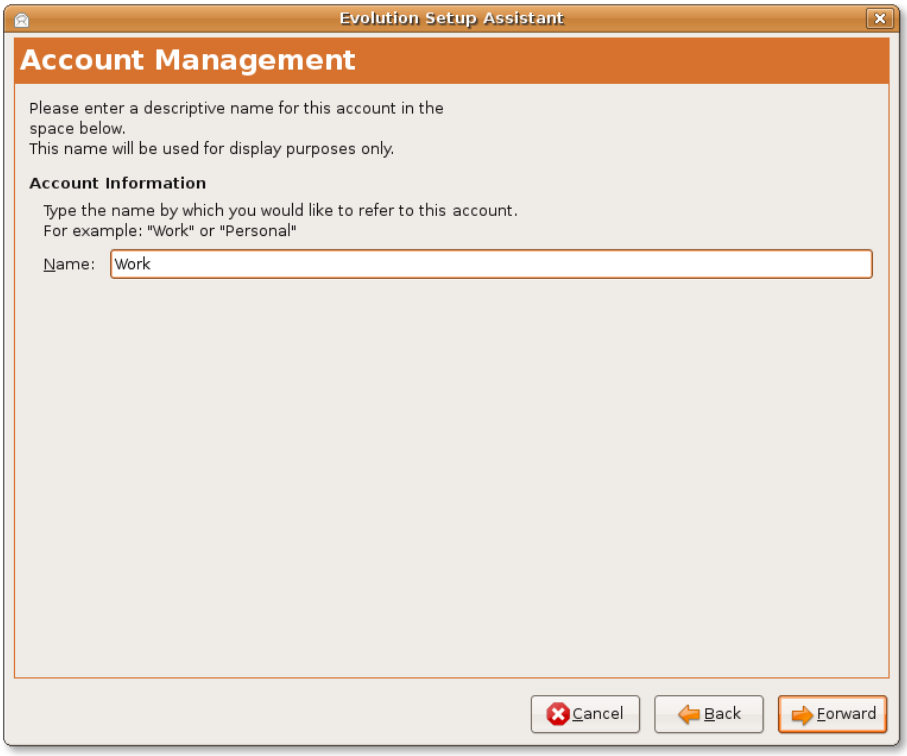


Figure 3.40: Providing Account Information

8. On the **Timezone** page, select the time zone you are in, either on the map or from the **Selection** list. Click **Forward**.



Figure 3.41: Specifying Timezone

9. Configuration is done. Click **Apply** to save your settings. The Evolution window will be displayed.

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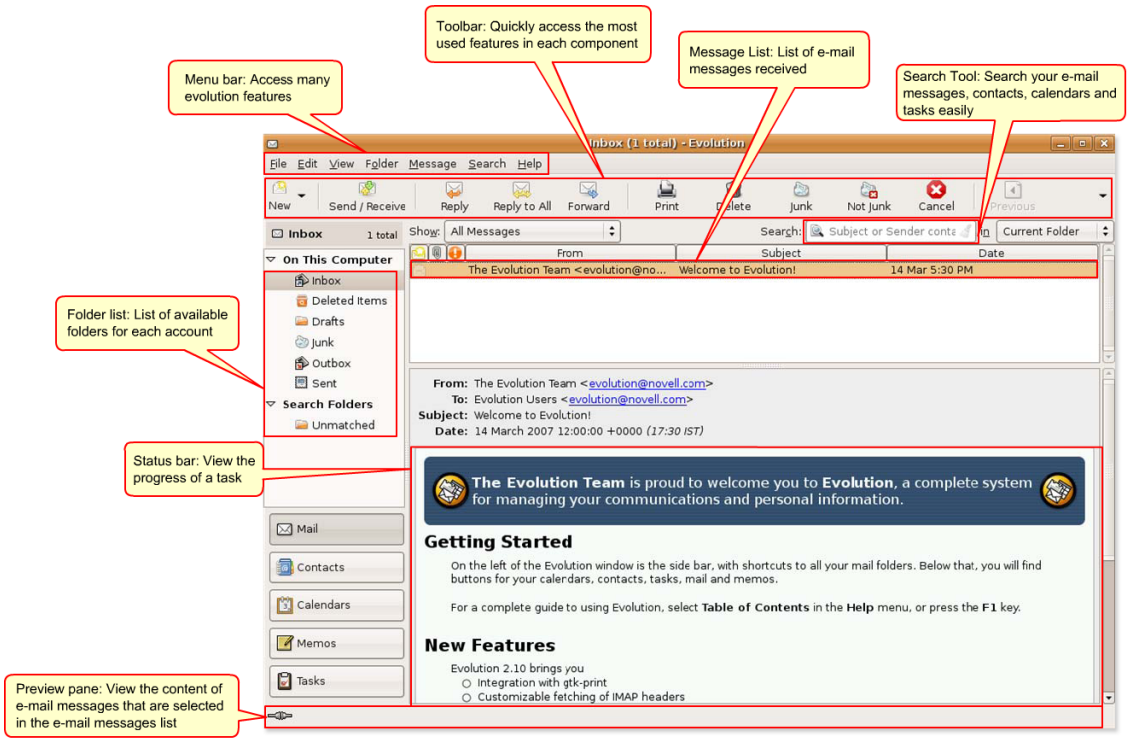


Figure 3.42: Evolution

Note:
For more information on how to use the Evolution e-mail client, refer to: https://help.ubuntu.com/7.04/internet/C/email.html.

3.4.2 Using an Alternative E-Mail Client

In addition to Evolution, you can use many other e-mail clients, such as Mozilla Thunderbird, Balsa and Pine. If you have been using the Mozilla Suite, you may prefer to use Thunderbird which is very similar. Try them both and see which you prefer. Mozilla Thunderbird is an e-mail application developed by Mozilla Foundation. It is a free, cross-platform e-mail and news application.

Nice to Know:
Mozilla Suite is a cohesive collection of integrated Internet applications, including a Web browser, e-mail and newsgroup client, Internet Relay Chat (IRC) chat client, address book organizer and Web page creation utility.

The Thunderbird e-mail application is available in the Universe repository and can be installed on your computer from the Synaptic Package Manager.

1. On the **System** menu, point to **Administration** and select **Synaptic Package Manager**. The **Synaptic Package Manager** window will be displayed.

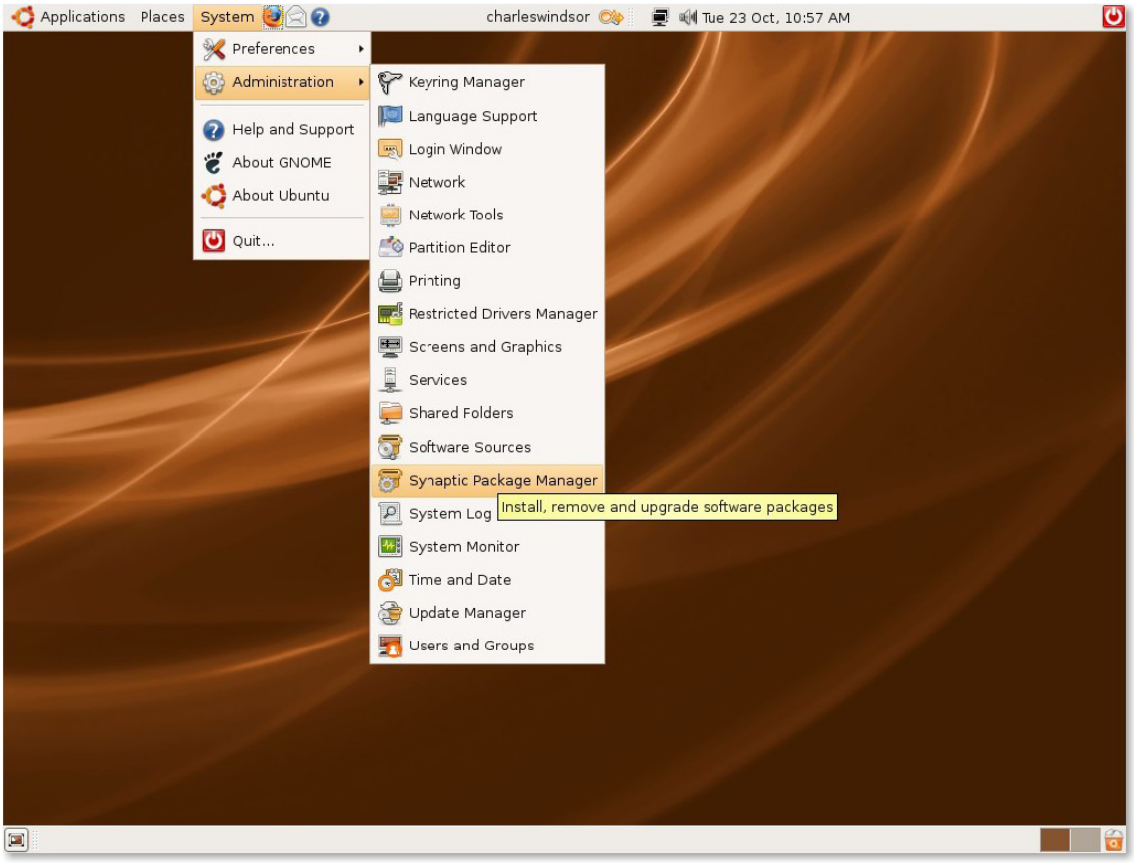


Figure 3.43: Launching Synaptic Package Manager

2. In the **Synaptic Package Manager** dialogue box, you can select the package you need. The left pane lists the categories, and the right pane lists the packages. You can search for the package by clicking Search and specifying its name. If you do not know the name of the package, select the category in the left pane to filter the list of packages. You can then select the check box next to the required package in the right pane.

Nice to Know:
If you want to view the installed and uninstalled packages, click **Status**. To know the source repository of the package, click **Origin**. Click **Custom Filters** if you want to know whether a package is broken or can be upgraded.

---

3. Click **Search**. The **Find** dialogue box opens. Type the name of the package, **Thunderbird**, in the **Search** field and click **Search**. The Mozilla Thunderbird package displays in the right pane of the **Synaptic Package Manager** window.

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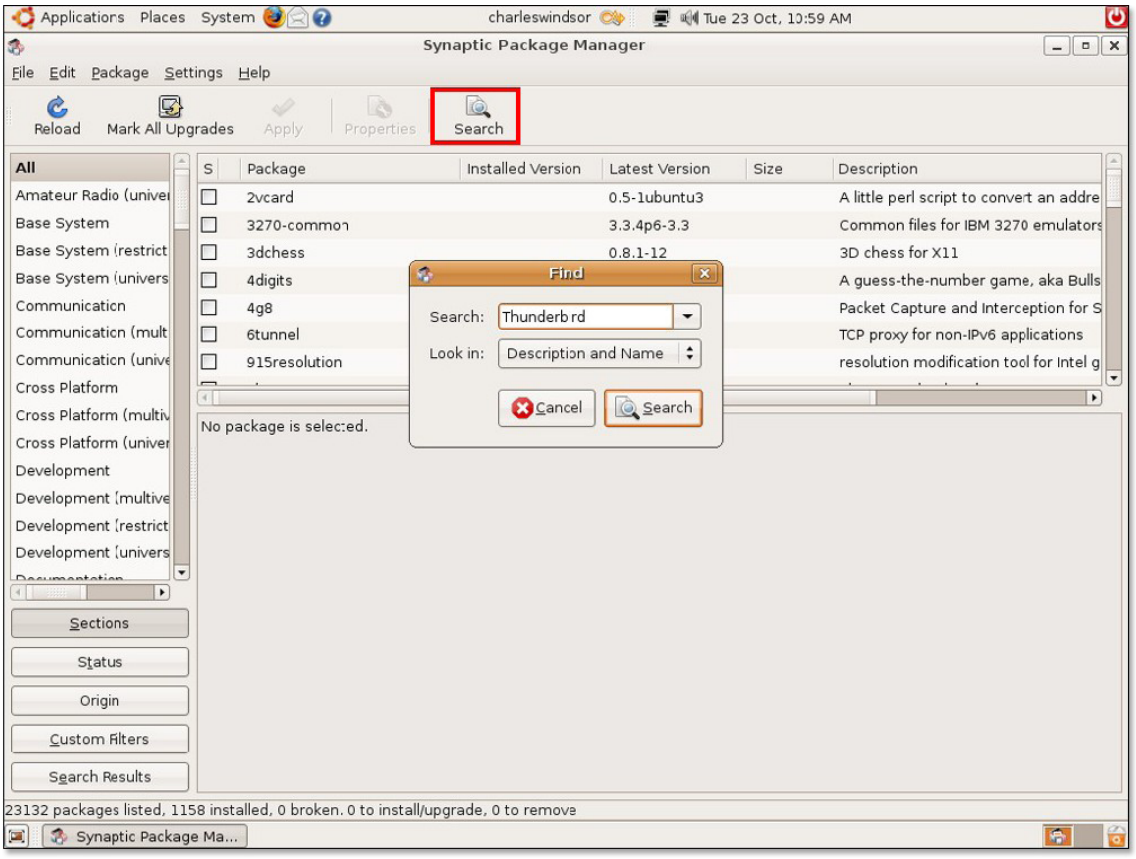


Figure 3.44: Searching Thunderbird

Note:
To return to the list of categories after searching the packages using **Search**, click **Sections**.

4. Select the **Mark for Installation** check box to install the package.

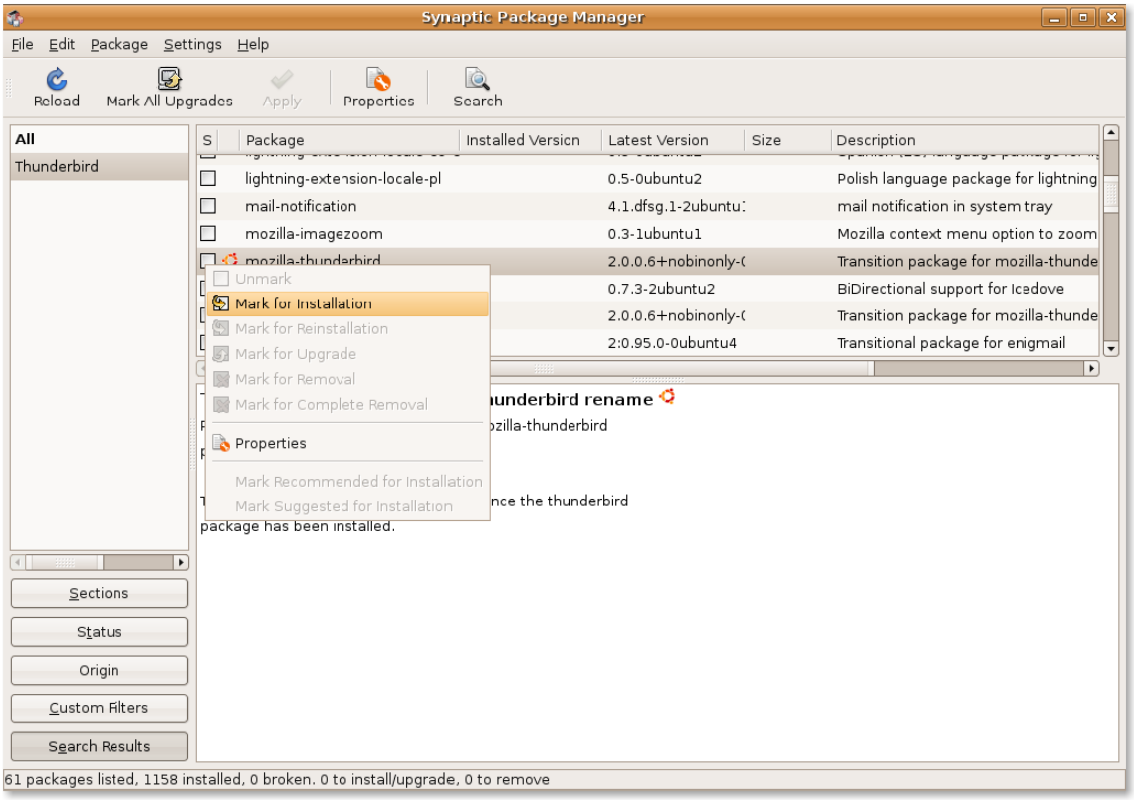


Figure 3.45: Marking Thunderbird for Installation

5. The package that you choose to install may depend on other packages. In this case, you are notified about the dependencies. To continue making the changes required to resolve the dependencies, click **Mark**.

6. To confirm that you want to make the marked changes, click **Apply.**

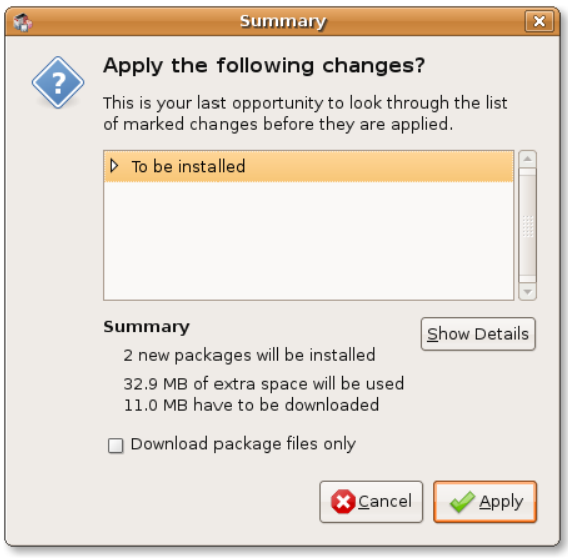


Figure 3.46: Confirming Changes

7. The **Summary** dialogue box opens, prompting you for a final check before making the marked changes. Click **Apply** to continue with the changes.

   This completes the procedure of installing Thunderbird by using Synaptic Package Manager. To access Thunderbird, on the **Applications** menu, point to **Internet** and click **Mozilla Thunderbird Mail/News**.

   This displays the Thunderbird window.

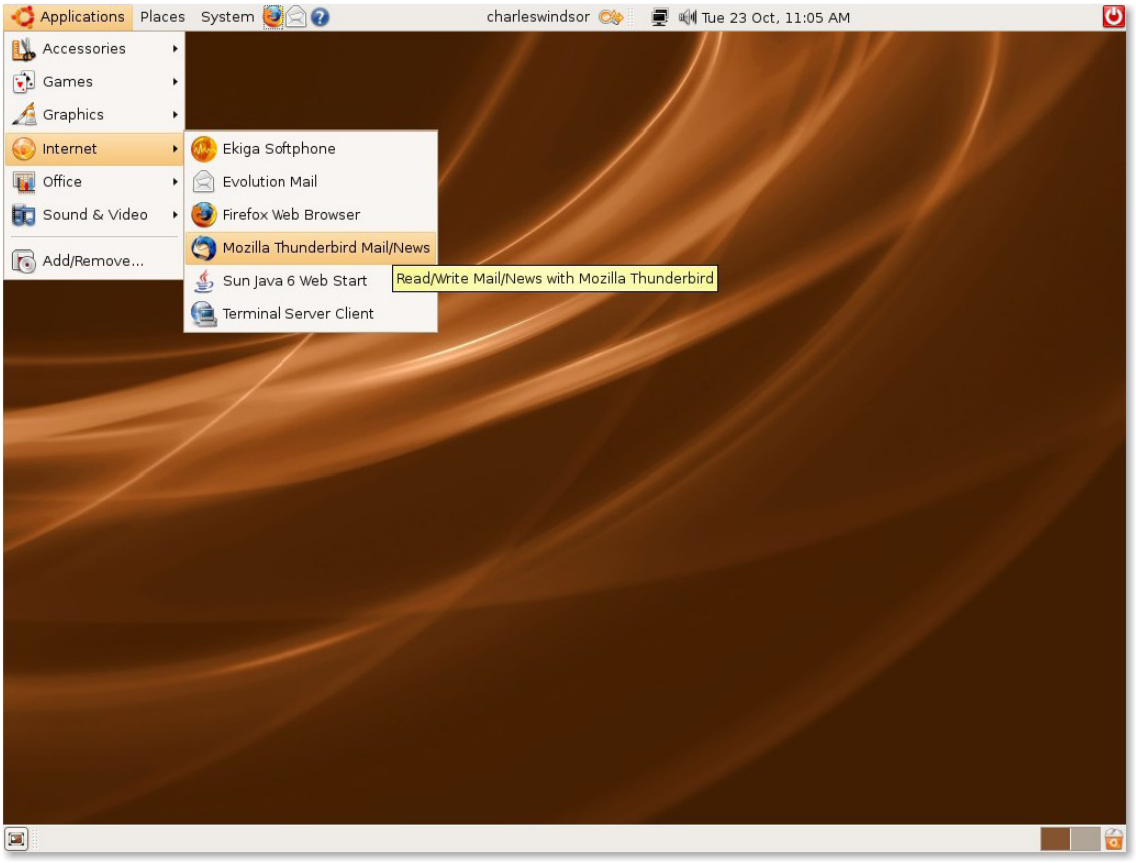


Figure 3.47: Launching Mozilla Thunderbird Mail/News

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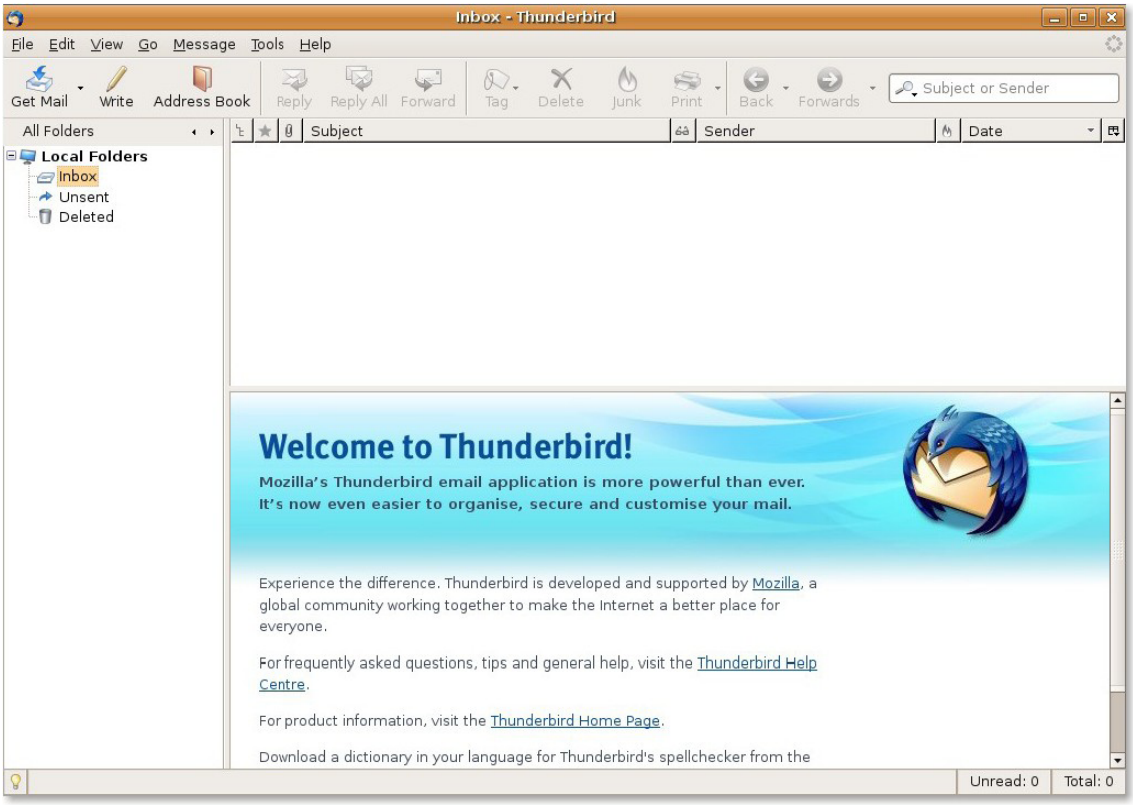


Figure 3.48: Thunderbird Window

Features of Thunderbird Thunderbird features many enhancements to help you better manage your inbox, send emails and organise your correspondence.

Some of its key features are:

- **Stop Junk Mail** If you are tired of spam and annoying advertising in your Inbox, Mozilla Thunderbird provides effective tools for detecting junk mail. These tools analyse your e-mail message and identify those that are most likely to be junk. Your junk mail can be automatically deleted or placed in a specific folder.

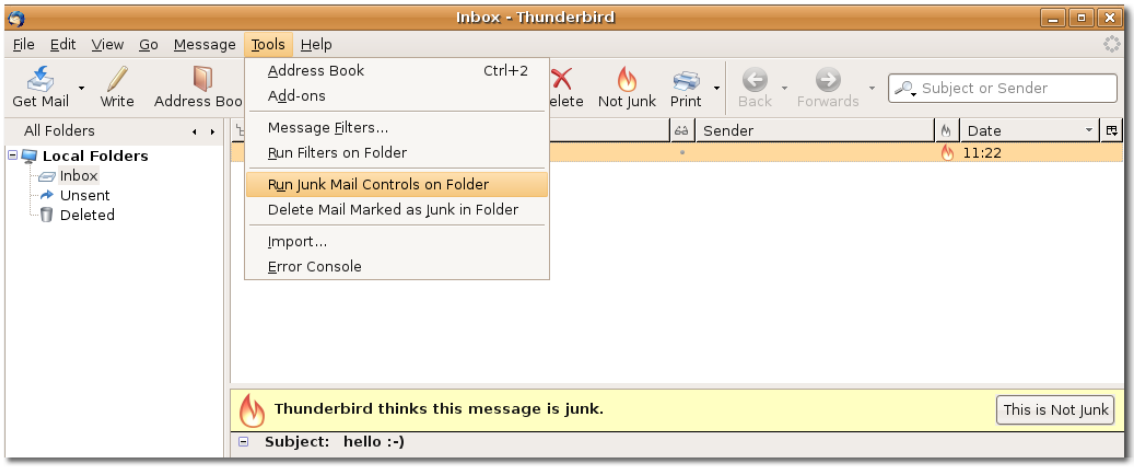


Figure 3.49: Stopping Junk Mail

1. On the **Tools** menu, click **Junk Mail Controls**. The **Junk Mail Controls** window will be displayed.
2. Click the **Adaptive Filter** tab. Select the **Enable adaptive junk mail detection** check box and click **OK**

- **Customise your mail** You have three column views to access you e-mail messages: Classic, Wide and Vertical view.

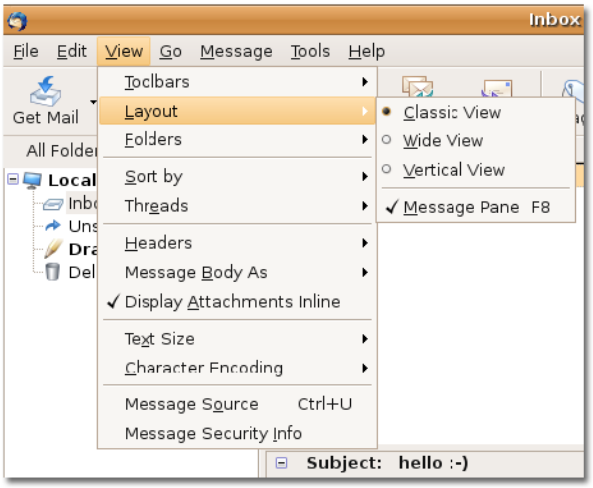


Figure 3.50: Customising the E-mail View

- **Built-in Spell Checker** To check for correct spelling, click **Spell** on the toolbar.

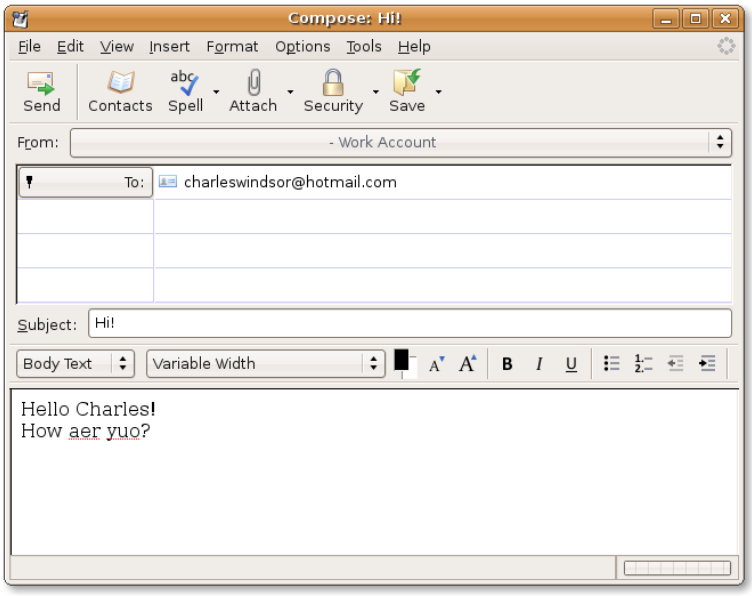


Figure 3.51: Spell Checker

- **Security** Thunderbird provides enhanced security features, which is equivalent to enterprise and government-grade security. It offers built-in support for Secure/Multipurpose Internet Mail Extensions (S/MIME) secure e-mail message.
- **Extensions** Extensions are powerful tools to help you build a mail client that meets your specific needs. Mozilla Thunderbird has several features, such as quick search, a smart address book, advanced message filtering and more.

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- **News Reader** Mozilla Thunderbird makes it easier to subscribe to your favourite newsgroups, downloading headers and messages and offline support.

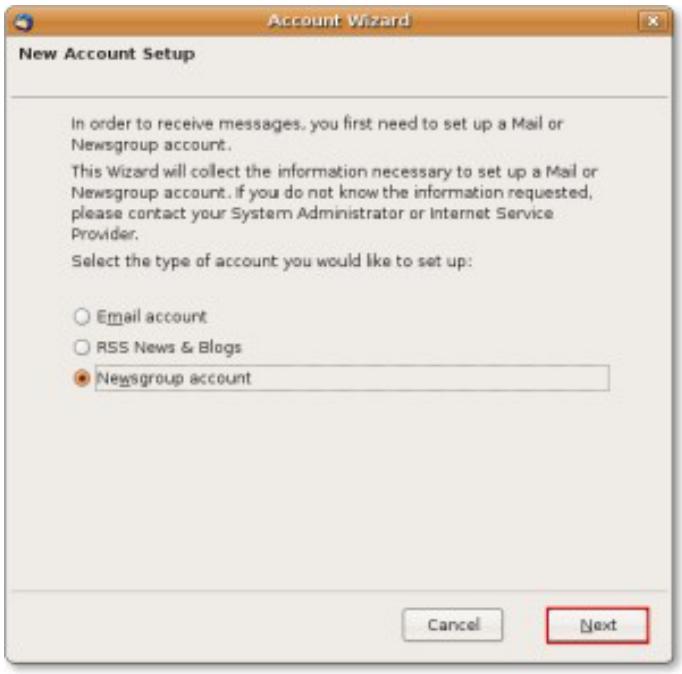


Figure 3.52: Thunderbird as a Newsgroup

- **Themes** As with most elements on Ubuntu, you can personalise the themes to change the look and feel of Mozilla Thunderbird. A theme can change the toolbar icons or the complete appearance of an application.
- **Cross-Platform Support** Thunderbird is used on various platforms, such as Ubuntu, Microsoft Windows, Mac OS X and Unix-based operating systems.

3.5 Instant Messaging

E-mail message is not expected to be real-time, which means you can respond to it when time allows. But when 'Immediacy' is required, instant messaging (IM) is the way to go. Using IM over the Internet can bring down costs of long distance phone calls when you want to stay in contact with friends. While in office, if you want an answer to a simple question, IM facilitates quick and easy communication and reduces the amount of e-mail messages sent and received in a day. IM also enables you to view a person using Web-cams or talk over the Internet for free.

The default instant messenger client on Ubuntu is Pidgin, a cross-platform instant messenger that supports various popular IM network protocols. Using Pidgin, you can communicate with people who use America Online (AOL) Instant Messenger (AIM/ICQ), Gadu-Gadu, GroupWise, IRC, Jabber, MSN, Napster and Yahoo. It allows you to list all your friends in one window. Pidgin users can log on to multiple accounts on multiple IM networks simultaneously. This means that you can chat with friends on AIM, talk to a friend on Yahoo Messenger, and sit in an IRC channel, all at the same time. Pidgin supports many features of the various networks, such as file transfer, away messages, typing notification, and MSN window closing notification. A few popular features are Buddy Pounces, which give the ability to notify you, send a message, play a sound or run a programme when a specific buddy goes away, signs online or returns from idle.

1. On the **Applications** menu, point to **Internet** and click **Pidgin Internet Messenger**. The **Accounts** dialogue box with a welcome message will be displayed.

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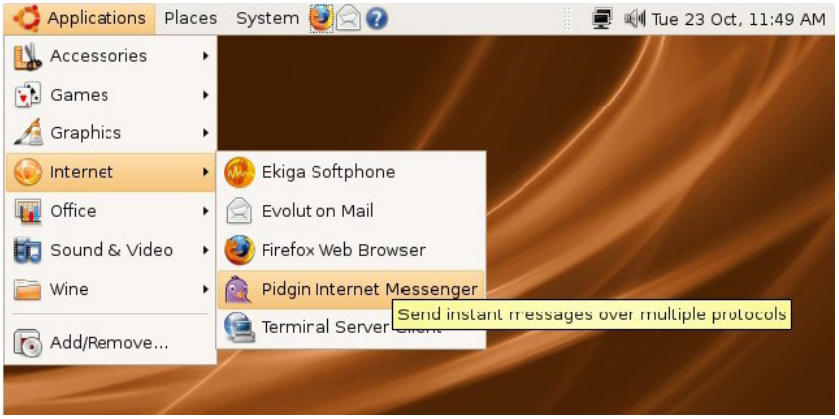


Figure 3.53: Launching Pidgin Internet Messenger

2. Click **Add** to configure your any existing e-mail account on Pidgin. The **Add Account** dialogue box will be displayed.



Figure 3.54: Adding a New IM Account

3. In the **Add Account** dialogue box, select the protocol, which is your e-mail account server name from the **Protocol** box. The protocol is the name of the server you want to use for chat. Type your selected protocol's e-mail ID in the **Screen name** box and the corresponding password. Type your nick name that you would like to be known by while chatting in the **Local alias** box. Click **Save** to create the account. The **Accounts** window will be displayed.

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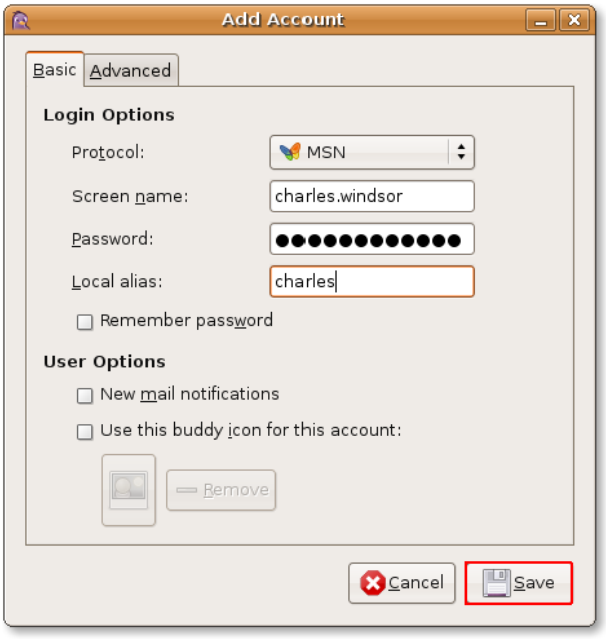


Figure 3.55: Providing Basic Account Information

4. You can see the newly created account with a check mark indicating that it is active in the **Accounts** window. Click **Close**.

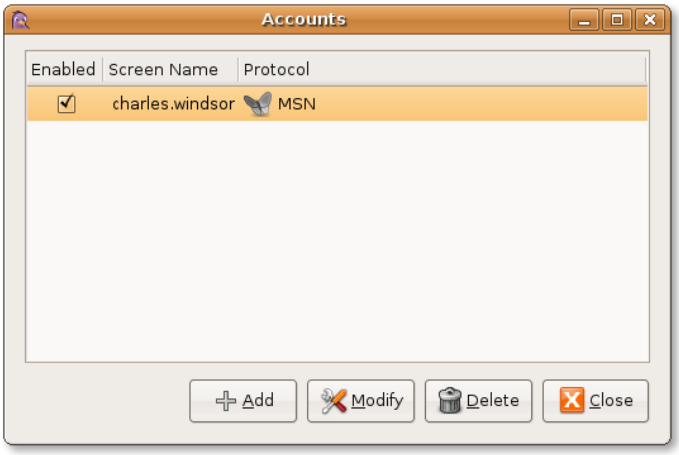


Figure 3.56: Viewing Added Accounts

Note:
If you want to add another e-mail account, click **Add** in the **Accounts** window and perform steps 1-4.

5. Now, click the **Pidgin** icon on the top panel of the desktop to view the **Buddy List** window for your current account.

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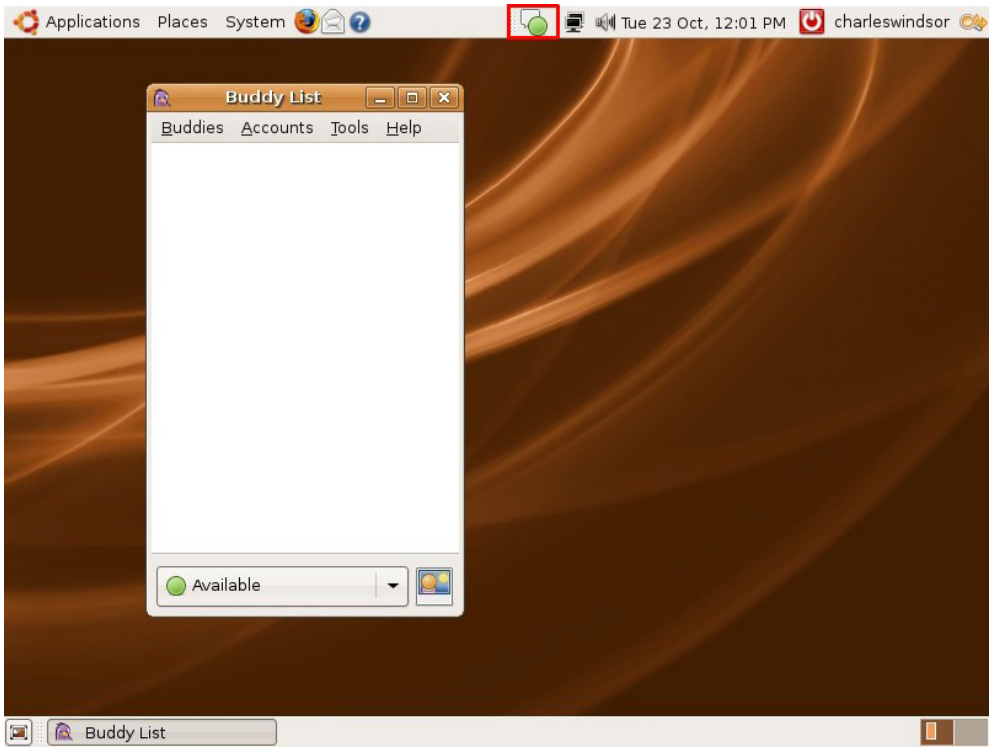


Figure 3.57: Viewing Buddy List

6. To start using Pidgin, on the **Buddies** menu, click **New Instant Message**. The **New Instant Message** window will be displayed.

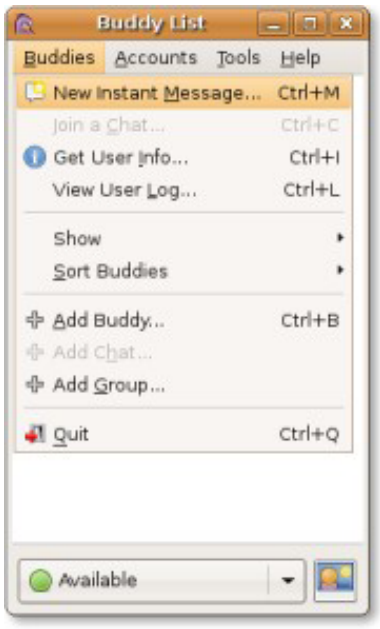


Figure 3.58: New Instant Message

7. To interact with other users, type the screen name or alias of the person you would like to chat with in the **Name** box and click **OK**. An IM window will be displayed.

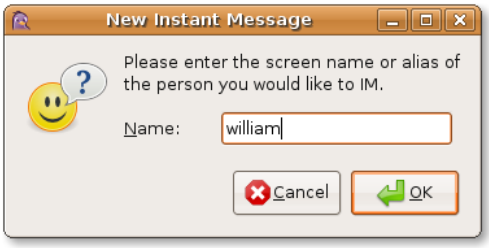


Figure 3.59: Specifying Buddy Name

8. You can use the box at the bottom of the window to type your messages and press Enter to send them. This is how you can start your conversation.

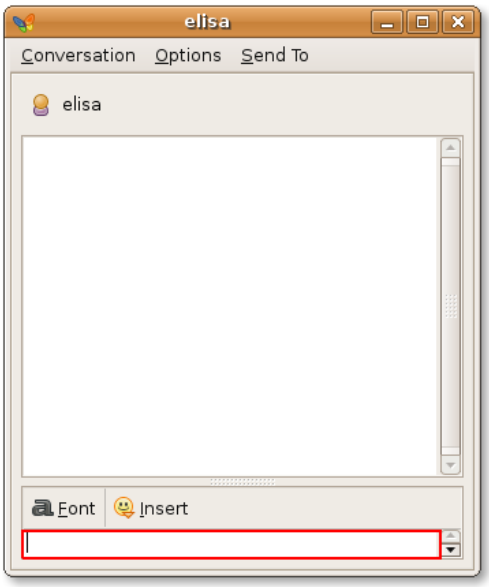


Figure 3.60: IM Window

Nice to Know:
You can change the appearance of Pidgin by adding additional features, such as changing its graphical interface and theme to it. The packages required to do this are Pidgin-guifications, Pidgin-libnotify and Pidgin-themes. You can install these packages from Synaptic Package Manager by following the procedure listed in the **Using Alternative E-Mail Client** section.

3.6 Making Phone Calls Using Softphones

A softphone is a software programme that is used to make telephone calls over the Internet using a computer instead of using a regular phone. Your service provider may offer computer-to-computer calls for free, but PC-to-phone and phone-to-PC calls usually are charged. You need to have the same communication protocol and use a common audio codec to communicate with another person. The audio codec defines how voice is translated into digital signals. Examples of SIP softphones are Ekiga, WengoPhone, SIP Express Router and many more.

You use a softphone with a headset connected to the computer or with a USB phone. The features of softphone include all standard telephony features, such as mute, flash, hold and transfer. It also includes new features, such as presence, video, wideband audio

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and many more. The softphone requirements to make voice calls over the Internet are a computer with a microphone and speaker, a headset or USB phone, Internet connectivity and an account with an Internet telephony service provider.

Nice to Know:
Skype, Google Talk and Vonage are Internet telephony service providers whose software you would need to install on your computer. But these three providers are not interoperable, and you cannot place a direct call between them.

The configuration of Ekiga and the features of WengoPhone are described below.

3.6.1 Using Ekiga

Ekiga is an open source softphone application for Ubuntu. It is a free Voice over IP (VoIP) and video conferencing application. VoIP routes voice conversations over the Internet or through any other IP-based network. You can use Ekiga to call, send instant messages and be contacted by other Ekiga users.

The First Time Configuration Assistant helps you configure Ekiga. It appears automatically when you open Ekiga for the first time.

1. On the **Applications** menu, point to **Internet** and click **Ekiga**. The **Configuration Assistant** page will be displayed. Click **Forward**.

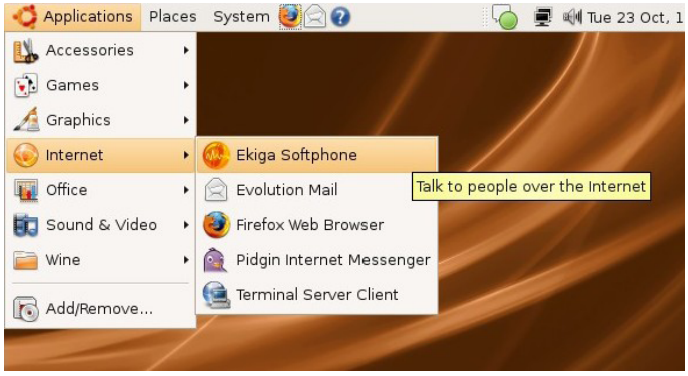


Figure 3.61: Launching Ekiga Softphone

2. On the **Personal Information** page, type your full name in the **Please enter your first name and your surname** box. The name that you specify is used for display purposes when you connect to other audio or video applications. Click **Forward**.

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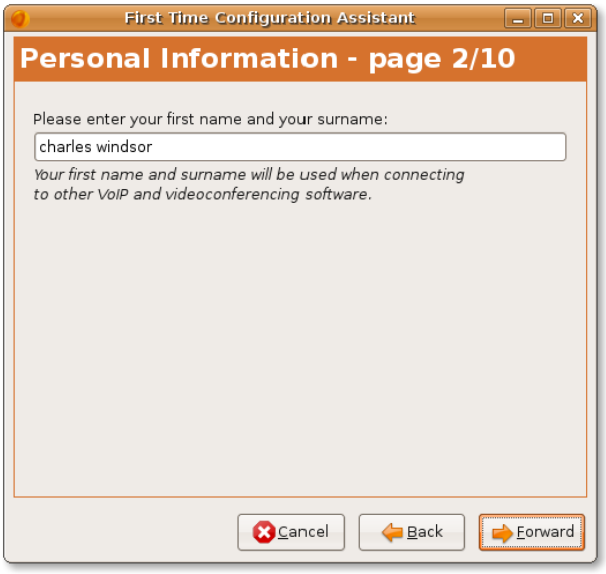


Figure 3.62: Specifying Display Name

3. On the **ekiga.net Account** page, type your Ekiga's account user name and password that you use to log in to your existing Ekiga account. You will get this detail from the ekiga.net free SIP service. Click **Forward**.

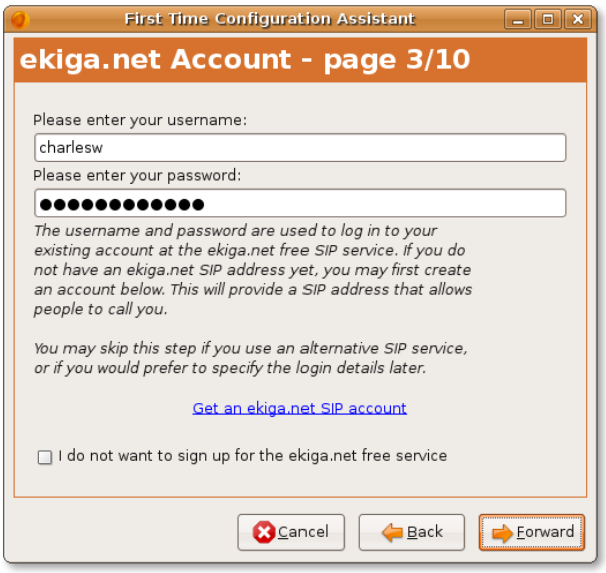


Figure 3.63: Specifying ekiga.net Account Username and Password

---

Note:
If you do not have an SIP account, you can click the link **Get an ekiga.net SIP account** on the page to create an SIP account on ekiga.net.

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4. On the **Connection Type** page, select the type of Internet connection you are using on your computer from the **Please choose your connection type** box. This connection type determines the best quality settings that Ekiga will use during

calls. If you do not know the connection type, contact your system administrator. Click **Forward**. You can change these settings later.

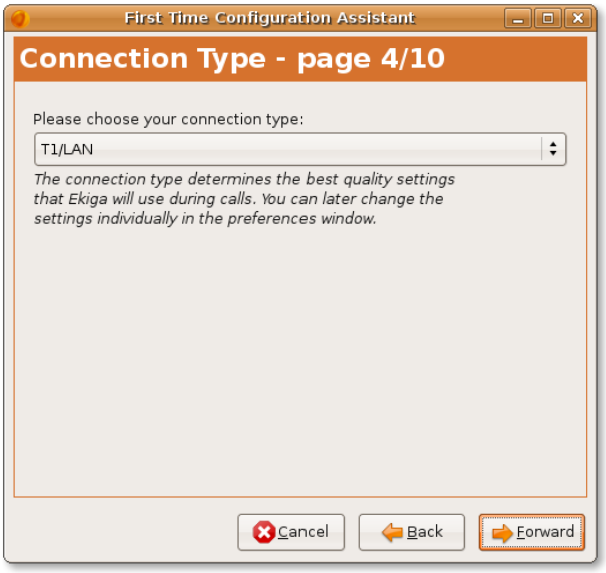


Figure 3.64: Selecting Connection Type

5. On the **NAT Type** page, click **Detect NAT Type**. It informs you which Network Address Translation (NAT) type was detected and automatically configures Ekiga to transparently cross your router. So, NAT avoids all the problems associated with reserving IP addresses. Click **Forward**.

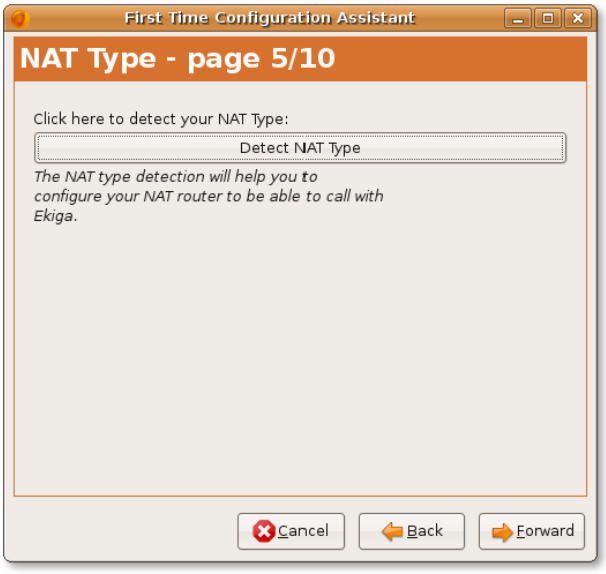


Figure 3.65: Selecting NAT Type

Note:
To learn more about NAT, refer to: http://en.wikipedia.org/wiki/Network_address_translation.

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6. On the **Audio Manager** page, select the audio manager, which is the plug-in, according to the sound card of your computer. The audio manager is a plug-in that manages your audio device and is dependant on the operating system on your computer. Though it is recommended to use ALSA, you should check with your your system administrator to identify the appropriate audio manager for the audio device that you want to use. Then, click **Forward**.

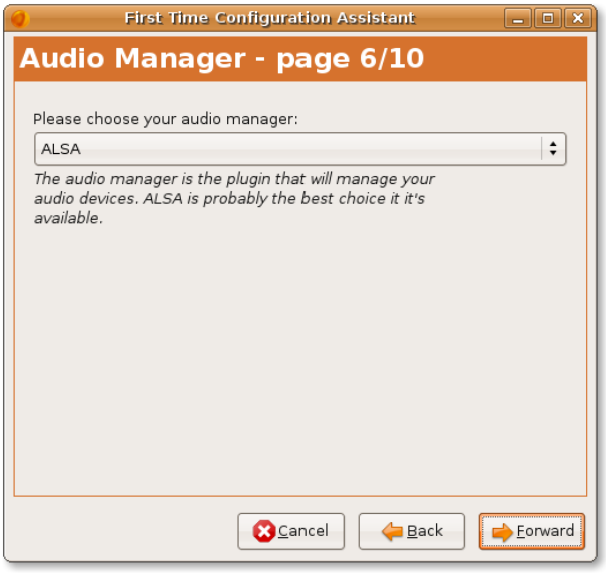


Figure 3.66: Selecting Audio Manager

7. Ekiga requires audio output and input devices to play and record sound files. The audio output device is used to play audio and audio input device to record your voice. So, on the **Audio Devices** page, select the audio output and input devices. For example, headset or speakers are the output device and your microphone the audio input device. Now, click **Test Settings** to check the functionality of audio devices and the click **Forward**.



Figure 3.67: Selecting Audio Devices

8. On the **Video Manager** page, select the video manager, which is the plug-in used to manage your video devices. You can select Video4Linux to manage Webcams or AVC / DC for Firewire cameras. Click **Forward**.

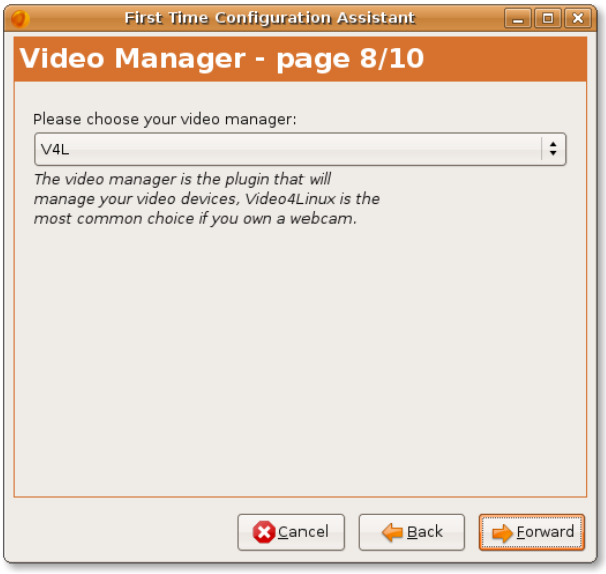


Figure 3.68: Selecting Video Manager

9. On the **Video Devices** page, select the video input device from the **Please choose the video input device** box. The video input device is the device managed by the video manager that will be used to capture video. If you do not want to do video conferencing or if you do not have a video device, you may skip this page.

   Click **Test Settings** to ensure that your video device works with Ekiga. Click **Forward**.

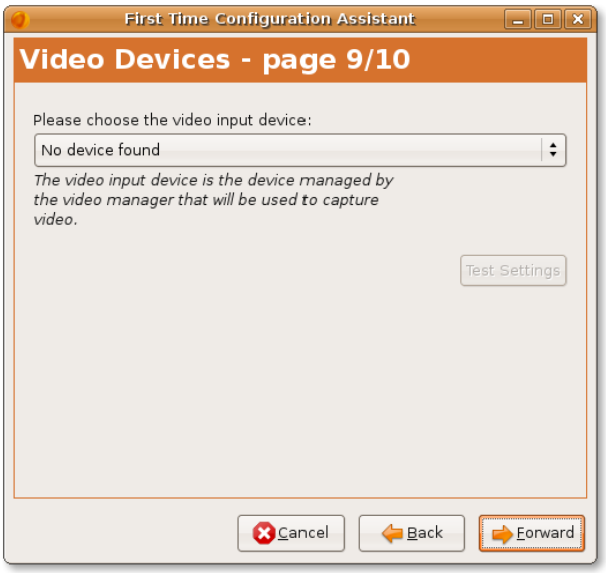


Figure 3.69: Selecting Video Devices

10. The configuration of Ekiga is now complete. This window displays a configuration summary of the settings you have selected. You can verify your settings here. If you want to make any modification, navigate to the required page by using **Back** and **Next** and make appropriate changes. Click **Apply** to save the configuration.

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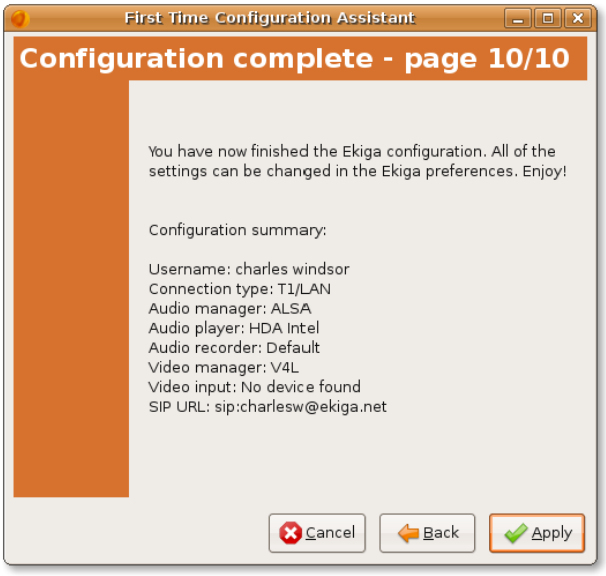


Figure 3.70: Account Configuration Summary

The Configuration Assistant will close.

Note:
After installing Ekiga, if you want to modify any configuration, you can run the configuration assistant again by **Preferences** on the **Edit** menu in the Ekiga window.

Nice to Know:
For more information on Ekiga, refer to http://www.ekiga.org.

The Ekiga window will be displayed. It is the default softphone application available on Ubuntu.



Figure 3.71: Ekiga Window

MAKING CALLS USING EKIGA

From Computer to Computer Using Ekiga, you can call anyone who is registered to the public SIP provider and uses SIP software or hardware. You can use the online address book of Ekiga to find the SIP addresses of other Ekiga users. It is of course possible to call non-Ekiga users, registered to any public SIP provider. To make calls, type the URL address of the user you wish to call in the **sip:** : input box and click the connect icon on the right of the text box. With the default setup, you can simply type **sip:foo** to call user **foo@ekiga.net**.

From Computer to Regular Phones You can use Ekiga with multiple ISPs. There is a charge for this service so you will need to create an account with the provider first. After the account is created, you will receive a login and a password by e-mail. Simply enter them in the Ekiga dialogue box, select **Use PC-To-Phone service** and you are ready to call regular phones using Ekiga. With the default setup, you can simply use **sip:00911129535955** to call the real phone number 003210444555, 00 is the international dialling code, 91 is the country code and 1129535955 is the number to call.

From Real Phones to Computer You can also use Ekiga to receive incoming calls from regular phones. For this, you have to login to **PC-To-Phone** account and purchase a phone number. Ekiga then rings, when people call you at that phone number.

Note:
To learn more about making phone calls by using Ekiga, refer to http://www.ekiga.org/index.php?rub=3.

3.6.2 Installing WengoPhone

WengoPhone is also a free software based on SIP. The OpenWengo community developed WengoPhone under the GNU General Public License (GPL). You can speak to other users of SIP compliant VoIP software at no cost by using WengoPhone. In addition, it allows you to call landlines, cellphones, send messages and to make video calls.

Wengophone is not a default application on Ubuntu. But you can download it from Synaptic Package Manager.

Note:
You can follow the procedure listed in the **Using Alternative E-Mail Client** section to install Wengophone on Ubuntu.

To open Wengophone on Ubuntu, on the **Applications** menu, point to **Internet** and click **WengoPhone**.

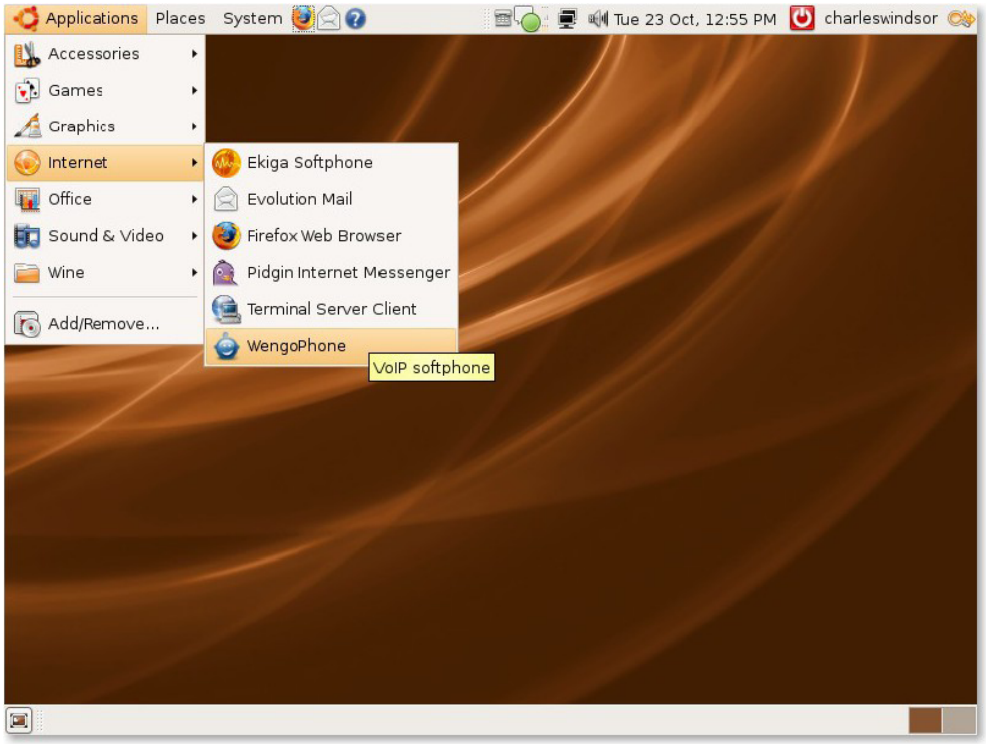


Figure 3.72: Launching WengoPhone

The **WengoPhone-Login** window will be displayed.

You need to have a Wengo account to use WengoPhone.Type your Wengo e-mail address in the **Email Address** field and the account password in the **Password** box. If you do not have a Wengo account, click **Click here if you don't have a Wengo account** to create one and then click **Login** to start using WengoPhone.

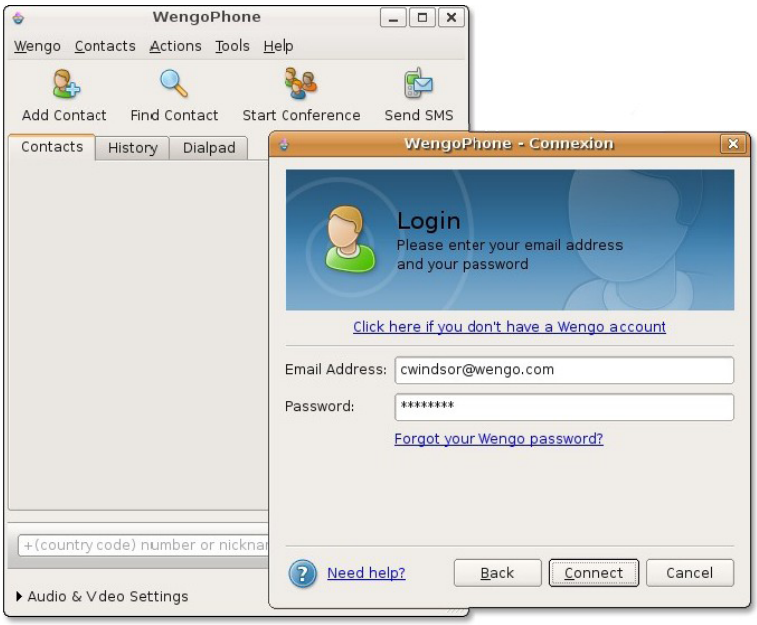


Figure 3.73: WengoPhone Login Window

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To learn how to use Wengophone, refer to: http://www.wengophone.com/.

Nice to Know:
WengoPhone uses DSL, Cable or WiFi Internet connection to provide telephony services.



Figure 3.74: Wengophone Window

1. CHAT:

   You can chat with your MSN, Yahoo, AIM, Jabber and Google Talk contacts from within your WengoPhone.

2. CALL:

   You have to know the nickname of users using Wengo account and can make calls from your computer to another computer for free. To make calls on landline and mobile, you need to purchase Wengo's call-credits. WengoPhone has useful conference call, call waiting and call forward features.

3. VIDEO:

   WengoPhone allows you to make free video calls with your Wengo contacts.

4. SMS:

   WengoPhone enables you to send SMS to your friends' mobile phones all over the world at one single rate. It offers you to purchase a call-in service with a Wengo phone number so that people will be able to contact you on this number, and you can hear their message as a regular phone call.

3.6.3 Skype

Skype is another softphone that can be used on Ubuntu to make calls over the Internet. The source code of Skype is proprietary, but the software is free to use. Your calls go through distributed servers and not through a central server. To accomplish this, Skype uses a decentralized peer-to-peer technologies and its own proprietary communication protocol. Skype uses encrypted communication, which means all communications are encrypted from end-to-end so that others cannot listen in. We will not go into detail over Skype communication here.

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3.7 Lesson Summary

- You can connect a computer to the Internet using cable, wireless and dial-up connections.
- Mozilla Firefox is an open source, powerful and secure Web browser. It is available for free and is the default browser on Ubuntu.
- Firefox includes two powerful features that make your online experience better and more productive -integrated search system and live bookmarking.
- Liferea is an RSS feed reader, which offers useful features to manage your newsgroup subscription.
- Evolution is the default e-mail client for Ubuntu.
- Mozilla Thunderbird is the e-mail application developed by Mozilla Foundation. It is a free, cross-platform e-mail and news client. It is also used to access newsgroups.
- The default instant messenger client on Ubuntu is Pidgin. It is a cross-platform instant messenger that supports multiple popular IM network protocols.
- Ekiga is the default open source softphone application for Ubuntu.
- WengoPhone is a free-software based on SIP. It allows you to call landlines and cellphones, send messages and make video calls.

3.8 Review Exercise

Question: What are the three main ways to connect to the Internet?

Answer: The three main ways to connect to the Internet are through cable, wireless and dial-up connections.

Question: Which tool is used to identify a modem on Ubuntu?

Answer: The ScanModem tool is used to identify a modem on Ubuntu.

Question: Why do you require a live bookmark in Firefox?

Answer: Mozilla Firefox uses a live bookmark for quick access to saved Web addresses.

Question: What is a feed?

Answer: A feed is an XML Web page that contains a list of links to other Web pages.

Question: Match the following:

1) Evolution	a) Web browser
2) Firefox	b) Mail client
3) Ekiga	c) Instant messenger
4) Pidgin	d) Phone calls

Answer: 1-b, 2-a, 3-d and 4-c

Question: Thunderbird is a free, _____ e-mail and news client.

Answer: Thunderbird is a free, cross-platform e-mail and news client.

Question: You can get an SIP address from _____.

Answer: You can get an SIP address from http://www.ekiga.net.

Question: On which protocol is WengoPhone based?

A. Transmission Control Protocol (TCP)

B. User Datagram Protocol (UDP)

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C. Session Initiation Protocol (SIP)

D. Internet Protocol version 6 (Ipv6)

Answer: C. Session Initiation Protocol (SIP)

Question: The source code of Skype software is _____, but the software is _____to use.

Answer: The source code of Skype software is proprietary, but the software is free to use.

Question: Which of the following is an RSS feed reader?

A. Ekiga

B. Liferea

C. Pan

D. Wengo

Answer: B. Liferea

Question: Liferea is a news _____for online news feeds.

Answer: Liferea is a news accumulator for online news feeds.

Question: Which of the following is proprietary software?

A. Skype

B. Ekiga

C. Wengophone

D. Firefox

Answer: A. Skype

3.9 Lab Exercise

Exercise 1 You are using the Firefox Web browser to view several interesting Web sites. You come across a Web site http://www.stevepavl
You want to save the URL for future referencing. Your friend suggests creating a bookmark so that the next time when you are online, you can click the link that will directly take you to that Web page.

1. Open the Firefox Web browser. On the **Bookmarks** menu, click **Organise Bookmarks**. The **Bookmarks Manager** window is displayed.
2. In the **Bookmarks Manager** window, on the **File** menu, click **New Live Bookmark**. The **Properties for New Live Bookmark** dialogue box is displays.
3. In the **Properties for New Live Bookmark** dialogue box, type **Personal Development** in the **Name** box, http://www.stevepavlina.
in the **Feed Location** box and **My live bookmark** in the **Description** box. Click **OK** and close the **Bookmarks Manager** window.
4. In the Firefox Web browser, on the **Bookmarks** menu, point to **My live bookmark**. The list of feeds displays.

Exercise 2 You use Liferea as a newsreader on your computer. Recently, you met a friend who informed you about a Web site that offers RSS feeds, http://www.lifehacker.com. Now, you want to configure Liferea for the latest updates from this Web site.

1. Open the following Web site http://www.lifehacker.com. This site offers RSS feeds.
2. In the left pane, under **syndication**, click **Full content (with ads).** Save the URL in the **Address bar** of Mozilla Firefox. This URL, http://feeds.gawker.com/lifehacker/full, is the feed.
3. Open Liferea.

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4. Right-click in the left pane, point to **New** and click **New Subscription**. The **New Subscription** dialogue box is displayed.
5. In the **New Subscription** dialogue box, type the saved URL http://feeds.gawker.com/lifehacker/full and click OK.

Exercise 3 You want to chat with your friend, who uses Google talk (gtalk). Configure Pidgin to chat using gtalk.

1. On the **Applications** menu, point to **Internet** and click **Pidgin Internet Messenger**.
2. On the **Accounts** menu, click **Add/Edit**. The **Accounts** window is displayed.
3. In the **Accounts** window, click **Add**. The **Add Account** window is displayed.
4. In the **Add Account** window, select **xmpp** from the **Protocol** box, type your gtalk e-mail id in the **Screen name** box, your account password in the **Password** box and your nickname in the **Local alias** box. Click **Save**.
5. You are now connected to the gtalk server.

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Chapter 4

Using OpenOffice Applications

Objectives In this lesson, you will learn how to:

- Perform basic word-processing functions using OpenOffice.org Writer.
- Perform basic spreadsheet functions using OpenOffice.org Calc.
- Create and view multimedia presentations using OpenOffice.org Impress.
- Perform basic drawing operations using OpenOffice.org Draw.
- Create and edit formulae using OpenOffice.org Math.

Instructor Notes:
It is recommended to cover all the topics in this lesson. However, if you are running short on time you can omit the following optional topics:

- *OpenOffice.org Draw*
- *OpenOffice.org Math*

Students, who are familiar with office applications, may want further exposure to these applications. However, ensure to conclude the lesson within the permitted time span.

4.1 Introducing the OpenOffice.org Suite

OpenOffice.org is the default office application suite provided with Ubuntu. This is a free, open source office software suite that comprises all the features normally expected in an office suite. It is not just a collection of separate software programmes; it has been designed as a complete office package, in which all applications have a similar look and feel and common tools.

The OpenOffice.org suite is available in more than 30 languages and can run on many operating systems, including Linux, Microsoft Windows, Solaris and Mac OS X. It is also compatible with all other major office suites, including Microsoft Office, which makes it easy for you to create, open, save and exchange documents with friends and colleagues in Microsoft Office formats.

Another key feature of the OpenOffice.org suite is that all the applications save in the OpenDocument format, which is the new international standard for office documents. This Extensible Markup Language (XML) based format enables you to access your data from any OpenDocument-compliant software.

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Nice to Know:
For more information on the history and development of OpenOffice.org, please visit http://en.wikipedia.org/wiki/Openoffice.org.

The OpenOffice.org software suite includes the following applications to help you handle your work effectively:

- OpenOffice.org Writer
- OpenOffice.org Calc
- OpenOffice.org Impress
- OpenOffice.org Base
- OpenOffice.org Draw
- OpenOffice.org Math

TO ACCESS THE OPENOFFICE.ORG SUITE:

- On the **Applications** menu, point to **Office** and then click the OpenOffice.org application you want.

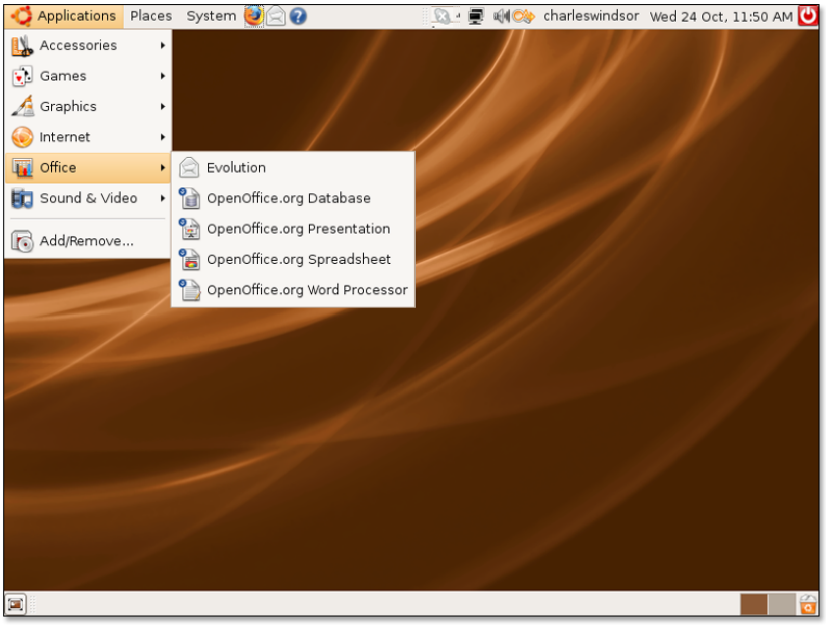


Figure 4.1: Accessing OpenOffice.org

4.1.1 OpenOffice.org Writer

Writer is the word processor of the OpenOffice.org suite. It provides powerful functions and tools to do anything from writing a small letter to creating an entire book that contains charts, graphics, images, tables and an index. Complex desktop publishing tasks, such as creating multicolumn newsletters and brochures are also on hand.

4.1.2 OpenOffice.org Calc

Calc is a powerful spreadsheet that contains all the tools necessary to calculate, analyse, summarise and present data in the form of reports or charts. It has a wide range of advanced functions such as entering complex formulae, pulling in external data and performing statistical analyses.

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4.1.3 OpenOffice.org Impress

Impress is a presentation programme designed to create effective multimedia presentations. It provides a range of tools to create presentations with 2D and 3D graphics, clip art, graphics, special effects and animations.

4.1.4 OpenOffice.org Base

Base is a database programme used to store contact and account information, create and modify tables, forms, queries and reports. Accessing data stored in a wide variety of database file formats is also available. Base will not be covered in detail in this course. For more information on base, please refer to www.openoffice.org/product/base.html

4.1.5 OpenOffice.org Draw

Draw is a vector graphics editor that provides tools to create anything from simple graphics to dynamic 3D illustrations and special effects.

4.1.6 OpenOffice.org Math

You can use Math for creating and editing mathematical equations by using a graphic user interface or by directly typing the formula into the equation editor. The formula created in this manner can then be inserted into other OpenOffice.org programmes, such as Writer, Calc and Impress.

Note:
Using a new OS and especially a new office application suite is not as daunting to pick up as you may think. With OpenOffice, most of the operations are very intuitive. Think of a new suite as moving to a new house; all your old cutlery, plates and dishes are in your kitchen cupboards, you just need to get used to the new kitchen arrangement!

4.2 Using OpenOffice.org Writer

4.2.1 Key Features of OpenOffice.org Writer

You may already be familiar with many of the features of this application so only a few of them are included here.

Writing OpenOffice.org Writer offers a variety of useful features to help you create basic text documents as well as long and complex or multi-part documents that may include components such as bibliographies, reference tables and indexes. Some of these features are:

- **Spellchecker:** The spellchecker feature facilitates error-free writing by enabling you to check your entire document, including the header, footer, index entries and footnotes, for spelling errors. It even allows you to identify a misspelled word from a specific selection of the document, lists suggested words for replacing the misspelled word and provides you the option to add a new word to the existing user dictionary.
- **Thesaurus:** The thesaurus helps you enhance the quality of your writing and make it more effective by allowing you to find a more appropriate synonym for a selected word.
- **Autocorrect:** Autocorrect is a software function that enables you to reduce your typing effort by automatically correcting common spelling and typing errors. This feature also allows you to automatically apply correct formatting to the text or insert special characters by recognizing particular character usage.
- **Hyphenation:** You can use the hyphenation feature to insert hyphens in words that are too long to fit at the end of a line. It searches the entire document and suggests hyphenation that you can either accept or reject.

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- **Mail merge:** The Mail merge feature allows you to create multiple personalised form letters, labels, envelopes, faxes and e-mail messages by using a form letter template and an address database.

Designing and Structuring OpenOffice.org enables you to design and structure your text document by using an assortment of features, including:

- **Style and Formatting window:** The Style and Formatting window is one of the common features available in the OpenOffice.org package that can be used consistently in all the applications included in the package. You can use this window to create, assign and modify styles for paragraphs, lists, individual characters, frames and pages.
- **Navigator:** Provides you with an outline view of the entire document and allows you to quickly navigate inside the document. You can also use Navigator to track the objects and elements that are already inserted and to insert new elements into the document.
- **Indexes and Tables:** Enable you to insert an index, a table of contents or a bibliography reference in your text document. You can also customise the inserted tables and indexes by defining their structure and appearance.

Desktop Publishing The following features can help you create professionally styled documents, such as brochures, invitations and newsletters:

- **Text Frames:** Acts as a container for text and graphics and can be placed anywhere in a document. You can also use these frames to apply a multi-column layout to your document and render a professional look and style to it.
- **Graphics:** Allows you to insert a graphic object into your text document from a gallery, a file or any other OpenOffice.org application.
- **Tables:** OpenOffice.org Writer also enables you to create or insert a table into a text document.

Drawing The drawing functions make it easy for you to create many types of drawings and graphics directly in your text document. You can use the Drawing bar to add various shapes, lines, text and callouts to a current document.

Drag and Drop This unique feature allows you to drag objects from one location to another in the same document, from one OpenOffice document to another and from the Gallery to your OpenOffice document.

The Help Function This is a complete reference for your Writer.

4.2.2 Performing Basic Word-Processing Tasks

You can perform a number of word-processing tasks, such as writing, editing, formatting, reviewing and printing documents, using OpenOffice.org Writer. The word processor also allows you to use various templates, apply different styles to your document, control your page layout and insert, edit and create graphics inside your text document. Instructions to perform some of the basic word-processing tasks in Writer are described in the following sections.

Entering and Formatting Text OpenOffice.org Writer is primarily used for writing and formatting text. You can enter text using your keyboard and then apply a variety of formats to the text, as per the document's requirements.

1. On the **Applications** menu, point to **Office** and then click **Openoffice.org Word Processor**. A blank text document opens.

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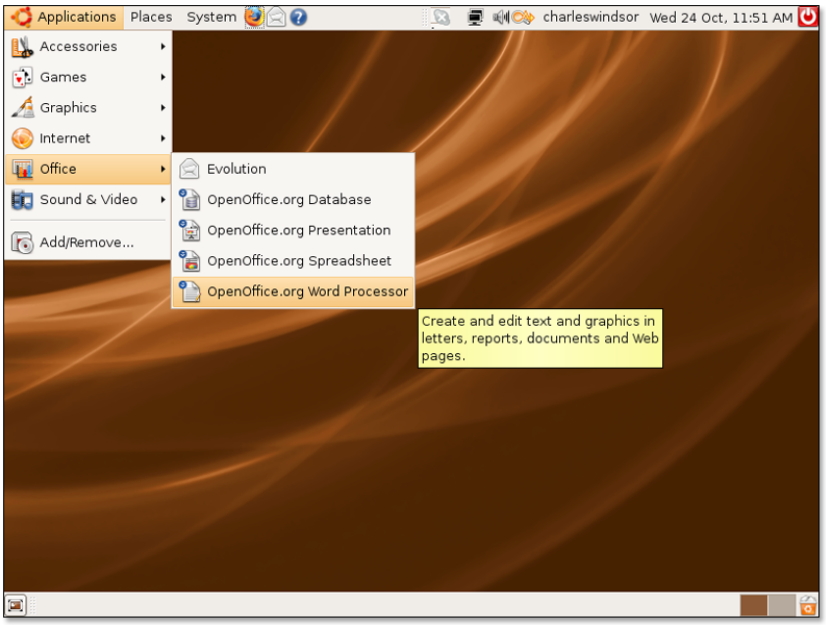


Figure 4.2: Launching Writer

2. Depending on what you want to do, you can either create a letter, memo, note or an entire novel from scratch, or you may start with a predefined template or sample that is suitable for your requirements.

   To access the templates and samples, on the **File** menu, point to **New** and then click **Templates and Documents**. Alternatively, you can press SHIFT+CTRL+N. The **Templates and Documents** dialogue box opens.

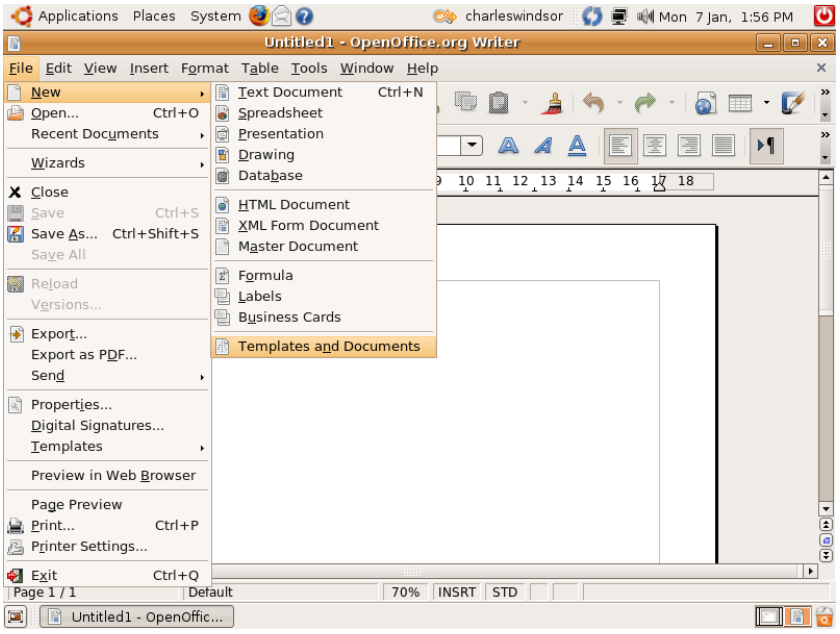


Figure 4.3: Accessing Templates and Documents

3. You can view the various categories of available templates in the middle column of the Templates and Documents dialogue box. If you want to use a template to create your document, you can double-click a category. This will display the various templates associated with that category. Select a template of your choice and then start working on it.

However, you may also decide to work with the default blank document. To continue working with the blank document, exit the **Templates and Documents** dialogue box by clicking **Close** in the top-right corner of the dialogue box.

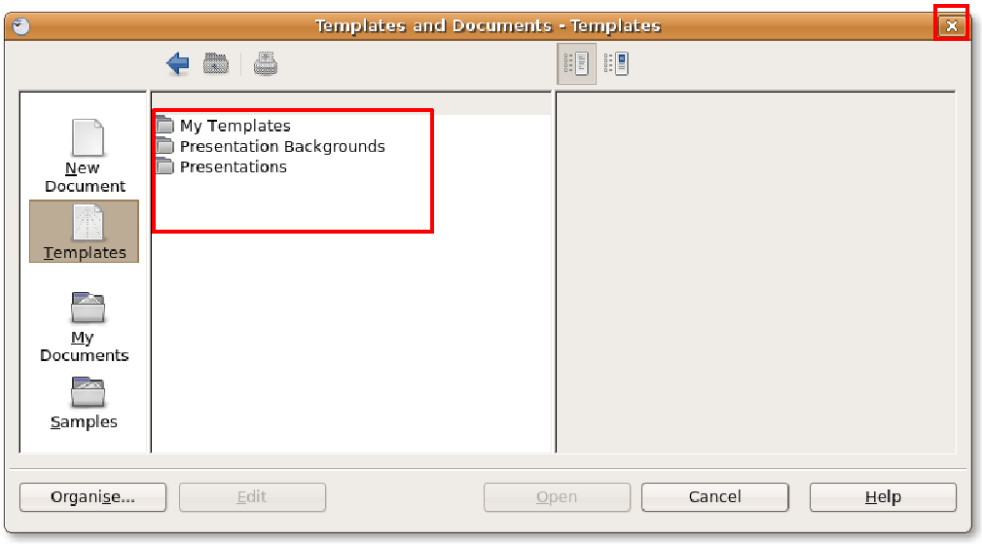


Figure 4.4: Accessing Templates

Instructor Notes:
If students need to know more about using samples and templates, you can tell them how to use various wizards, available under the File menu, to create user-defined templates, such as faxes and letters. These templates can later be used to create further documents.

4. After you have created the document, you can use the various formatting features provided in Writer to change the text display or emphasise specific areas in your document. You can use the following options available on the **Formatting** toolbar to perform some of the most common formatting tasks.

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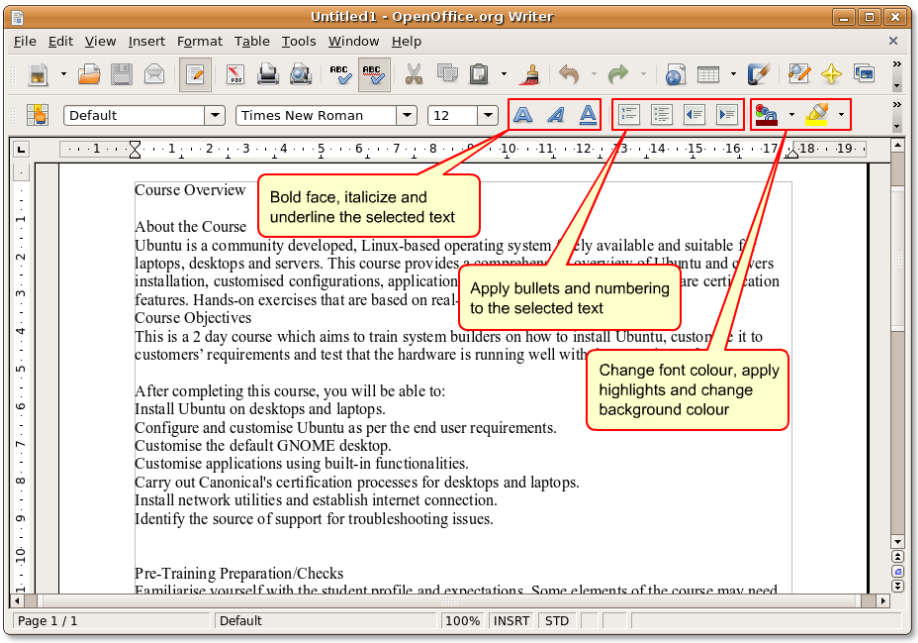


Figure 4.5: The Formatting Toolbar

5. You can use the **Style and Formatting** window to perform a complete document makeover.

   To open the **Style and Formatting** window, on the **Format** menu, click **Style and Formatting**. The **Style and Formatting** window appears.

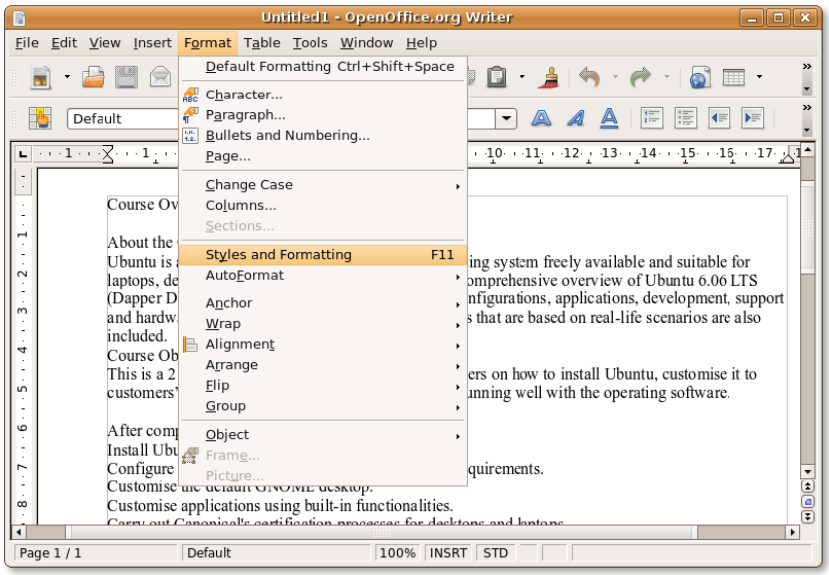


Figure 4.6: Accessing Style and Formatting Window

6. You can use this window to select and modify the existing style or create a new style. Clicking one of the icons below the title bar of the **Style and Formatting** window will display a list of styles in a particular category, such as a list or a paragraph.

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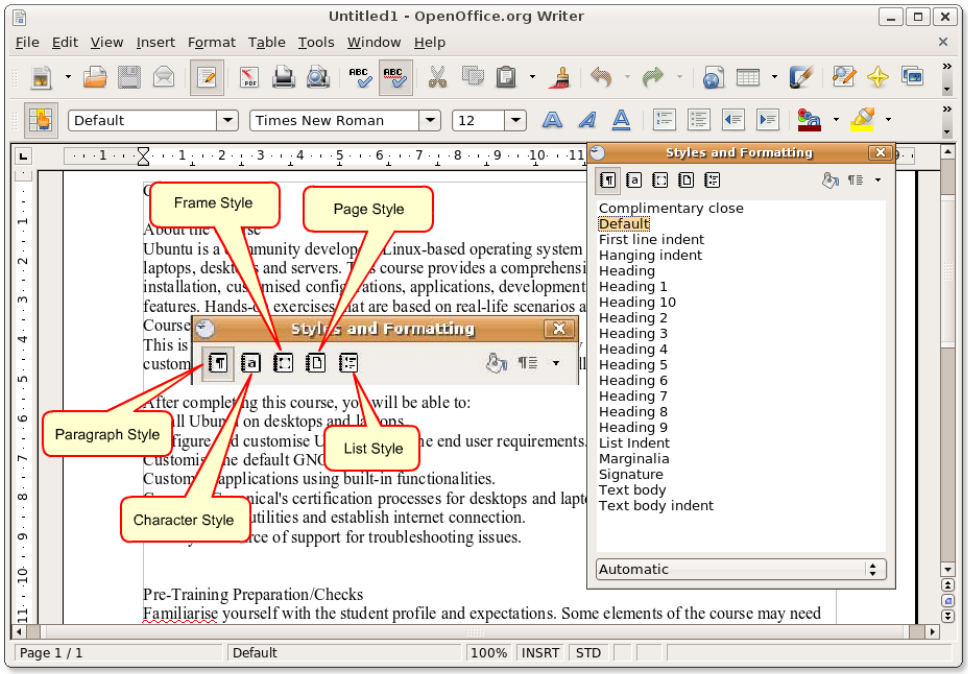


Figure 4.7: The Style and Formatting Icons

7. By default, when you open the **Style and Formatting** window, the **Paragraph Style** icon is selected. All the styles listed in this category are displayed in the **Style and Formatting** window. You can start restyling individual parts of the current document by selecting specific parts of the document and applying an existing style by double-clicking that style.

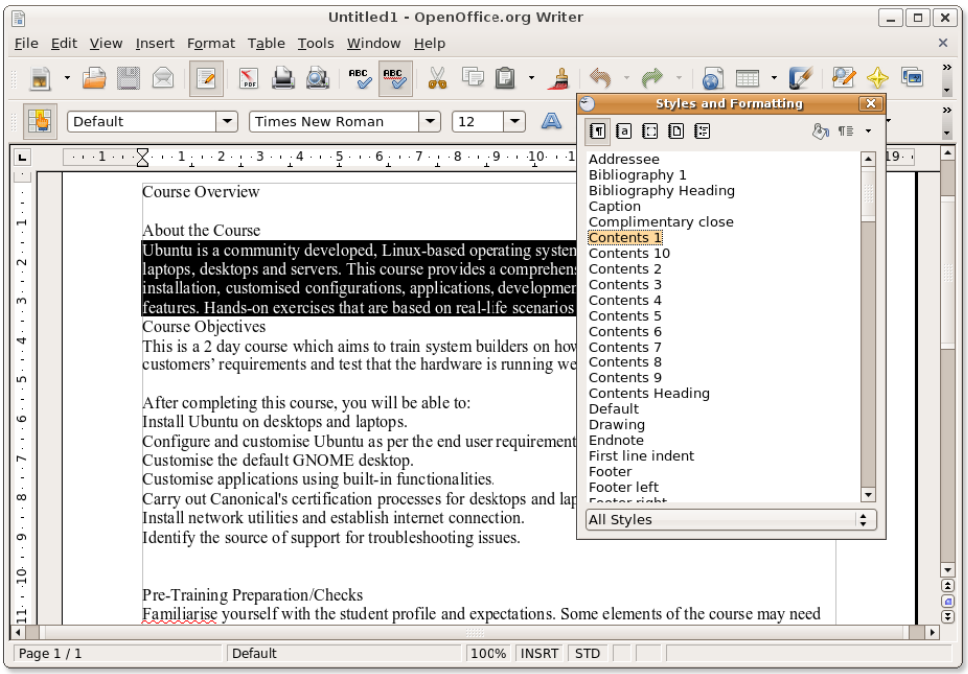


Figure 4.8: Applying a Style

8. However, if you want to modify an existing style, you can simply right-click that style and select **Modify.** This displays a new pop-up window. You can redefine almost all aspects of the selected style using the various options available under the different tabs.

   Modify the specifications of the selected style, and click **OK** to apply the changes.

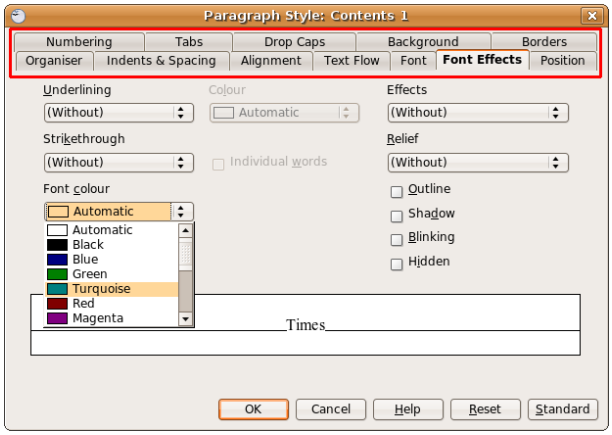


Figure 4.9: Modifying a Style

9. Double-click the modified style to reflect the changes in the selected text.

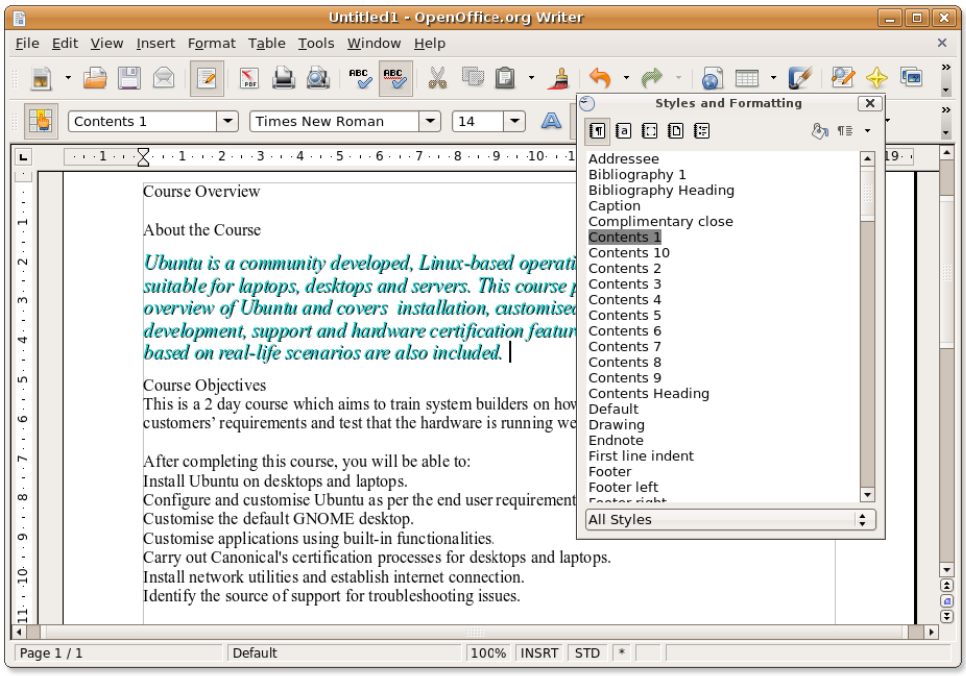


Figure 4.10: Applying the Modified Style

10. You can customize all other parts of the document in the same way.

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Instructor Notes:
If the students want to know more about the various formatting options available, you can give them the following information:
OpenOffice.org provides several ways to apply styles. These are:

- *Using the Styles and Formatting window.*
- *Using Fill Format mode.*
- *Using the Apply Style list on the Formatting bar.*
- *Assigning styles to shortcut keys.*
- *Using AutoFormat.*

In addition, describe the procedure to create a new style and add it to the Style and Formatting window.

To insert a table in a text document, position the cursor where you want the table to appear and then follow the procedure described below:

1. On the **Table** menu, point to **Insert** and then click **Table.** The **Insert Table** dialogue box opens.



Figure 4.11: *Inserting a Table*

2. You can use the various options present in the dialogue box to specify some of the table properties.

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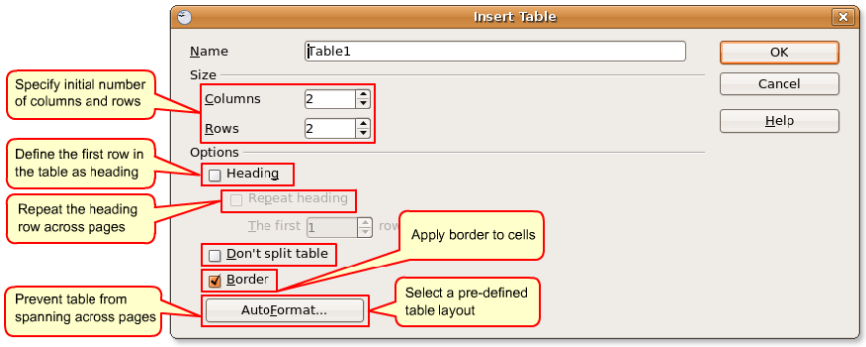


Figure 4.12: *Specifying Table Properties*

Nice to Know:
To directly insert a table with the default properties, click the Table icon on the Standard toolbar and select the table size in the graphic that appears. To create the table, click the cell that you want to be on the last row of the last column.

3. Specify the table properties and click **OK.** The table is inserted at the specified location in your text document. By default, Writer creates a table as wide as the page margins, with all the rows having the same height and all the columns having the same width. To adjust the column and rows and customise the table further, right-click the table and select **Table** from the short-cut menu. The **Table Format** dialogue box opens.

   Now you can use this dialogue box to define finer specifications for the table such as alignment, column width, text flow, borders and background.

   Define the table specifications as per your requirements and preferences, and click **OK** to apply the changes.

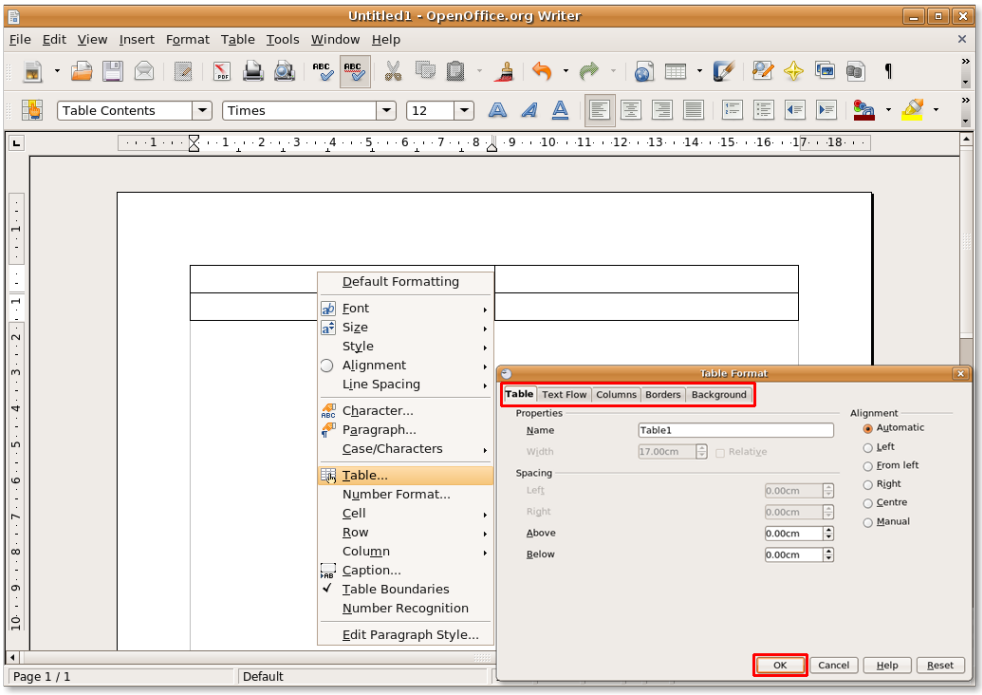


Figure 4.13: *Customising the Table Format*

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4. The defined specifications are applied to the table. To arrange the data within one of the table cells into another table, you can create nested tables. Writer permits you to create as many layers of nested tables as you want.

   To create a nested table, click the cell in which you want the nested table to appear, then follow the procedure for inserting a new table. A nested table appears in the specified cell within the larger table.

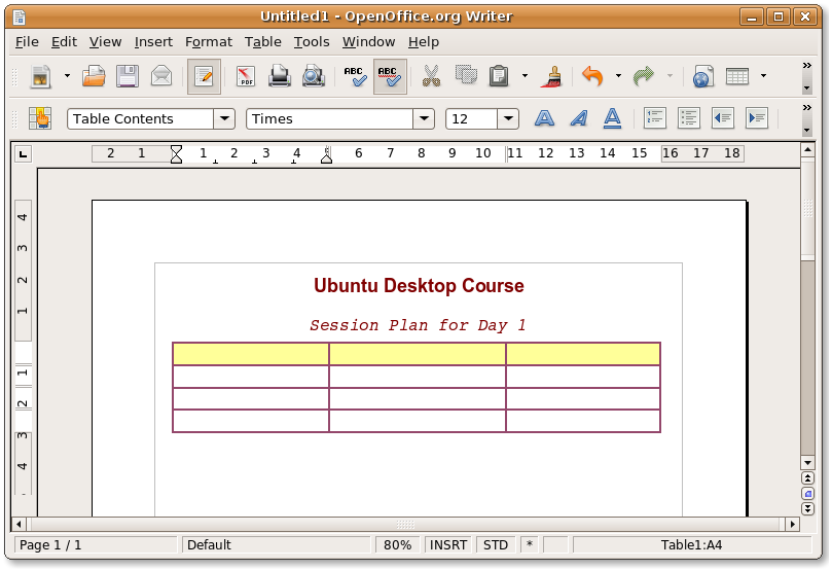


Figure 4.14: *Creating a Nested Table*

5. You can now define the finer specifications of the nested table using the Table Format dialogue box and then populate the table with data.

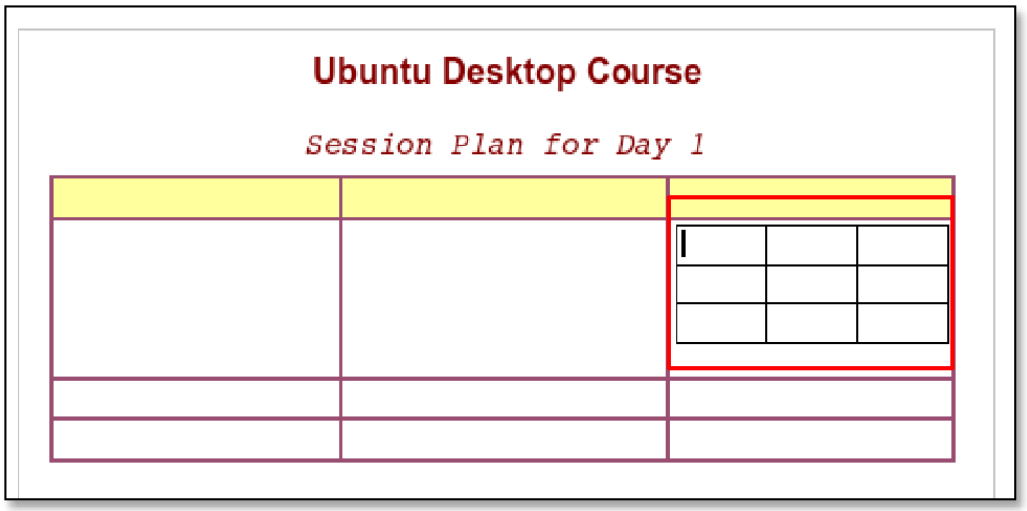


Figure 4.15: *The Nested Table*

Inserting Images OpenOffice.org allows you to import images of various file formats, including the most common file types such as JPEG, PNG, BMP and GIF. Images can be inserted from a file, the OpenOffice.org Gallery, a scanner, the Internet, or a graphics programme.

1. Position the cursor at the location in the document where you want the picture to be inserted. On the **Insert** menu, point to **Picture** and then click **From File**. The **Insert Picture** dialogue box opens.

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2. To insert the file, navigate to the desired file and select it. You can select the **Preview** check box at the bottom of the **Insert Picture** dialogue box to preview the selected image in a pane and verify whether you have selected the correct image. Click **Open** to insert the image in your document.

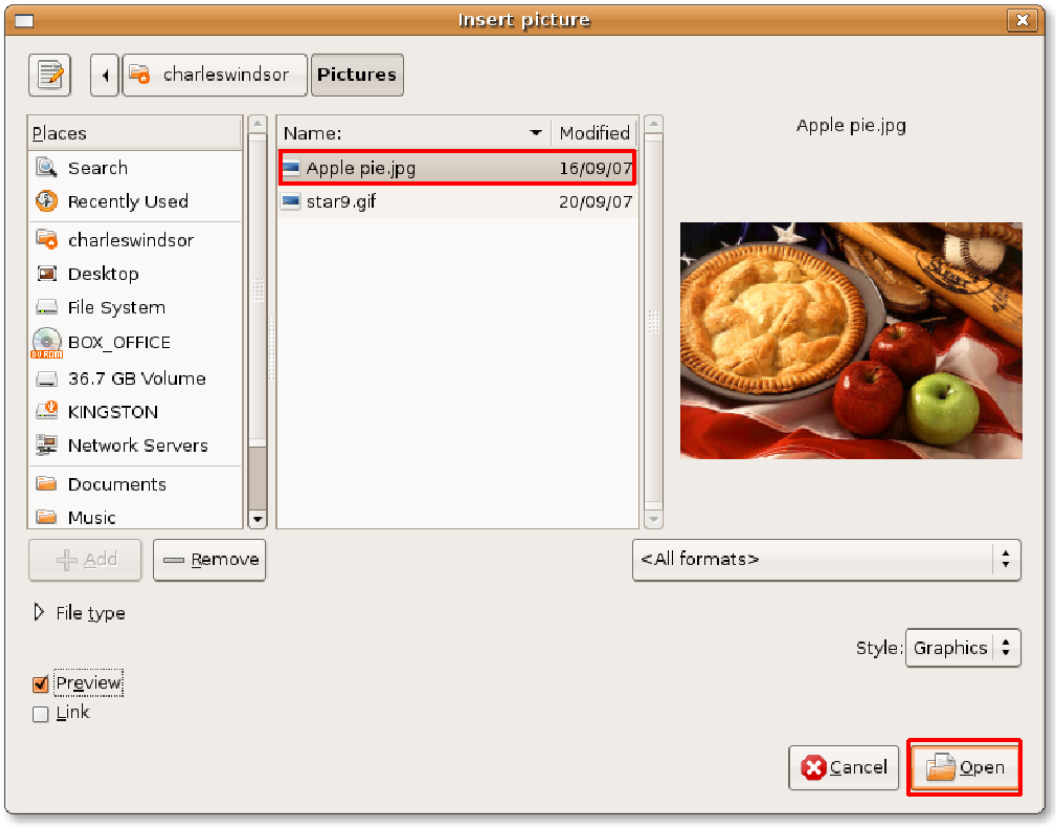


Figure 4.16: Inserting Image

Instructor Notes:
Explain the following:
Selecting the Link check box creates a link of the selected file inside your text document, instead of saving a copy of the image in your document. As a result, though you'll be able to view the image in the document, when the image is saved, the document will contain only a reference to that image but not the image itself. Linking an image has the following advantages and disadvantages:

- *It reduces the size of your document when it is saved because the image is not included in it.*
- *You can edit or modify the image separately without making any changes in the document and can view the modified image the next time you open the document.*
- *When you wish to send the document to someone, you need to send both the document and the image otherwise, the receiver will not be able to view the linked image.*

---

3. The image is inserted at the specified location in your document. If the image does not fit perfectly into your document, you should resize it.

   To resize the image while maintaining its proportions, select the image and then press and hold the SHIFT key. When you select an image, some square points (known as "handles") appear along its perimeter. While holding down the SHIFT key, click and drag one of the handles on the image to modify its size.

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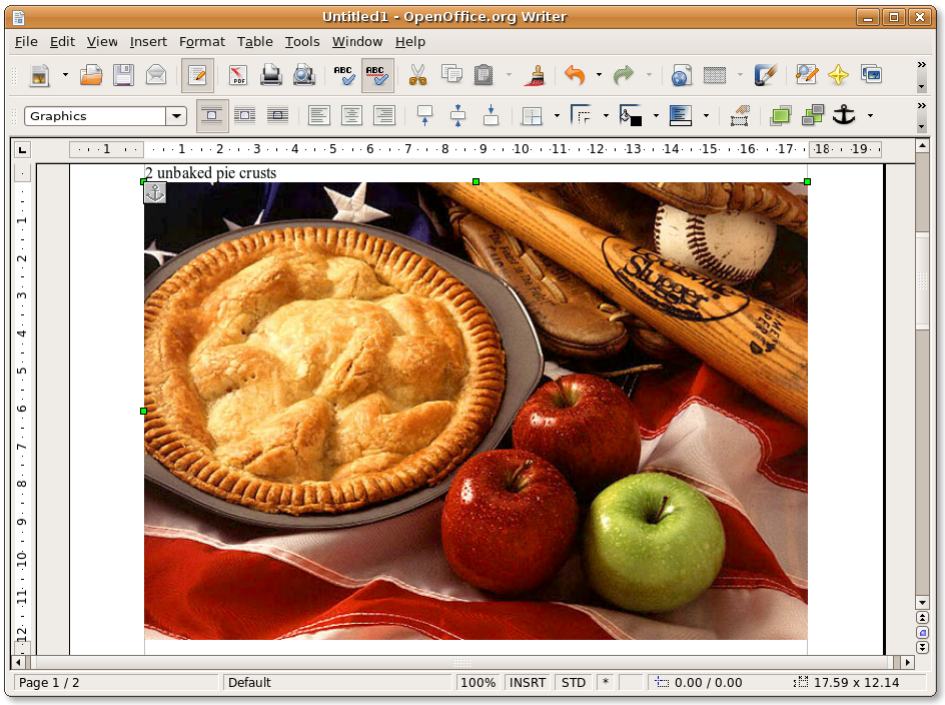


Figure 4.17: Resizing the Inserted Image

Instructor Notes:
Explain the difference between a scaled and an unscaled resize, and emphasise the advantages of the scaled resize performed above.

---

4. After you have resized the image, you need to position the image appropriately in the document. You can arrange and align images using the tools on the **Frame toolbar**, which appears below the **Standard toolbar** when you select a graphic for the first time.

   Alternatively, you can right-click the image and then select from the available options, such as **Arrange, Wrap** or **Anchor,** on the short-cut menu.

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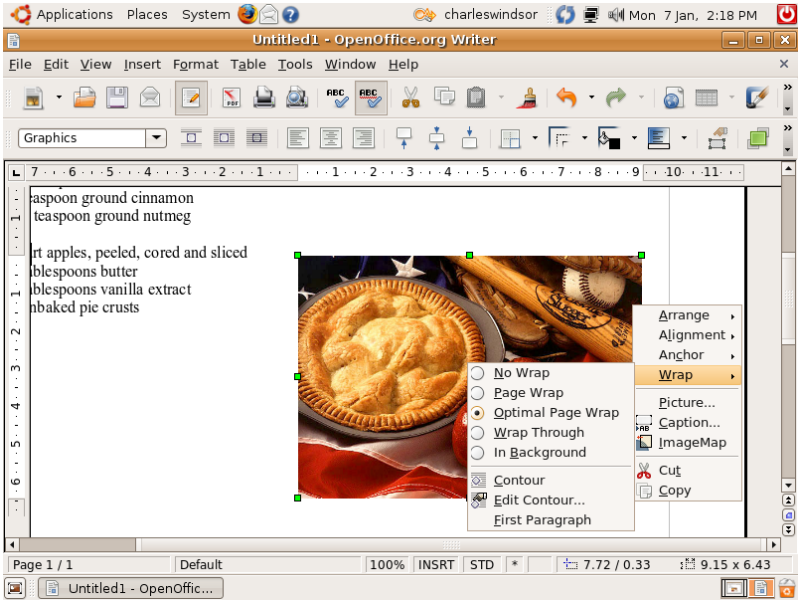


Figure 4.18: Positioning the Inserted Image

5. After you have selected appropriate positioning options for the image, you may obtain a result similar to the following screenshot.

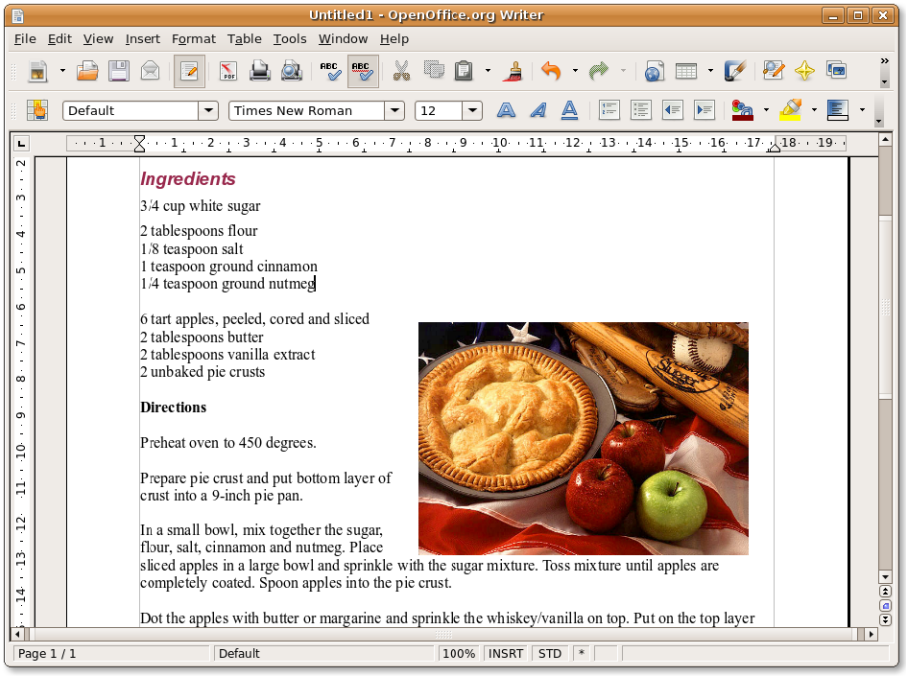


Figure 4.19: The Inserted Image

1. On the **File** menu, click **Print**. The **Print** dialogue box opens. You can use this dialogue box to specify the printer to be used (in case you have more than one printer installed on your system), the pages to be printed, and the number of copies to be printed. You can also click the **Properties** button in the **Print** dialogue box to define the properties of the printer, such as orientation, the paper tray to be used and the paper size to be printed.

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To define printer options for the current document, click the **Options** button in the **Print** dialogue box.

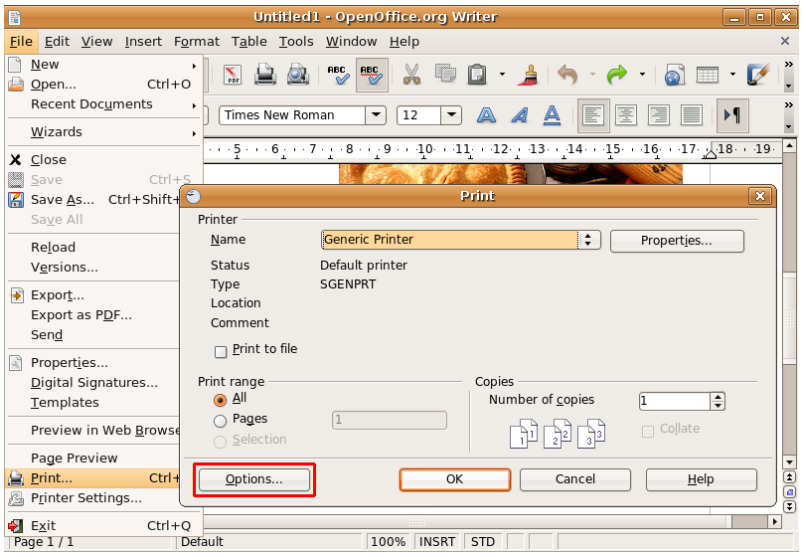


Figure 4.20: *Printing a Document*

2. The **Printer Options** dialogue box enables you to select specific sections from the current document for printing. For example, to save toner or ink, you may not want to print the background and the graphics in the document. You can specify these details under the **Content** section by selecting or clearing the appropriate check boxes.

   Similarly, you can define the required printing options in the **Pages** and **Notes** section. After specifying the details, click **OK** to save your settings.

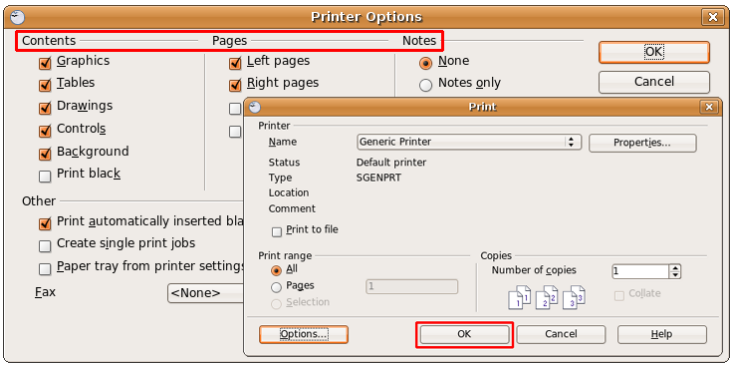


Figure 4.21: *Defining Printer Options*

3. You can now start printing the document by clicking **OK** on the **Print** dialogue box.

Note:
Making changes in the Printer Options dialogue box will only apply to the current document and not change your default settings permanently.

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Instructor Notes:
If the students want to know about the procedure to select the default print options, provide them the following information: To select the default print options, On the Tools menu, click Options.

- *The OpenOffice.org - Print dialogue box opens.*
- *In the left navigation panel, expand OpenOffice.org Writer and then select Print.*
- *Select the required options and click OK to apply the changes to the default print settings.*

You can save your Writer document in the same way as you save any other document. To save a new text document:

1. On the **File** menu, click **Save As**. The **Save** dialogue box opens.

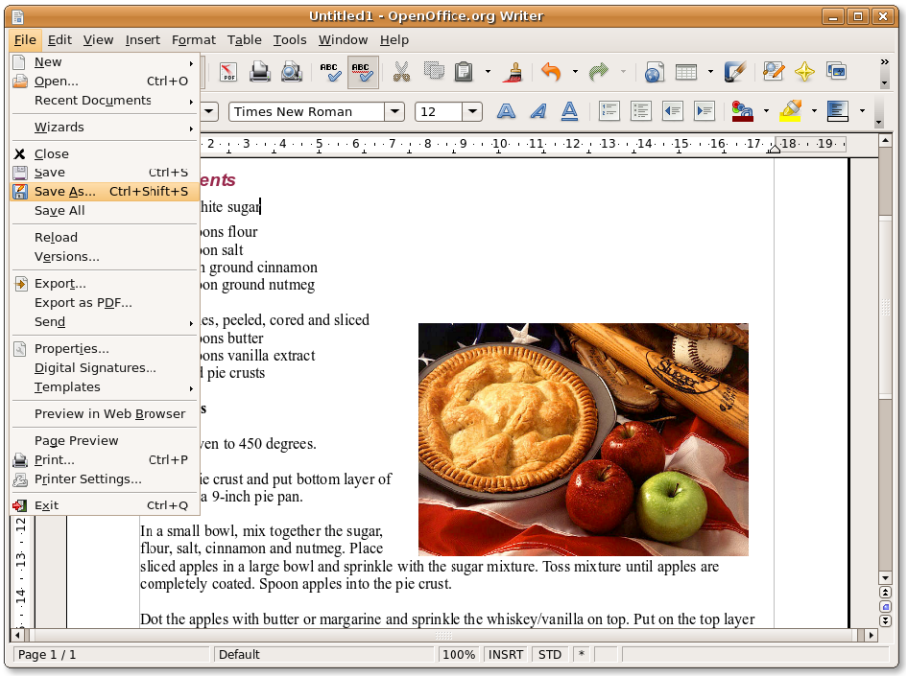


Figure 4.22: *Saving the Document*

2. Navigate to the directory where you want to save the file, enter the file name and click **Save** to save the file at the desired location.

   OpenOffice.org also allows you to save your document in a number of other file formats, including Microsoft Word, Rich Text, Star Writer and as an HTML document. This enables you to share your documents with other people who use other office applications, such as Office.

   If you would like to save your current document as a Word file, select the appropriate type of Word format from the drop-down menu at the bottom of the dialogue box. Then, click **Save** to save the file as a Word document.

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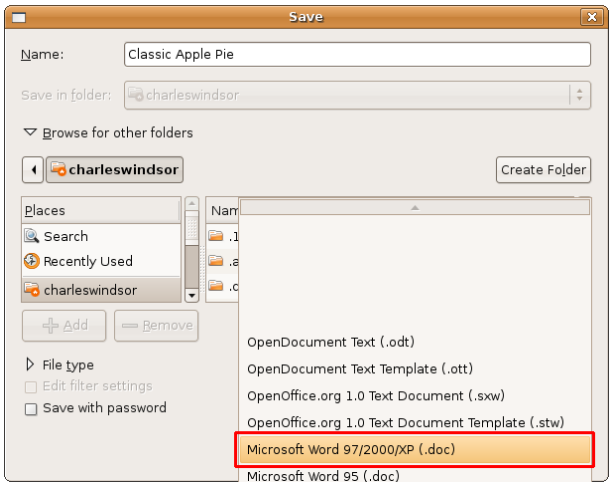


Figure 4.23: *Saving in Word Format*

4.3 Using OpenOffice.org Calc

Calc is the spreadsheet component of the OpenOffice.org office software suite. The comprehensive range of advanced functions included in Calc helps professionals accomplish complex tasks. At the same time, Calc is user-friendly, which makes it easier for new users. This topic will familiarise you with its key features and teach you how to perform some basic spreadsheet functions.

Similar to all other applications in the OpenOffice.org suite, Calc allows you to save spreadsheets in OASIS OpenDocument (ODF) format. This XML-based format enables you to access your spreadsheets from any OpenDocument-compliant software. In addition, Calc allows you to save spreadsheets directly as Portable Document Format (PDF) files without using any additional software.

4.3.1 Key Features of OpenOffice.org Calc

Calc is a fully featured office application that includes all the advanced analysis, charting and decision-making features that you expect from a high-end spreadsheet. Some of the key features of OpenOffice.org Calc are:

- **Calculation:** OpenOffice.org Calc provides you with over 300 functions for financial, logical, statistical, mathematical and banking operations. This enables you to create formulae to perform complex calculations on your data. In addition, Calc provides you with Function wizard that guides you interactively through the creation of formulae.

  Another feature of OpenOffice.org Calc is that it allows you to create natural language formulae using words such as sales - costs.

- **Scenario Manager:** Allows you to perform 'what-if' analyses and view the result of changes made to any factor of the calculation. For example, when performing a loan calculation, you can change the period of the loan and can view the resulting calculations for the loan-repayment amount or the interest rate.

- **Data Pilot:** Enables you to compare, combine and arrange large amounts of data. It helps you pull in raw data from corporate databases, cross-tabulate, summarise and convert the data into meaningful information. You can use Data Pilot to create interactive tables, which allows the data to be frequently arranged, rearranged or summarised according to different points of view.

- **Dynamic Charts:** As the name suggests, these charts update automatically as the data in the spreadsheet changes.

- **Opening and Saving Microsoft Files:** Calc allows you to use your old Microsoft spreadsheets and save your work in Microsoft Excel or a variety of other formats. This facilitates the easy sharing of data with others using Microsoft or similar applications.

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4.3.2 Performing Basic Spreadsheet Tasks

Similar to any other spreadsheet application, Calc is used to process numerical information or text in tabular form. It is primarily used for tabulating numerical figures. It also allows you to sort and manipulate data, apply arithmetic, mathematic and statistical functions to data sets and represent the datasets in charts or graphical forms. The following sections describe the instructions to perform some basic spreadsheet tasks in Calc.

To format tables and cells in a Calc spreadsheet:

1. On the **Applications** menu, point to **Office** and then click **OpenOffice.org Spreadsheet** to open a Calc spreadsheet. A new Calc window opens.

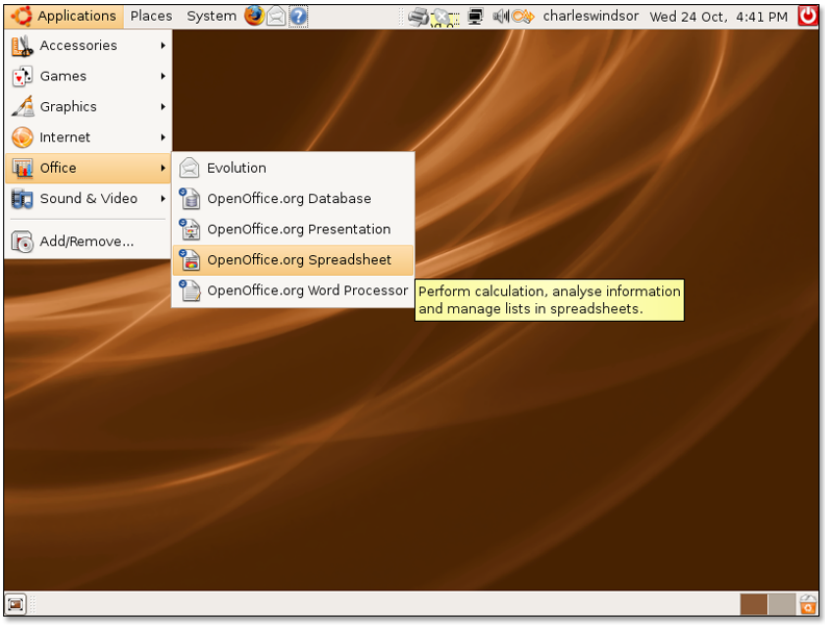


Figure 4.24: *Launching Calc*

2. Some of the key components of the main Calc window are described below:

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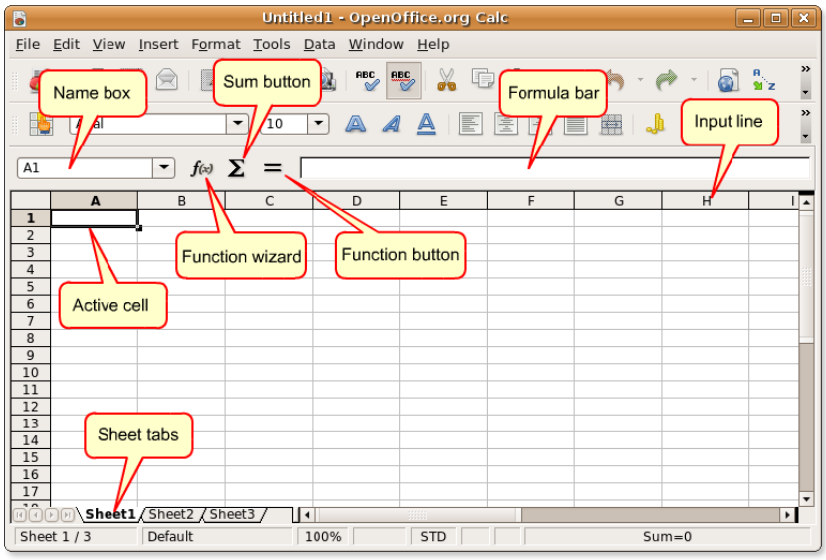


Figure 4.25: *The Calc Window*

- The Name box contains the cell and the row number, called the cell reference, of the current or active cell.
- The active cell indicates the selected cell currently in use.
- The Function wizard opens the Function Wizard dialogue box.
- The Sum button allows you to calculate the sum of the numbers in the cells that are above the current cell.
- Clicking the Function button inserts an equals sign into the current cell as well as in the input line, making it ready to accept a formula.
- The sheet tabs at the bottom of the sheet indicate the number of worksheets present in the current spreadsheet. By default, a new spreadsheet includes three worksheets.

3. After you have entered the required data in the spreadsheet, you can apply different formatting styles to it by selecting from the wide range of options available in Calc. To apply desired formatting to a selected range of cells, on the **Format** menu, click **Cells.** The **Format Cells** dialogue box opens.

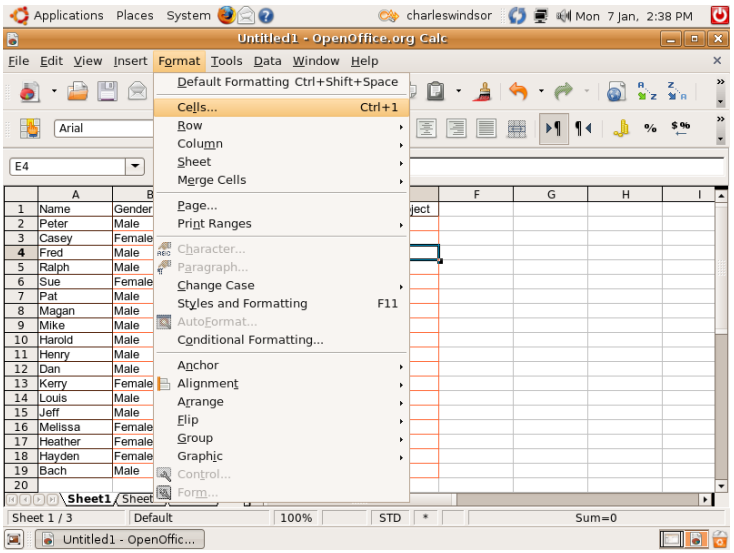


Figure 4.26: *Formatting Cells*

4. You can use the various options available under the **Font, Font Effects** and **Alignment** tabs to specify various formatting attributes for the selected text. Similarly, for assigning formatting attributes to numbers, you can select from a number of pre-defined formats available on the **Numbers** tab page or define a new one based on your preferences.

   The **Format Cells** dialogue box also provides you with options to add smart borders and vibrant backgrounds to your spreadsheet. It also allows you to select a background colour, from a spectrum of colours, for your otherwise bland and dull spreadsheet.

   Define the specifications and click **OK** to apply the formatting effects.

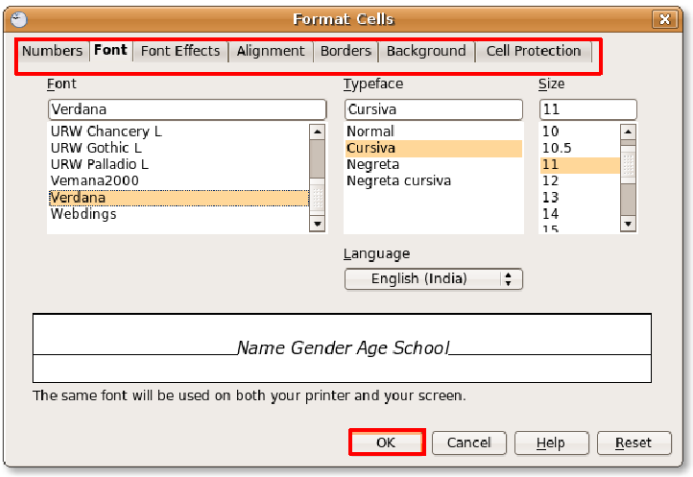


Figure 4.27: *Defining Formatting Attributes*

5. After you have selected formatting attributes for the selected cell range, you may get a result similar to this one.

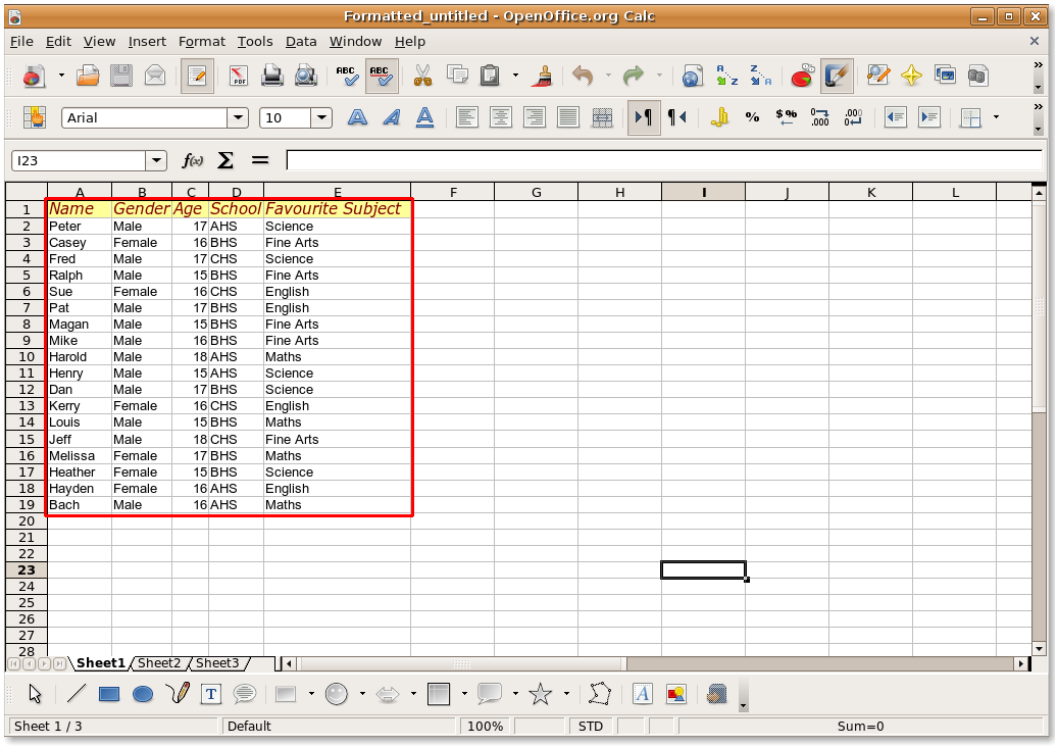


Figure 4.28: *The Formatted Spreadsheet*

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6. Calc provides you with another useful feature, called **Autoformat,** which enables you to create attractive and professional table designs without undergoing the time-consuming process of selecting cell groups and assigning different formats to them. The Autoformat feature allows you to quickly apply preset formats to an entire sheet or a selected cell range. To apply Autoformat to a sheet or selected cell range, on the **Format** menu, click **Autoformat**.

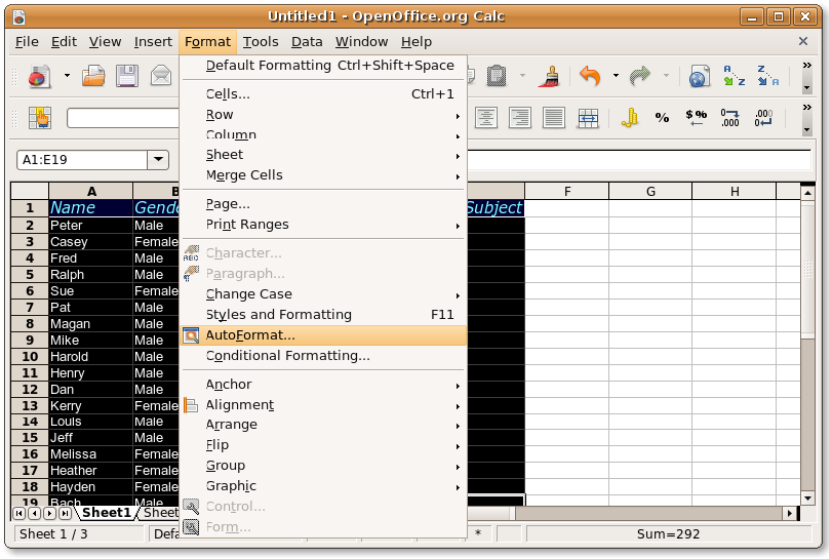


Figure 4.29: *Using Autoformat*

7. This displays the AutoFormat dialogue box. To assign a pre-set format to the selected cells, select one from the **Format** list and then click **OK** to apply the selected format to the selection.

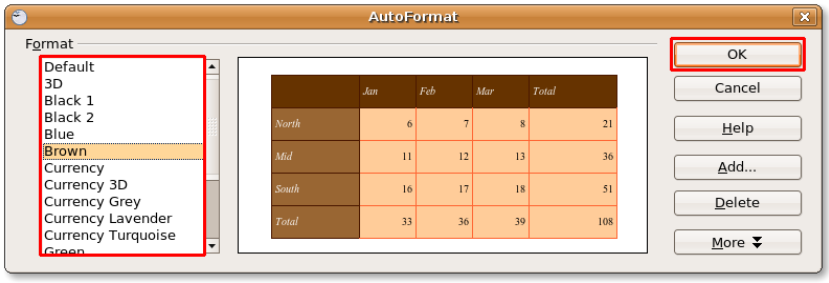
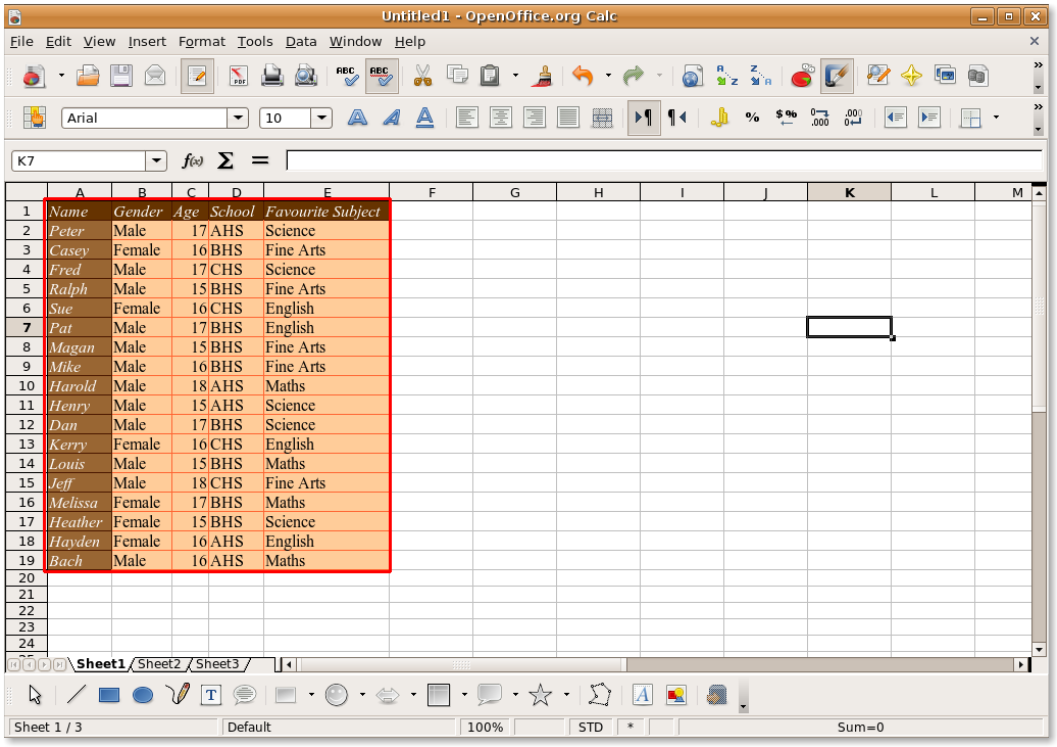


Figure 4.30: *Selecting a Format*

8. The format of your choice is immediately applied to the selection, and you get an attractive and fully formatted table with very little effort.

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	A	B	C	D	E
1	Name	Gender	Age	School	Favourite Subject
2	Peter	Male	17	AHS	Science
3	Casey	Female	16	BHS	Fine Arts
4	Fred	Male	17	CHS	Science
5	Ralph	Male	15	BHS	Fine Arts
6	Sue	Female	16	CHS	English
7	Pat	Male	17	BHS	English
8	Magan	Male	15	BHS	Fine Arts
9	Mike	Male	16	BHS	Fine Arts
10	Harold	Male	18	AHS	Maths
11	Henry	Male	15	AHS	Science
12	Dan	Male	17	BHS	Science
13	Kerry	Female	16	CHS	English
14	Louis	Male	15	BHS	Maths
15	Jeff	Male	18	CHS	Fine Arts
16	Melissa	Female	17	BHS	Maths
17	Heather	Female	15	BHS	Science
18	Hayden	Female	16	AHS	English
19	Bach	Male	16	AHS	Maths

Figure 4.31: *The Formatted Table*

Entering Values and Formulas A formula is a spreadsheet function, complete with arguments, entered in a cell. All formulae begin with an equal sign and may contain number, text and, in some cases, other data such as format details. The formulae may also contain arithmetic operators, logic operators or function starts.

Formulae	Description
=SUM(A1:A11)	Calculates the sum of the cells A1:A11
=EFFECTIVE(5%;12)	Calculates the effective interest for 5% annual nominal interest with 12 payments a year
=B1*B2	Displays the result of the multiplication of B1 and B2
=C4-SUM(C10:C14)	Calculates C4 minus the sum of cells C10 to C14

Table 4.1: Calc Formulae

The quickest way to enter a formula is to type the formula either in the cell where you want the result to display or in the Input Line on the Formula bar. You can also use the Function wizard, which helps you interactively create formulae.

1. In your spreadsheet, select the cell where you want the formula to be inserted. To allow the Function wizard to guide you through the creation and application of a formula, on the **Formula bar**, click **Function Wizard**. This opens the **Function Wizard** dialogue box.

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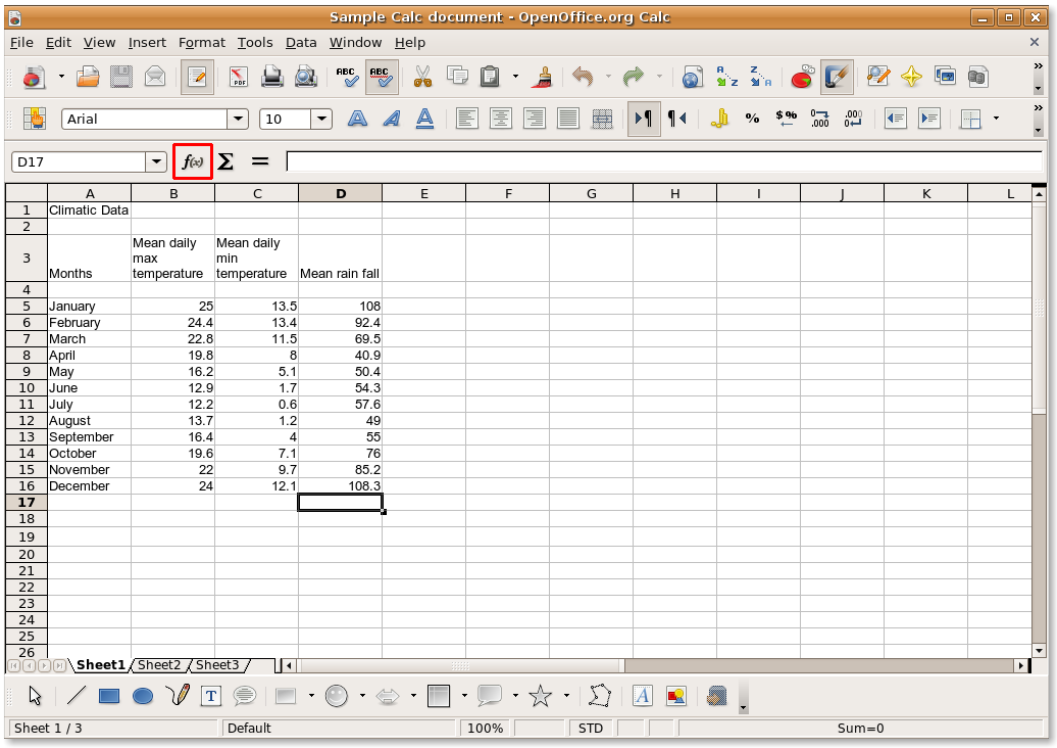


Figure 4.32: Launching Function Wizard

2. You can see the entire range of functions listed in the **Functions** list box. You can also select one category from the Category drop-down list to display the functions listed under that category. Find the desired function from the **Functions** list, and click to select it. You notice that the **Function Wizard** dialogue box provides you some information about the selected function to guide you through your selection. After selecting the function, click **Next** to proceed with the task of entering a formula.

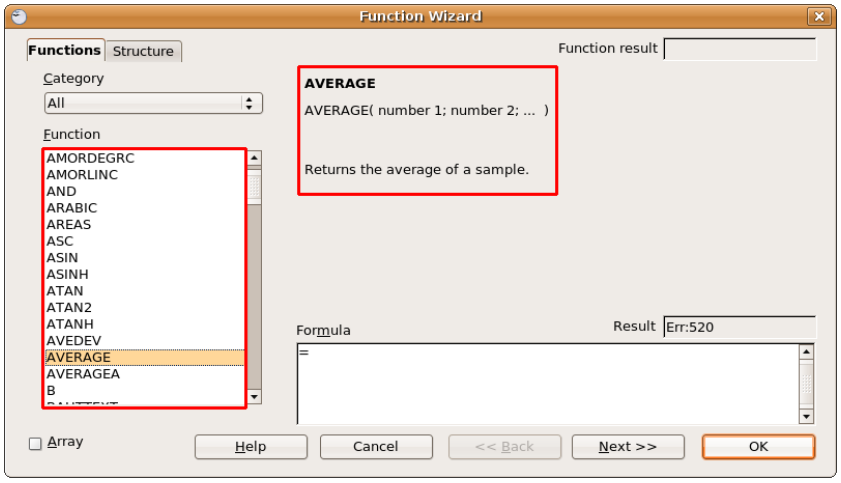


Figure 4.33: Selecting a Function

3. Now, you need to specify the numbers to which you want to apply the formula. To select the numbers, you need to go back to the worksheet.

   Click the **Shrink** button to shrink this dialogue box and return to the worksheet.

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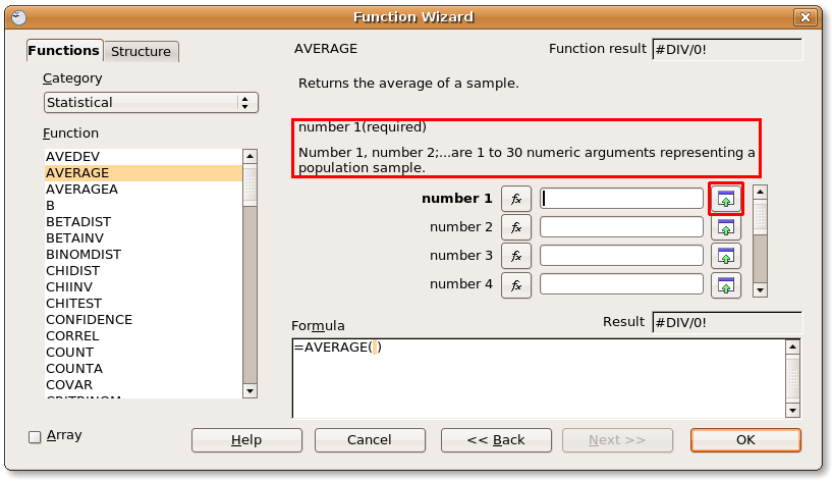


Figure 4.34: Shrinking the Function Wizard Dialogue Box

4. The **Function Wizard** dialogue box shrinks to allow you to view the worksheet. To select the cell range, hold down the **SHIFT** key and use the mouse to select the cell range containing the desired numbers.

   After selecting the cells, you can go back to the Function wizard by clicking the **Maximize** button.

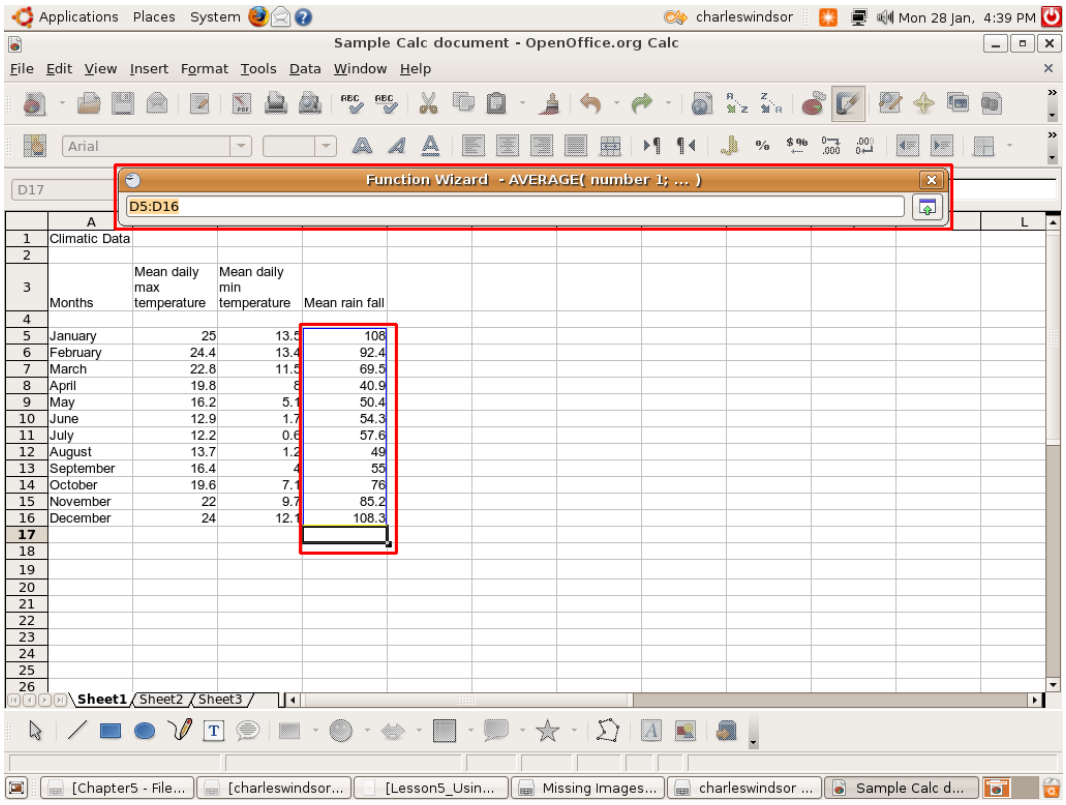


Figure 4.35: Selecting the Cell Range

5. The cell reference for the selected cell range automatically appears in the **number 1** box and the applied formula, complete with arguments, appears in the **Formula** box at the bottom of the dialogue box. To complete the task of entering a formula, click **OK**.

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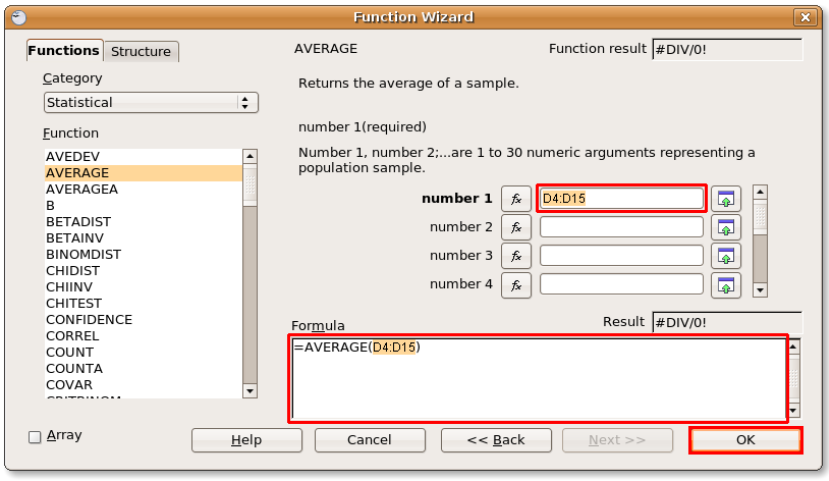


Figure 4.36: Applying the Formula

6. The solution appears in the cell where you had applied the formula.

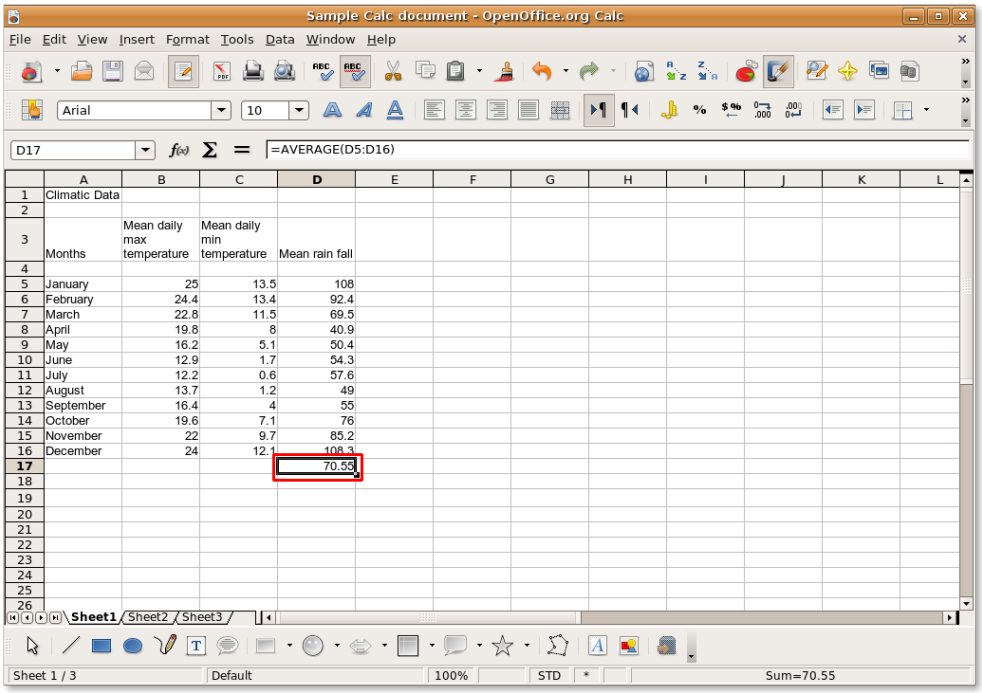


Figure 4.37: Final Output

Inserting Charts You can present your data in the form of charts or graphs to compare your data series visually and view trends in the data. Calc offers you a number of ways to represent spreadsheet data graphically.

1. Open a spreadsheet containing data and row and column headings, and select the data to be included in the chart. Then, on the **Insert** menu, select **Chart**. The **Chart Wizard** dialogue box appears.

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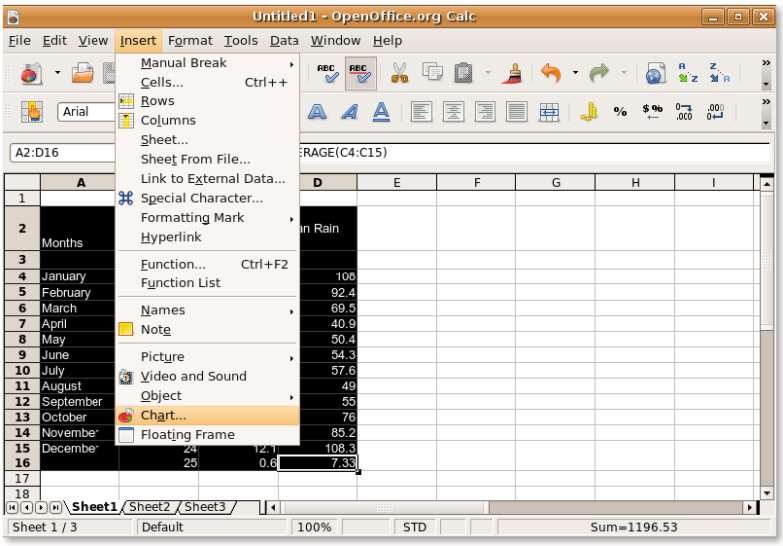


Figure 4.38: Launching the Chart Wizard

Instructor Notes:
Advise students about the alternate way to insert a chart using the Insert Chart icon from the Standard toolbar.

2. On the first page of the **Chart wizard**, you can select the chart type and preview the chart output. Calc allows you to select from a wide range of 2D and 3D charts. You may decide to follow the rest of the instructions of the Chart Wizard by clicking **Next** or you can click **Finish** to insert a chart in your document.

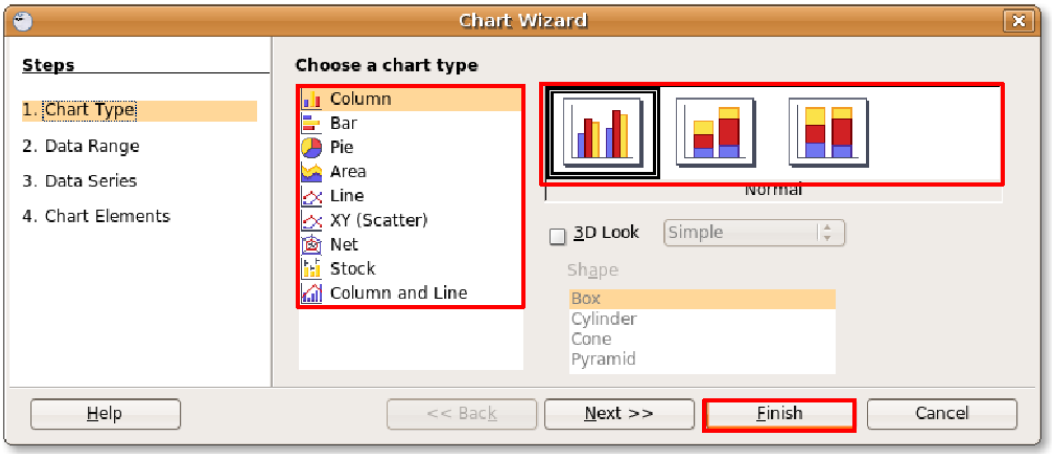


Figure 4.39: Selecting the Chart Type

3. The chart is inserted at the specified location in your spreadsheet. You can now move and resize the chart and edit it further to suit your requirements.

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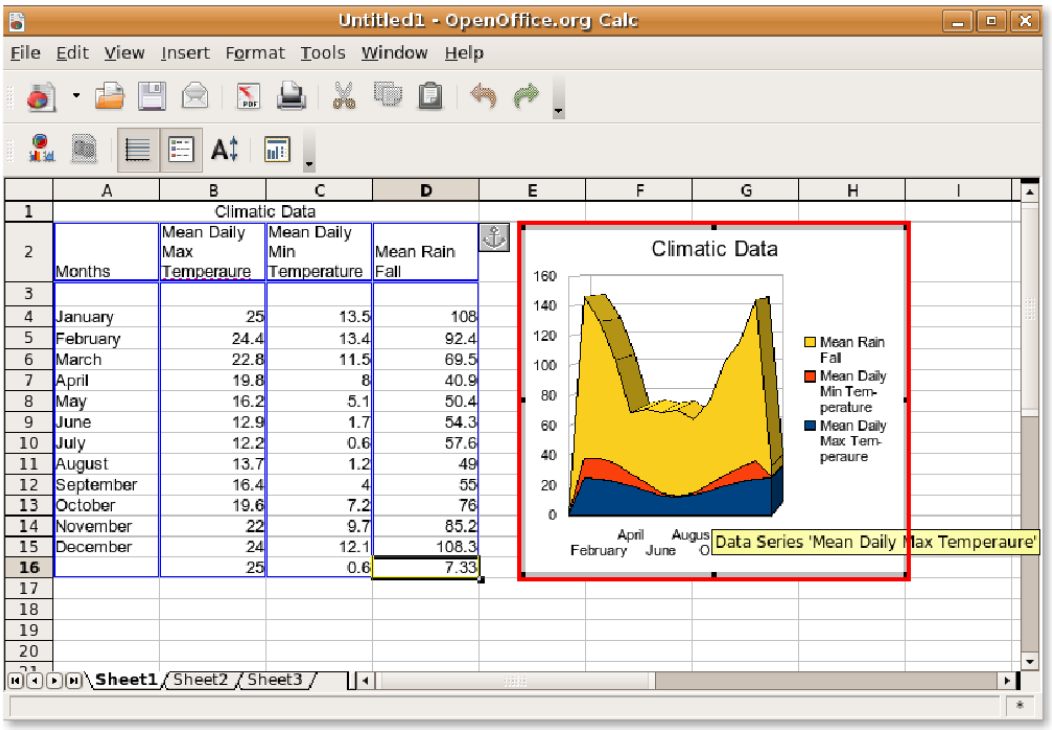


Figure 4.40: The Inserted Chart

Exporting Spreadsheets to PDF Like the other OpenOffice.org applications, you can export your spreadsheets from Calc as PDF files. With OpenOffice.org you do not need any additional third party software to convert your documents into PDF format.

1. On the **File** menu, click **Export as PDF**. The **Export** dialogue box appears.

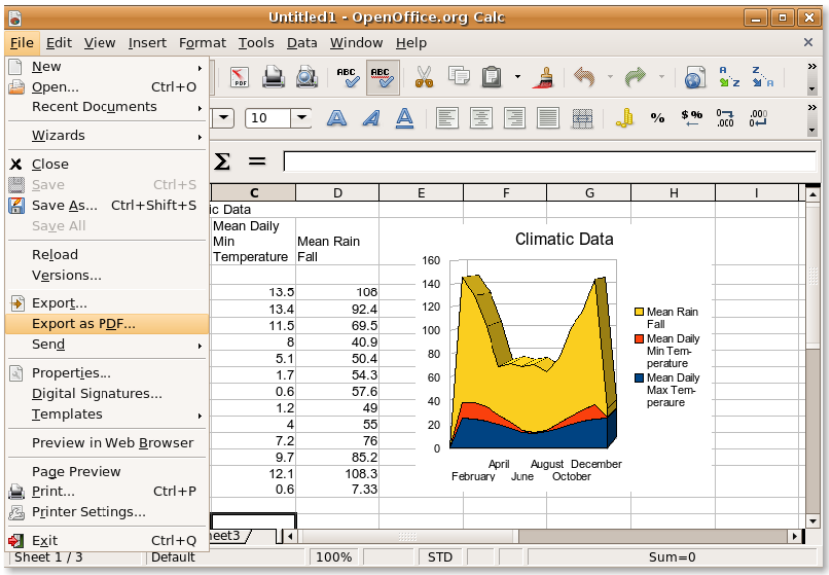


Figure 4.41: Exporting Spreadsheet as PDF

2. The four tabbed pages in this dialogue box allow you to define options, such as the pages to be included in the PDF, the type of compression to be used and the level of security to be assigned to the file. After defining these specifications, click

Export to continue.

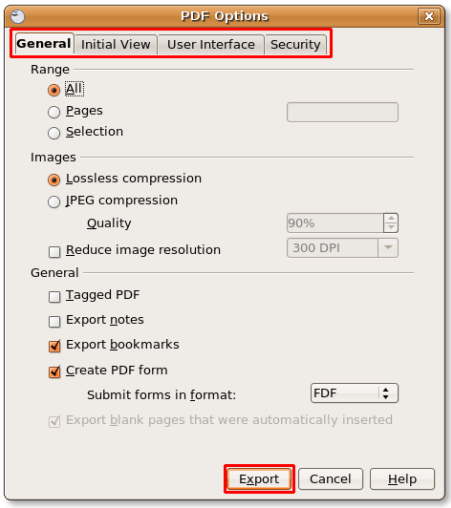


Figure 4.42: Defining PDF Options

3. Provide a file name for your spreadsheet and navigate to the directory where you want to save it. Click **Save** to export the spreadsheet as a PDF file.

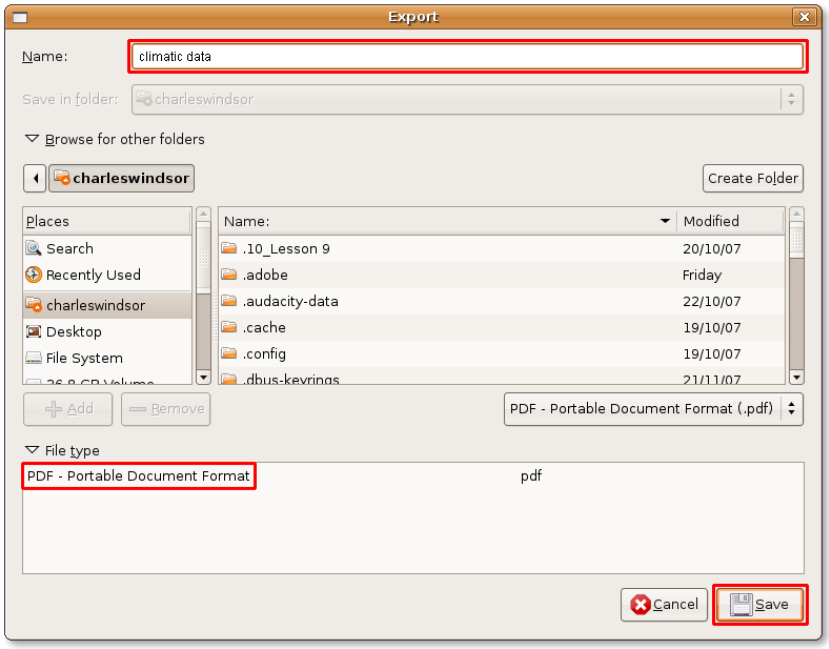


Figure 4.43: Saving as PDF

Nice to Know:
To discover an Easter Egg tucked away in Calc, click within any of the cells of your spreadsheet, type **=GAME("StarWars")** and start playing right away.

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4. Your spreadsheet is now displayed as a PDF file.

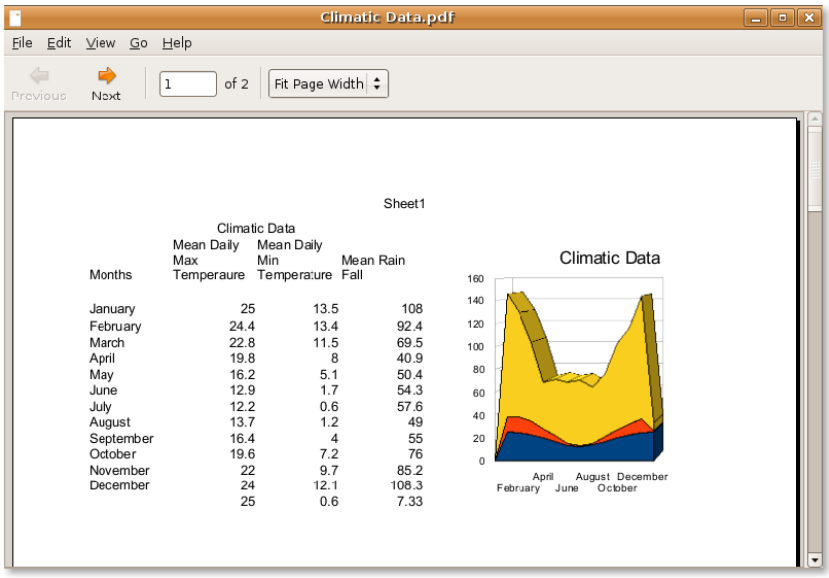


Figure 4.44: The PDF file

4.4 Using OpenOffice.org Impress

Impress is a fully featured presentation tool of the OpenOffice.org office software suite. It enables you to create effective multimedia presentations by creating 2D and 3D clip art and images. It also allows you to create special effects and animations by using high-impact drawing tools.

OpenOffice.org Impress is similar to Microsoft PowerPoint in its functionality. In addition to making it easy for you to create PDF files from presentations, Impress lets you export the presentations into ShockWave Flash (SWF) files. This enables you to run the output on any computer that has a Flash player installed.

4.4.1 Key Features of OpenOffice.org Impress

Some of the many useful features of Impress are:

Creating Vector Graphics: Impress comes bundled with various drawing tools that allow you to create vector graphics from within the application. You can also export vector graphics to bitmap pictures and, inversely, convert bitmap pictures into vector graphics.

Creating Slides: Choose from ready-to-use templates or use the drawing and diagram tools to jazz up your slides. Master view adds the elements that you want to appear on all slides of your presentation.

Further, Impress users have the option to install the Open ClipArt library, which contains a huge selection of images for free use.

Animations and effects help add spice to your presentations. You can render stunning 2D and 3D effects to your text using Fontwork, which lets you create life-like 3D images easily.

Publishing Presentations: Impress allows you to publish presentations as handouts, export them into PDF files, convert them into SWF files and publish them as HTML documents. This enables you to access your presentation from a variety of platforms.

Saving Presentation in Other Formats: Similar to other OpenOffice.Org applications, Impress saves your work in the international OpenDocument format. It also allows you to save your work in other formats such as PowerPoint.

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4.4.2 Creating Multi-Media Presentations

To create and view presentations using OpenOffice.org Impress:

1. On the **Applications** menu, point to **Office** and then click **OpenOffice.org Presentation**.



Figure 4.45: *Launching Impress*

2. The **Presentation Wizard** dialogue box appears. The **Presentation wizard** allows you to define the basic structure of a presentation in three brief steps. You can either continue defining the specifications as guided by the Presentation Wizard or immediately create a new blank presentation by clicking **Create**.

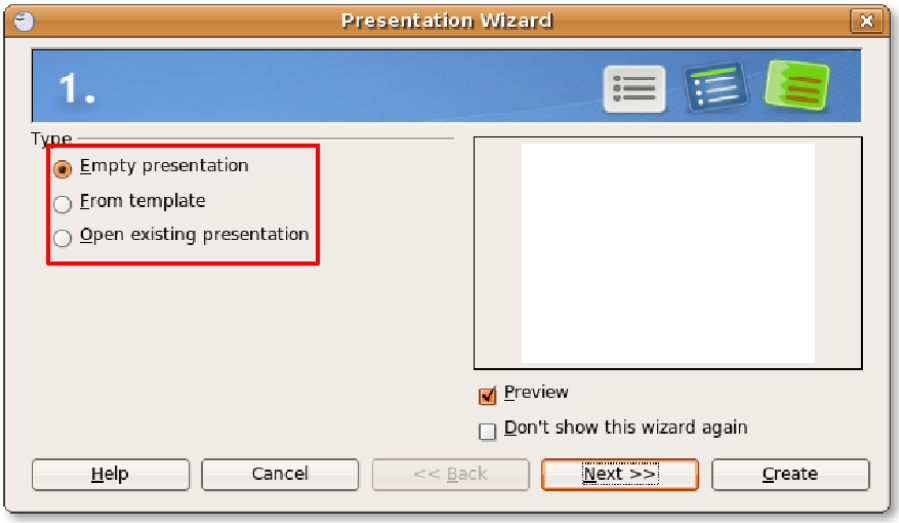


Figure 4.46: *Using the Presentation Wizard*

Nice to Know:
To be able to preview the slide template, slide design and slide transition effects, leave the Preview check box selected.

---

3. This figure shows the main Impress window with an empty presentation. From the **Task** pane on the left, you can select a layout for your current slide.

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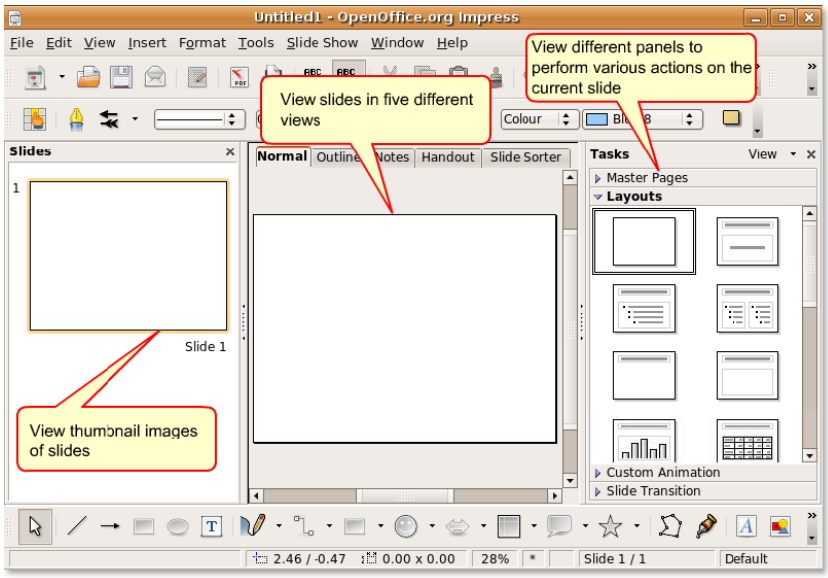


Figure 4.47: *The Impress Window*

4. Enter the required text in the provided text boxes to create the first slide. To make your presentation more attractive and professional looking, you can either change the background and format the font size and colour for each slide or simply select a pre-defined template from the **Master Pages** panel.

   Click **Master Pages** to open the **Master Pages** panel.

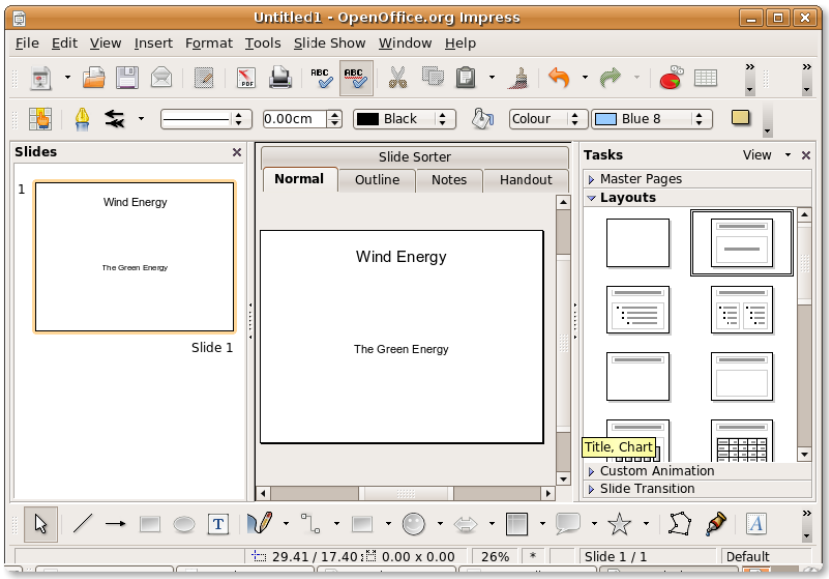


Figure 4.48: *Opening the Master Pages Panel*

5. A number of templates are available on the **Master Pages** panel. Select the template of your choice to apply a whole new look to your presentation. You can enhance the look of the presentation further by adding various elements, such as objects, pictures and animated images, from the **Insert** menu. Alternatively, you can start adding new slides to the presentation.

   You can add a new slide by clicking the **Slide** button on the **Standard toolbar**. Alternatively, click **Slide** on the **Insert** menu.

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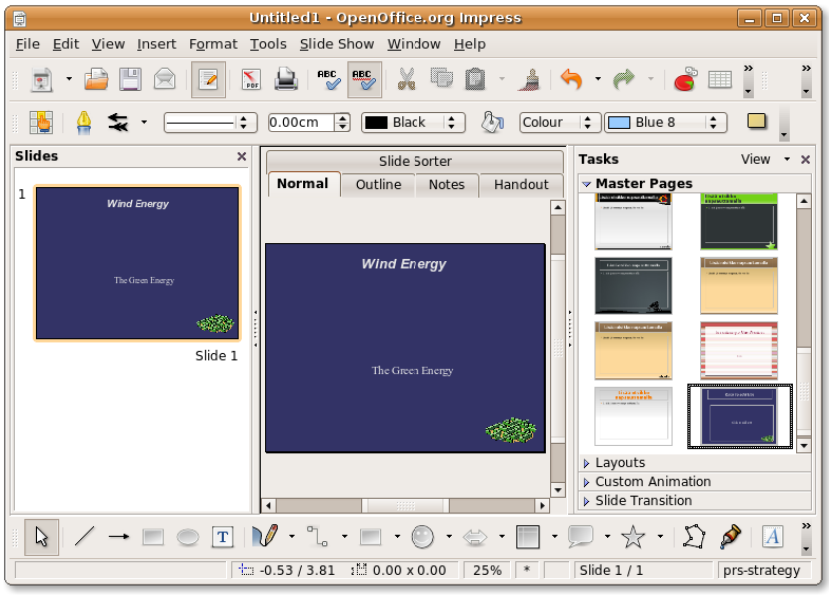


Figure 4.49: *Selecting a Slide Template*

6. The inserted slide is also formatted as the first slide because that is the layout you selected last. According to the requirements of your presentation, you can select a new format from the **Layout** pane. The new layout has two columns, one for text and the other for images. This allows you to display text along with an associated image on the same slide. Enter the textual content in the provided text boxes, then double-click the house icon to insert a graphic in the provided placeholder.

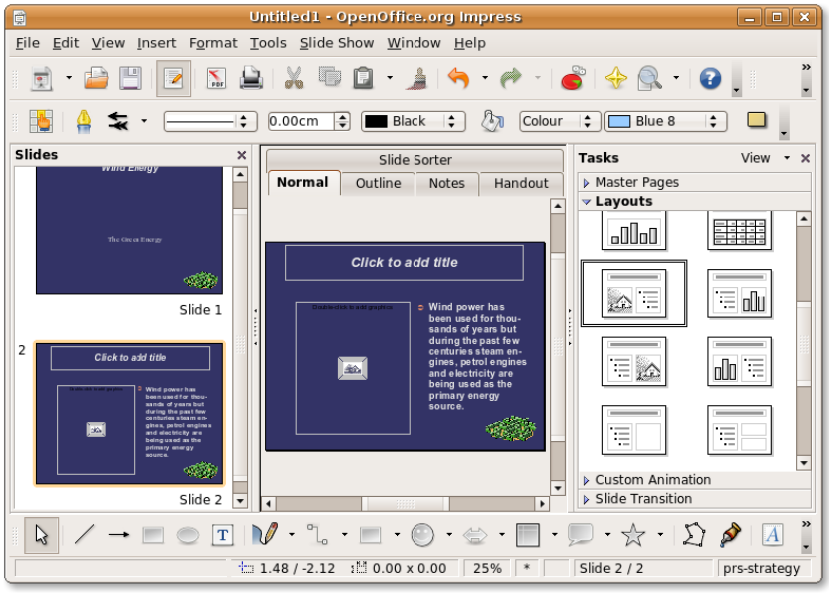


Figure 4.50: *Selecting a Slide Layout*

7. In the **Insert Picture** dialogue box, select the desired image and click **Open** to insert it into your slide.

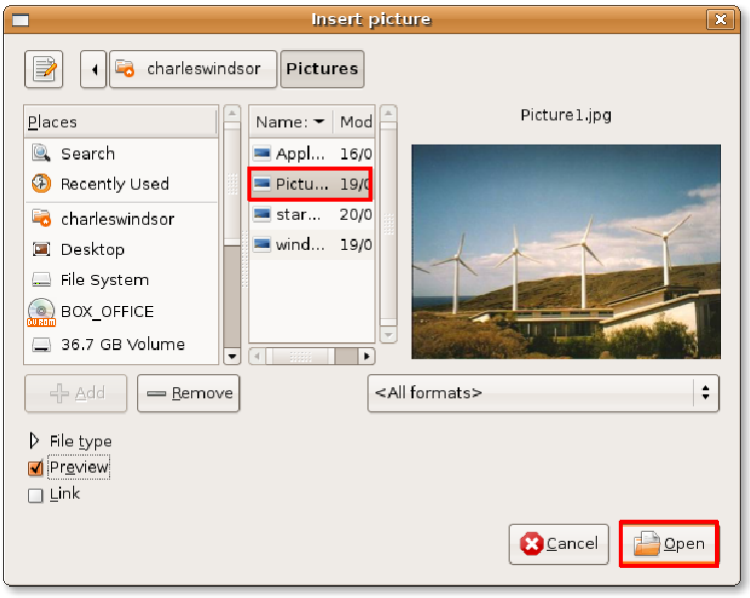


Figure 4.51: *Inserting Picture in a Slide*

8. Notice that the inserted picture is automatically resized to fit into the provided space. You can also insert an image by selecting **Picture** from the **Insert** menu. A picture inserted in this way is not automatically resized, but you can move and resize it as needed. You can insert new slides in a similar fashion.

   Now, you are ready to display your presentation as a slide show. To configure the basic slide show setting, select **Slide Show Settings** from the **Slide Show** menu.

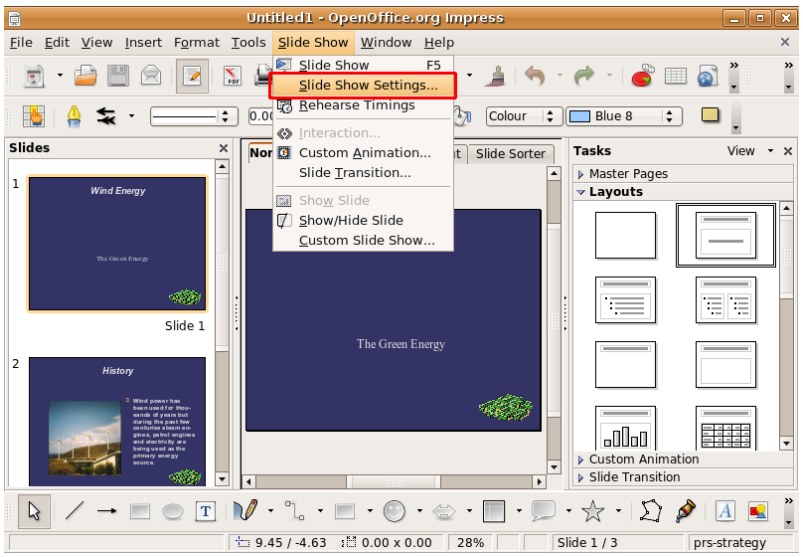


Figure 4.52: *Setting up a Slide Show*

9. The **Slide Show** dialogue box helps you define the basic settings for your slide show. In the **Range** section, you can specify the slides to be included in the presentation and their order of display. In the **Type** section, you can define how to display the slides. Similarly, the **Options** section allows you to define various other settings for your presentation.

   After selecting the desired options, click **OK** to apply the settings.

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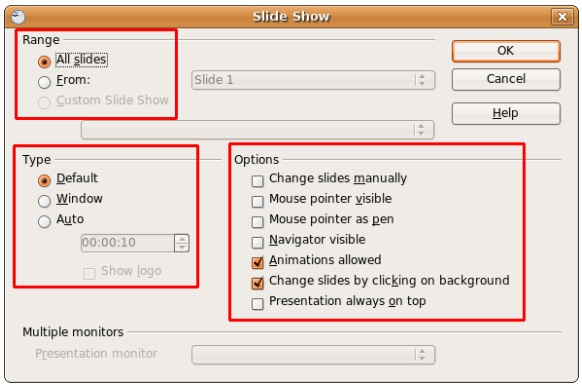


Figure 4.53: *Configuring the Slide Show Settings*

10. To start the slide show select **Slide Show** from the **Slide Show** menu or press **F5**.

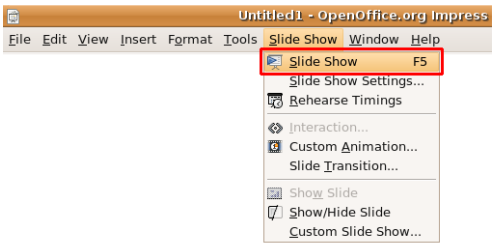


Figure 4.54: *Starting the Slide Show*

11. The presentation can be viewed as a running slide show. When you reach the last slide of the presentation, you are prompted to exit the presentation by clicking once. However, you can exit a slide show at any point of time by pressing **ESC**.

12. You can choose to print your slides with notes, as an outline, with page numbers, with date and time and so on. To do this, select **Print** from the **File** menu.

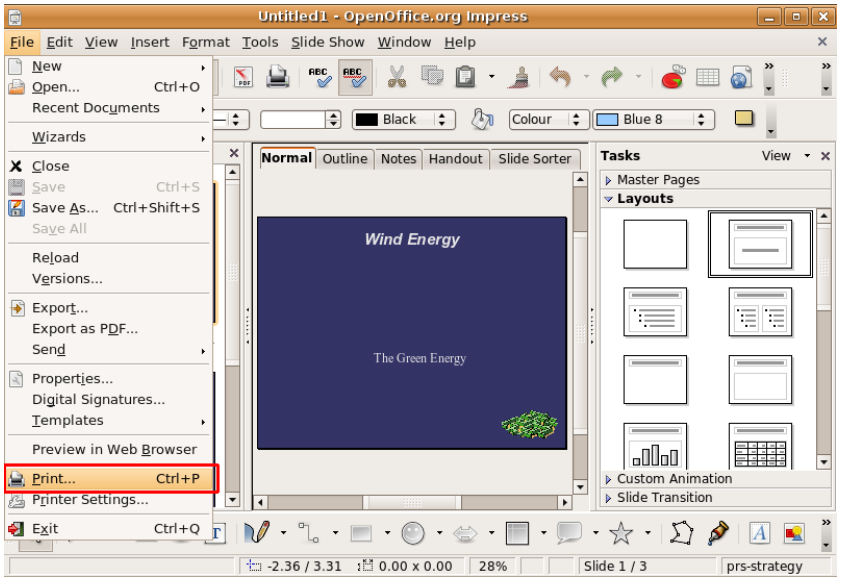


Figure 4.55: *Printing the Presentation*

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13. You can use the **Print** dialogue box to further define printer settings or accept the default settings, and click **OK** to start printing your presentation.

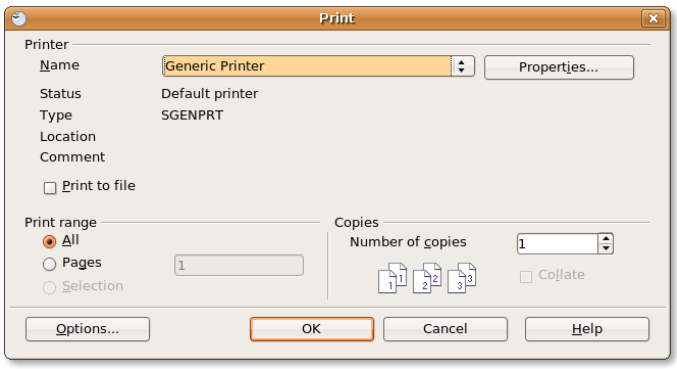


Figure 4.56: *Defining Printer Settings*

To create a presentation with 3D effects and animations:

1. Open a new presentation in which you want to use 3D graphics and animations, and select a suitable template from the Master pages panel. Now, you can start adding elements to your presentation to spice it up. Begin with placing the title of your presentation on the first slide.

   To create an eye-catching display for the title text, you can use one of the many wonderful text tools available in Impress. One of these is Fontwork, which enables you to create special 3D effects to your text. To start using Fontwork, on the **Drawing** toolbar, click the **Fontwork Gallery** button. The **Fontwork Gallery** window appears.

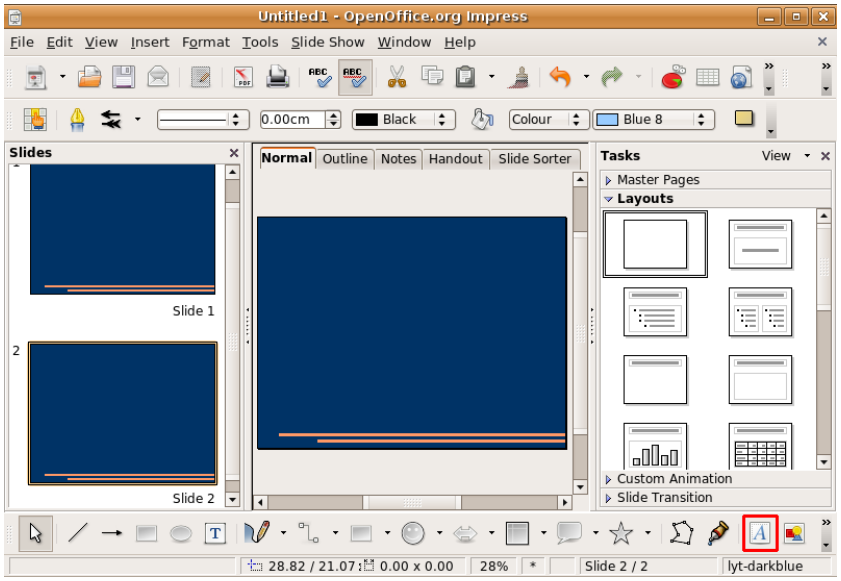


Figure 4.57: *Opening Fontwork Gallery*

2. Select the style in which you want the title text to be displayed, and click **OK.**

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Figure 4.58: *Selecting a Fontwork Style*

3. The text **Fontwork,** in the selected style, appears on the slide as an object. To display the title text in place of the **Fontwork** object, double-click the object and type the title text in place of the black Fontwork that appears over the object. Click outside the object's selected area to exit the **Fontwork** edit mode.

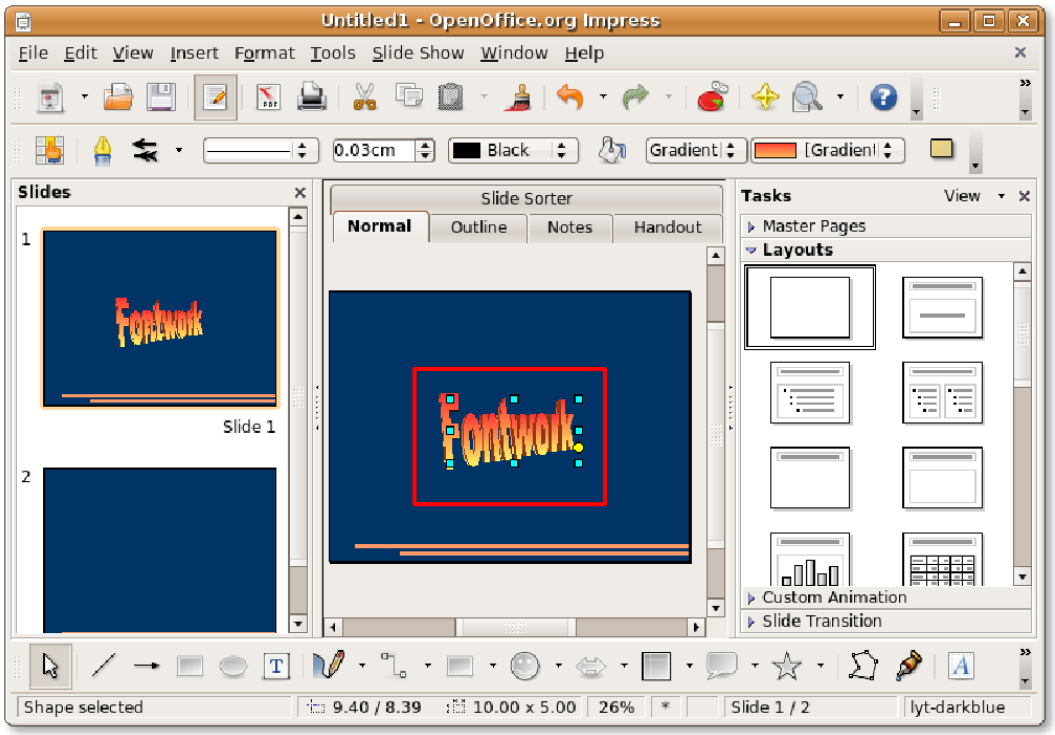


Figure 4.59: *Editing the Fontwork Object*

4. You can go ahead and do the same on the other slides too by inserting 3D images and animating them.

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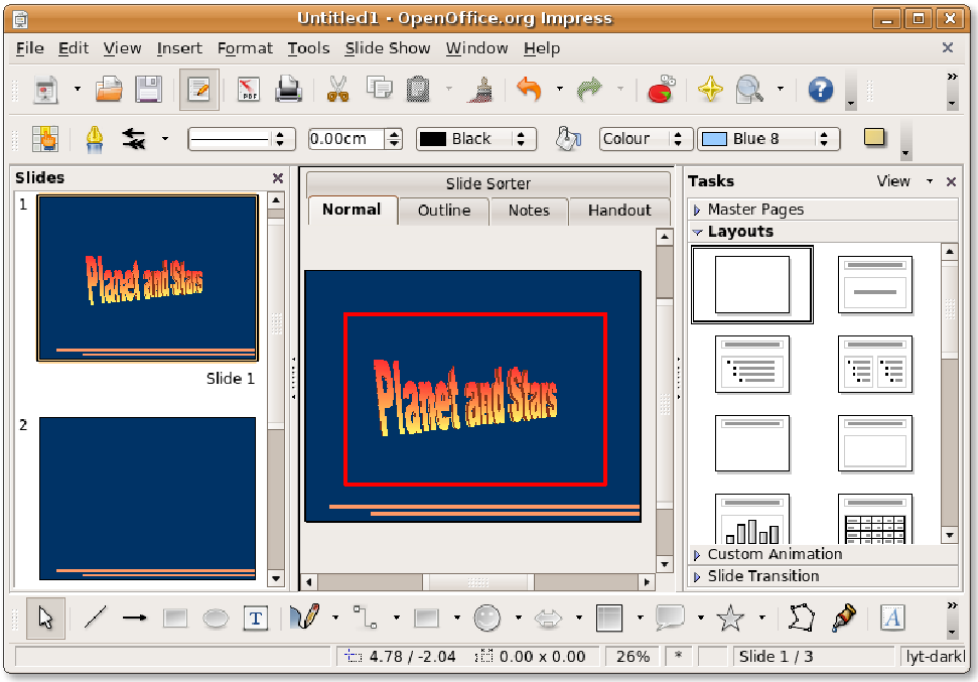


Figure 4.60: *The 3D Text*

5. You can insert 3D graphic objects in your presentation from the 3D-Objects toolbar. By default, this toolbar is not displayed on the Drawing toolbar. To display the 3D-Objects toolbar, on the **View** menu, point to **Toolbars** and then click **3D-Objects**.

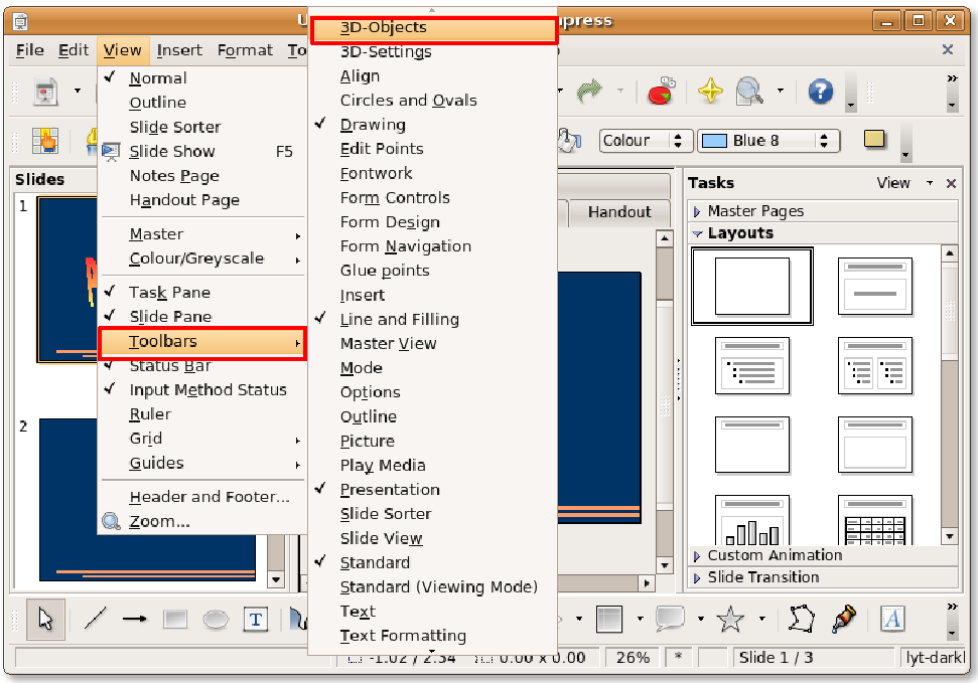


Figure 4.61: *Inserting 3D Graphics*

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Nice to Know:
You can also display the 3D-Objects toolbar by clicking the small arrow at the end of the Drawing toolbar and selecting it from the Visible Buttons list.

6. The **3D-Objects toolbar** appears as a floating toolbar. If you do not like floating toolbars, you can place it on one of the existing toolbars. To dock the **3D-Objects toolbar**, drag the title bar of the toolbar to the desired location and release the mouse button.

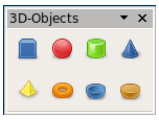


Figure 4.62: *The 3D-Objects Toolbar*

7. The **3D-Objects toolbar** is now attached to the **Line and Filling toolbar**. You can pick up objects from this toolbar and insert them into your slides. To insert a 3D Object on your current slide, click the desired object on the 3 **D-Objects toolbar**. Then, move your mouse to the point where you want to insert the object. You can see a plus sign in place of the mouse tip. Holding down the left mouse button, drag the mouse to insert the object on the slide. The selected 3D object appears on the slide.

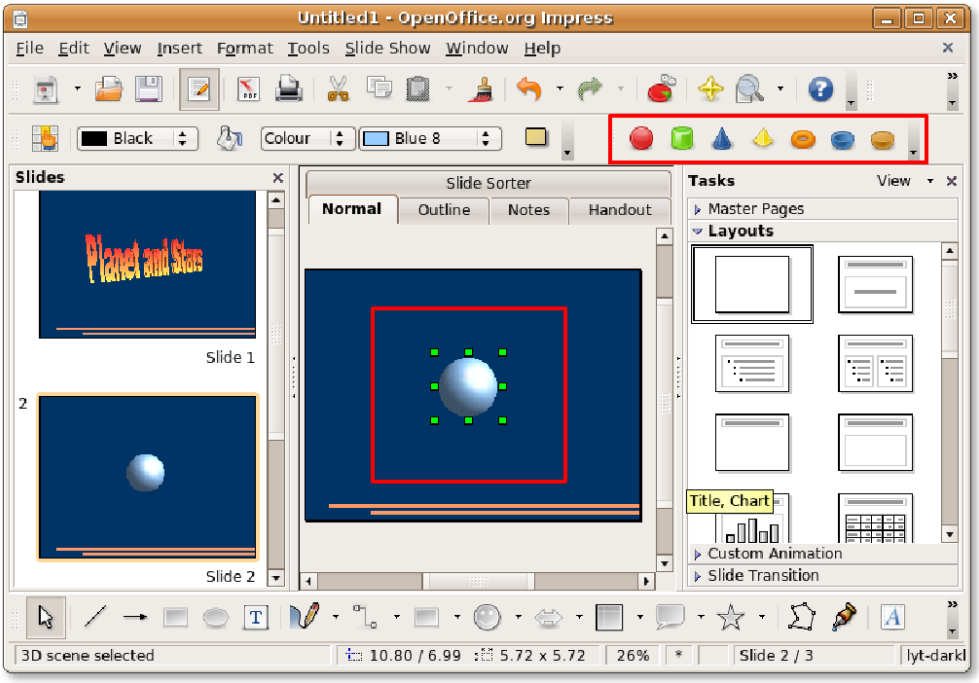


Figure 4.63: *Inserting a 3D Object*

8. You can change the proportion and size of the object by holding the green handles that appear around it. Impress also provides you tools to apply a number of 3D effects on the object to modify its look and feel as per your requirements. To apply 3D effects on the inserted graphic, right-click the object. On the short-cut menu, click **3D Effects**. The **3D Effects** dialogue box opens.

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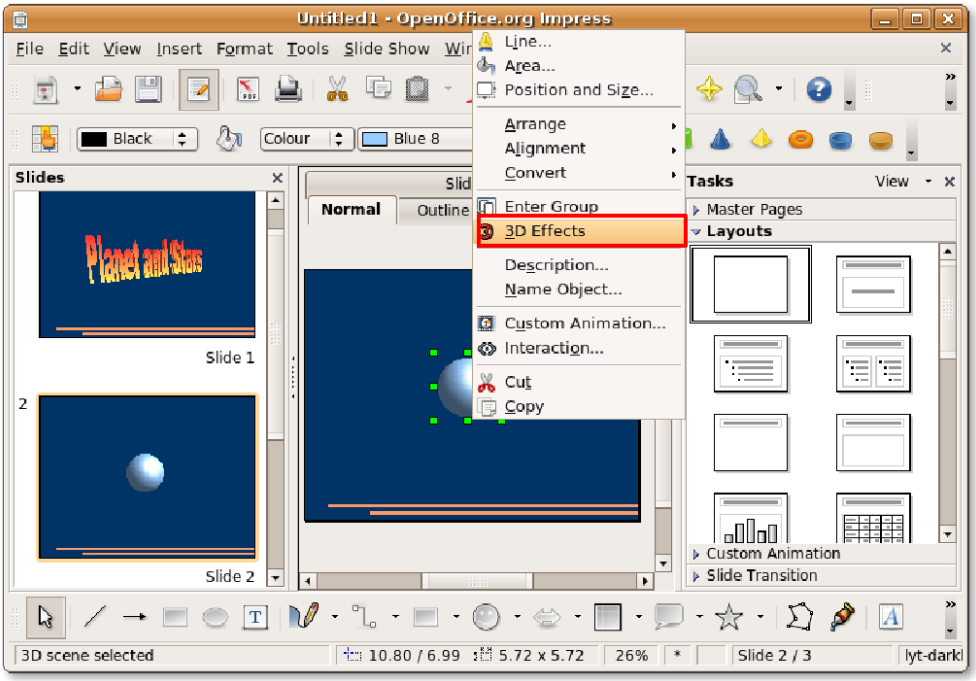


Figure 4.64: *Applying 3D Effects*

9. You can use the options available under the different buttons in this dialogue box to define the look and feel of the inserted object. Click the **Illumination** button to fine- tune the illumination effect on the object. You can select the appropriate options from the drop-down lists to render the desired illumination effect to the object. Alternatively, you can simply drag the white dot in the graphic at the bottom of the dialogue box and move it to get the desired effect.

10. After specifying the desired options, click the **Assign** icon on the top right of the dialogue box to apply the effects on the selected object. Click **Close** to exit the **3D Effects** dialogue box.

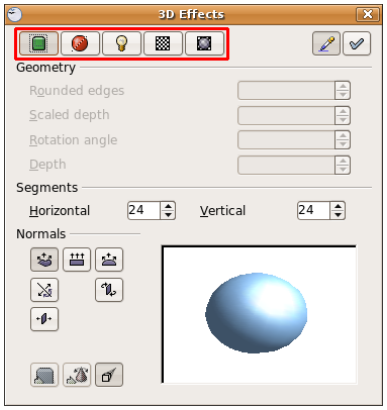


Figure 4.65: *Defining 3D Effects*

Instructor Notes:
If you have enough time, you can also demonstrate the procedure of converting 2D objects into 3D objects and applying the finer 3D effects to it.

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11. Notice that with a couple of mouse clicks, the 3D object takes on a completely new look. In a similar fashion, you can add many more 3D and 2D elements to your presentation and apply various 3D effects to jazz it up. Impress also offers some animation functionality to help you bring life to your presentations. To display the animation options available in Impress, on the **Slide Show** menu, click **Custom Animation**.

    The **Custom Animations** panel now appears on the right edge of the presentation window.

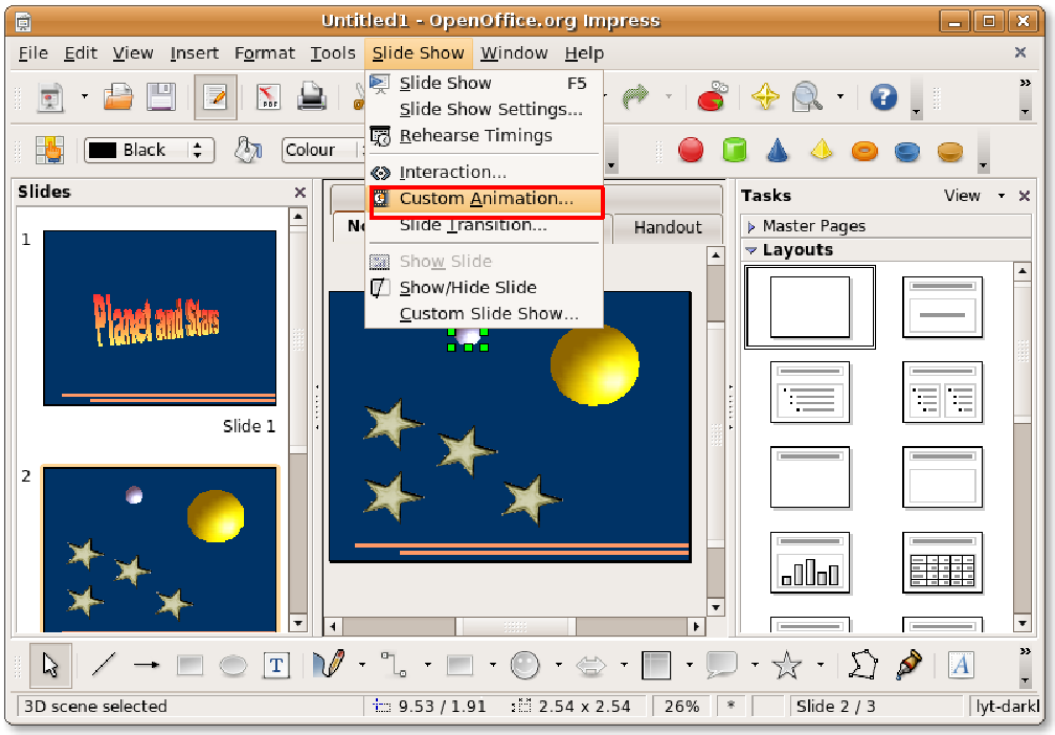


Figure 4.66: *Applying Custom Animation*

12. To apply an animation effect on an individual element in your slide, select that element and click the **Add** button on the **Custom Animation** panel. The Custom Animation dialogue box opens.

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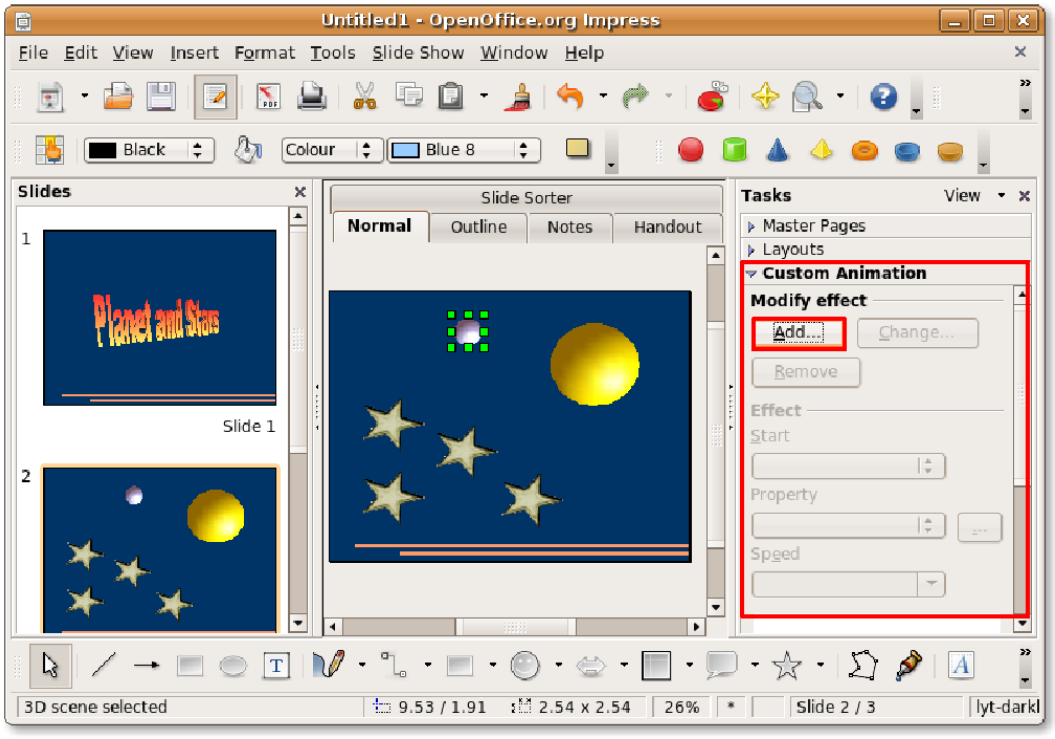


Figure 4.67: *Animating Objects*

13. You can now apply various animations to the selected object, define the entrance and exit animation for it and chart a motion path for the object. Similarly, you can specify animation effects for other elements on the slides.

    After defining all the desired settings for the object, click **OK** to apply the animation effects.

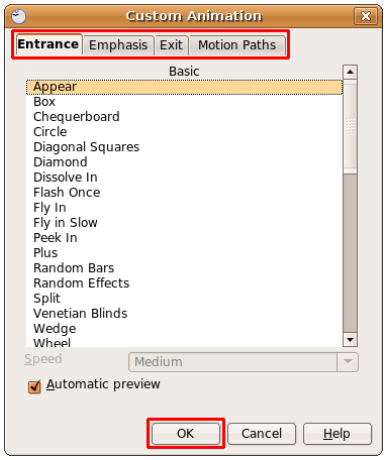


Figure 4.68: *Customising Animation Effects*

14. The specified animations can be viewed at the bottom of the **Custom Animations** panel. You can now view the animation effects in a slide show. Click the **Slide Show** button to view the presentation as a slide show.

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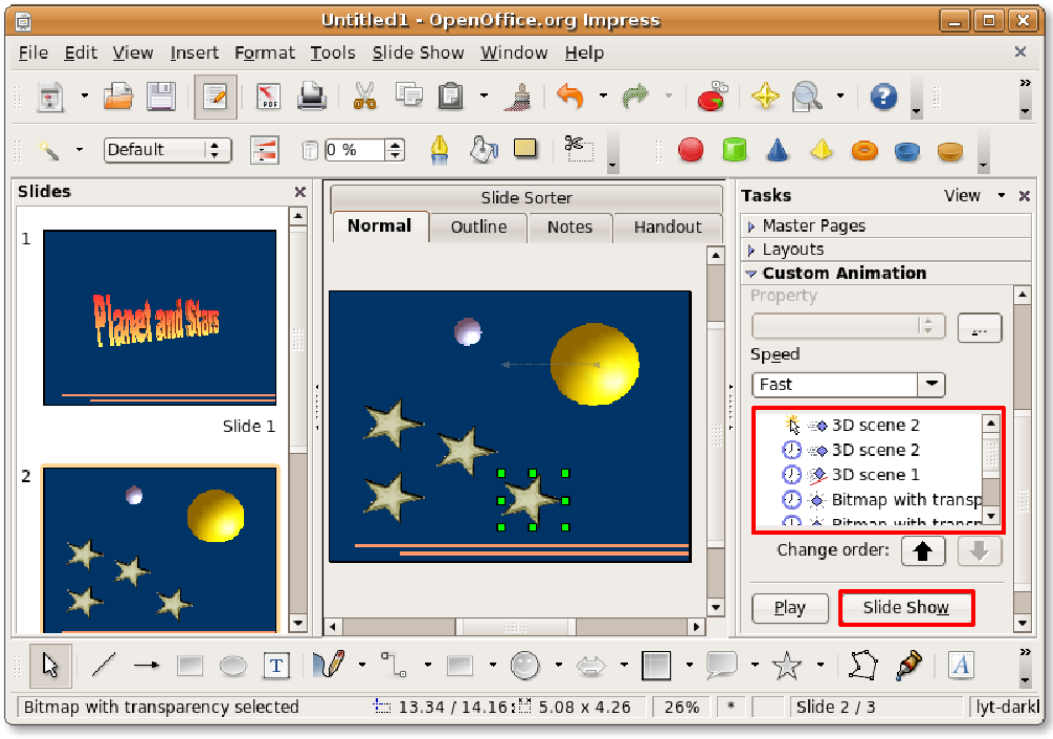


Figure 4.69: *Launching a Slide Show*

15. Your presentation runs as a spectacular and lively slide show.

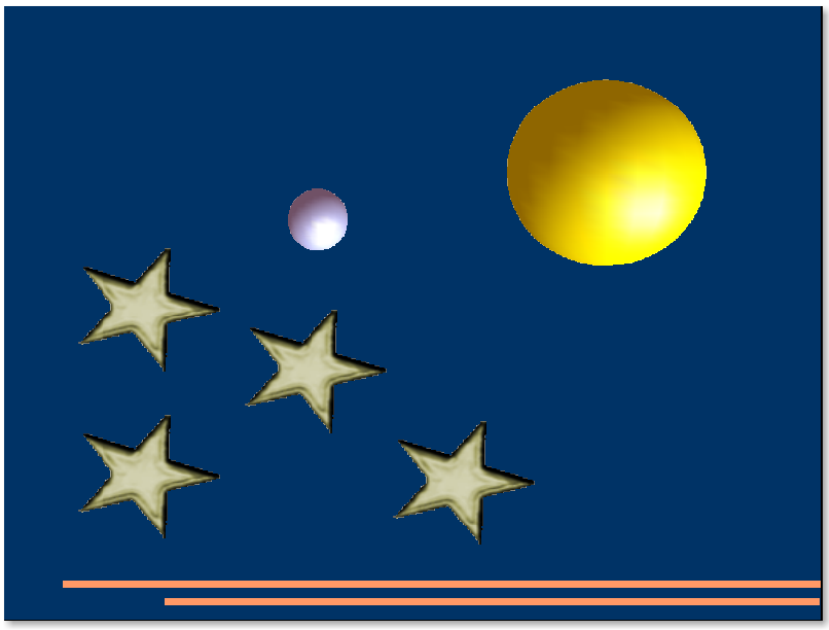


Figure 4.70: *The spectacular Slide Show*

Exporting a Presentation As stated earlier, another useful feature associated with Impress is that it has the built-in capacity to export presentations directly into several other file formats. As a result, Impress allows you to export your slide shows directly as Flash (SWF) files.

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1. On the **File** menu, click **Export.** This opens the **Export** dialogue box.

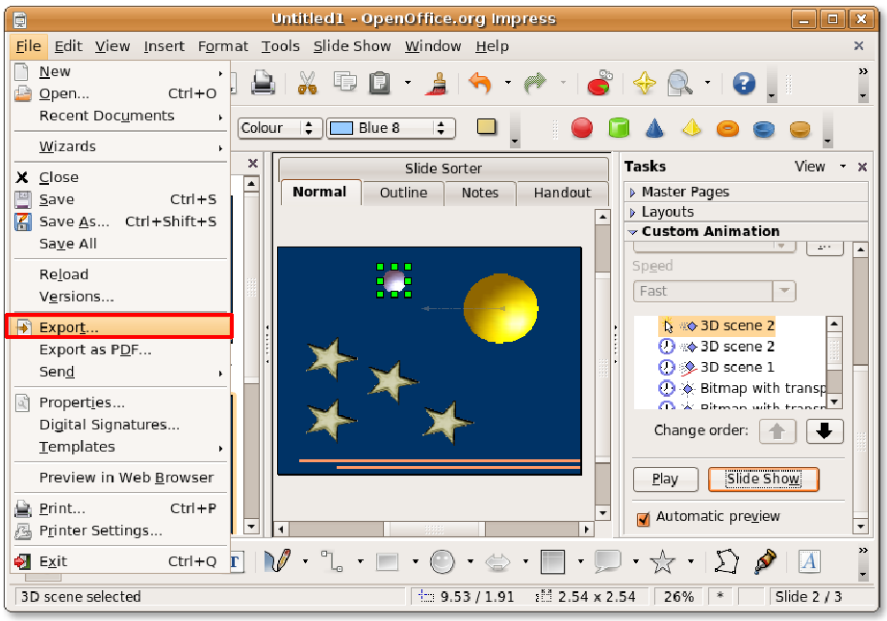


Figure 4.71: Exporting a Presentation

2. Here, you need to specify a file name in the **Name** field and navigate to the directory where you want to export the file. To export the presentation as a Flash file, select **Macromedia Flash (SWF) (.swf)** from the file type drop-down list and click **Save**. The file is exported to the indicated location. You can now view the presentation as a Flash file.

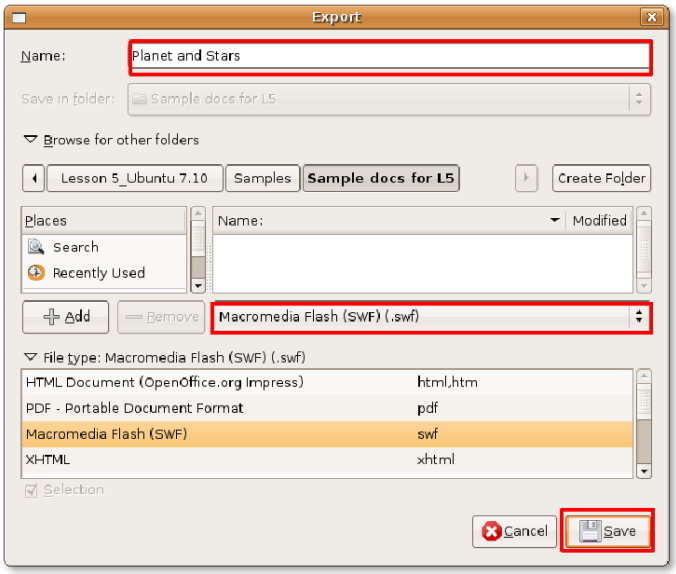


Figure 4.72: Exporting Presentation as a Flash File

4.5 Using OpenOffice.org Draw

Draw is a vector graphics drawing tool that enables you to create simple and complex drawings and export them in a number of common image formats. Draw also allows you to insert tables, charts, formulas and other items created in OpenOffice.org

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programmes into your drawings.

Note:
Graphics that are created using a vector graphics drawing tool do not blur when resized.

Draw is integrated with the OpenOffice.org suite, making it easy toexchange of graphics with other components of the suite. For example, if you create an image in Draw, reusing it in Writer is as simple as copying and pasting the image. A subset of the functions in Draw are also available in Writer and Impress, so you do not have to switch back and forth between them and Draw to perform basic image manipulations.

4.5.1 Key Features of OpenOffice.org Draw

Note:
Vector drawing software follows a common notation for referring to all shapes, whether simple lines, rectangles or more complicated shapes, as objects.

Draw provides extensive functionality that integrates more functions than the majority of drawing tools available in office suites. Some of the key features of Draw are:

- **Vector Graphics Creation** : You can create vector graphics in Draw by using the lines and curves defined by mathematical vectors. Vectors describe lines, ellipses and polygons according to their geometry.
- **3D Objects Creation** : In Draw, you can create simple 3D objects, such as cubes, spheres and cylinders, and modify the light source of the objects.
- **Grids and Guides:** You can align objects in your drawing by using grids and guides as visual cues. You can also snap an object to a grid line, a guide or to the edge of another object.
- **Connecting Objects to Show Relationships:** You can attach objects to each other using special lines called connectors to show the relationship between those objects. Connectors attach to glue points on drawing objects and remain attached when those objects move. These are useful for creating things like organisation charts and technical diagrams.
- **Displaying Dimensions:** You can use dimension lines to calculate and display linear dimensions in technical diagrams, which often show the dimensions of the objects in the drawing.
- **Gallery:** You can insert and use images, animations, sounds and other items from the OpenOffice.org gallery in your drawings as well as in other OpenOffice.org programmes.
- **Graphic File Formats:** Export your creation to many common graphic file formats, such as BMP, GIF, JPG and PNG.

4.5.2 Performing Basic Drawing Operations

1. On the **Applications** menu, point to **Accessories** and click **Terminal** to display the **Terminal** window. In the **Terminal** window, type oodraw to launch OpenOffice.org Draw.

   The main components of the **Draw** window are shown in the following graphic:

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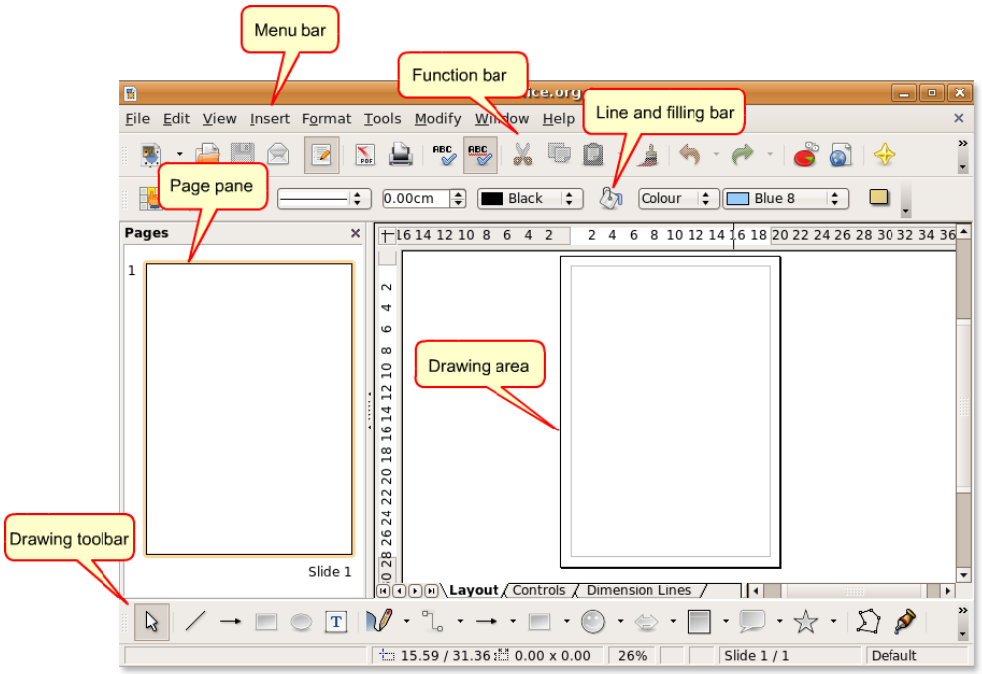


Figure 4.73: The Draw Window

2. The drawings are created in the drawing area, which is surrounded by the following toolbars:
   - The **Menu** bar lists the main menus available in Draw. It includes options to manage, edit and view the format of your drawings.
   - The **Function** bar displays icons to perform tasks such as Open, Save, Copy, Cut and Paste.
   - The **Line and Filling** bar includes specific drawing tools to modify the appearance of a selected object such as line style, colour and thickness; fill style and colour.
   - The **Drawing** toolbar is the most important toolbar in Draw. It contains all the necessary functions for drawing various geometric and freehand shapes. Creating basic shapes in Draw requires the extensive use of this toolbar. However, you have to further edit, combine and manipulate them to create complex objects.

     You can vary the number and position of the visible tools to make the interface look a bit different. To add or remove a toolbar from the Draw window:

3. On the **View** menu, point to **Toolbars.** The **Toolbar** list displays the toolbars available, with a check mark next to the toolbars that are displayed. To remove a toolbar from the Draw window, clear the corresponding check mark and click the toolbar without a check mark to add it to the window.

To create an object by using the Drawing toolbar:

1. Click a specific object button such as **Rectangle** or **Ellipse** on the **Drawing** toolbar, and place the mouse cursor at the point in the drawing area where you want the object to start.
2. Press the left button on the mouse, drag the cursor to where you want the object to end and release the button. The object appears in the Drawing area.

Instructor Notes:
The Drawing toolbar is not discussed in detail because you use its options to draw only basic shapes. For novice users, demonstrate the creation of a few objects, such as square, rectangle and connector. Visit http://documentation.openoffice.org/ for more details on OpenOfice.org products.

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Selecting Objects Before making any changes to an object, you need to select the object. Draw provides the following options to select an object:

- Direct Selection: Click the object to select it.
- Selection by Framing: On the **Drawing** toolbar, click the **Select** button and drag a large rectangle around the object to select it. This option is useful for selecting multiple objects in the drawing area.

Note:
You have to enclose the object(s) completely in the rectangle to select them.

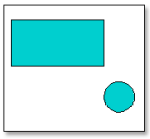


Figure 4.74: Selecting by Framing

- Selecting hidden objects: To select an object that is covered by another object, press Alt key and click the object you want to select.

Note:
To be able to select a hidden object, you must know the position of that object relative to the objects on top.

Editing Objects When creating objects, you may have to edit them or change their properties to get the desired output. However, you may not always find that flexibility in the default software settings. For example, you cannot change the shape of the square to a rectangle or rotate the square on its own axis by using the default **Drawing** toolbar. To perform these tasks, Draw provides various other options with the required flexibility, such as:

Note:
All the options covered in the subsequent sections apply to a selected object or a group of objects. You can identify a selected object from any other by the small, coloured square or circle around the object. These squares or circles are called handles and form a rectangular frame that is just big enough to contain the object.

1. In the Drawing area, select the created object by clicking it. Handles appear on the object.

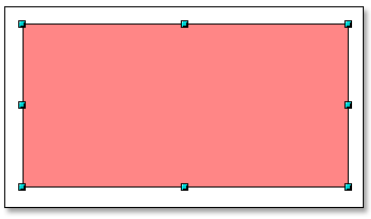


Figure 4.75: *Selecting an Object*

2. Place the mouse cursor over one of the handles. When the cursor becomes a double-headed arrow, drag the cursor in the direction of the arrow to modify the size of the object. If you choose a corner handle, you will resize the object along two axes at the same time. If you use a side handle, the objects will only be resized along one axis. The outline of the resulting new object appears as a dotted line.

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3. Release the mouse button when the object is sized correctly. The dotted line disappears, and the resized object appears.

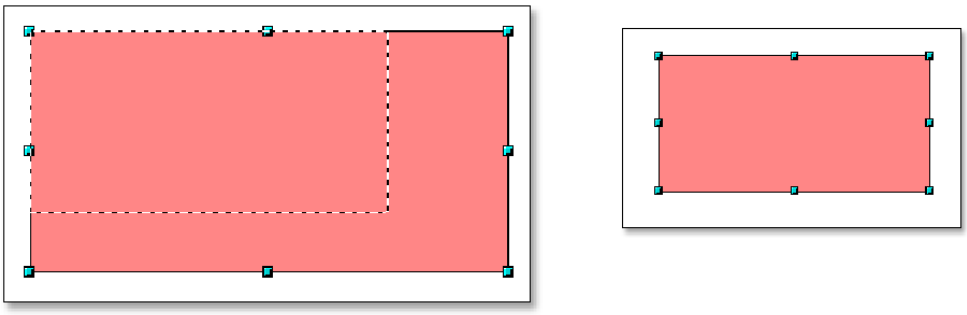


Figure 4.76: *Modifying the Object*

Arranging Objects If the document you are working on includes many overlapping objects, editing of individual objects (which may or may not be visible) might pose a challenge. Fortunately, Draw provides a way to rearrange objects without affecting their layout.

1. In the drawing area, right-click the object you want to rearrange, point to **Arrange** and select the appropriate option from the **Arrange** list.

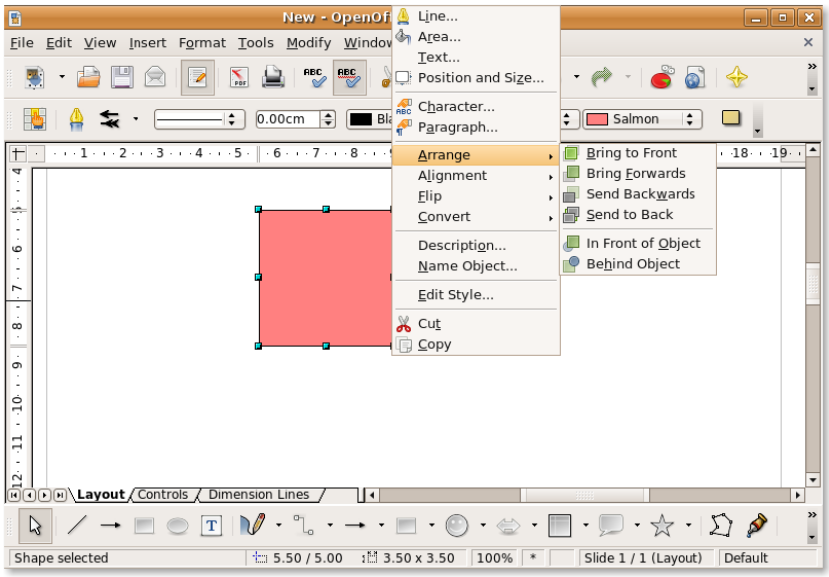


Figure 4.77: Rearranging the Object

2. If you select the **Send Backward** option, the output is as shown in the following graphic:

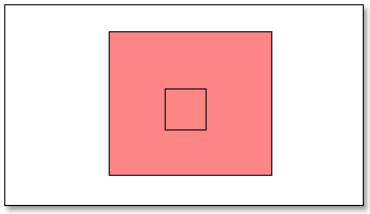


Figure 4.78: Object Sent Backwards

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Instructor Notes:
If time permits, ask the students to explore the other options in the Arrange list. In addition, explain which option to use under what circumstances. Specifically discuss the **Behind Object** option and the difference between the output from the **Send to Back** and **Behind Object** options. This is a low-priority activity.

Duplicating Objects Often, you may need to create multiple objects of the same shape and size. In Draw, you can duplicate or make multiple copies of an object. The copies can be identical or differ in size, colour, orientation and location.

1. Click the object to be copied, click **Edit** and select the **Duplicate** option. The **Duplicate** dialogue box opens.
2. Specify the appropriate values in the **Duplicate** dialogue box, and click **OK** to display the output in the drawing area.

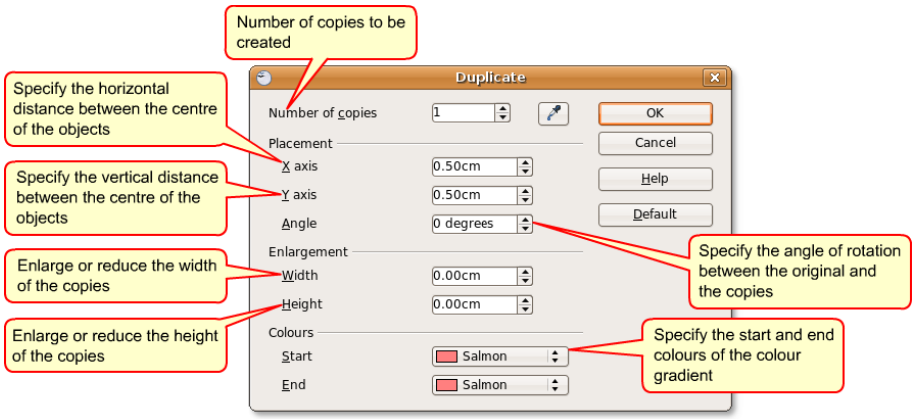


Figure 4.79: Duplicating Objects

Grouping and Combining Objects When creating or editing an object, the object might be displaced from its original position. This change in location disturbs the relative position of the object to the others in the drawing. This could be critical where accuracy, in terms of position, is important such as in architectural drawings. Using Draw, you can combine drawing objects in two distinct ways, grouping and combining.

Grouping Objects Grouping objects is like putting them into a container, where the objects are grouped with each other but retain their individual identities. You can move the group as one entity and apply changes to all the enclosed objects. A group can always be undone, and the objects that constitute the group can always be manipulated separately.

1. In the **Drawing** area, select all the objects you want to include in the group. Right click any selected object, and then select the **Group** option.
2. Click any object in the group; handles appear around the entire group instead of around an object.

You can now modify the entire group, without applying effects to objects individually. To resize a group:

- Place the mouse cursor over one of the handles. When the cursor becomes a double-headed arrow, drag the cursor to increase or decrease the size of the objects in the group. All the objects in the group are resized equally.

1. Double-click an object in the group. You can now enter the group and work on individual objects.
2. Click the object you want to edit; the handles appear around that object. In this mode, you can edit, add or delete this object.
3. To re-instate the group after modifying the object, double-click anywhere outside the selection frame.

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Note:
You can group objects of all shapes and sizes. You can group objects in 2D, 3D or a combination of both. However, you can combine only overlapping 2D objects.

Combining Objects Combining drawing objects is similar to grouping, except that combining creates a permanent fusion of objects, leading to the formation of a new object. The original objects are no longer available as individual entities, and you cannot enter the group to edit the individual objects. When you combine the objects, the group takes on the properties of the lower-most object in the arrangement.

1. In the drawing area, select multiple 2D objects.

   Note:
   The lower-most object in the following graphic is the blue object.

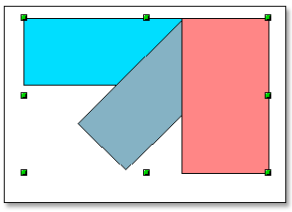


Figure 4.80: Combining Objects

2. Right-click any of the objects in the selection and click the Combine option in the list. Where the objects overlap, the overlapping zone is either filled or empty, depending on the number of overlaps. When the number of overlaps is even, you get an empty space. When the number of overlaps is odd, you get a filled area.

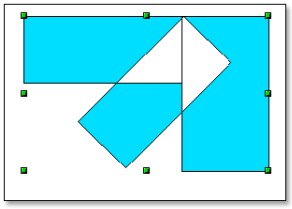


Figure 4.81: The Overlapping Zone

3. After you have combined the objects, you can select the combined objects as an entity. However, you will not be able to select the empty area in the object.

TO SPLIT THE OBJECTS:

- In the **Drawing** area, right-click the combination created in the previous procedure and select the **Split** option from the list.

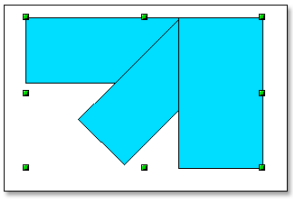


Figure 4.82: Splitting Objects

Note that the objects return to their original status. However, the properties of the objects have now changed as per the last object in the arrangement.

Editing Colours and Textures When creating a drawing, you may need to work with objects of variable colours and textures in the same drawing area. You can customise the area fill of an object by using the **Line and Fill** toolbar.

Note:
The OpenOffice.org term for the inside of an object is area fill. The area fill of an object can be of uniform colour, a gradient or an image.

To edit the colour fill of an object:

1. In the drawing area, select the object you want to edit and click the **Area** button on the **Line and Fill** toolbar. The **Area** dialogue box opens.

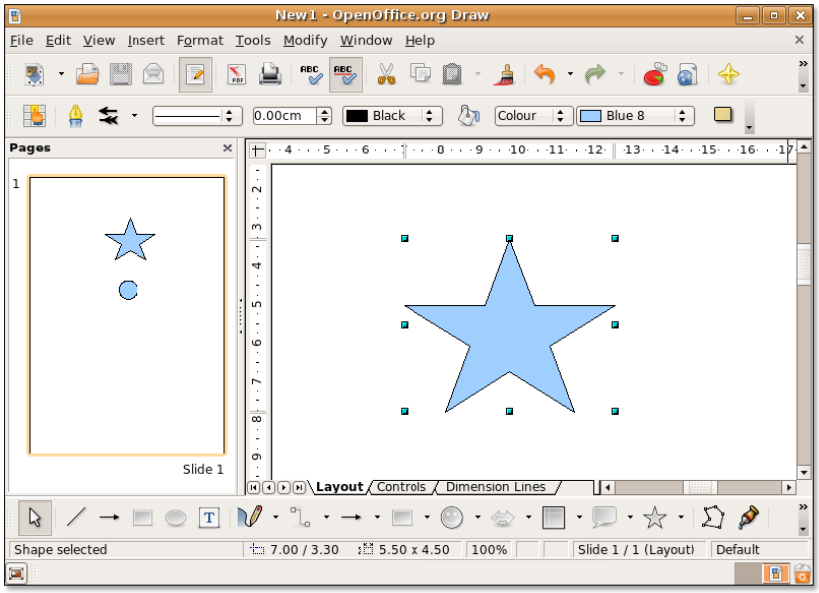


Figure 4.83: *Editing a Colour Fill*

2. The **Area** dialogue box provides the option to change the existing colour fill of the object. Click the **Colours** tab, select a colour listed under the **Table** category and click **OK** to apply the change.

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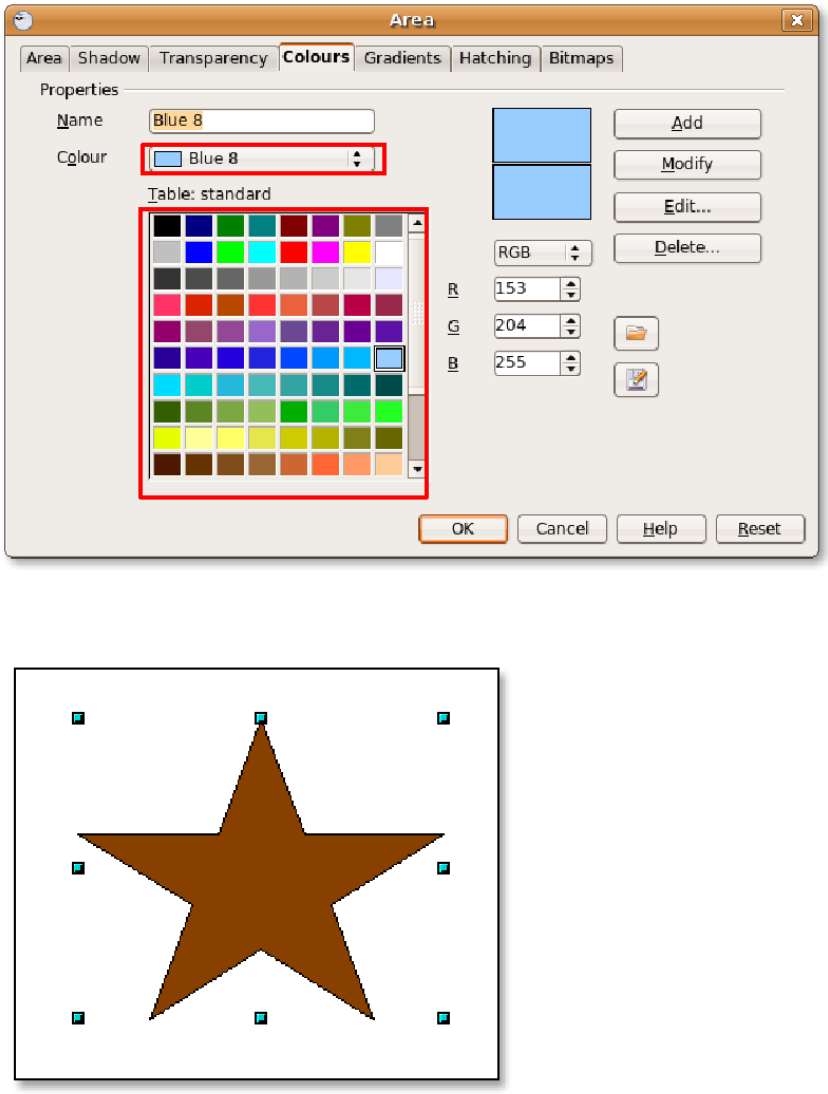


Figure 4.84: *Selecting a Colour Fill*

3. The Table category lists the standard colours or the colours that are used most often. However, if you need a colour or shade that is not available in the list, go ahead and create it! To define a custom colour:

   (a) Click the standard colour closest to your needs, and specify the RGB ratio to change its tone and hue.

   Note:
   Draw provides you two options to define a colour. You can specify the colour in the RGB or CMYK ratio. For CMYK, click RGB and then select CMYK from the options.

   (b) If you want to add a new custom colour to the available list, type its name in the Name box, specify the RGB ratio and click Add. The standard list under the Table category displays the new colour.

   Nice to Know:
   Every colour is specified by a combination of the three primary colours, Red, Green and Blue, hence the notation RGB.

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(c) Click **OK** to apply the change.

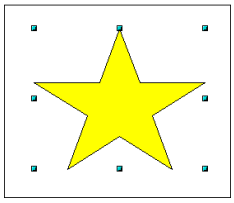


Figure 4.85: *The Customised Colour Fill*

Editing a Gradient Fill A gradient is a smooth transition between two different colours or shades of the same colour, which you can apply to a drawing object. To edit the gradient fill of an object:

In the Drawing area, select the object you want to edit and click the Area button on the Line and Fill toolbar. The **Area** dialogue box opens.

Click the **Gradients** tab, select a gradient from the gradient list and click **OK** to apply the change to the object.

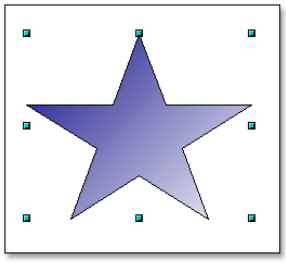


Figure 4.86: Editing a Gradient Fill

Instructor Notes:
Mention that by using the Area dialogue box, students can also add or modify the other properties of objects such as using a shadow on an object, increasing or decreasing transparency, crosshatching the object or adding their own bitmap images as the area fill of the object.

Editing Text Draw provides you the following options to insert text in the **Drawing** area:

- **The Text tool on the Drawing toolbar:** You can create a text frame anywhere in the drawing area, and you can work with this text box like you do with any other object.
- **Callouts next to the object:** You can use this when you want to relate the text to the object. Click the **Callouts** tool on the **Drawing** toolbar.
- **Text superimposed on a drawing object:** Double-click the object. A text box opens. Type the necessary text in it.

The following graphic displays various options for inserting text relevant to an object in the Drawing area:

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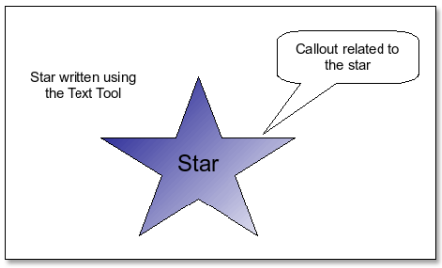


Figure 4.87: Editing Text in the Drawing Area

Visual Effects Apart from offering the basic drawing tools, Draw provides scope for you to add some visual effects to your drawings.

Cross-Fading The cross-fading feature in Draw transforms one shape into another. The result is a new group of objects, including the start and end objects and the intermediate shapes.

1. Create two objects of different shapes in the drawing area and select them.

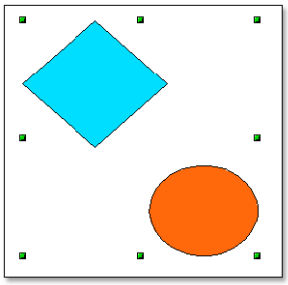


Figure 4.88: Applying Visual Effects

2. On the **Edit** menu, click the **Cross-fading** option to display the **Cross-fading** dialogue box.
3. In the **Cross-fading** dialogue box, select the number of incremental objects between the ends. Retain the default selection for smoother transition, and click OK to display the result in the drawing area.

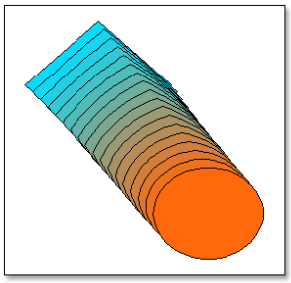


Figure 4.89: Cross-Faded Objects

Note:
You can vary the order of the objects by changing their arrangement in the drawing area.

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Instructor Notes:
Draw provides many more features and tools. For more information on the detailed features of Draw and other OpenOffice.org applications, refer the students to http://documentation.openoffice.org/.

4.6 Using OpenOffice.org Math

Math is the equation writer component of OpenOffice.org office software suite. It contains a number of functions, operators and formatting assistants to help you create properly formatted equations and formulae. These formulae can then be imported for display in any other OpenOffice.org applications.

4.6.1 Key Features of OpenOffice.org Math

Some of the important features and capabilities of Math are discussed in the following section:

- **Creating a Formula:** Math offers you the convenience of creating formulae as objects within your document. You can invoke Math from inside a document whenever you need to insert a formula or equation into the document. With Math, you have a large selection of pre-defined symbols and functions at your disposal for creating, editing and formatting a formulae.
- **Typing a Formula Directly:** If you are familiar with the Math markup language, you can also type an equation directly in your document and then invoke Math to convert the markup into a formatted formula.
- **Creating a Formula in the Commands Window:** While you make entries in the commands window, you can simultaneously view the results in the document.
- **Creating Individual Symbols:** Why not create or own symbols and import new characters from other fonts? You can add the new symbols in the basic math catalogue or create a new catalogue for the new symbols.
- **Creating Formulae in Context:** Math provides you the ease of working with the context menus, which can be displayed at a right mouse-click. These context menus contain all commands that are found on the Selection window. Moreover, you can insert these into the document with just a mouse click.

Note:
Math is only used to create properly formatted equations in its symbolic form. It cannot be used for calculation purposes.

4.6.2 Creating and Editing Formulae

Though Math can be used with all the OpenOffice.org applications, it is primarily used as an equation editor with text documents.

1. Position the cursor on the document where you want to insert the formula. On the Insert menu, point to **Object** and then click **Formula**.

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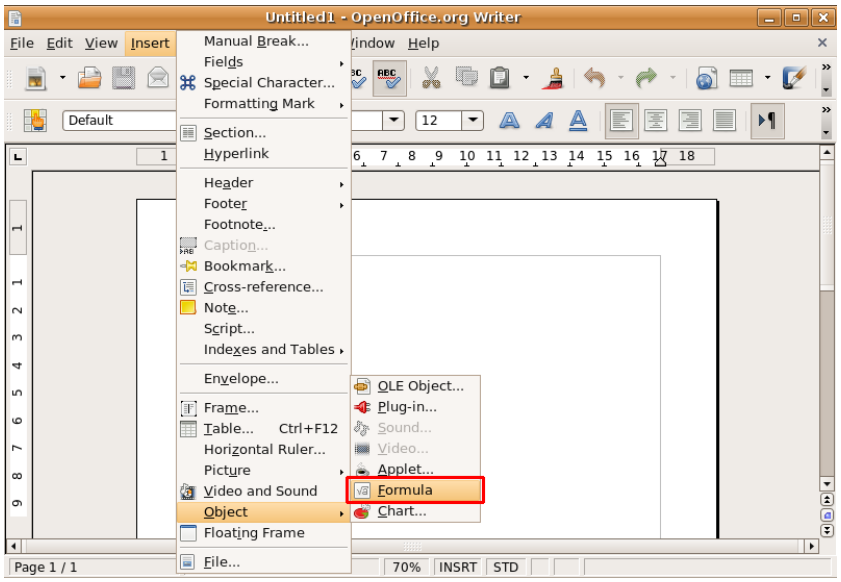


Figure 4.90: Launching Math

2. This invokes Math from inside the Writer window. Notice that the equation editor appears at the bottom of the document window. You can now access all the Math tools from inside the Writer window. A placeholder box appears besides the text where the equation is to be entered.

   The simplest method to enter an equation in your document is to use the **Selection** window. By default, the **Selection** window is not displayed. To display the **Selection** window, on the **View** menu, click **Selection**.

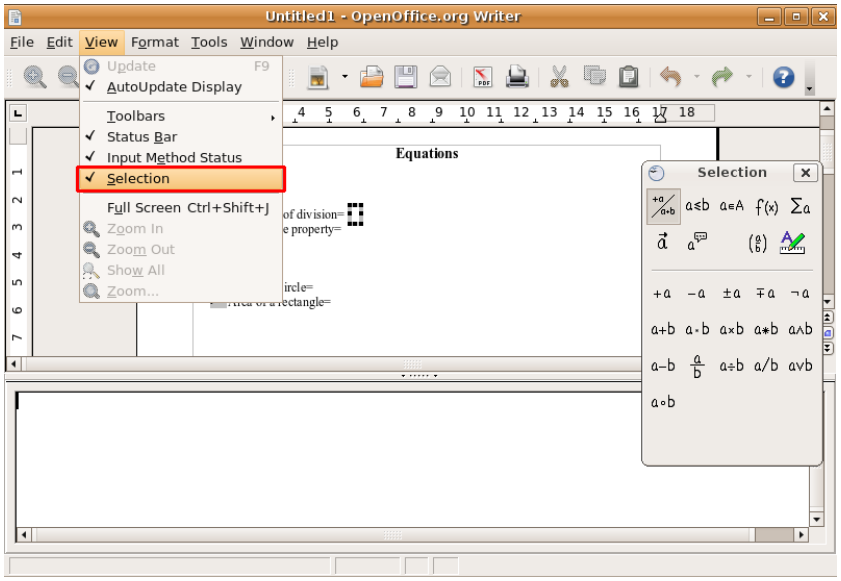


Figure 4.91: Displaying the Selection Window

3. The **Selection** window appears as a floating toolbar. Notice that the **Selection** window is divided into two halves. The upper half contains the symbol categories, and the lower half displays the symbols available in the selected category. You can now start inserting the equation by selecting the symbols from the **Selection** window.

   To insert a symbol, such as "a/b" select the appropriate category from the upper half and click the appropriate symbol from the lower half of the **Selection** window.

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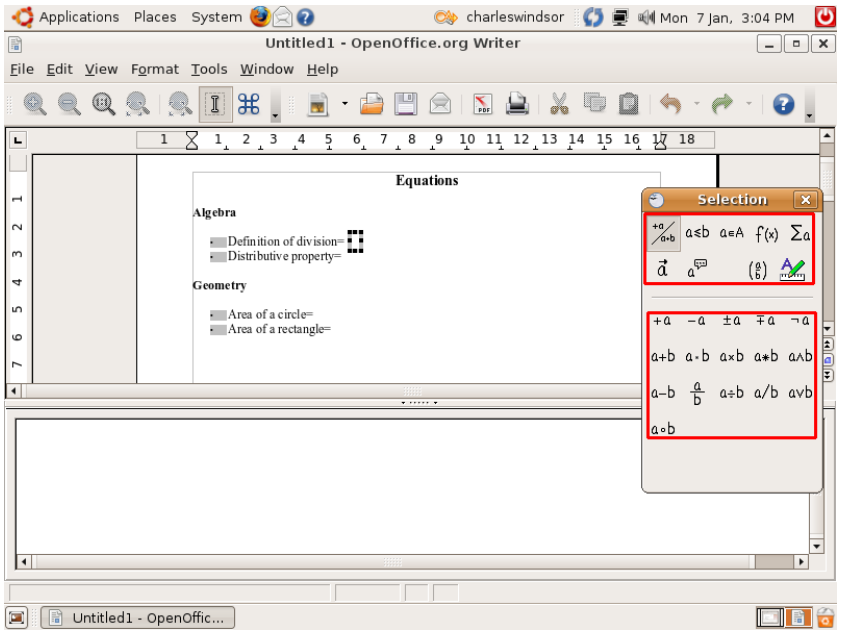


Figure 4.92: Using the Selection Window

4. You will notice that when you select the symbol on the **Selection** window, the markup for the selected symbol appears in the equation editor. Simultaneously, some grey boxes appear in the main text body.

   The **<?>** symbols appearing in the equation editor are placeholders where you need to enter the actual text or symbol associated with your formula.

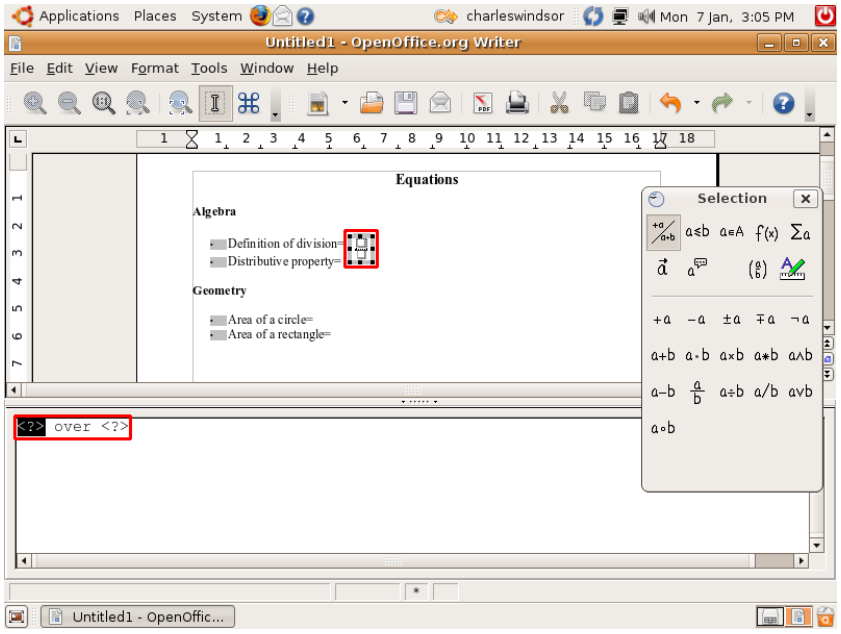


Figure 4.93: Inserting Symbols

5. As you enter the required text or symbol into the placeholders, the grey boxes are simultaneously updated with the equation. You can enter the rest of the equation in the same fashion.

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6. Once you enter the complete equation using the **Selection** window, the equation appears as an object in your document window and you can view the complete markup for the equation in the equation editor. Exit the formula editor by clicking anywhere on the document body.

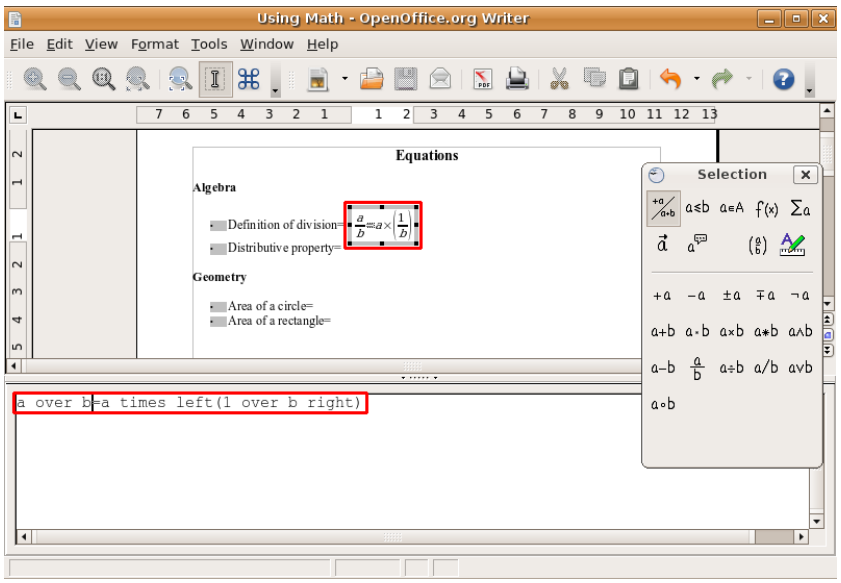


Figure 4.94: The Inserted Equation

7. Once the formula is inserted in your document, you may want to modify it further. To edit a formula right-click once on it and select **Edit** from the short-cut menu.

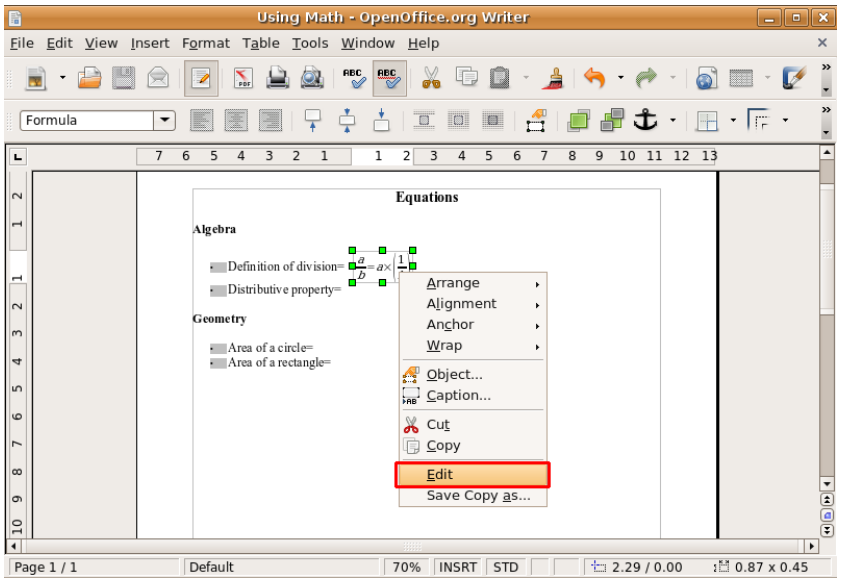


Figure 4.95: Editing Equation

8. Now you can insert new symbols into your formula or delete ones you no longer need.

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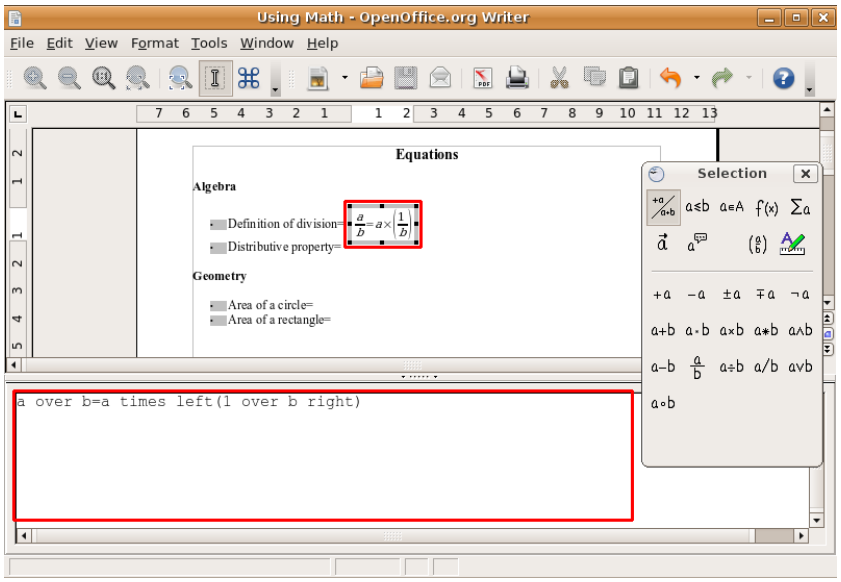


Figure 4.96: Inserting New Symbols

9. Though Greek characters are widely used in mathematical formulae, especially geometric formulae, these characters are not available in either the Selection window or the Context menu.

10. You can enter Greek characters by typing the markup language for them in the equation editor. Alternatively, you can use the **Catalog** window. To display the Catalog window, on the Tools menu, click Catalog.

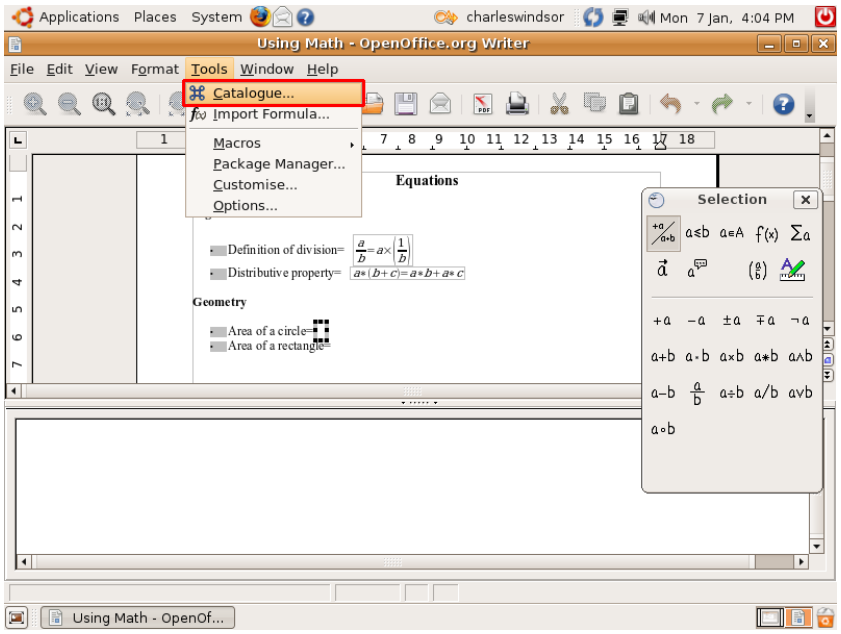


Figure 4.97: Launching the Catalogue Window

11. The **Symbols** dialogue box is displayed. Before selecting a character, ensure that **Greek** is selected under the **Symbol** set drop-down window. Select the required Greek character from the **Symbols** window and click **Insert**.

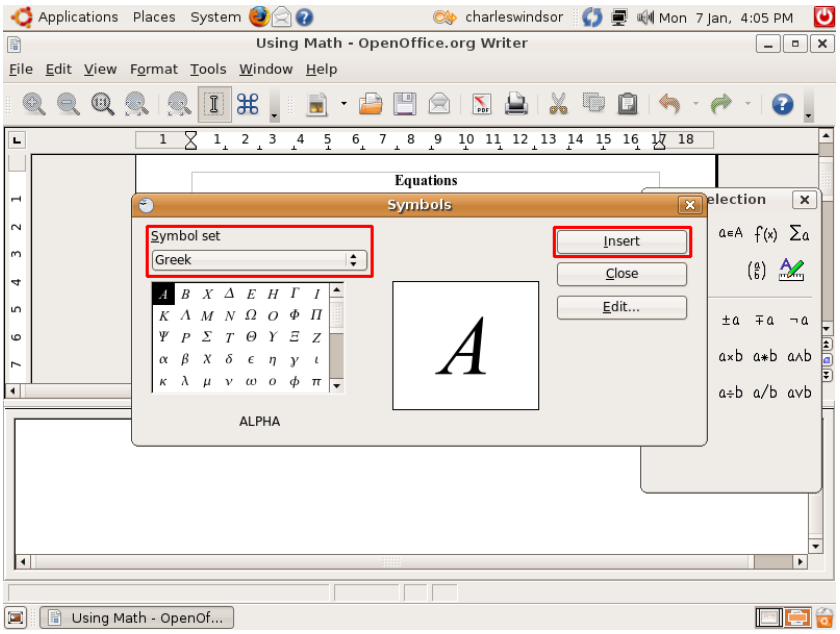


Figure 4.98: Inserting Greek Symbols

12. The character is inserted into your document and the markup is displayed in the equation editor. You can continue entering formulas into your document following the same procedure. Once you have entered all the required formulae, your document may appear like this:

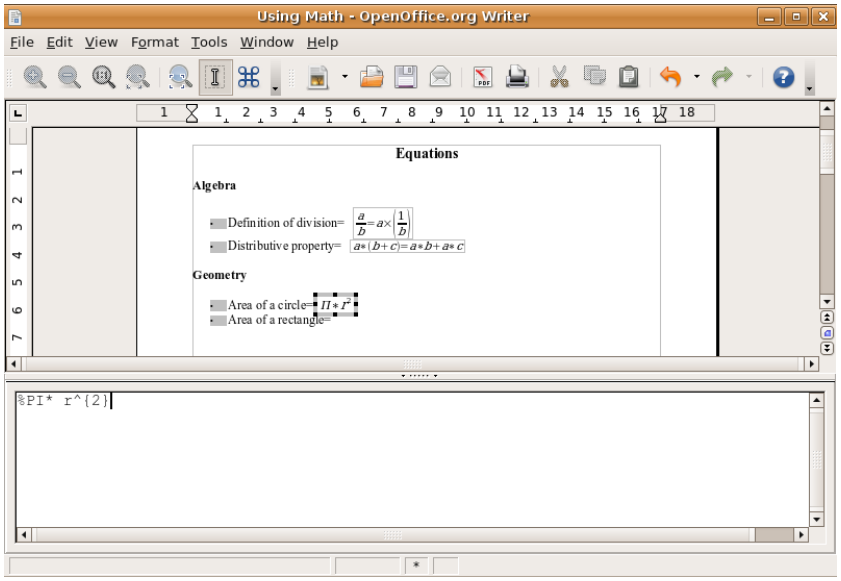


Figure 4.99: Final Equations

4.7 Additional Applications

4.7.1 GnuCash Accounting

GnuCash is an application that helps you track home or small business finances. Instead of tracking all your expenses on paper, you can use GnuCash to ensure that you don't lose any information at the end of the month. All details of income and expenditure can be managed with this utility. Using GnuCash, a small business can track its customers as well as its vendors by entering their details. You can also create a monthly profit/loss report for your business.

GnuCash can store and manage the details of all your bank accounts in one place. GnuCash is based on double-entry bookkeeping (the sort that trained, professional accountants use) to ensure balanced accounts and accurate reports.

GnuCash is easy to use and can be tailored as per your needs.

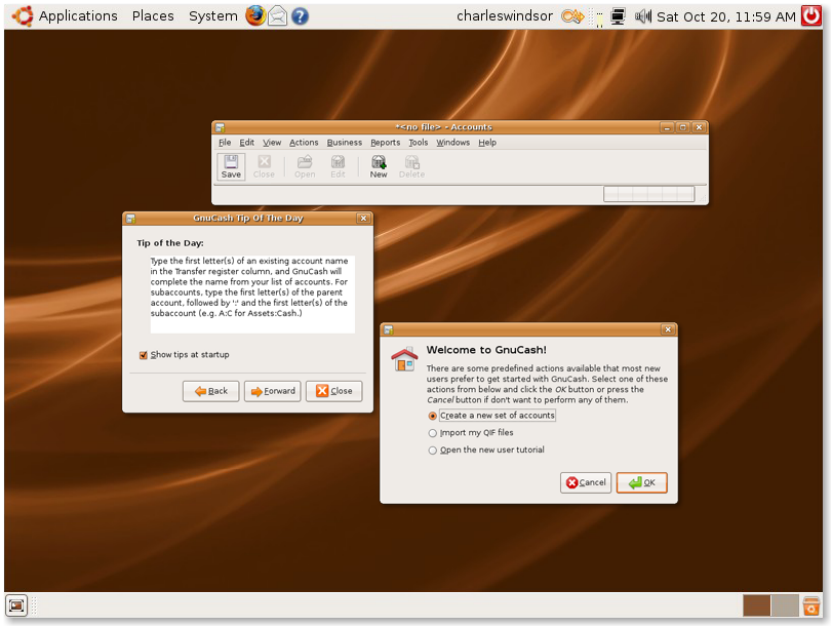


Figure 4.100: The GnuCash Accounting Application

Key Features of the GnuCash Application Using GnuCash is like filling your personal finance information in a register but in a more organised way. The following features make GnuCash a very useful, powerful, yet flexible software programme:

- **Easy-to-Use Interface:** The interface of GnuCash is as simple to use as keeping records on a piece of paper. It also has a Quick-Fill feature, which means that as soon as you type a few characters, GnuCash scans its list and completes the entry automatically. If you use an entry on a regular basis, you don't need to type it every time.
- **Double Entry System:** Following the principles of double-entry accounting, in GnuCash each transaction has to be mentioned in two places -- debit in one account and credit in another. This means that the difference between income and expenses exactly equals the sum of all assets and equity. This will help you verify that you have entered the details of the income and expenses accurately, which, in turn, will also help you track all expenses.
- **Reports:** You can generate a vast range of reports using GnuCash. Home users can generate a Budget report, which will give them a clear view of the income and expenses for the month. You can also generate a Tax report for calculating tax based on tax-related income and expenses. A vast range of Business reports, such as Customer and Vendor reports, can also be generated. Another report that can be generated is the Assets and Liabilities report, which includes the balance sheet.
- **Multi-Currency Transaction Handling:** You need not worry about transactions in different currencies; GnuCash automatically handles currency conversions. In addition, GnuCash provides menus and pop-up windows in different languages.

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- **The Reconcile Window:** GnuCash provides the Reconcile window, which contains the balances of all your accounts. As a result, you don't have to check the balances in various registers. Using this window, you can easily validate bank statements.
- **Split Transactions:** The split transaction feature allows you to split a transaction into multiple amounts and categories. For example, you purchase a few things, which can be divided into different categories, from a store. Here, the main transaction is the amount spent on the purchase of these items, and the split transaction consists of the entries of all the items on the split transaction editor screen. You can re-check the main transaction at any time by simply displaying the split transaction entries.
- **HBCI Support:** GnuCash also supports the German Home Banking Computer Information (HBCI) protocol. This feature is useful for German users who need not enter the details of their bank account manually. They can directly perform online bank account transfers, download bank statements and make direct debits.
- **Scheduled Transactions:** Users can schedule transactions in GnuCash as per their requirements, and they can also set a reminder for the transactions. This feature does not require you to remember which transaction needs to run at what time. The software will automatically keep track of the transaction and run the transaction at the scheduled time. You can also re-schedule the transactions, when required.
- **Transaction Finder:** The Transaction Finder dialogue box helps you locate even the smallest transaction. You can enter the relevant fields in the Transaction Finder window, and GnuCash will find the transaction for you. For example, you want to identify all expenses above a certain amount this month. GnuCash will be able to identify these transactions. You need to mention the transaction as greater than and the amount in the amount field.
- **New User Manual and Help:** GnuCash provides a new Tutorial and Concepts guide to give an overview of the accounting principles to new users. This helps the users apply the principles effectively and gives them the exact procedure of each task.

4.7.2 Scribus

Instructor Notes:
Quickly illustrate the sections on Scribus and Evince. Show where they can be found and provide an overview.

Scribus is a programme used to produce documents that cannot be created easily with a word processor. For example, you will not be able to use a word processor to create a poster or a greeting card as the output will not be of professional print quality. Scribus enables easy alignment of text and graphics, which is not a simple task using a word processor. Scribus makes it easy to create PDF documents with professional features for commercial purposes; design brochures, newspapers, magazines, newsletters, posters and technical documentation.

Key Features of Scribus Use Scribus to design documents that have a great deal of graphical content. It is an application that allows the users to position images, logos and so on at the appropriate place.

- **Updatable page templates:** Scribus provides page templates that contain common page properties, such as background, header and footer.
- **Style manager:** Choose from a wide range of styling options, including style inheritance for paragraphs, character styles and line styles. The style manager gives you the advantage of viewing all the styling options at one place and makes it easier to use the appropriate styling option at the right place.
- **XML-based file format:** Scribus uses an XML-based file format that is fully documented.
- **Font-handling features:** Scribus includes a vast range of features for handling fonts. The features include rotating, flipping and scaling text. Both Type1 and TrueType fonts are supported by Scribus, so you can work on a document with any type of font.
- **Image-handling features:** Scribus imports most common image formats, such as PNG, TIFF and JPEGs, so you can insert images of almost all the common formats.

In addition, Scribus supports:

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- **Unicode text and fonts:** Scribus imports most common text formats and supports Unicode text and fonts. It also supports right-to-left scripts, such as Arabic and Hebrew. This helps you open a document for page layout, without worrying about which font it is written in.
- **Direct file imports:** If you want to add pictures and graphs to your document, you can use Draw, Impress and so on, and you can directly import the file from that application to Scribus.
- **CMYK:** Scribus supports Cyan, Magenta, Yellow and Black (CMYK) layering, which is most important for professional use. Printing is done in the four CMYK layers. Because of the CMYK feature, there will be minimal difference between the on-screen and final printing. Scribus also provides enhanced colour management functions.
- **Functions related to PDF files:** Even if your file is in PDF, you can export these files easily to Scribus. You can also add effects to these files and encrypt them. In addition, you can include keywords in an exported PDF file.
- **Vector formats:** Scribus imports all the important vector formats, including Adobe Illustrator (AI), Encapsulated PostScript (EPS) EPS and Scalable Vector Graphics (SVG), so that you can open any vector graphic in Scribus effortlessly.

4.7.3 Evince

Evince is a document viewer in Ubuntu. It supports multiple document formats, such as Portable Document Format (PDF), PostScript, djvu, tiff and dvi. This viewer makes reading documents a simple and hassle-free experience and has intuitive preview, index and search capabilities. You can also view documents in full-screen or presentation format, where each page is displayed like a slide in a slideshow.

Because Evince can support multiple document formats, it can replace the various document viewers that were used previously to view the other document formats. Evince also supports multi-page formats.

The following screenshot shows the main interface of Evince:

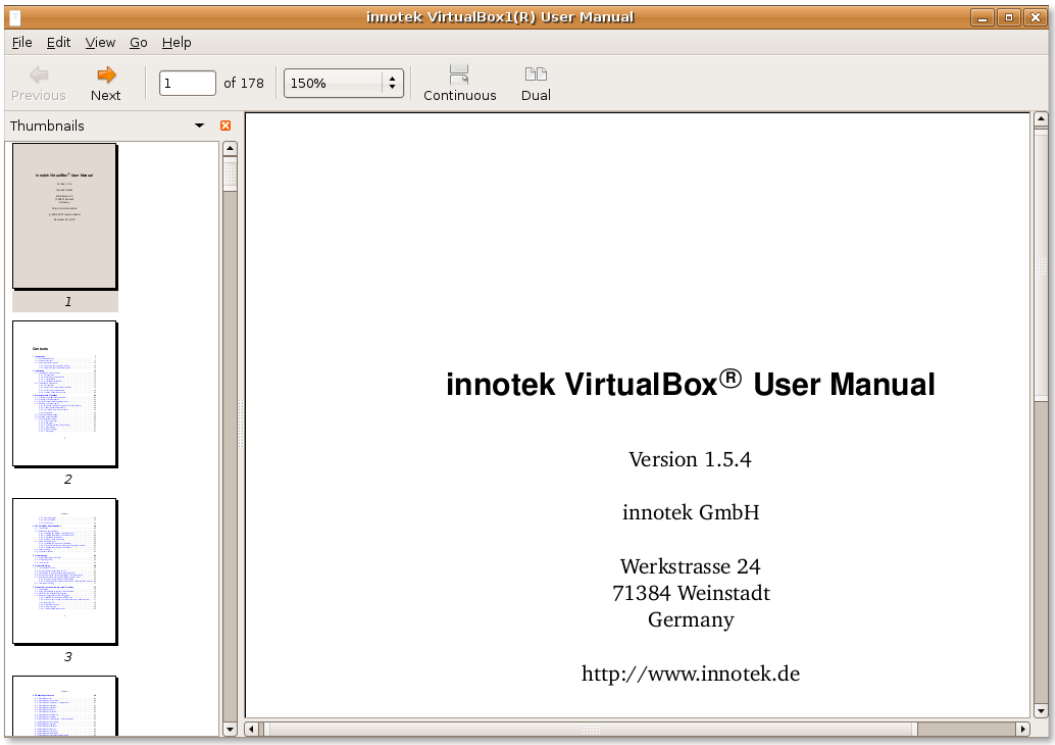


Figure 4.101: Evince

Key Features of Evince Some key features of Evince are described below:

- **Enhanced search feature:** Evince has an enhanced and integrated search feature that displays the number of results found and highlights the results on the page.
- **Thumbnails:** Using this feature, you need not go through each page; you can quickly refer to the pages on the left sidebar of the window and click any of the thumbnails to easily navigate to that page.
- **Indexing:** In the documents that support indexing, Evince allows easy navigation by showing a document index. This index allows you to move from one section to another.
- **Zoom:** Evince allows you to zoom in and zoom out of the document. In addition, Evince remembers the zoom level of the document after closing it. The next time you open the document, it opens at the same zoom level.
- **Selection:** Select the text in a PDF document, which is not possible in all other viewers.

4.8 Lesson Summary

In this lesson, you learned that:

- OpenOffice.org is the default office application suite provided with Ubuntu.
- The OpenOffice.org sofware suite comprises five applications to help you handle your work effectively.
- Writer forms the word processor component of the OpenOffice.org office software suite and contains all the features that you expect from a modern, fully equipped word processor.
- Calc forms the spreadsheet component of the OpenOffice.org office software suite and offers a whole range of advanced functions to help accomplish complex tasks.
- Impress is a fully featured presentation tool included in the OpenOffice.org office software suite.
- Math is the equation writer component of OpenOffice.org office software suite.
- GnuCash is extremely useful application software for managing your home and/or small business finances.
- Scribus is a page layout application that you can use to create posters, cards, brochures and so on for commercial purposes.
- Evince is document viewer software that allows you to easily navigate a document. The document can also be viewed or searched.

4.9 Review Exercise

Question: List the applications included in the OpenOffice.org office software suite.

Answer: The applications included in the OpenOffice.org office software suite are:

- OpenOffice.org Writer
- OpenOffice.org Calc
- OpenOffice.org Impress
- OpenOffice.org Draw
- OpenOffice.org Base

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- OpenOffice.org Math

Question: The applications in OpenOffice.org save files in which format, by default?

a) SWF

b) PDF

c) ODF

Answer: c) OpenDocument Format (ODF)

Question: Name the equation editor component of the OpenOffice.org software suite.

Answer: OpenOffice.org Math.

Question: Which software feature help you create multiple personalised form letters?

Answer: The Mail merge feature in Writer allows you to create multiple personalised form letters, labels, envelopes, faxes, e-mail messages by using a form letter template and an address database.

Question: Which software feature in available OpenOffice.org helps you navigate inside your document?

Answer: The Navigator feature available in OpenOffice.org provides you an outline view of your entire document and allows you to quickly navigate inside your document.

Question: Name the feature in the Openoffice.org software suite that allows you to perform a complete document makeover?

Answer: The Style and Formatting window.

Question: Do you require any additional software to convert a OpenOffice.org document into a PDF file?

Answer: The OpenOffice.org software suite allows you to save your document directly as a Portable Document Format (PDF) file without the use of any additional expensive software.

Question: Name the software tool that guide you through the creation of a formula in OpenOffice.org Calc.

Answer: The Function Wizard

Question: Math allows you to type your formula directly into the document if you are familiar with the_____?

Answer: Math markup language

Question: Name the feature available in OpenOffice.org Impress that allows you to create text

with stunning 3D effects?

Answer: The Fontwork Gallery

Question: Which feature of GnuCash helps you look for a transaction using a Query window?

1. Split transaction

2. Scheduled transaction

3. Transaction finder

4. Reconcile window

Answer: 3. Transaction finder

Question: What is Scribus?.

a. An accounting application

b. A word processor

c. A document viewer

d. Page layout software

Answer: d)Page layout software

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4.10 Lab Exercise

Exercise 1: Performing BasicWord Processing Tasks Using Writer As an employee in an interior decorating company, you have been asked to prepare an chapter on interior decoration that would feature in the company's e-newlsetter. You have been quite upbeat about the assignment as it would showcase your abilities to the fore. However, you will have to prepare the chapter in the most aesthetically pleasing manner as possible. You plan to include lots of text, equally supported by some graphics and tables all aligned to live up to the highly aesthetic sensibilities of the company employees.

To complete your assignment, you need to perform the following tasks:

- Create and format a text document
- Insert tables in the document
- insert images in the document
- Save the document

1. On the **Applications** menu, point to **Office** and then click **OpenOffice.org Word Processor**.
2. Enter the required text in the blank document.
3. On the **Format** menu, click **Style and Formatting** to display the **Style and Formatting** window.
4. On the **Style and Formatting** window, click a style category to reveal the various styles under that category.
5. Select the text on which you want to apply the style and formatting.
6. Double-click the desired style displayed in the **Style and Formatting** window to apply it on the selected text.
7. Repeat the same procedure to apply different styles and formatting for different components of the document.
   You have created and formatted your document according to your requirements.

1. Position the cursor at the appropriate location in the document where you want to insert the table.
2. On the **Table** menu, point to **Insert** and then click **Table**
3. Specify the table properties and click **OK**.
4. To display the **Table Format** dialogue box, right-click the inserted table and select **Table** from the short-cut menu.
5. Define the table specifications per your requirements and preferences in the **Table Format** dialogue box and click **OK** to apply the changes.
   You have successfully inserted tables in your text document. You can now populate the tables with the required data.

1. Position the cursor at the appropriate location in the document where you want the picture to be inserted.
2. On the **Insert** menu, point to **Picture,** then click **From File**.
3. In the **Insert Picture** dialogue box, navigate to the desired file, select the file and then, click **Open.**
4. To resize the inserted image, select the image, then press and hold the **SHIFT** key.
5. Holding down the **SHIFT** key, click and drag one of the handles on the image to modify its size.
6. To arrange and align the image properly, right-click the image, then select from the available options on the short-cut menu.
7. Define the appropriate positioning options for the image.

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8. The image is now inserted properly into your text document.

1. On the **File** menu click **Save As**.
2. In the **Save** dialogue box, Navigate to the directory where you want to save the file.
3. Enter the file name in the **Name** field.
4. Specify the file type by selecting from the drop-down menu at the bottom of the dialogue box.
5. Click **Save** to save the file.

   You have successfully saved your document at the desired location.

Exercise 2: Performing Basic Spreadsheet Tasks Using Calc As the accounts manager for your company, you are assigned with the task of preparing the quarterly accounts report for the company. You have been suddenly burdened with the task of collating a huge amount of data, analyzing the data to derive the required reports, present the data before the management and generate the reports in PDF format for documentation and future reference. In order to accomplish this feat, you shall have to perform the following tasks:

- Entering and format the data in a spreadsheet
- Apply formulas and functions on the data
- Present the data graphically
- Generate the report in PDF format

To enter and format the data in a spreadsheet:

- On the **Applications** menu, point to **Office** and then click **OpenOffice.org Spreadsheet** to open a Calc spreadsheet.
- Enter the required data in the spreadsheet.
- To apply desired formatting to a selected range of cells, on the **Format** menu, click **Cells.**
- The **Format Cells** dialogue box is displayed. Use the various options available under the **Font, Font Effects** and **Alignment** tabs to specify various formatting attributes for the selected text.
- Click **Ok** to apply the formatting effects.
- To apply Autoformat to a sheet or selected cell range, on the **Format** menu, click **Autoformat.**
- To assign a preset format to the selected cells, select one from the **Format** list and then click **OK** to apply the selected format on the selection.

  You have successfully entered your data in a spreadsheet and applied the desired formatting to it.

To apply formulas and functions on the data:

- Select the cell in your spreadsheet where you want the formula to be inserted.
- To create and apply a formula or function with the help of **Function Wizard**, click **Function Wizard** on the **Formula Bar**.
- Select the desired function category from the **Category** drop-down list to display the functions listed under that specific category.
- Find the desired function from the **Functions** list and click it once to select it.
- Click **Next** to proceed with the task of entering a formula.
- To specify the cell range on which you want to apply the formula, click the **Shrink** button. This shrinks the **FunctionWizard** dialogue box and you are returned to the main spreadsheet window.

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- Select the cell range containing the desired data.
- After selecting the cells, go back to the Function Wizard by clicking the **Maximize** button.
- To complete the task of entering a formula, click **OK.**

  You have successfully applied a formula on the data. The solution appears in the cell where you had applied the formula.

To present your data graphically:

On the **Insert** menu, select **Chart.**

- Define the data range, the labels and the target sheet where the chart would be displayed
- Click **Next** to continue.
- Select the chart type and click **Next** to continue with the procedure of inserting charts.
- Specify a variant for the selected graph type and click **Next** to continue
- Specify the main title for your chart and title and labels for the axes. After specifying the required information, click **Create.**
- A chart is inserted at the specified location in your spreadsheet. You have successfully displayed your data in the form of a chart.

To generate a PDF file of the report:

- On the **File** menu, click **Export as PDF**.
- Enter a file name in the **Name** field on the **Export** dialogue box
- Navigate to the directory where you want to save the file.
- Click **Save** to continue.
- Define the desired options on the **PDF Options** dialogue box, then click **OK.**

  You have successfully exported your spreadsheet as a PDF file.

Exercise 3: Creating Multimedia Presentation Using Impress In your job profile as a trainer in an architecture firm, you are required to develop a presentation on architectural designs and plans, which shall be used as training material for the new joins. You want your training material to effectively demonstrate all the dimensional details of your architectural designs, which may include floor plans, elevations and siteplans. You would also like to infuse some life into your presentation by adding animations wherever required. Finally, you want to convert the presentation into a Flash file for easy future reference.

To accomplish the task, you will need to:

- Create a presentation with the required text and images
- Add 3D graphics and animations in the presentation
- Configure and perform a slide show
- Export the presentation as a Flash file

To create a presentation with the required text and images:

- On the **Applications** menu, point to **Office** and then click **OpenOffice.org Presentation**.
- The **Presentation Wizard** dialogue box appears. To create a new blank presentation, retain the default selection and click **Next.**
- Select the slide design and output medium for the presentation and click **Next.**

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- Define the transition effect to be applied on the slides and click **Create** to proceed.
- Select a layout for your current slide from the **Task** pane on the left.
- Enter the required text in the provided textboxes to create the first slide, then click **Master Pages** to open the **Master Pages** panel.
- Click once on the template of your choice to apply it to your presentation.
- Insert a new slide by clicking the **Slide** button on the **Standard toolbar**.
- Select a layout for the new slide.
- Enter the required text in the provided text box.
- To insert a picture in the presentation, on the **Insert** menu, click **Picture.**
- In the **Insert Picture** dialogue box, select the desired image and click **Open** to insert it.

Follow the same procedure to create the rest of the slides.

You have successfully created a presentation with the required text and images.

To add 3D graphics and animations:

- To render special 3D effects to a piece of text, on the **Drawing** toolbar, click the **Fontwork Gallery** button.
- Select the style in which you want the text to be displayed and click **OK.**
- Double-click the **Fontwork** object.
- Type the required text in place of the black ' **Fontwork'** that appears over the object.
- Click once outside the object's selected area to exit the Fontwork edit mode.
- To display the **3D-Objects** toolbar, on the **View** menu, point to **Toolbars** and then select **3D-Objects**.
- To insert a **3D-Object** in your current slide, click the desired object on the 3D-Objects toolbar.
- Then move your mouse to the point where you want to insert the object.
- Holing down the left mouse button drag the mouse to insert the object on the slide.
- Change the proportion and size of the object by holding down the green handles.
- To apply 3D effects on the inserted graphic, right-click the object. On the short-cut menu, click **3D Effects**.
- Define the look and feel of the inserted object by selecting appropriate options in the **3D Effects** dialogue box.
- After defining the options, click the **Assign** icon on top right of the **3D Effects** dialogue box.
- Click **Close** to exit the **3D Effects** dialogue box.
- To add animations, to the various elements in your presentation, on the **Slide Show** menu, click **Custom Animation**.
- Select an element and click the **Add** button on the **Custom Animation** panel to display the **Custom Animation** dialogue box.
- After defining all the desired settings for the object, click **OK** to apply the animation effects.

Your have successfully added 3D graphics and animations in your presentation.

- To configure and perform a slide show:
- On the **Slide Show** menu, select **Slide Show** Settings.
- Select the desired options on the **Slide Show** dialogue box and click **OK** to apply the settings.

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- To start the slide show, select **Slide Show** from the Slide Show menu or press **F5**.

  Your presentation runs as a lively slide show.

To export the presentation as a Flash file:

- On the **File** menu, click **Export.**
- Specify a file name in the **File** name field and navigate to the directory where you want to export the file.
- To export the presentation as a **Flash** file, select **Macromedia Flash (SWF) (.swf)** from the **File** format drop-down list.
- Click **Save** to export the file at the desired location.

The file is exported at the indicated location. You can now view the presentation as an SWF file.

Exercise 4: Creating Formulae Using Math In your role as a high school mathematics teacher, you need to create a mathematics test paper that also contains geometrical and arithmetical equations. You have to find a way to display the mathematical equations properly in the text document.

Solution:

- Position the cursor on the document where you want to insert the formula.
- On the **Insert** menu, point to **Object** and then click **Formula.** The **Equation editor** appears at the bottom of the document window.
- To display the **Selection** window, on the **View** menu, click **Selection.**
- Start inserting the formula by selecting a symbol from the **Selection** window.
- Enter the required text in the placeholders that appear in the equation editor.
- Follow the same procedure to enter the rest of the equation.
- Click anywhere on the document body to exit the equation editor.
- To insert some formulas containing Greek characters, display the **Catalog** window by selecting it from the **Tools** menu.
- Ensure that **Greek** is selected under the **Symbol** set drop-down window.
- Select the required Greek symbol from the **Symbols** window and click **Insert.**
- Follow the same procedure to enter the rest of the formula.

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Chapter 5

Ubuntu and Games

Objectives In this lesson, you will learn how to:

- Find and install games on Ubuntu
- Play some of the more popular Ubuntu games
- Configure other games

5.1 Installing Games on Ubuntu

The default installation package of Ubuntu 7.10 comes with 17 Ubuntu games, including Aisleriot, Solitaire, Gnometris and Mines. In addition, you can install many games from other repositories.

Instructor Notes:
Understanding repositories is important because games are located in various repositories. You may need to recap on Lesson 1. Pre-install the two games covered in the lesson on every computer prior to starting the day or session otherwise this will take up too much time during class.

Note:
Enabling a repository is a one-time task. You do not have to enable the repositories every time before installing software.

5.1.1 Installing a Game from a Repository

Add/Remove Applications>and **Synaptic Package Manager** are the Graphical User Interfaces (GUI) that enables you to install applications from the Ubuntu repositories. However, using **Add/Remove Applications** is the easiest way to install a game on your computer.

1. On the **Applications** menu, select **Add/Remove**.

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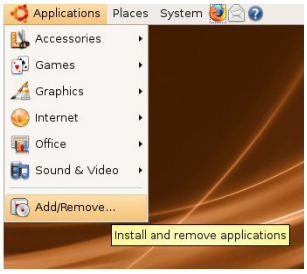


Figure 5.1: Launching Add/Remove

2. In the **Add/Remove Applications** window, select **Games** from the left pane of the window to display a list of games in the top section of the right pane, along with the popularity of each game among users. The bottom section in the right pane displays a brief description of the game selected.



Figure 5.2: Add/Remove Applications window

3. The right pane, by default, displays the games supported by Canonical Limited. To change the list of games, click **Supported Applications** and select the appropriate option from the drop-down list.

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Figure 5.3: Changing List Option

4. You can navigate through the list of games or search a game by its name. To initiate a search, type the name of the game in the **Search** box and press Enter. The top section of the right pane displays the search results. Select the check box next to the game to mark it for installation and click **Apply Changes**. A dialogue box opens, which requires confirmation to proceed with the installation.



Figure 5.4: Searching a Game

Note:
The search result is dependent on the display mode selected in the previous step. To widen the scope of search, select **All Available Applications** in the **Show** drop-down list.

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Nice to Know:
To remove a game from your computer, clear the check box next to that game and click **Apply Changes**.

5. In the confirmation dialogue box, click **Apply** to proceed with the installation or click **Cancel** to return to the **Add/Remove Applications** window.

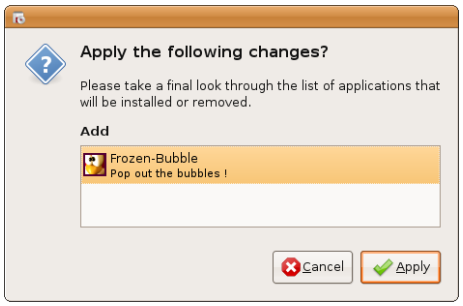


Figure 5.5: Confirming Changes

6. After the installation is complete, a dialogue box confirms the installation and provides the option to start the installed game, return to the **Add/Remove Applications** window or close it. Select the appropriate option in the dialogue box.

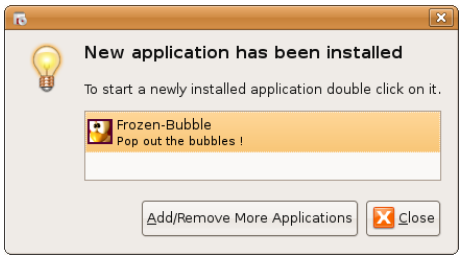


Figure 5.6: Dialogue Box Confirming Installation

7. To launch the installed game from the desktop, point to **Games** on the **Applications** menu and click the name of the game.

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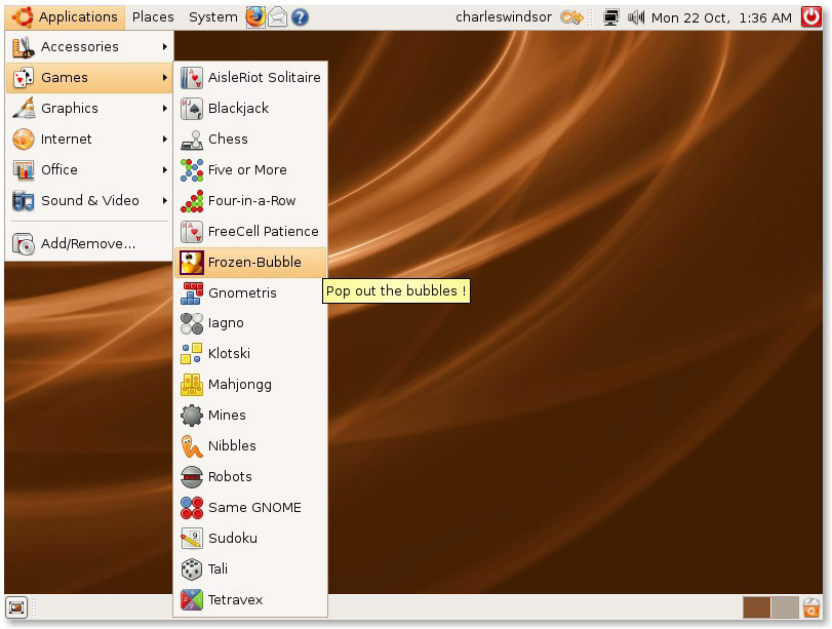


Figure 5.7: Launching a Game

Let's play!

5.2 Playing Ubuntu Games

Instructor Notes:
Allow the students to play these games for about 10 - 15 minutes.

Playing a game on Ubuntu is no different than playing it on any other Graphical User Interface (GUI)-based operating system. There are no pre-requisites to play these games and the real fun is in exploring these games yourself.

Note:
Ensure that you have hardware-accelerated 3D drivers installed for your video card.

Instructor Notes:
To configure 3D acceleration on video cards see lesson 3 of this course or visit the following Web site: http://doc.ubuntu.com/-ubuntu/desktopguide/C/graphics-cards.html.

5.2.1 Playing Frozen-Bubble

In Frozen-Bubble, you attempt to shoot bubbles into groups of the same colour to cause them to pop. Frozen-Bubble is a clone of the popular Puzzle Bobble game and features 100 single-player levels, two-player mode, music and striking graphics. You can play this game with another player on your Local Area Network (LAN) or invite a player on the Internet to play. Frozen-Bubble is not in the list of default games so you should install it from the Universe repository.

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Note:
This game does not have the option to turn off the sound. Therefore, if you are playing this game at your workplace and do not want other people to know, ensure that the speakers are turned off before launching this game.

1. On the **Applications** menu, point to **Games** and click **Frozen-Bubble** to launch the game.

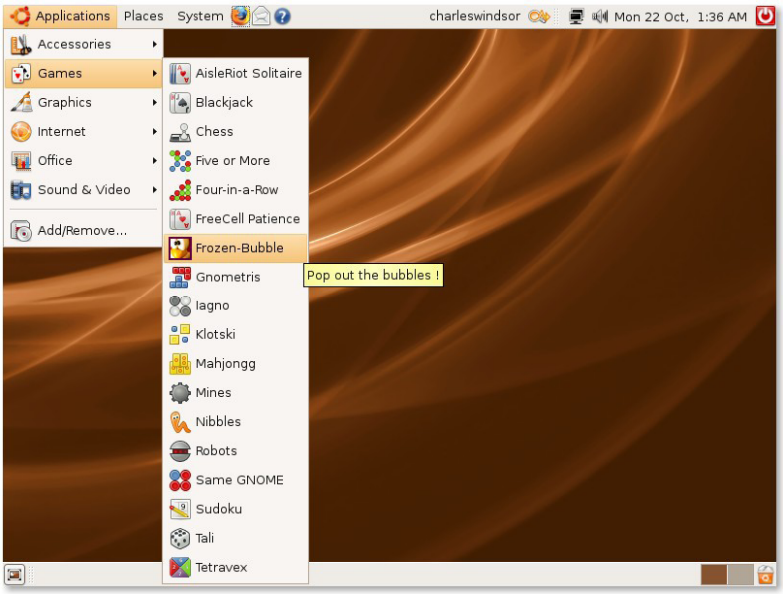


Figure 5.8: Launching Frozen-Bubble

2. The **Frozen-Bubble 2** window lists options to select the playing mode, customise the levels, change the resolution of the graphics, specify the keys on your keyboard with which you want to play this game or view the high scores list.



Figure 5.9: Frozen-Bubble Main Menu

3. To start playing the game in single player mode, select **START 1P GAMe** and press **Enter** to display the **Start 1- player game menu**. Select **PLAY DEFAULT LEVEL SeT** and press **Enter** to launch Level 1 of the game.



Figure 5.10: Single Player Game Menu

Note:
Use the up or down arrow keys to navigate through the options.

4. The aim of the game is to prevent the bubbles from reaching the penguin next to the igloo. At the start of the game, you will see an arrangement of coloured bubbles on the window, a bubble gun that contains a bubble, and a pointer. Use the left and right arrow keys to change the direction of the pointer and the space bar to fire the bubble. To pop the bubbles, you should hit at least three bubbles of the same colour. If the fired bubble hits a bubble of a different colour, it sticks to that bubble and is added to the arrangement.



Figure 5.11: Playing Window

5. You have to fire the bubble from the bubble gun within seven seconds of firing the previous one; otherwise, a **Hurry** warning flashes three times and the bubble gun fires the bubble automatically. The bubble appearing in the igloo window is the next bubble to appear in the gun.



Figure 5.12: Flashing Hurry Warning

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To add to the plight of the poor penguin, FB-01 and FB-02 keep pushing the plank towards the penguin, reducing the area for the bubble arrangement.

6. If you succeed in popping all the bubbles, you win! You can then press any key to proceed to the next level.

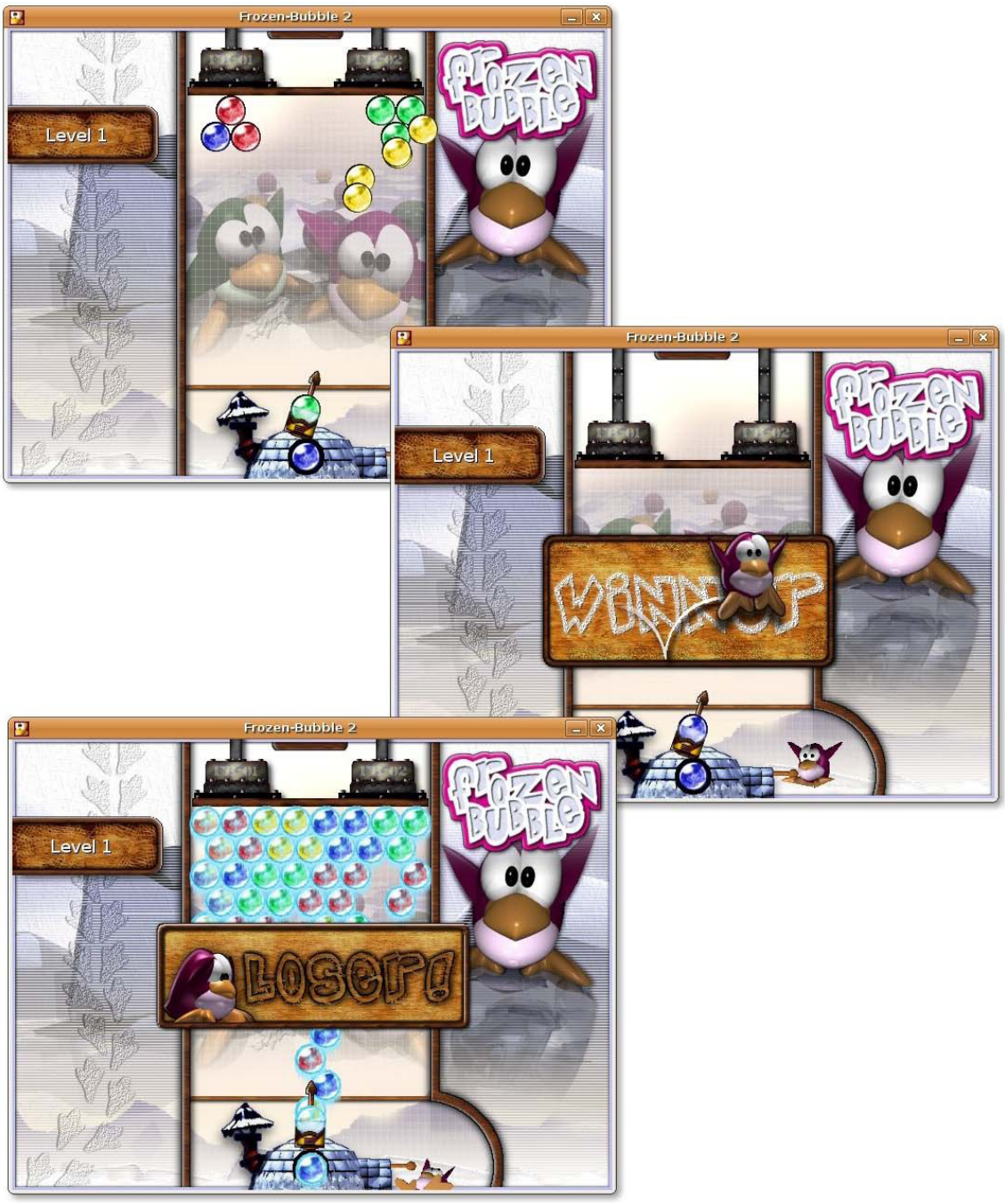


Figure 5.13: Displaying Level Results

Note:
Press the **ESC** key to go back to the previous window or close the application.

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7. If you leave the game after achieving a high score, type your name in the window that opens and press **Enter** to display the high score listings. In the list, you can view the level you reached and the time taken to reach that level. Press **ESC** to return to the main menu.



Figure 5.14: High Score Windows

If you do not like the pre-defined arrangement of the bubbles, you can create your own arrangement by selecting **Level editor** from the main menu.

Instructor Notes:
If time permits, ask the learners to use the level editor, create some arrangements of their own and try the other options in the window.

5.2.2 Playing PlanetPenguin Racer

PlanetPenguin Racer, also called ppracer, is a simple racing game featuring Tux, the Linux mascot. This game is based on the popular Linux game Tux Racer. The goal of the game is to slide down a snow and ice covered mountain as quickly as possible, avoiding the trees and rocks that will slow you down.

1. Install the **planetpenguin-racer** package from the Universe repository.
2. On the **Applications** menu, point to **Games** and click **Planet Penguin Racer** to launch the game.

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Figure 5.15: Launching PlanetPenguin Racer

3. Press any key on the keyboard to proceed to the next window.



Figure 5.16: Starting Window

4. The next window displays the main menu of the game. Click the options on this menu to take part in a racing event, practise before entering any event, configure the game settings, view credits and quit the game.



Figure 5.17: Entering an Event

5. You can play this game by using a computer keyboard or a joystick. On the main menu, click **Configuration** and then click **Keyboard** or **Joystick** to know their default key settings. You can also change the key settings according to your preferences. Click **Back** to return to the main menu.



Figure 5.18: Configuration Options

6. On the main menu, click **Enter an Event**, select the event and the cup in which you want to participate and then click **Continue** to proceed.

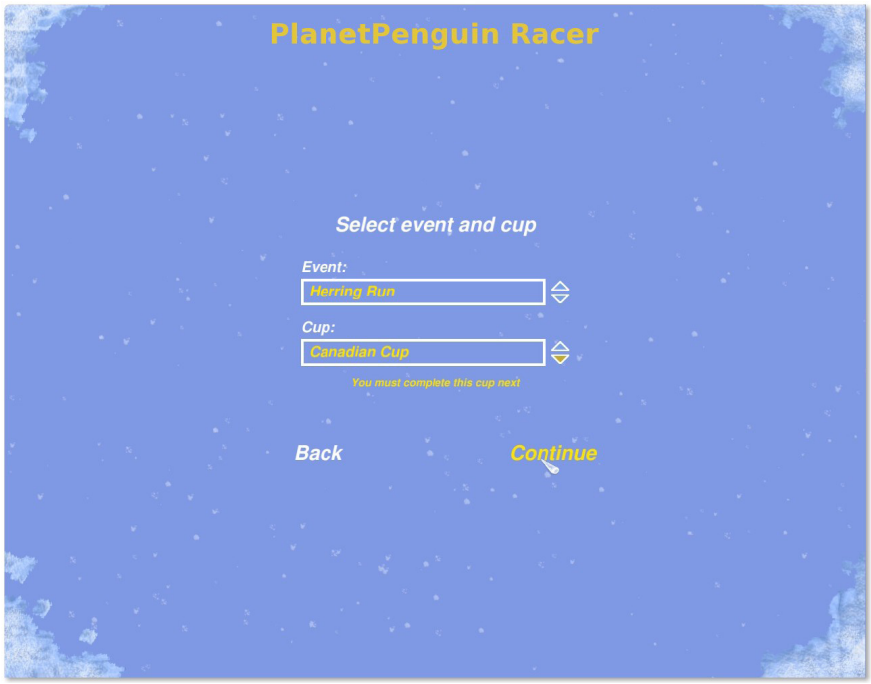


Figure 5.19: Selecting Event and Cup

7. The next window prompts you to select a race. As a beginner, you do not have any option but to continue with the default race. However, do read the **Needed to advance** information to know the minimum requirement to qualify for the next round in the cup.

8. Click **Race!** to start the race.



Figure 5.20: Selecting a Race

9. The next window starts the race. The intent of the game is to make Tux reach the **Finish** line, collecting herrings on the way. If you succeed in reaching the **Finish** line within the parameters mentioned in **Needed to advance**, you proceed to the next round; otherwise, you have to play the round again. There are four attempts or lives that you get to compete in an event. If you fail to satisfy the wining criteria, one life is deducted.



Figure 5.21: Playing PlanetPenguin Racer

You can win the cups only by practising and focusing on improving your performance.

5.3 Playing Other Popular Games

In addition to all the games available in Ubuntu, you can play games created for Microsoft Windows. However, to do so, you need the ability to run Windows applications in Ubuntu. There are two programmes that provide this ability -- Wine and Cedega.

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5.3.1 Installing Wine

Cedega is not free software, so we will not cover how to install it. Instead, we will install Wine:

Instructor Notes:
Before performing the following steps, ensure that all the students have a Microsoft Windows game copied on their computer.

---

1. Install the **wine** and **wine-dev** packages from **Synaptic Package Manager**.
2. The configuration of wine can be altered through **Applications**, **Wine**, **Configure Wine**.
3. This window allows you to customise a variety of settings for Wine, such as the Microsoft Windows version that is being simulated, drive mappings, as well as application-specific settings. Click **OK** to close the window.

Install the **wine** and **wine-dev** packages from **Synaptic Package Manager**.

Wine is configured on your computer with an artificial C: drive. You can now access any Microsoft Windows application on Ubuntu.

Instructor Notes:
The information included in this document is sufficient for the students to start playing games. The most suitable and easy method is chosen for illustration. However, performing other tasks, such as adding CD and DVD drives to Wine or using Microsoft Windows themes in Wine requires further configuration. If the students want to learn more about configuring Wine, refer them to https://help.ubuntu.com/community/Wine.

5.3.2 Playing a Microsoft Windows Game on Ubuntu

A Microsoft Windows executable file can be started with Wine through **right-click**, **Open with** "*Wine Windows Emulator*".

If you install a Microsoft Windows application with Wine, an icon may be found in **Applications**, **Other**.

5.4 Lesson Summary

- You can install and play many games available by default on Ubuntu and in repositories.
- You can install games by using the Add/Remove Applications or Synaptic Package Manager.
- You can play Microsoft Windows games on Ubuntu by installing a programme that provides a Microsoft Windows environment, such as Wine.

5.5 Review Exercise

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5.6 Lab Exercise

Exercise 1: Installing a game on Ubuntu During a recent get together with your friends, you heard a lot of good things about a game that they play on their Linux operating system. You wish to play the same game, but you cannot find that game in the games package that got installed with Ubuntu. What do you need to do in order to play this game on your computer?

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1. On the **System** menu, point to **Administration** and click **Software Sources** to display the **Software Sources** dialogue box.
2. On the **Software Sources** dialogue box, select the check boxes next to main and universe options. Retain the **Main server** option in the **Download from** category and clear the **CDrom with Ubuntu 7.10 "Gutsy Gibbon"** check box.
3. Click **Close** to display a prompt and then click **Reload** on the prompt to update the list of applications available.
4. To install the game, select **Add/Remove** on the **Applications** menu to display the **Add/Remove Applications** window.
5. Select **Games** in the left pane of the window, change the Show list option to **All Open Source Applications**, type the name of the game in the **Search** box and press Enter.
6. Select the check box next to the game to mark it for installation and click **Apply Changes**.
7. On the confirmation dialogue box, click **Apply** to proceed.
8. After the installation of the game is complete, a dialogue box confirms the installation and provides the option to launch the installed game. Double-click the name of the game to launch it. Alternatively, you can close this dialogue box and launch the game by using the **Applications** menu on the desktop.

Exercise 2: Installing Wine and playing a Microsoft Windows game on Ubuntu You were browsing the Web one day and came across an interesting game. You downloaded it and every thing seemed fine until you realise that the game could be played only on Microsoft Windows, which is not installed on your computer. You really liked the game, how do you play this on Ubuntu?

1. Install **wine** and **wine-dev** packages from **Synaptic Package Manager**.
2. Open the games setup tool with Wine.
3. Start the games from the Applications menu.

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Chapter 6

Customising the Desktop and Applications

Objectives In this lesson, you will learn how to:

- Customise the look and feel of the Ubuntu desktop
- Work with the Nautilus file manager
- Add and remove applications
- Identify the types of single package files and their use
- Install and uninstall Debian packages
- Identify the categories of software repositories
- Add extra repositories

6.1 Introduction

The Ubuntu desktop comes completely clean and free of pre-determined icons and buttons. Customising your desktop allows you to add icons to suit your work style.

In this lesson, you will learn about various ways to set up your Ubuntu desktop to suit your requirements. You will also learn how to install and uninstall various software applications.

6.2 Customising the Desktop

Ubuntu and its derivatives can be customised through a Graphical User Interface or a Command Line Interface.

The graphical tools to customize the desktop are available as menu options in the **System** menu. Point to **Preference s** on the **System menu** to view the tools.

Note:
The System - Preferences menu enables users to customise their own desktop environment but not that of other users on the same computer. In contrast, applications on the System - Administration menu will make changes to the computer that will affect all users.

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6.2.1 Changing the Background

The desktop background is the image or colour applied to your desktop.

1. On the **System** menu, point to **Preferences** and then click **Appearance**. The **Appearance Preferences** dialogue box opens.

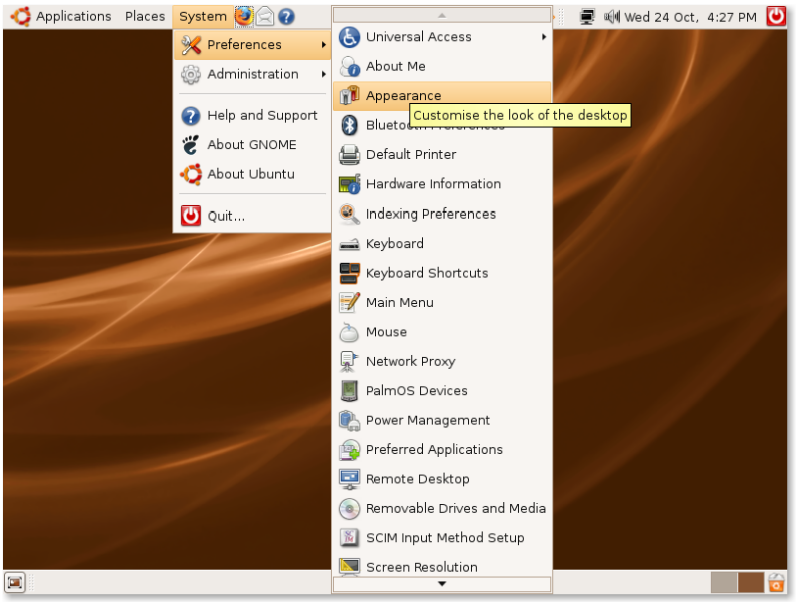


Figure 6.1: Launching Appearance Preferences Dialogue Box

Nice to Know:
You can also right-click the desktop and select **Change Desktop Background** to open the **Appearance Preferences** dialogue box.

---

2. In the **Appearance Preferences** dialogue box, select a desktop wallpaper from the available wallpapers. The background changes immediately.

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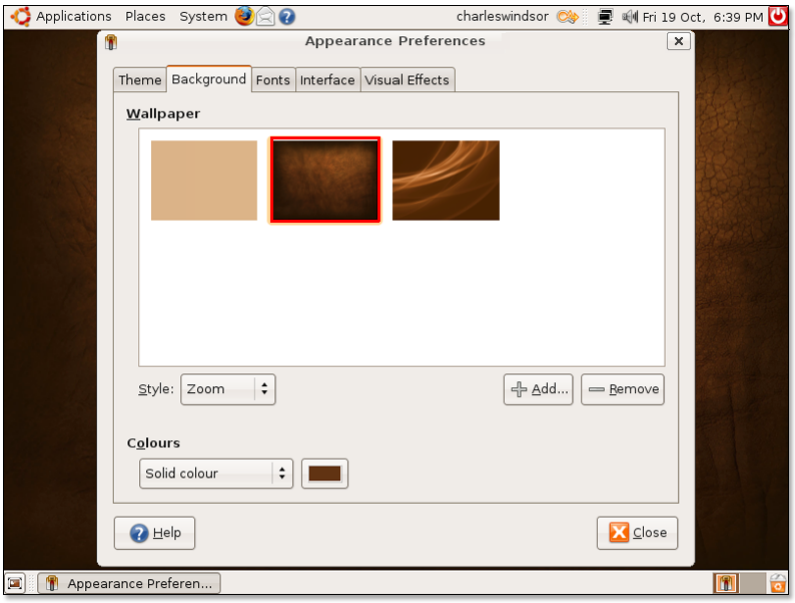


Figure 6.2: Changing the Desktop Wallpaper

Nice to Know:
To view the name of the wallpaper, move the pointer over its name.

3. Click **Close** in the **Appearance Preferences** dialogue box to apply the changes.

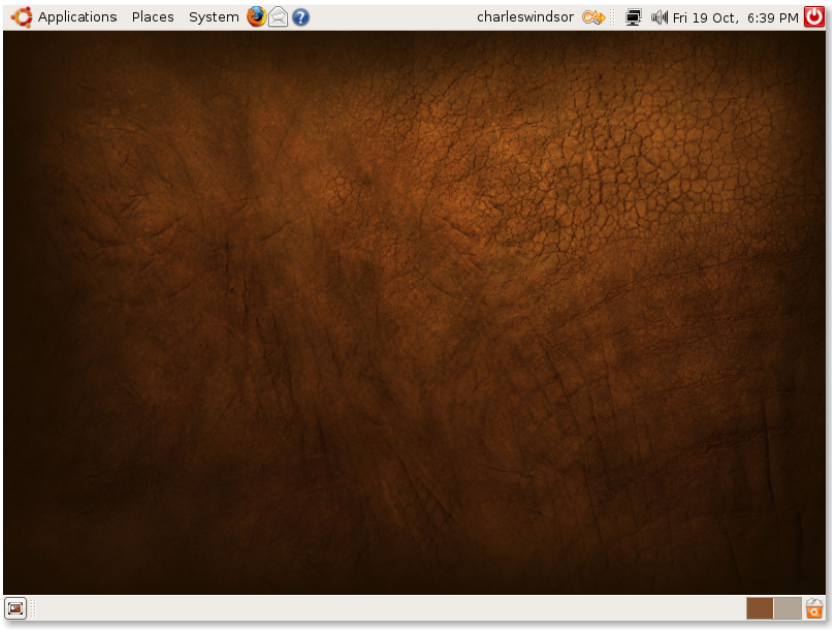


Figure 6.3: Applying Preference Change

In addition to the wallpapers available with Ubuntu, you can download wallpapers from other sources and add them to the available wallpapers list in the **Appearance Preferences** dialogue box. To do this:

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1. Open the Web site http://art.gnome.org/ and click **Backgrounds**.

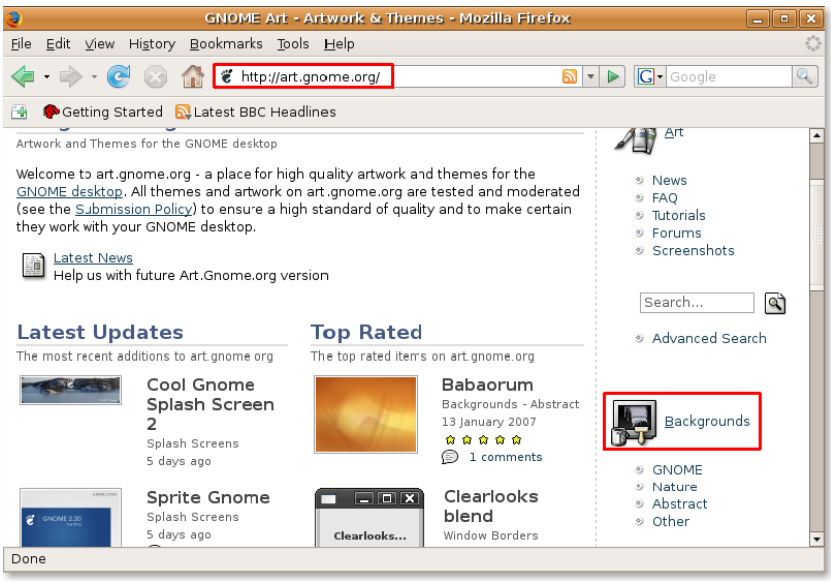


Figure 6.4: *Opening Wallpaper Source*

2. Download the wallpaper of your choice. During the download, you can view the screen resolutions available for the selected wallpaper. You should download and save the version of your chosen wallpaper that matches the screen resolution of your computer.
3. On the **System** menu, point to **Preferences** and then click **Appearance**. The **Appearance Preferences** dialogue box opens.
4. Click the **Background** tab and then click **Add**. The **Add Wallpaper** dialogue box opens.

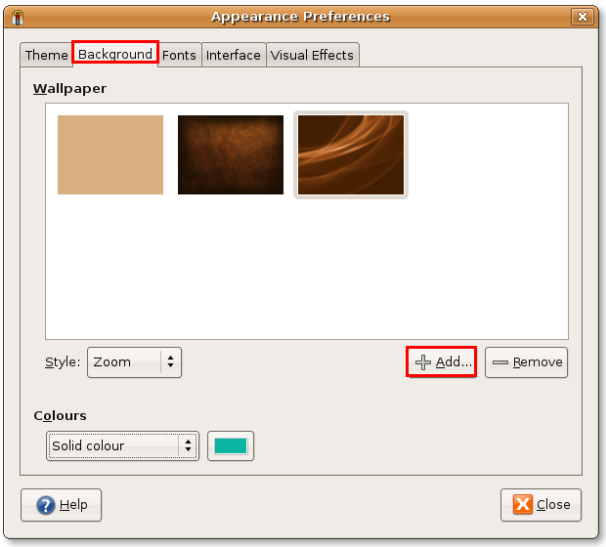


Figure 6.5: *Adding a New Wallpaper*

5. In the **Add Wallpaper** dialogue box, select the downloaded image and click **Open**.

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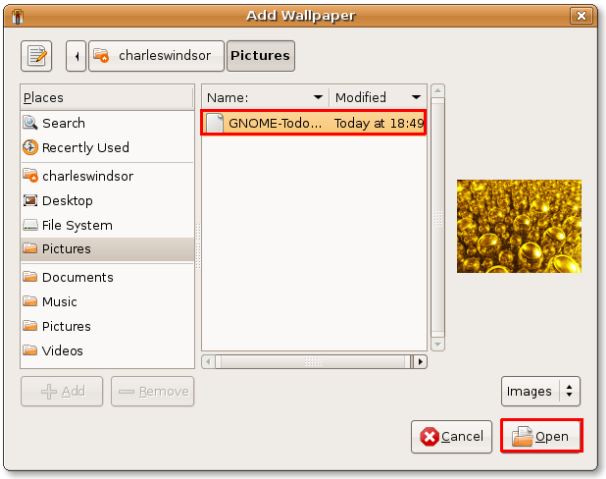


Figure 6.6: *Selecting Downloaded Wallpaper*

This step adds the image as new wallpaper.

6. Click **Close** in the **Appearance Preferences** dialogue box to accept the changes. You can now view the new desktop background.

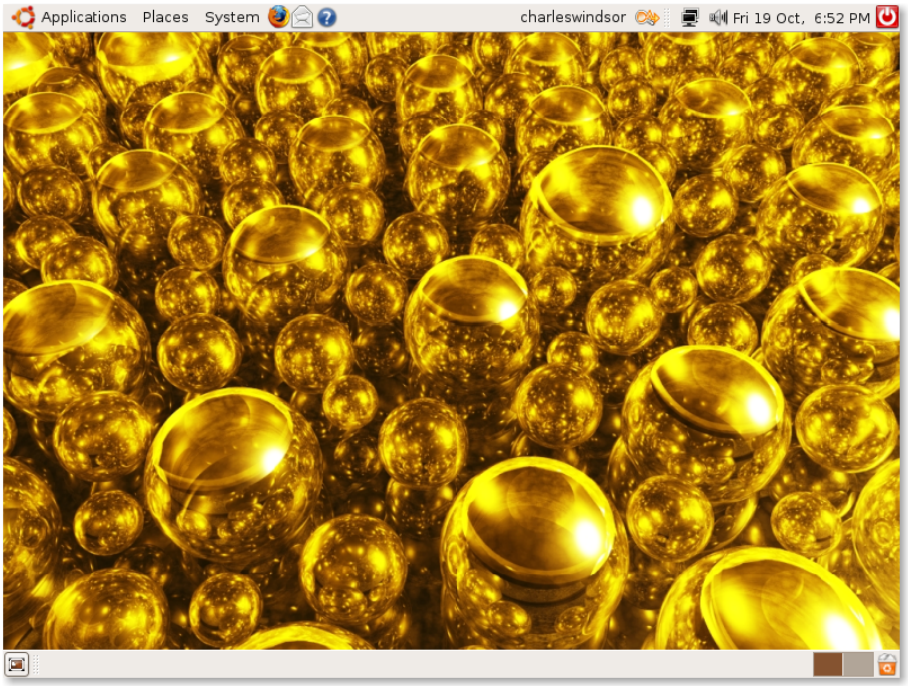


Figure 6.7: *Added Wallpaper*

Nice to know:
You can, of course, use a picture from any other source to use as your desktop background. Many popular online photo collaboration sites allow visitors to download and use their content for personal use. Many people also use their own digital photographs as backgrounds.

To change the colour of the background:

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1. On the **System** menu, point to **Preferences** and then click **Appearance** to open the **Appearance Preferences** dialogue box.

2. Click the **Background** tab and select the wallpaper **No Wallpaper**. You can only view colours if you have not set any desktop wallpaper.

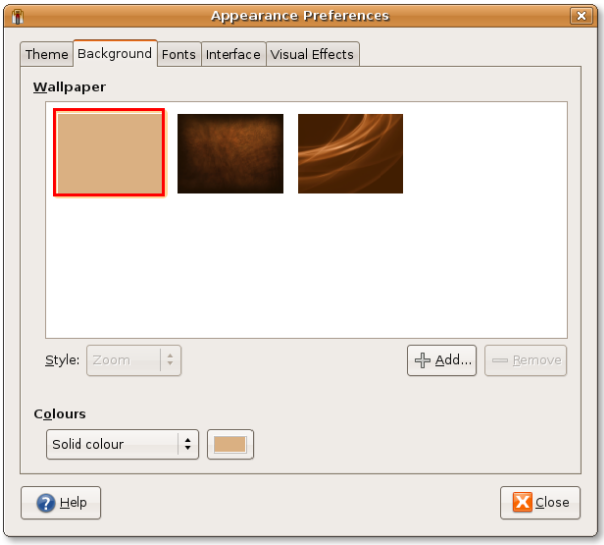


Figure 6.8: *Changing Background Colour*

3. The **Colours** box provides three types of background: **Solid colour, Horizontal gradient** and **Vertical gradient**. Select the desktop colour of your choice and then click the colour chip next to the **Colours** box. The **Pick a Colour** dialogue box opens.

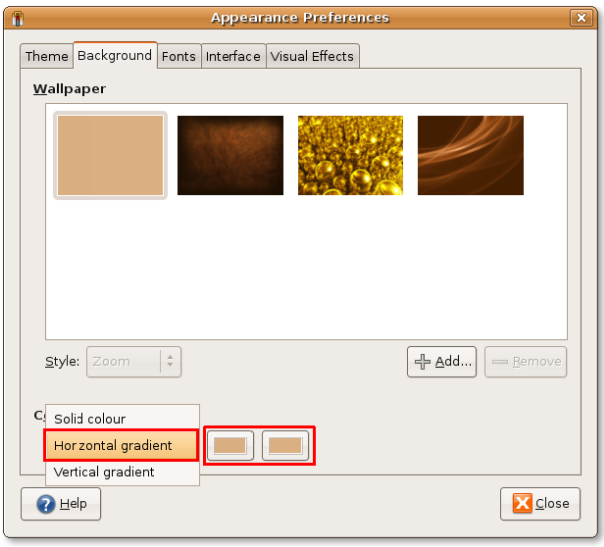


Figure 6.9: *Selecting a colour Option*

4. Select a colour or the attributes of a colour such as hue and saturation to create a colour of your choice. Click **OK**. The desktop reflects the new settings immediately.

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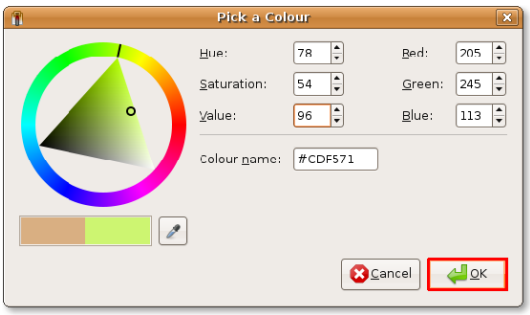


Figure 6.10: *Specifying Colour*

5. Click **Close** to close the **Appearance Preferences** dialogue box.

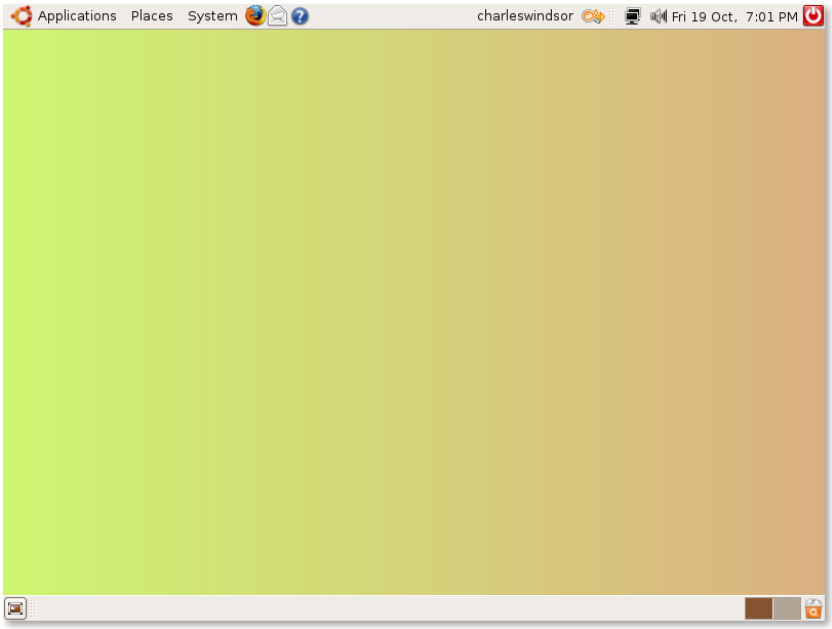


Figure 6.11: *Changed Background Colour*

6.2.2 Customising the Theme (Buttons & icons etc)

The desktop theme controls the visual appearance of the buttons, scroll bars, icons, panels, borders etc. A number of themes are provided with Ubuntu.

1. On the **System** menu, point to **Preferences** and click **Appearance**. The **Appearance Preferences** dialogue box opens.
2. On the **Theme** tab, select the theme of your choice. The desktop reflects the theme automatically. To customise your theme further, click **Customise**. The **Customise Theme** dialogue box opens.

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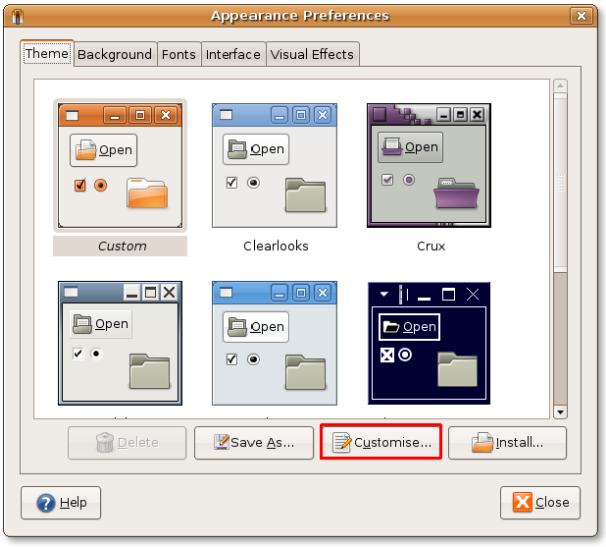


Figure 6.12: Customising Desktop Theme

3. The default selection is **Controls** tab. The setting on the **Controls** tabbed page defines the visual appearance of windows, panels and applets. Select a control from the **Controls** list. You will see an immediate change in the appearance of the open windows.

Note:
You can customise the following objects on the screen:
Window: A rectangular area of the screen with a border and a title bar at the top. All graphical applications run inside windows.
Panel: An area on the desktop from where you can access information such as date and time. You can also launch applications and add or remove objects from panels. The Ubuntu desktop contains two panels, the top edge panel at the top of the screen and the bottom edge panel at the bottom of the screen.
Applet: A small application whose user interface resides within a panel.
Window Border: The border that appears around windows. It has a frame at the top of the window that contains the name of the application and the edges that allow you to resize the window.
Icon: A graphical symbol for the applications and options on the panels and windows.

Similarly, you can customise the background and text colour of your windows, input boxes and selected items by configuring the settings on the **Colours** tab.

If you want to customise your window borders and icons, click the **Window Border** and **Icons** tabs in the **Customise Theme** dialogue box.

Note:
Ubuntu provides additional options to customise your themes. You can download more controls, window borders and icons from the Web site http://art.gnome.org and save it at any location on your computer. While customising the theme, click **Install** in the **Appearance Preferences** dialogue box. The **Select Theme** dialogue box opens, and you can select the downloaded objects.

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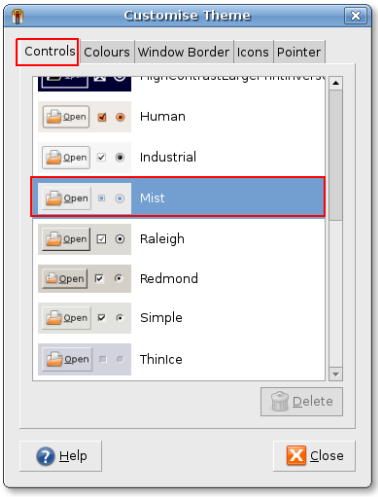


Figure 6.13: Selecting Theme Controls

4. Click **Close** in the **Customise Theme** dialogue box. To save the theme, click **Save As** in the **Appearance Preferences** dialogue box. The **Save Theme As** dialogue box opens.

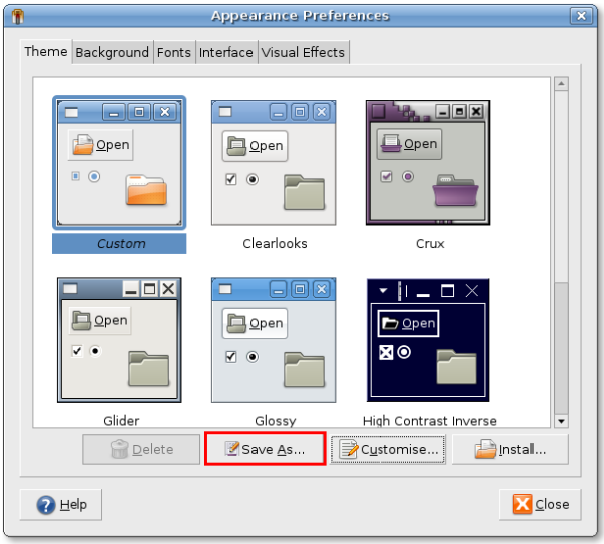


Figure 6.14: Saving a Modified Theme

5. Provide a name for the theme in the **Name** box and a description, if you want, in the **Description** box. Click **Save**.

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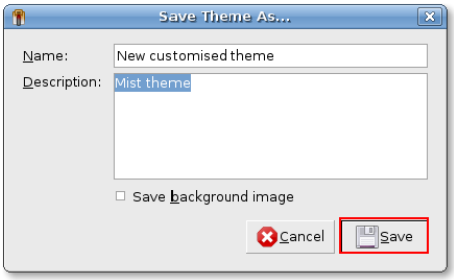


Figure 6.15: Specifying Theme Name and Description

6. In the **Appearance Preferences** dialogue box, click **Close**.

If you open a menu or window, you can see the changes in their appearance.

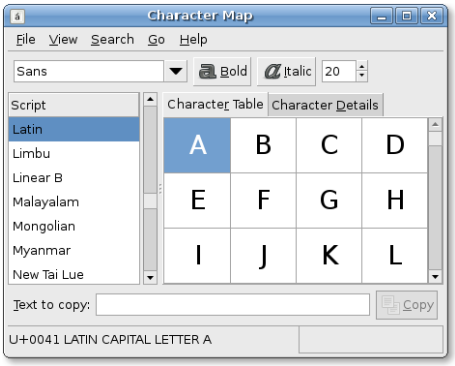


Figure 6.16: Viewing an Application in a Modified Theme

You can also download other Ubuntu-compatible themes from Ubuntu's recommended source. To install these themes:

1. Open the Web site(http://art.gnome.org/) and click **DesktopThemes**.

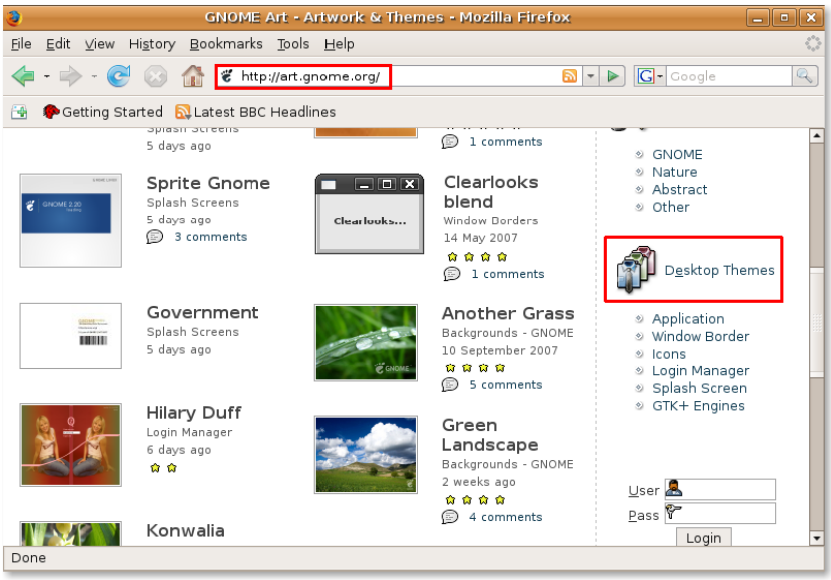


Figure 6.17: *Opening Theme Source*

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2. Download a theme of your choice. Select any theme and follow the instructions as they appear.
3. On the **System** menu, point to **Preferences** and click **Appearance**. The **Appearance Preferences** dialogue box opens.
4. On the **Theme** tab, click **Install**. The **Select Theme** dialogue box opens.

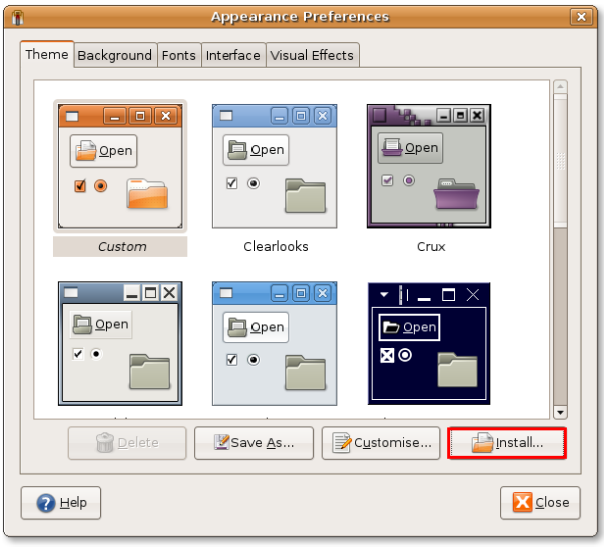


Figure 6.18: *Installing a New Theme*

5. Select the downloaded theme and click **Open**.

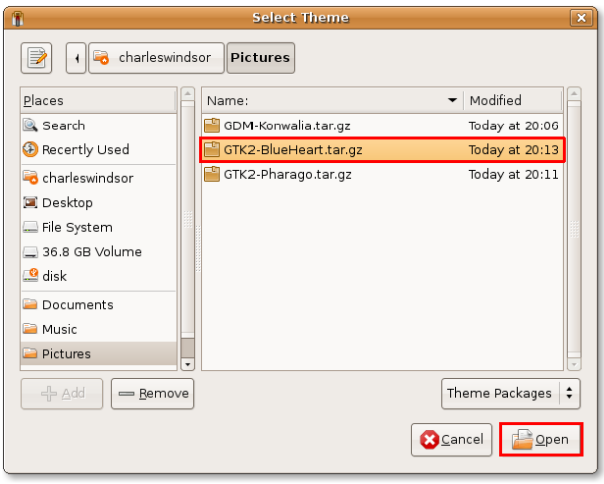


Figure 6.19: *Selecting the Downloaded Theme*

6. You can apply a new theme or retain the current theme. Click **Apply New Theme** to apply the new theme. The screen will reflect the new theme immediately.

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Figure 6.20: *Applying New Theme*

7. Click **Close** in the **Appearance Preferences** dialogue box.
   If you open any menu or window, it will reflect the selected theme.

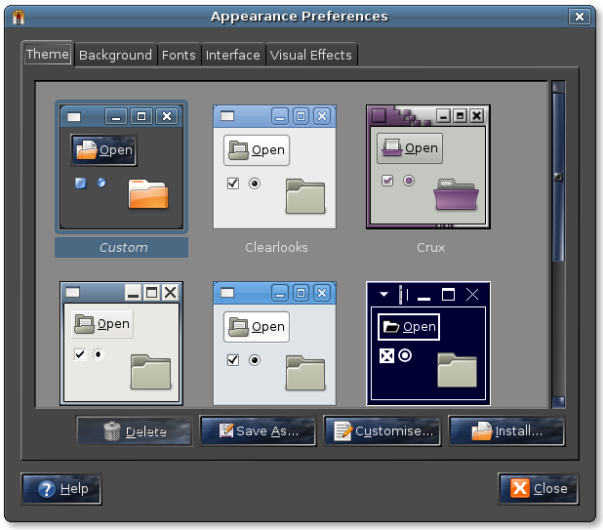


Figure 6.21: *Chess in Blue Heart Theme*

6.2.3 Customising a Screensaver

A screensaver displays (often moving) images on the screen when your computer is switched on but not in use. To go back to the workspace, you can move the mouse or press any key on the keyboard.

1. On the **System** menu, point to **Preferences** and click **Screensaver**. The **Screensaver Preferences** dialogue box opens.

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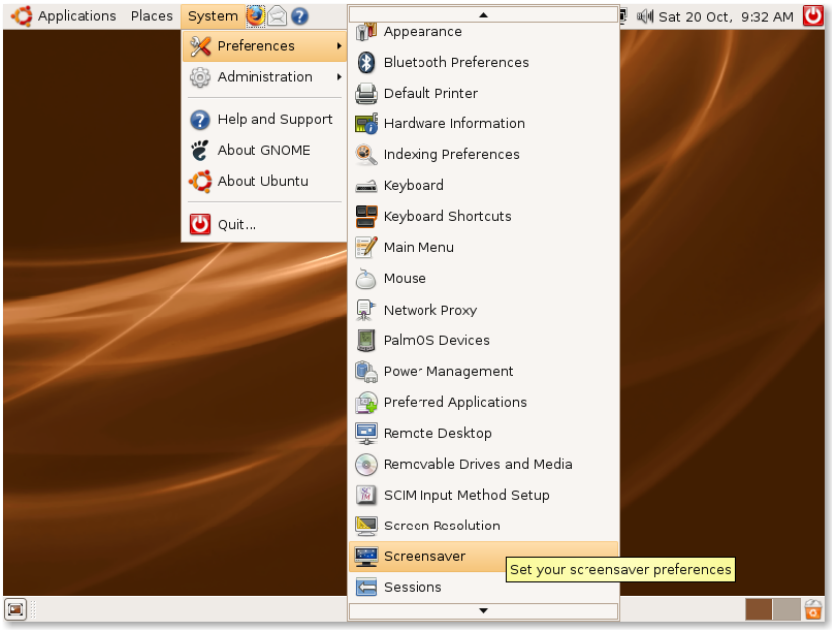


Figure 6.22: Launching Screensaver Preferences Dialogue Box

2. Select a screensaver from the list. You can preview the screensaver in the right pane.

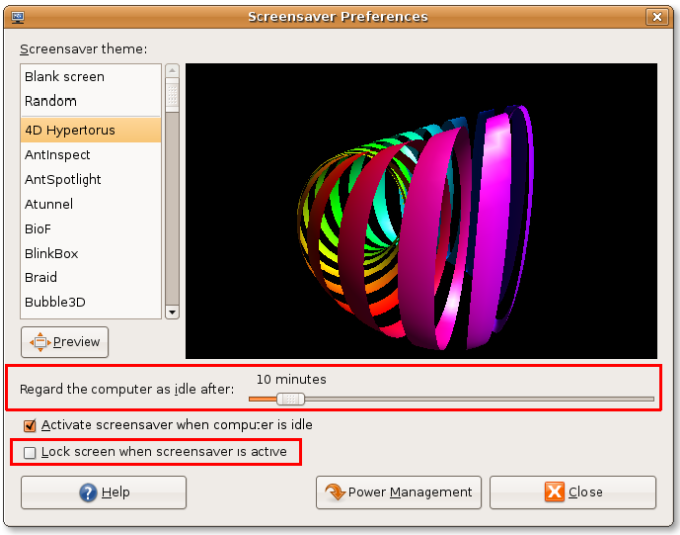


Figure 6.23: Customising Screensaver Settings

3. The **Regard the computer as idle after** slider specifies when a screensaver starts to work if the computer is not in use. The default time is set to 10 minutes. You can use this slider to select how long the computer needs to be idle before the screensaver activates.
4. To prevent any tampering of your computer in your absence, you can automatically lock your screen the moment the screensaver activates. Locking requires users to type their password to reactivate the desktop. Select the **Lock screen when screensaver is active** check box to lock the screen when the screensaver starts.
5. Click **Close**.

The selected screensaver displays when the computer is idle for the specified period.

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6.2.4 Customising the Screen Resolution

The screen resolution determines how large or small an item looks on the screen.

1. On the **System** menu, point to **Preferences** and then click **Screen Resolution**. The **Screen Resolution Preferences** dialogue box opens.

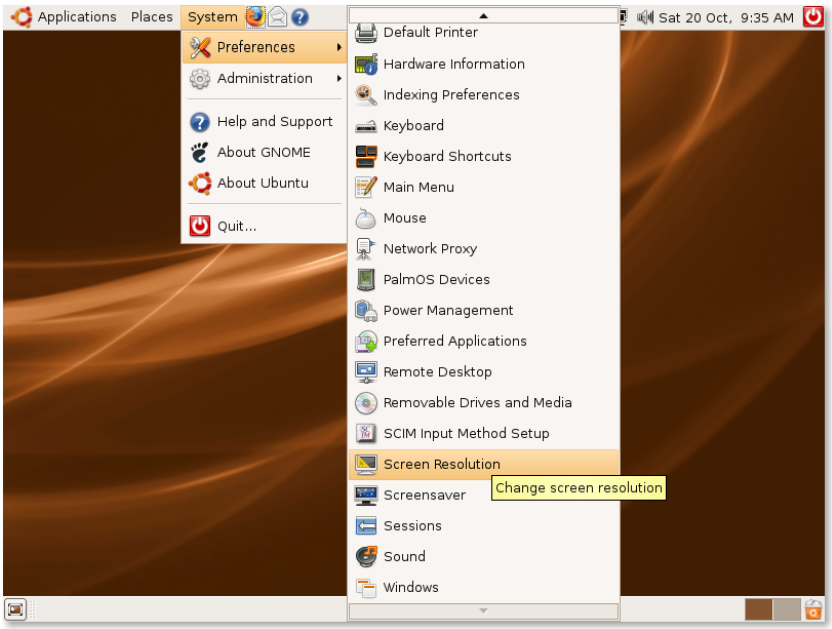


Figure 6.24: Launching Screen Resolution Preferences Dialogue Box

2. The default resolution is **1280x1024**. You can change the resolution in the **Resolution** box.

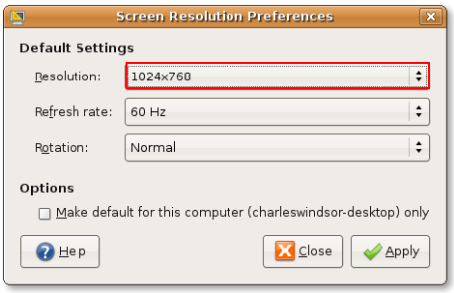


Figure 6.25: Customising Screen Resolution

3. Click **Apply**. The **Keep Resolution** dialogue box opens, prompting you to confirm settings or use the previous resolution and revert to the original settings. Click **Keep resolution** to apply new changes.



Figure 6.26: Resolution Confirmation Dialogue Box

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The screen resolution will change.

6.3 3D Effects

A computer screen is two-dimensional (2D) and until recently most applications were developed in a 2D layout.

However, advancements in technology fuelled the demand for more life-like on screen visuals, as in three-dimensional (3D) modelling and games. The operating system needs to perform complex calculations to display 3D images in 2D. Consequently, to reduce the burden on the operating system and increase the speed of applications, 3D accelerator cards were developed, which use the graphics processor on the graphics card instead of consuming valuable CPU resources. Almost all modern graphics cards have a built-in acceleration to display 3D.

Ubuntu can utilize the 3D capabilities of a graphics card for desktop effects. An example of these can be seen with Compiz Fusion – spinning cubes, floating windows etc. Compiz Fusion is a fun application used to liven up your desktop experience and make it 3D in appearance.

The effects are enabled by default and can be controlled from the **Appearance** menu. From here the desktop effects can either be completely disabled or enabled. The number of effects can be controlled via the **normal effects** and **extra effects** setting.

If a graphics card does not have 3D capabilities or support for 3D is missing from the Linux drivers for the card, you will be notified that **Desktop effects could not be enabled**.

6.4 Working with Files Using Nautilus

The Nautilus file manager in Ubuntu provides a simple and integrated way to manage files and applications.

6.4.1 Features of Nautilus

The Nautilus file manager enables you to organise files into folders and perform tasks such as:

- Create and display folders and documents: Create new files, organise them into folders and save them.
- Search and manage your files: Classify files and search them as per their classification.
- Open special locations on your computer: Access the local network and save your files.
- Write data to a CD or DVD
- Navigate using two modes:
  - Spatial mode: Allows you to open each folder in a separate window, which then helps open your files as physical objects in different locations. You can view the content of various folders simultaneously.
  - Browser mode: Opens your folders in a single window. Only one file manager opens in browser mode, and it is updated when you click another folder in the file manager.

Instructor Notes:
Compare browser mode with Firefox to help students appreciate the similarity.

6.4.2 Nautilus

1. Click the **Places** menu. A list of items appears:
   - **Home Folder:** This is a personal folder created by default for every user to create and work on files. It takes the user name by default.

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- **Desktop:** An active component that lies behind all the screens on your computer and provides easy and quick access to the files saved on it.
- **Computer:** Contains all drives and file systems; makes document backup onto CD and DVD really simple.
- **CD/DVD Creator:** It consists of folders that you can write to a CD or a DVD. You can also back up your documents on a CD or a DVD.

2. Click any of the above items on the **Places** menu.

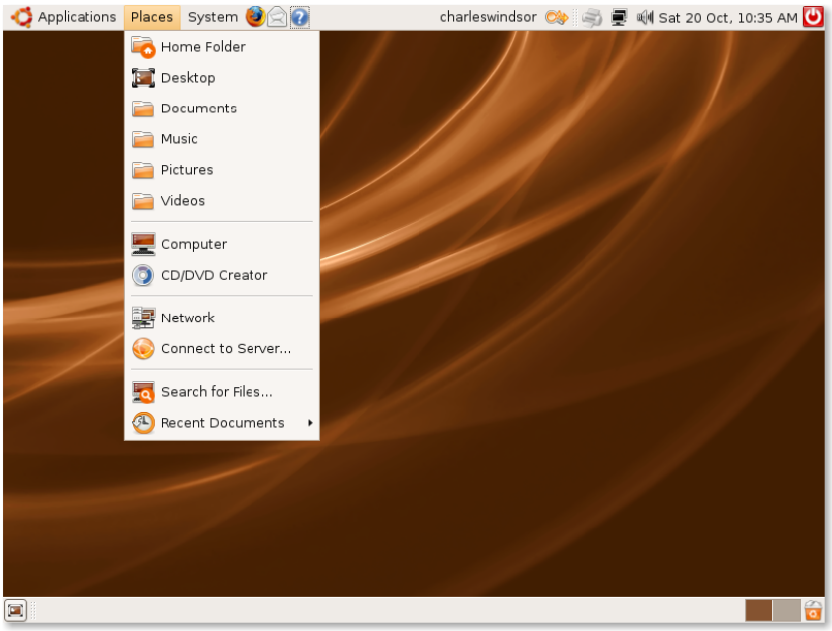


Figure 6.27: Using File Browser

The Nautilus file manager opens files in browser mode by default. If you open a folder in this mode, the folder will open in the same window. The location bar shows the current location of the opened folder in the hierarchy of folders, and the sidebar shows other folders saved on your computer.

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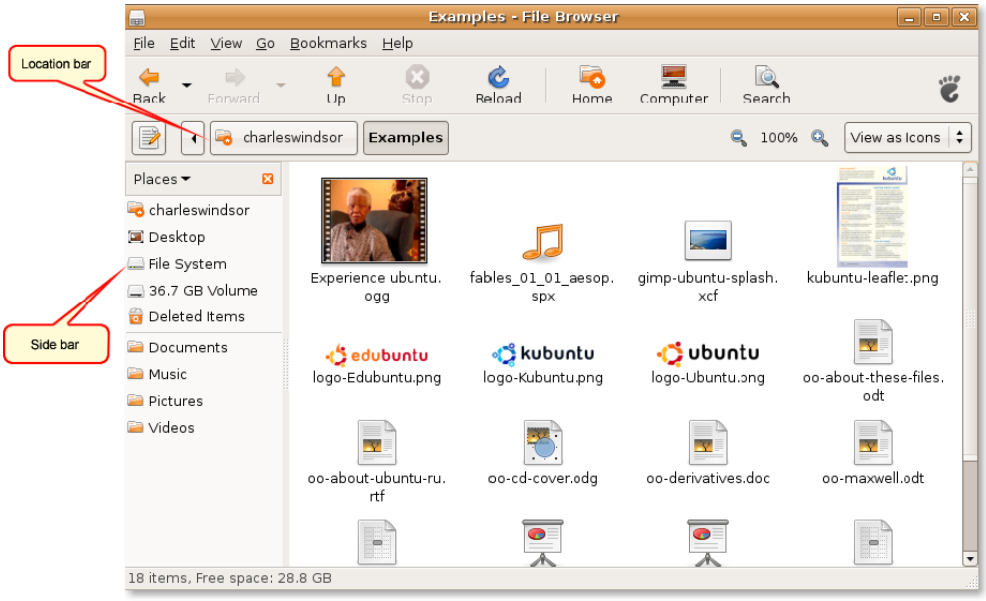


Figure 6.28: Files Display

While in browser mode, you can move to the parent folder that contains the currently open folder. To move to the parent folder, click **Open Parent** on the **Go** menu in the window.

Note:
You can also click **Up** on the navigation toolbar or press the BACKSPACE key to move to the parent folder.

---

3. On the **Edit** menu, click **Preferences**. The **File Management Preferences** dialogue box opens.

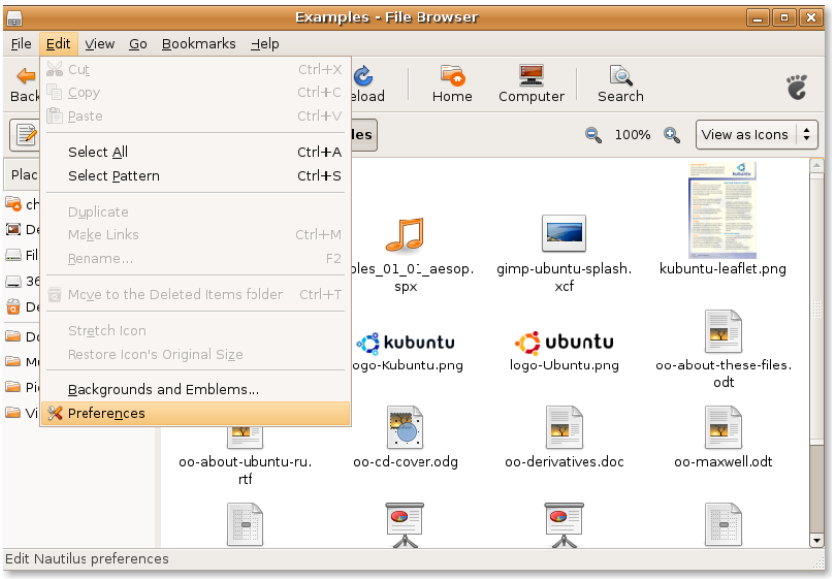


Figure 6.29: Launching File Management Preferences

4. Click the **Behaviour** tab in the dialogue box. To change the mode to spatial mode, clear the **Always open in browser windows** check box and then click **Close**.

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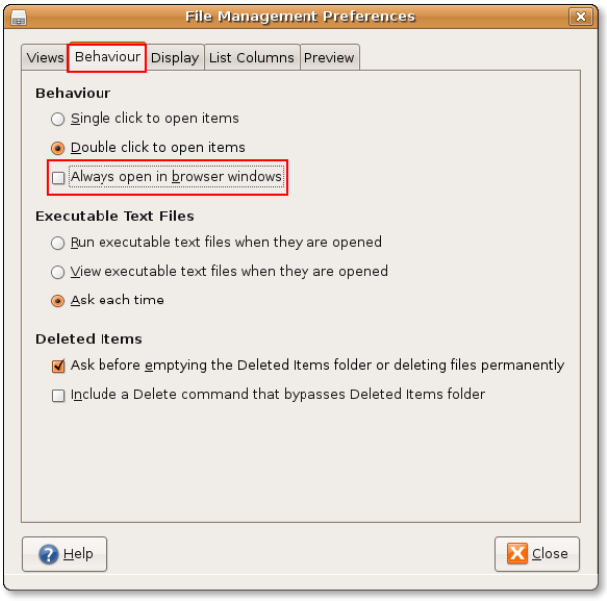


Figure 6.30: Changing File Management Behaviour

5. Close the file manager window and open it again. Your files will now open in spatial mode. If you open another folder, it will open in a different file manager window.

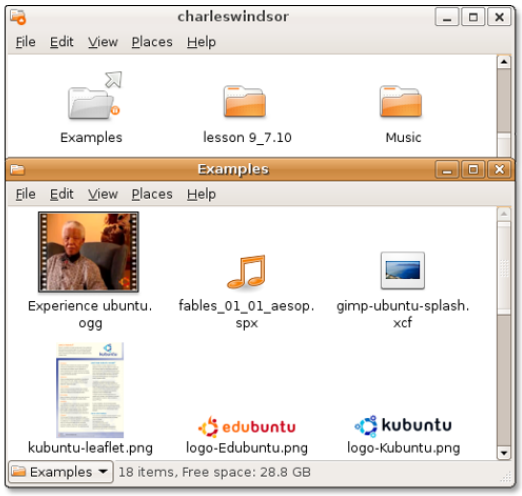


Figure 6.31: Confirming File Management Behaviour Changes

Note:
Each time you open a particular folder in spatial mode, you will find its window displayed in the same place on the screen and of the same size as during the last view. For this reason, this mode is referred to as spatial mode.

To move to the parent folder in spatial mode, click **Open Parent** on the **File** menu. Alternatively, you can press the ALT+UP arrow key.

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Nice to Know:
Konqueror is KDE equivalent of Nautilus file manager, which is used in the Kubuntu derivative of Ubuntu. It is a multi-purpose application that can act as a file manager, Web browser and universal viewer. As well as allowing you to browse Web sites, this application provides basic file management and can many view different file types.

6.5 Package Managers

One of the biggest differences between Ubuntu and other operating systems is how you install and uninstall applications. In Microsoft Windows, most applications provide their own installation and removal methods. Some applications provide a method to keep themselves up to date, but others do not and there is no easy way to ensure that everything on your computer is up to date. Keeping track of all the programmes that have been installed and keeping all those programmes updated is largely up to you.

Ubuntu has a sophisticated **package management framework** that keeps track of all the software installed, automates the process of installing and removing applications, and ensures that all the software is kept up to date with the latest enhancements and fixes. All you have to do is decide what applications you want installed, and then use a **package manager** to tell Ubuntu to install them.

6.5.1 Types of Package Managers

Ubuntu includes a few package managers by default and which one you use depends on how advanced the package management tasks are that you want to achieve. This course covers Add/Remove applications utility and the Synaptic Package Manager.

Note:
If you open more than one package manager at the same time, they may not work. Close all the package managers and open just one.

6.6 Using Add/Remove Applications

The Add/Remove tool is the easiest to use and will enable you to install and uninstall many popular packages. You can search for the package or packages you want to install by simply searching a keyword such as 'email' or by looking through the given categories, selecting applications and choosing "Apply" to start the installation.

Note:
You need administrative access to use any package manager. Type the password for your user name at the prompt. This means that applications can not be added / removed from your computer without your knowledge (and password).

1. On the **Applications** menu, click **Add/Remove**.

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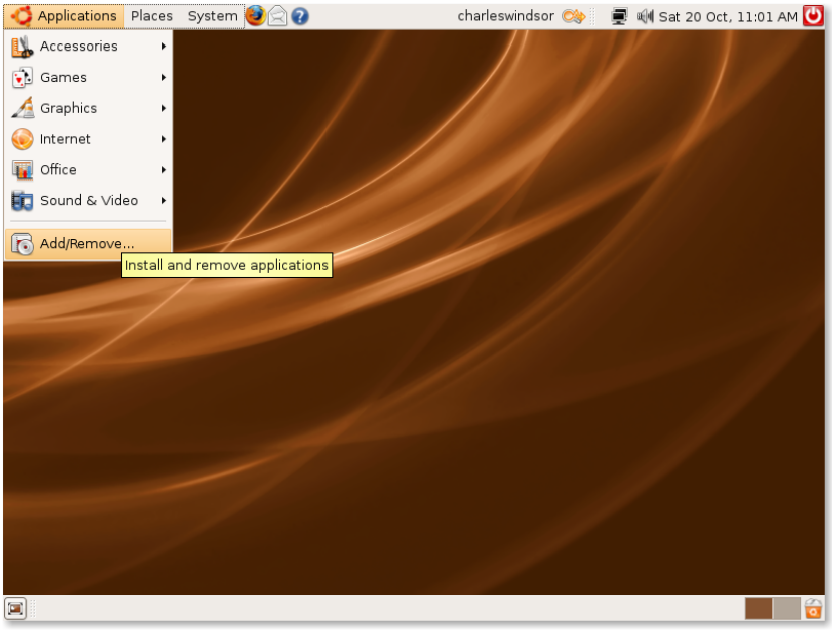


Figure 6.32: Launching Add/Remove Applications

2. The **Add/Remove Applications** dialogue box displays a list of applications. The check boxes against the applications that are already installed are pre-selected.

Note:
Many package names in Ubuntu are quite obscure, so the package manager will also look at the package description when searching.



Figure 6.33: Add/Remove Applications Window

3. If you know the name of the package to be installed, you can type the name in the **Search** box. Otherwise, you can click the appropriate software category in the left pane and select the check box next to the required package in the right pane.

Nice to Know:
For more details about a package, click the package and view the bottom pane.



Figure 6.34: Searching for a Package in All Available Applications

4. When you have finished selecting the packages to be installed or removed, click **Apply Changes**.

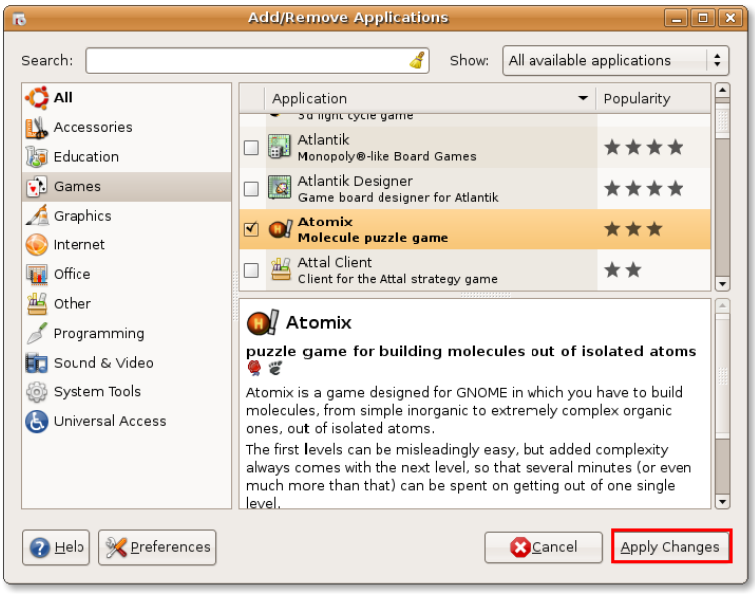


Figure 6.35: Applying Changes to the Package List

5. You are prompted to confirm your selection. Click **Apply** to proceed.

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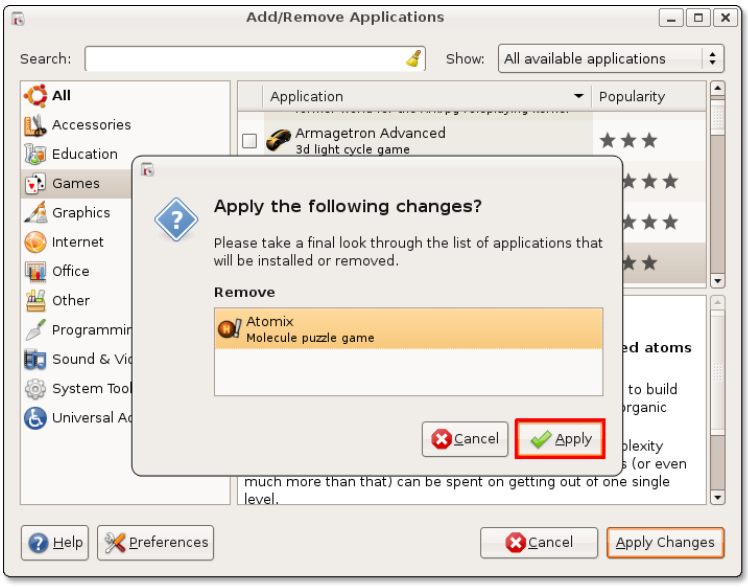


Figure 6.36: Confirming Changes

6. The progress indicator shows the status of the package being installed or removed.



Figure 6.37: Installing Selected Package from Repositories

7. After the changes are applied successfully, the package is installed.

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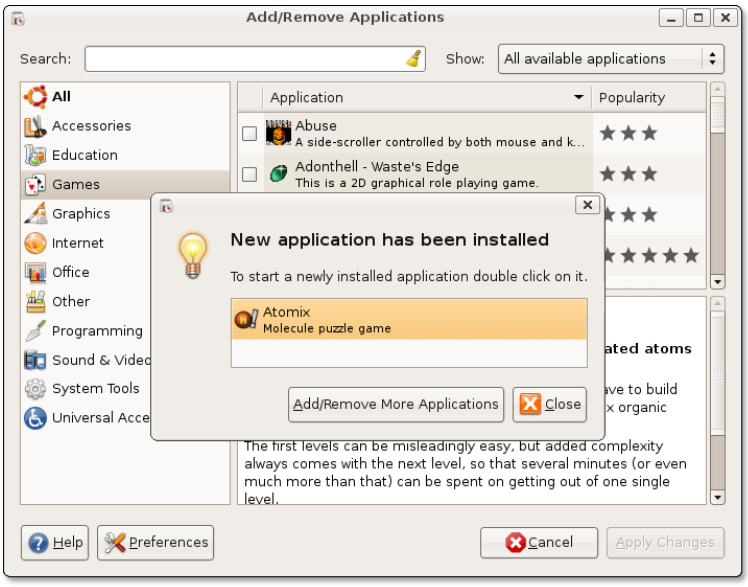


Figure 6.38: Installation Confirmation

8. Double-click the package to launch it. If you want to add or remove more applications, click **Add/Remove More Applications** or else click **Close** in the **New application has been installed** dialogue box. The following figure shows **Atomix**, which has been installed by performing this procedure.

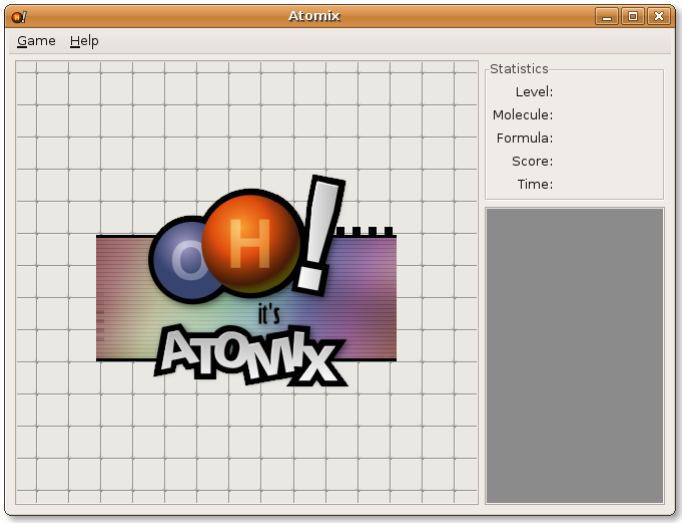


Figure 6.39: Launching the Installed Application - Atomix

Note:
After installing a package, you can open it by using a particular menu based on its category.

6.7 Using Synaptic Package Manager

Add/Remove Applications does not enable you to install and remove some more advanced packages, such as the Apache web server, the PHP programming language or Scribe. In such cases, use Synaptic Package Manager.

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You can install, remove, configure or upgrade software packages, browse, sort and search the list of available software packages, manage repositories or upgrade the whole system. You can queue up a number of actions before you execute them. Synaptic informs you about the additional packages required by the software package you have chosen as well as conflicts with other packages that are already installed on your system. In addition, it presents more information such as package status, origin and filters.

1. On the **System** menu, point to **Administration** and then click **Synaptic Package Manager**.

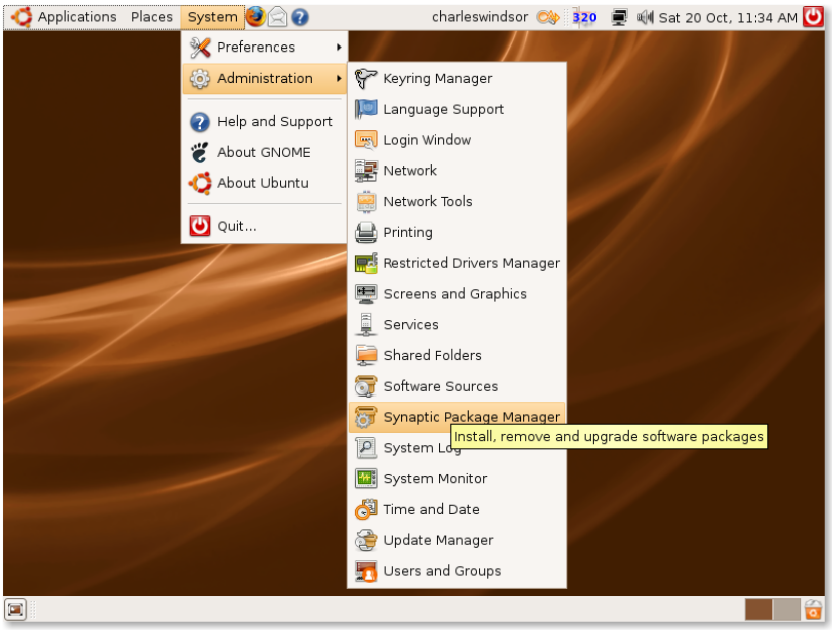


Figure 6.40: Launching Synaptic Package Manager

2. In the **Synaptic Package Manager** dialogue box, you can select the package you need. The left pane lists the categories, and the right pane lists the packages. If you do not know the name of the package, select the category in the left pane to filter the list of packages. You can then select the check box next to the required package in the right pane.

Note:
If you want to view the installed and uninstalled packages, click **Status**. To know the source repository of the package, click **Origin**. Click **Custom Filters** if you want to know the whether a package is broken or can be upgraded.

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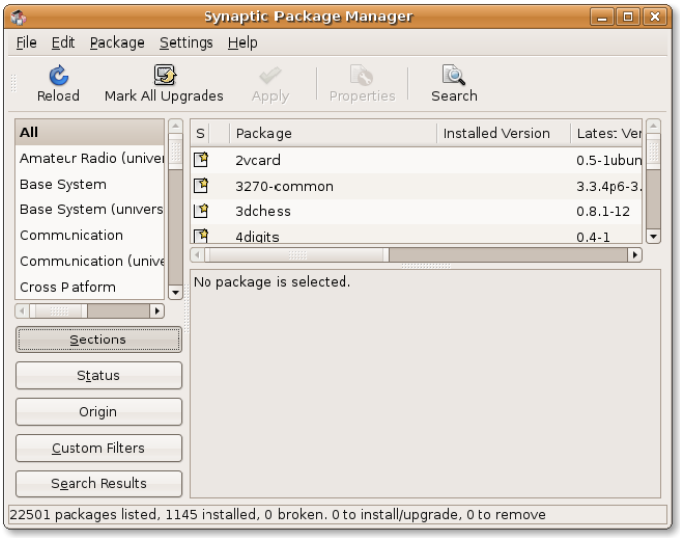


Figure 6.41: Synaptic Package Manager Window

3. If you know the name of the package, click **Search**. The **Find** dialogue box opens. Type the name of the package in the **Search** field and click **Search**.

Note:
To return to the list of categories after searching the packages using **Search**, click **Sections**.

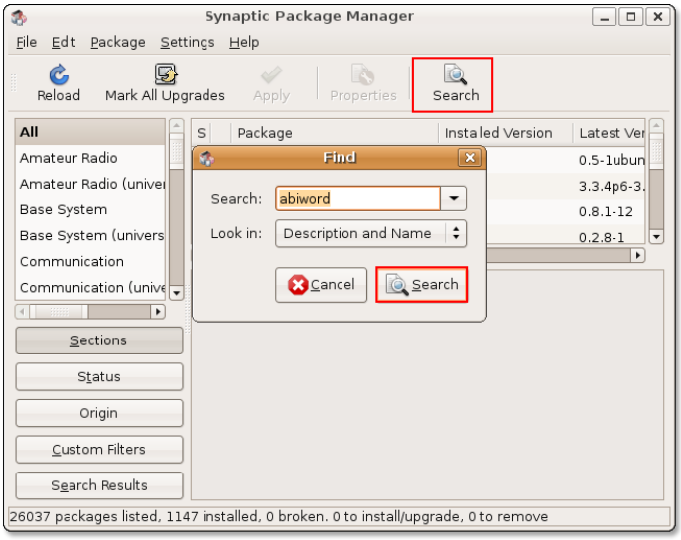


Figure 6.42: Searching a Package to Install

4. Choose the action to be performed on the selected package. Select the **Mark for Installation** check box to install the package or select the **Mark for Removal** check box to remove it. If you change your mind, select the **Unmark** check box.

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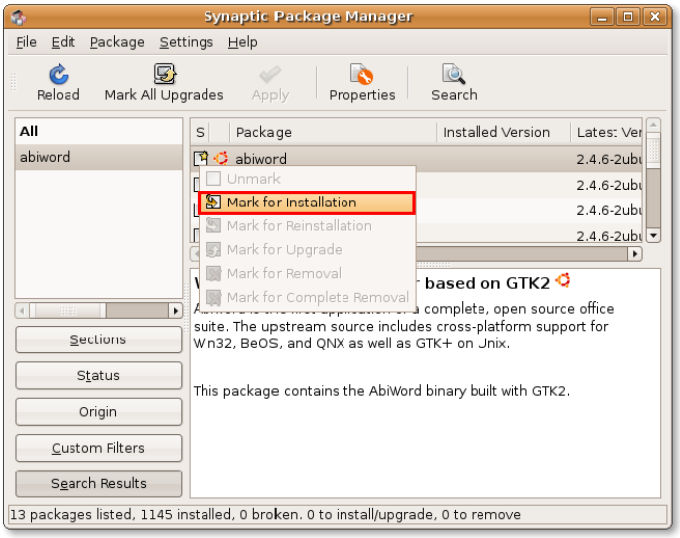


Figure 6.43: Marking the Package for Installation

5. If the package that you choose to remove or install depends on other packages, you will be notified about the dependencies. To continue making changes, click **Mark**.

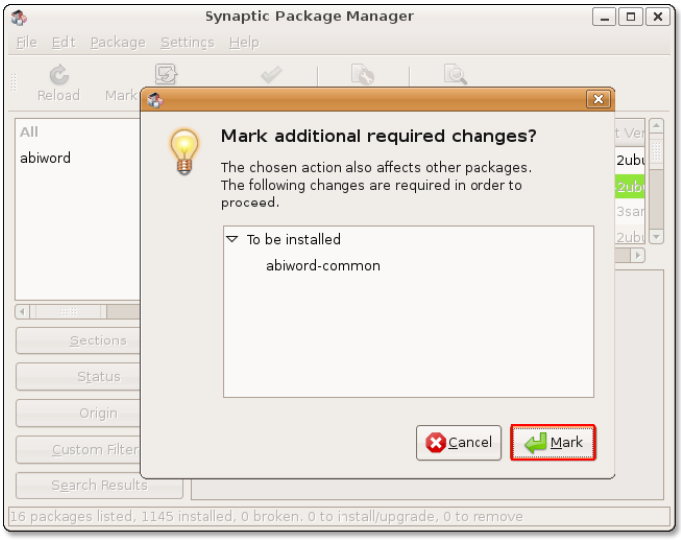


Figure 6.44: Confirming Additional Changes

6. To confirm that you want to make the marked changes, click **Apply**.

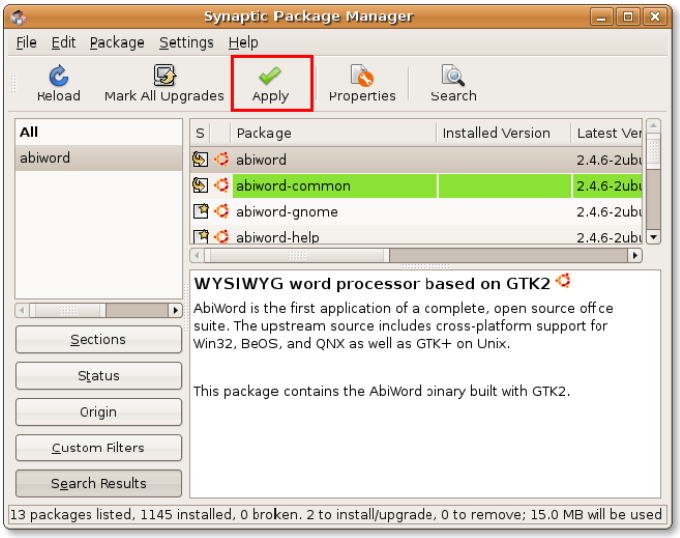


Figure 6.45: Applying Changes to Update Software Information

7. The **Summary** dialogue box opens, prompting you for a final check before making the marked changes. Click **Apply** to continue with the changes.

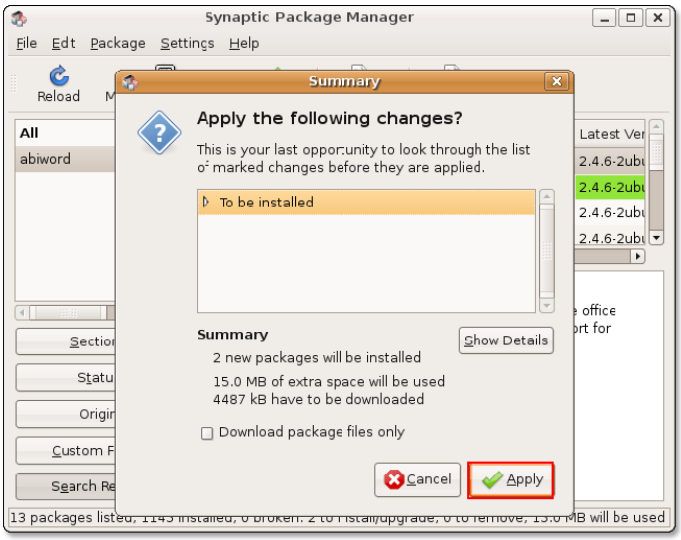


Figure 6.46: Final Confirmation to Install the Package

8. When all the marked changes are made, you are notified about the changes applied. Click **Close** to close Synaptic Package Manager.

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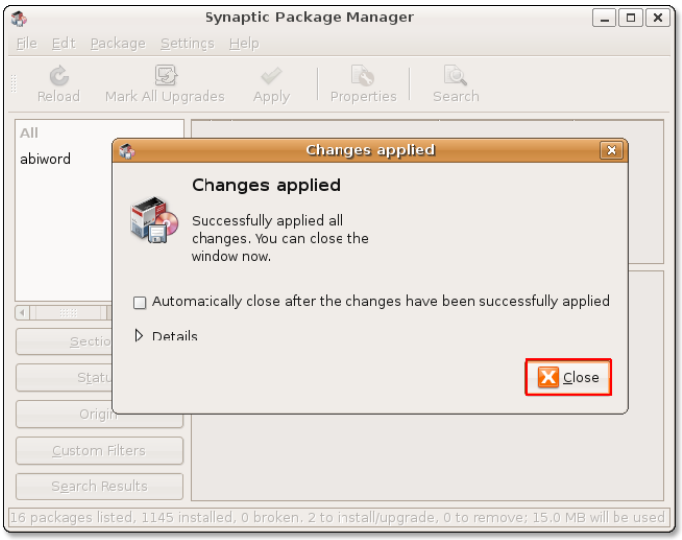


Figure 6.47: Installation Confirmation

This step completes the procedure of installing packages by using Synaptic Package Manager. You can access the installed package by selecting a particular menu, depending on the category of the package. The following figure shows Abiword, which has been installed using this procedure.

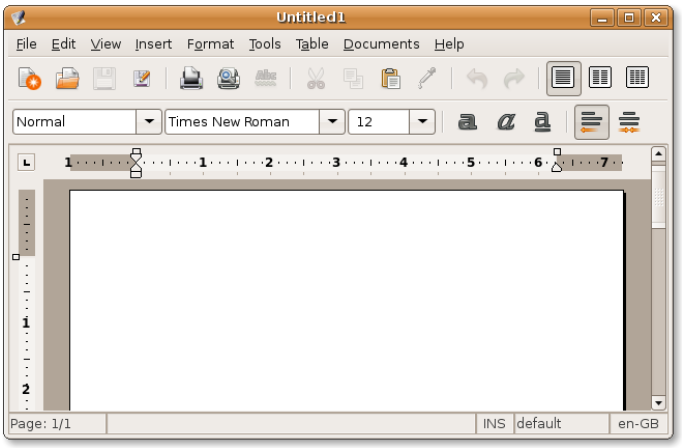


Figure 6.48: Launching the Installed Application - Abiword

6.8 Installing a Single Package File

The preferred method of installing programmes is by using package managers. If some packages or files are not available, you can download and install them from Web sites. These files are associated with the package managers of specific Linux distributions and are referred to as single package files. Examples are Debian package files-.deb files and tarballs-.tar files.

Note:
You should download files that are not present in Ubuntu archives only from a safe source.

- Debian Package files: These files are associated with Ubuntu and have the .deb suffix.

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- Tarballs: Zipped archive files that contain the source code of a programme. This source code needs to be compiled before use. Installing programmes by compiling them from source is not covered by this course.

Compiling and installing programmes from source tarballs can can be very complex to debug when things go wrong. Tarballs are simple structures which don't specify what dependencies are required to enable compilation to take place. For this reason it can also be time consuming and complex to determine the necessary dependencies and either install or compile them also. Compiling from tarball is therefore not covered on this course.

Note:
It is not guaranteed that the single package files will be compatible with your system. Also, you will not receive security updates if you install these files. Therefore, wherever possible use a native Ubuntu package of the application available through a package manager.

6.8.1 Installing/Uninstalling Debian Packages

Debian packages are installed and uninstalled using the graphical installer (gdebi). gdebi will attempt to install any dependencies which are in the Ubuntu repositories, however if the package requires further dependencies which are not in the Ubuntu repositories these will also need to be installed manually.

To install a Debian package, open the .deb file from the folder in which it resides.

1. Download the package XVidCap **xvidcap_1.1.6_i386.deb**. As this package is not in the Ubuntu repositories, you will need to download it from the following website: http://sourceforge.net/projects/xvidcap/.
2. Once downloaded, simply double click the .deb file and the gdebi installer will start. It will check to see if you have all the necessary dependents, and if so will offer an **Install** button. Simply press the button to start the installation. In the event that dependencies cannot be resolved, an error message will be displayed and you will not be able to install the package until they are fulfilled.
3. To uninstall the package, simply use the Synaptic Package Manager, as outlined previously in this section.

6.9 Software Repositories

A software repository is a library of packages (applications) available over the Internet. The Ubuntu software repository contains tens of thousands of freely available packages for you to download and install. These packages have been specially built and selected for Ubuntu.

6.9.1 Software Repository Categories

Ubuntu repositories are categorised into four groups based on the level of support that software development teams provide for a programme and the level of compliance the programme has with the free software philosophy.

- **Main**
- **Restricted**
- **Universe**
- **Multiverse**

The Main Component The Main component contains software packages that are free and fully supported by the Canonical team. These packages comply with the free software philosophy and are available by default while installing Ubuntu. For all packages in the Main component, security updates and technical support are available free of cost. OpenOffice.org, Abiword and the Apache web server are some of the packages available there.

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The Restricted Component The Restricted component consists of packages for commonly used software that are supported by the Ubuntu team but not available under a completely free license. Binary drivers produced by some video card vendors are an example of packages available there. Packages in this component are also available on the standard Ubuntu installation CD, but they can be easily removed.

The Universe Component The Universe component includes thousands of packages for software that is not officially supported by Canonical. The software is available under a variety of free licenses, taken from a variety of public sources. This component is available only through Internet downloading.

All the packages in this component are expected to work perfectly. However, there is no guarantee of security fixes and support for these packages. These packages are maintained by the community.

Instructor Notes:
It could be considered risky to use packages from the Universe component, especially because the lack of guaranteed security updates.

The Multiverse Component The Multiverse component contains packages of non-free software, which means that the licensing requirements of the software does not meet the license policy of Ubuntu's Main component. It is the user's responsibility to verify their rights to use the software and comply with the individual licensing terms. Support and security updates are not provided. Examples of these packages include VLC and the Adobe Flash plugin.

Instructor Notes:
Software from the Multiverse component could be hindered by patents and restriction on usage and distribution. It is the user's responsibility to determine if the software can be used in its jurisdiction and complies with local laws.

Many packages are not available in default Ubuntu repositories. These packages can either be installed from other Ubuntu repositories or from third-party software. To use the packages present in third-party software, you need to add the software.

1. On the **System** menu, point to **Administration** and then click **Software Sources**.

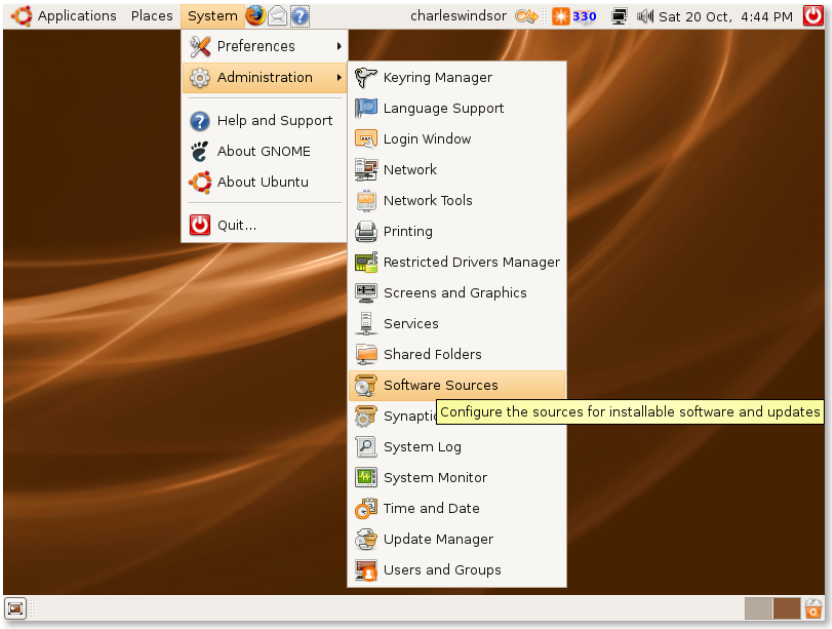


Figure 6.49: Launching Software Sources Dialogue Box

The **Software Sources** dialogue box opens. The software sources for Ubuntu are selected by default.

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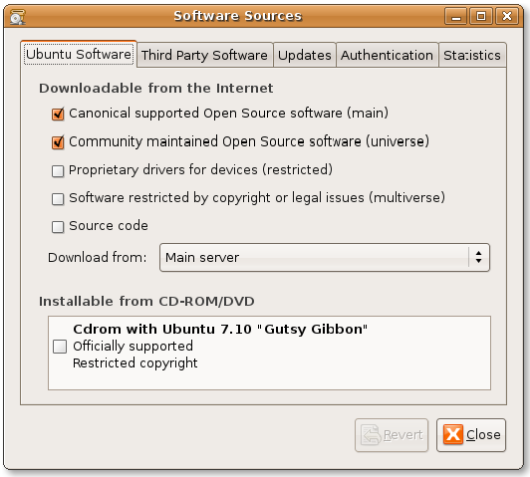


Figure 6.50: Selecting the Required Sources

Note:
You can also open the **Software Sources** dialogue box by using the Add/Remove applications or Synaptic Package Manager to enable the repositories under the **Ubuntu Software** tab.

2. To add a repository from the third party, click the **Third-Party Software** tab and then click **Add**.

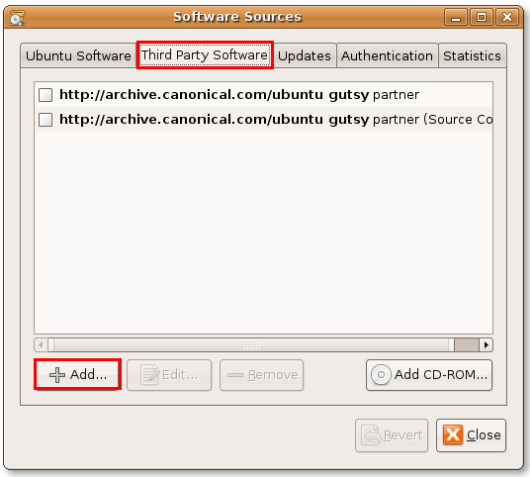


Figure 6.51: Adding a Third Party Software Source

3. Type the APT line for the repository you want to add as a source. To access the Debian main repositories, type **deb http://ftp.debian.orgs sarge main** in the **APT line** box. Click **Add Source**.

Note:
The APT line should include the type, location and components of a repository.

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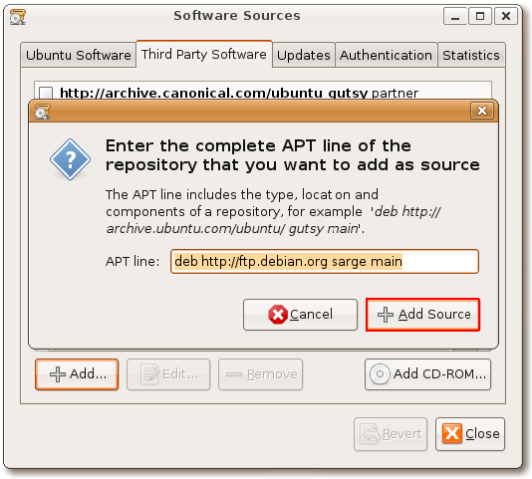


Figure 6.52: Stating the Source APT Line

4. Click **Close** to save changes. The repository specified in the APT line is added to the third-party software box.

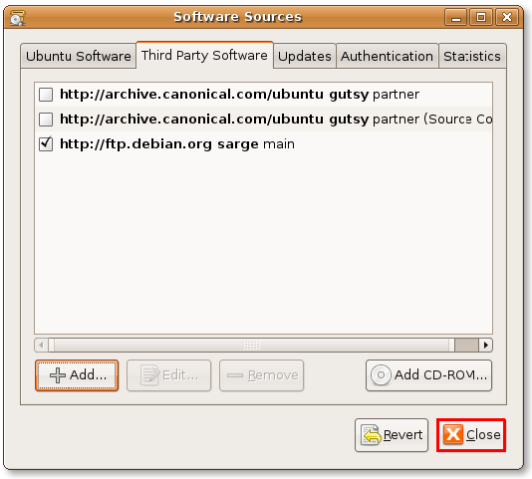


Figure 6.53: Software Sources Dialogue Box Displaying the Added Source

5. With the addition of an extra repository, you will be prompted to update information about available software. Click **Reload** to do so.

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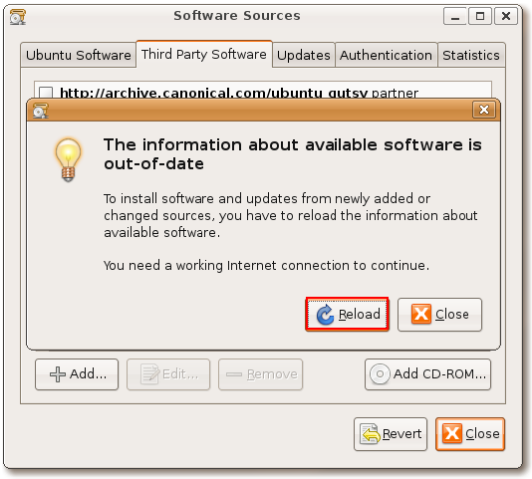


Figure 6.54: Reloading Available Software Information

6. The progress indicator shows the status of package being installed or removed.

   You can authenticate your downloads from the **Authentication** tab in the **Software Sources** dialogue box. When you do not authenticate your downloads, your computer may show the error shown below after downloading the package information. This error can be ignored. To authenticate the downloading process, you need to import the GPG key, which is different for every repository. Click **Close** in the dialogue box showing the error. This step will end the process of adding extra repositories and updating package information.

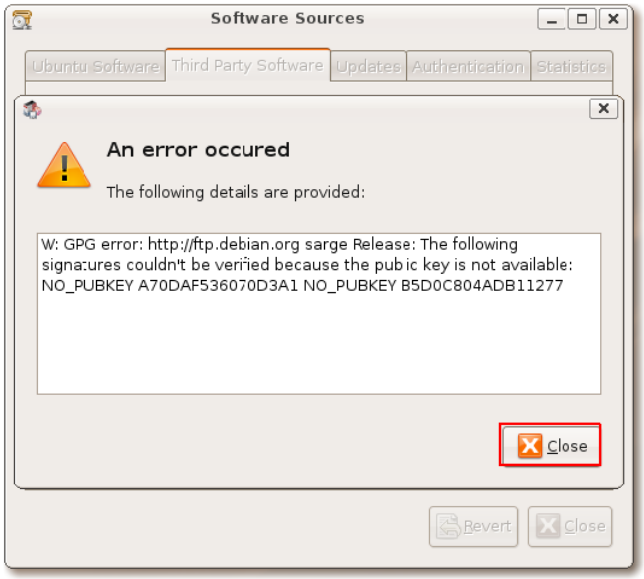


Figure 6.55: Public Key Error

On the **System** menu, point to **Administration** and then click **Software Sources**.

The **Software Sources** dialogue box opens. The software sources for Ubuntu are selected by default.

You can also open the **Software Sources** dialogue box by using the Add/Remove applications or Synaptic Package Manager to enable the repositories under the **Ubuntu Software** tab.

To add a repository from the third party, click the **Third-Party Software** tab and then click **Add**.

Type the APT line for the repository you want to add as a source. To access the Debian main repositories, type **deb http://ftp.debian.orgs sarge main** in the **APT line** box. Click **Add Source**.

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6.9.2 Adding Repositories

Many packages are not available in default Ubuntu repositories. These packages can either be installed from other Ubuntu repositories or from third-party software. To use the packages present in third-party software, you need to add the software.

1. On the **System** menu, point to **Administration** and then click **Software Sources**.

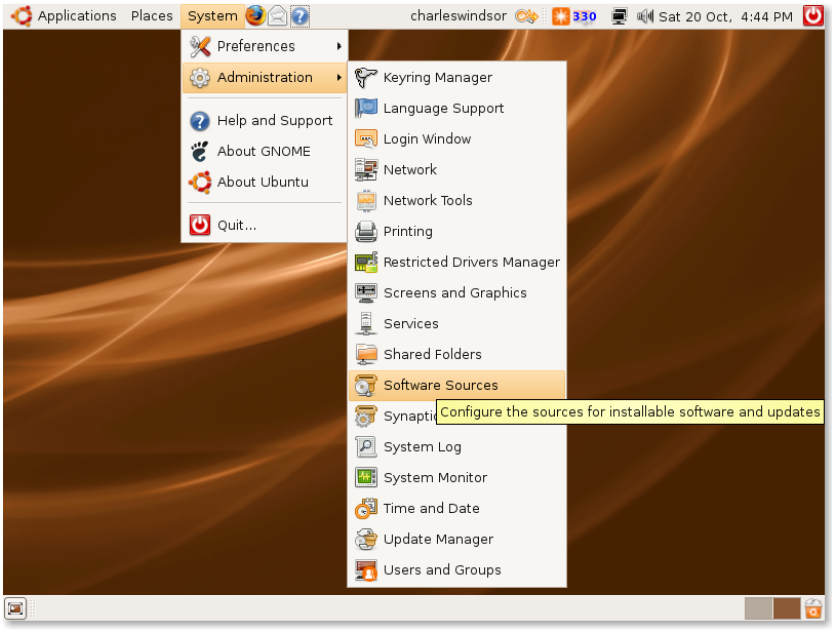


Figure 6.56: Launching Software Sources Dialogue Box

The **Software Sources** dialogue box opens. The software sources for Ubuntu are selected by default.

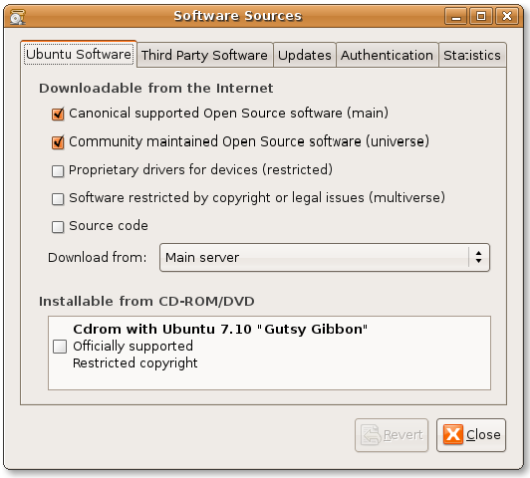


Figure 6.57: Selecting the Required Sources

Note:
You can also open the **Software Sources** dialogue box by using the Add/Remove applications or Synaptic Package Manager to enable the repositories under the **Ubuntu Software** tab.

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2. To add a repository from the third party, click the **Third-Party Software** tab and then click **Add**.

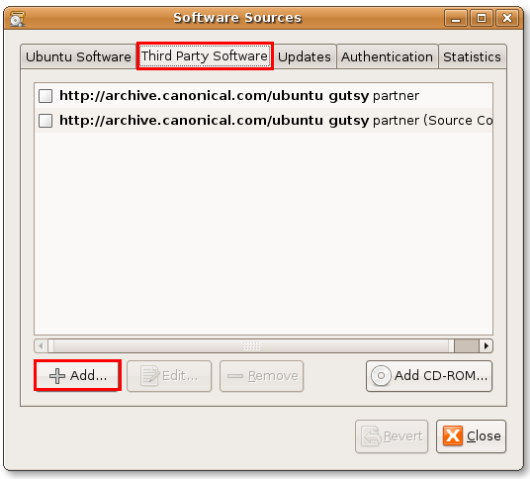


Figure 6.58: Adding a Third Party Software Source

3. Type the APT line for the repository you want to add as a source. To access the Debian main repositories, type **deb http://ftp.debian.orgs sarge main** in the **APT line** box. Click **Add Source**.

Note:
The APT line should include the type, location and components of a repository.

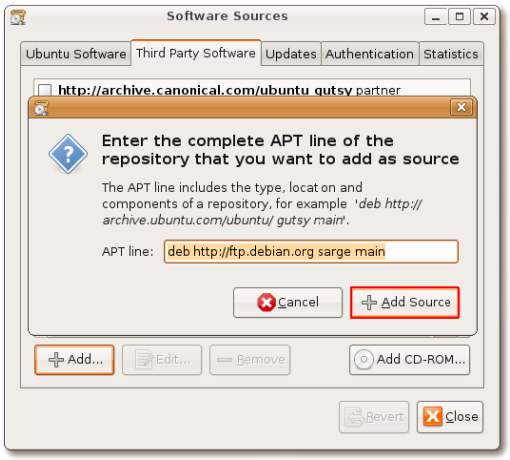


Figure 6.59: Stating the Source APT Line

4. Click **Close** to save changes. The repository specified in the APT line is added to the third-party software box.

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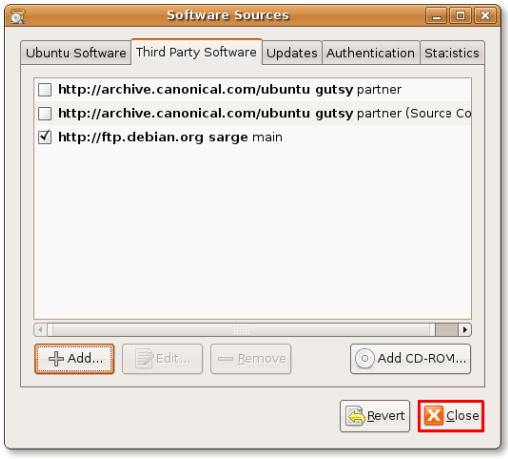


Figure 6.60: Software Sources Dialogue Box Displaying the Added Source

5. With the addition of an extra repository, you will be prompted to update information about available software. Click **Reload** to do so.

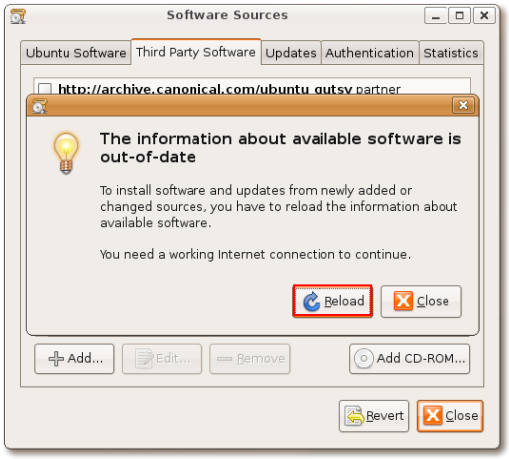


Figure 6.61: Reloading Available Software Information

6. The progress indicator shows the status of package being installed or removed.

   You can authenticate your downloads from the **Authentication** tab in the **Software Sources** dialogue box. When you do not authenticate your downloads, your computer may show the error shown below after downloading the package information. This error can be ignored. To authenticate the downloading process, you need to import the GPG key, which is different for every repository. Click **Close** in the dialogue box showing the error. This step will end the process of adding extra repositories and updating package information.

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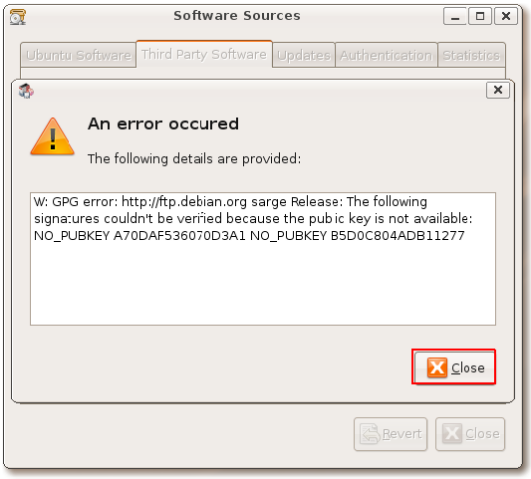


Figure 6.62: Public Key Error

6.10 Adding New Language Settings

Ubuntu provides the option to enable numerous language settings for your desktop.

Support for new languages can be installed via **Language Support**, which is found in the **Administration/System** menu. Depending on the language, the input method and keyboard mapping may need to be changed as well. The *Smart Common Input Method*(SCIM) is used in Ubuntu to switch between different input methods for complex characters in many non-Latin languages. The *ctrl space* hotkey is a convenient switch between different input methods.

6.11 Lesson Summary

In this lesson, you learned that:

- GNOME is the default desktop for Ubuntu. You can use the **Preferences** option on the **System** menu to customise the Ubuntu desktop look and feel.
- You can manage your file system using the Nautilus file manager. Use the spatial mode to open each folder in a separate window and view the content of various folders simultaneously. Use the browser mode to open folders in a single window.
- Add/Remove Applications is the easiest tool to install or uninstall packages.
- You can use Synaptic Package Manager to install or uninstall advanced applications that cannot be installed using Add/Remove.
- To install a package that is not available in the Ubuntu archives, you can download and install it from Web sites. These files are associated with the package managers of specific Linux distribution and are referred to as single package files.
- Tarballs are zipped archive files that contain the source code of a programme. You can use advanced command line tools to install or uninstall the tarball file.

6.12 Review Exercise

Question: What is the default desktop for Ubuntu?

Answer: GNOME is the default desktop for Ubuntu.

Question: From which Web site can you download additional Ubuntu wallpapers and themes?

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Answer: You can download additional wallpapers and themes from the Web site http://art.gnome.org/.

Question: Mention any three features of the Nautilus file manager.

Answer: Three features of the Nautilus file manager are:

- Creating and displaying folders and documents
- Searching and managing files
- Navigating using two modes, browser and spatial

Question: Which is the file manager for the KDE environment?

Answer: Konqueror is the file manager of the KDE environment.

Question: What is a package manager?

Answer: A package manager is a programme that helps add or remove packages in Ubuntu.

Question: Differentiate between a graphical package manager and a command line package manager. Provide examples of each.

Answer: To add and remove packages, a graphical package manager uses the graphical interface while a command line package manager uses the command line interface.

Add/Remove Applications is a graphical package manager and apt-get is a command line package manager.

Question: Software that is not licensed under Ubuntu's main component licensing policy is referred to as _____.

Answer: Software that is not licensed under Ubuntu's main component licensing policy is referred to as non-free software.

6.13 Lab Exercise

Instructor Notes:
Explain to the students the purpose of each application. xpdf is a suite of tools used to view Portable Document Format (pdf). This package supports standard X fonts, true type fonts and type1 fonts. Gnumeric is a stand-alone spreadsheet application that interoperates well with other spreadsheets.

Exercise 1 You have installed Ubuntu 7.10 on your personal computer. You want to view your pdf files, use a spreadsheet application for creating your daily tasks and archive your files. Install the following packages:

a) xpdf

b) gnumeric

1. On the **Application** menu, click **Add/Remove**. The **Add/Remove** dialogue box opens.
2. In the **Search** box, type **xpdf**.
3. Select the check box next to **xpdf**.
4. Click **Apply Changes**.
5. Click **Apply** to make the changes.
6. In the **New application has been installed** dialogue box, click **Close**.

1. On the **System** menu, point to **Administration** and then click **Synaptic Package Manager**. The **Synaptic Package Manager** dialogue box opens.
2. Click **Search** to find gnumeric and select the **gnumeric** check box.

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3. Select the **Mark for Installation** check box. A dialogue box displaying the dependencies of this package on other packages opens.
4. To continue making the required changes, click **Mark**.
5. To confirm making the marked changes, click **Apply**. The **Summary** dialogue box opens, prompting you for a final check before making the marked changes.
6. Click **Apply** to continue with the changes.
7. When all the marked changes are made, you are notified of the changes applied. Click **Close**.

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Chapter 7

Making The Most of Images and Photos

Objectives In this lesson, you will learn to:

- View and edit images
- Scan and send images

Instructor Notes:
It is advisable to cover all the topics during the training. However, if you fall short of time then cover only the following topics:

- *Introducing Graphics Applications*
- *Viewing Images with gThumb*
- *Managing Photos with F-Spot*
- *3D Effects*

Try and take photographs of the class (students) before this session and then demonstrate the applications using those photographs. This lesson should be very hands on as opposed to just a demonstration.

7.1 Introducing Graphics Applications

Graphics applications form an integral part of Ubuntu. They enable you to organise your photo collection, create and edit photos and images, scan and send objects and more.

In this lesson, you will learn about the various graphics applications available on Ubuntu and which one to use when. These graphics applications are available either with the Ubuntu installation or in repositories (those libraries we mentioned earlier).

Applications Available with the Ubuntu Installation The following applications are included in the Ubuntu installation package:

- **gThumb Image Viewer:** An image viewer and a browser which enables you to import pictures from a digital camera, create photo CDs and display photos as slide shows.
- **GIMP Image Editor:** An image editor used for advanced image creation and editing such as changing the contrast, colour or the texture of an image.
- **F-Spot Photo Manager:** A photo manager used to organise and manage photos. F-Spot enables you to tag (label), categorise and sort photos.

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- **XSane Image Scanner:** An image scanner which also enables you to photocopy documents and fax or e-mail scanned images.

Applications Available in Repositories In addition to the default applications, you can search through the repositories and install applications using the Synaptic Package Manager or the Command Line Interface (CLI).

Instructor Notes:
Thousands of applications are available in the repositories; this topic covers only a few of them. If students want more information about a specific application, show them the way to view application details in the Synaptic Package Manager.

Some of the graphics applications are available in Ubuntu software repositories:

- 

  Agave: A colour scheme designer. After you select a base colour, Agave suggests the appropriate complementary colours or shades of the same base colour. You can also drag and drop a colour from another application, such as GIMP. Whether you are designing a Web page or a pamphlet or painting your house, this programme enables you to identify the appropriate colour scheme. Visit the Web site http://home.gna.org/colorscheme/ for more information on Agave.

- 

  Blender: An open-source 3D content creation suite. You can create 3D models and animations, add post-production effects or use it as a graphics editor to define interactive behaviour without programming. Blender has a distinctive user interface that is implemented entirely in Open GL and designed for speed. Python bindings for scripting and import/export features for popular file formats such as 3D Studio are available in Blender. Blender can output still images, animations, models for games or other third party engines and interactive content in the form of standalone binaries or web plug-ins. Visit the Web site http://www.blender.org/ for more information on Blender.

- 

  Dia: A diagram editor similar to Microsoft Visio. Dia offers the capability to produce precise and professional-level graphics. You can draw entity relationship diagrams, flowcharts and network diagrams and export them to various formats, including EPS, SVG, XFIG, WMF and PNG. You can also print diagrams spanning multiple pages. Visit the Web site http://live.gnome.org/-Dia for more information.

- 

  Gcolor2: A simple colour selector and picker that facilitates quick and easy selection of colours. It also enables you to save new colours and delete existing ones. Visit the Web site http://gcolor2.sourceforge.net/ for more information.

- 

  GNU paint: A user-friendly painting programme for GNOME. It offers easy-to-use drawing tools to perform various image-processing operations. Visit the Web site http://gpaint.sourceforge.net/ for more information.

In addition, several third-party applications, such as Picasa, a free software download from Google, are compatible with Ubuntu.

Picasa enables you to locate and organise all the photos on your computer, edit and add effects to your photos and share your photos through e-mail and print and post images on the Web. You can download Picasa from the following Web site http://picasa.google.com/linux/download.html.

The following section outlines the features of some of these graphics applications and how to use them.

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7.2 Viewing Images with gThumb

gThumb enables you to browse and locate image files, organise images in catalogues, print images, view slide shows and export Web-based albums with various graphic themes. This application also offers the typical features of an image viewer, such as copying, moving, deleting, printing, zooming and converting image formats.

7.2.1 Viewing Images

Images can be viewed in various formats, such as BMP, JPEG, GIF, PNG, TIFF, ICO, XPM and GIF animations.

1. On the **Applications** menu, point to **Graphics** and click **gThumb Image Viewer**. The **gThumb** window opens.

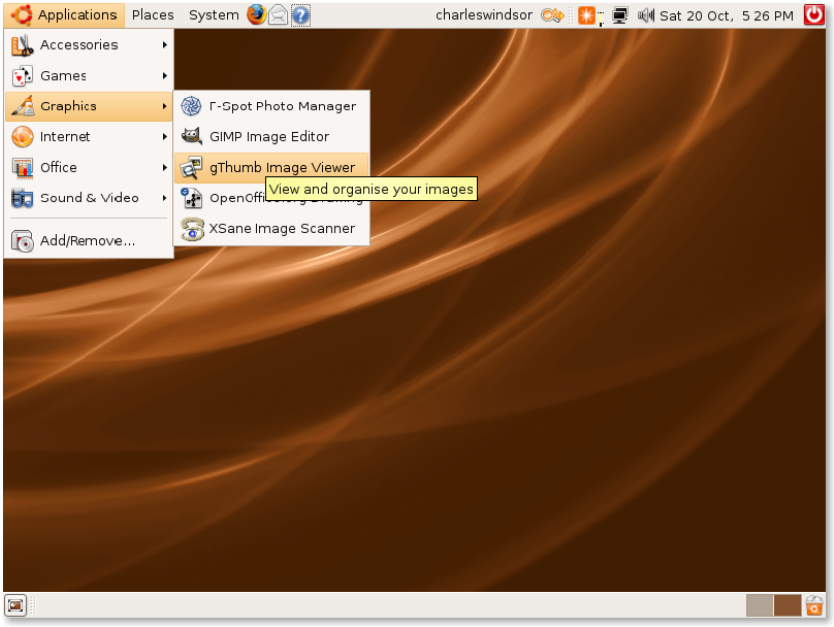


Figure 7.1: Launching gThumb Image Viewer

2. In the left pane of the **gThumb** window, click **Images** and navigate to the folder that contains the images. Alternatively, if you know the name of the image, type the image name and click **Search** on the toolbar. The right pane of the **gThumb** window displays the selected image as a thumbnail.

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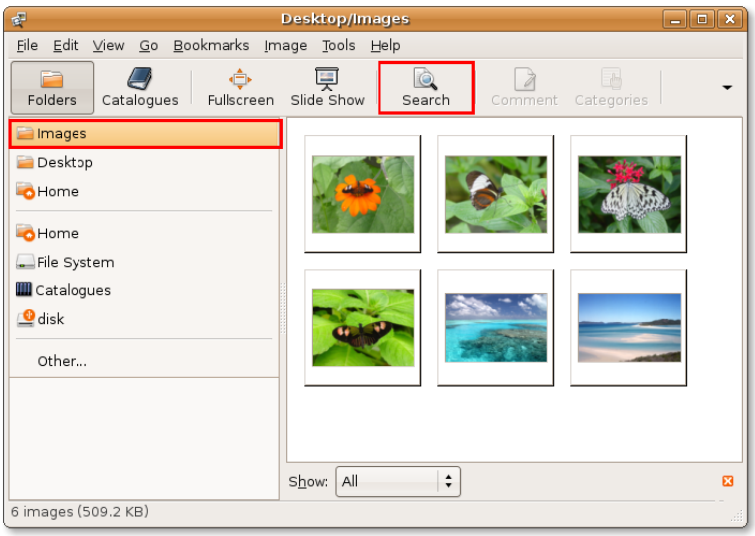


Figure 7.2: gThumb Window

3. If there are too many images displayed in the right pane, it may be difficult for you to find the image you want. The **Show** option at the bottom in the right pane limits the range of visible images. For example, you can specify a criterion, such as **Date**, to display images stored on your computer on a specific date or **Size**, to display images of a specific size. Click the **Show** arrow and select the appropriate option from the **Show** list.

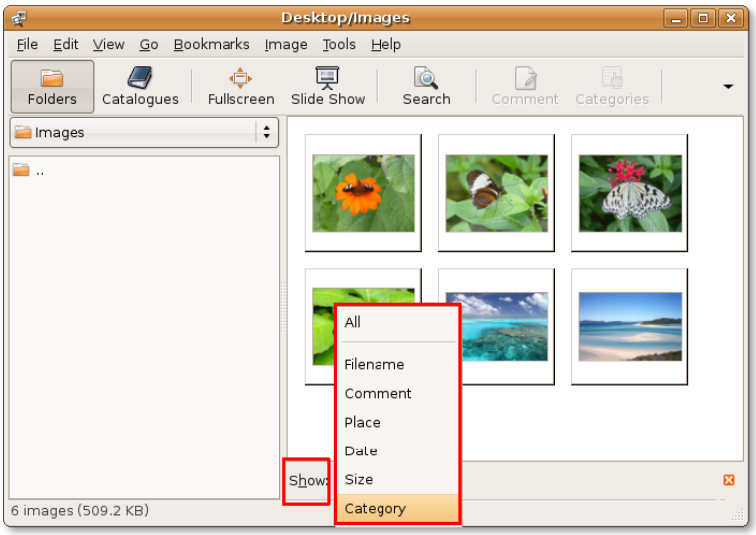


Figure 7.3: Selecting Image Display Options

4. To view images in their original order of arrangement, click **Fullscreen** on the toolbar. The first image in the series opens in a fullscreen window.

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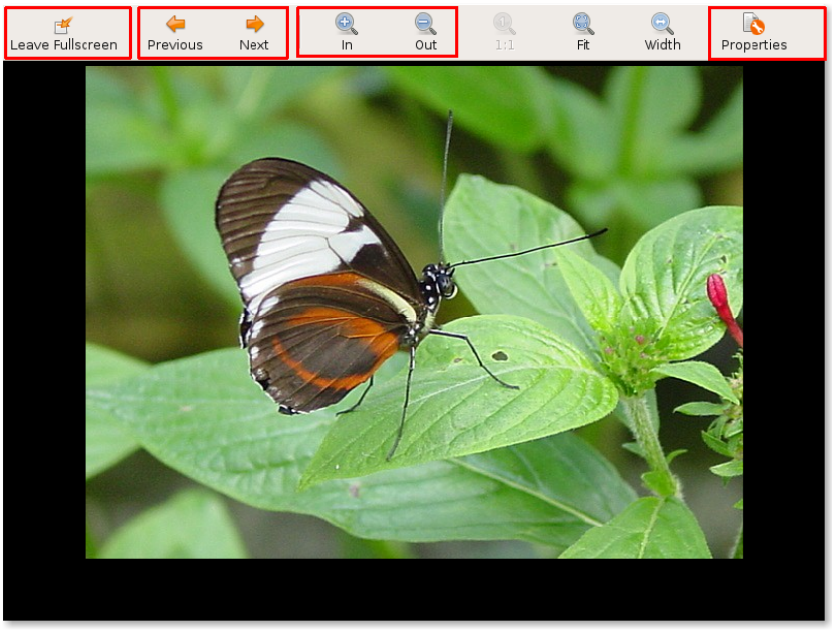


Figure 7.4: Viewing Image in Fullscreen Mode

The toolbar in the fullscreen window provides the following options:

- **Leave Fullscreen:** Click **Leave Fullscreen** to exit fullscreen mode and return to the gThumb window.
- **Zoom In and Out:** Click the zoom options to adjust the display size of an image. Use **In** to increase the size and **Out** to decrease the size of the image.
- **Image properties:** Click **Properties** to view the properties of an image, such as the dimensions, size or the date on which the image was saved on the computer.
- **Next** or **Previous:** Click these buttons to navigate through and view the images in the series.

Note:
For the first image, **Previous** is disabled and for the last image, **Next** is disabled.

---

5. To view images in random order, in the gThumb window, click the thumbnail of any image and then click **Fullscreen** to view the image in fullscreen mode.

Instructor Notes:
If time permits, provide a brief description of the catalogues, comment and category options in the gThumb window toolbar. These options will help users better organise their images.

Running Slide Shows You can create slide shows to save clicking through your photos. A slide show is a display of a series of chosen images.

1. Select the images you want to include in your slide show. In the **gThumb** window, click **Slide Show** to start a slide show of all the images in the right pane, in the order of arrangement. To view a slide show of a few selected images, hold down the **Ctrl** key, click the images you want to view, release the **Ctrl** key and click **Slide Show**. The slide show begins, displaying all the images, beginning with either the first image in the pane or the one you selected.

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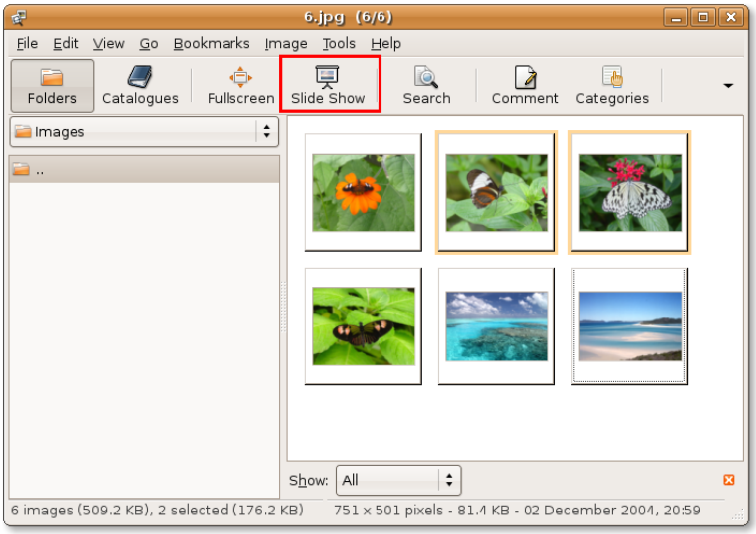


Figure 7.5: Starting a Slide Show

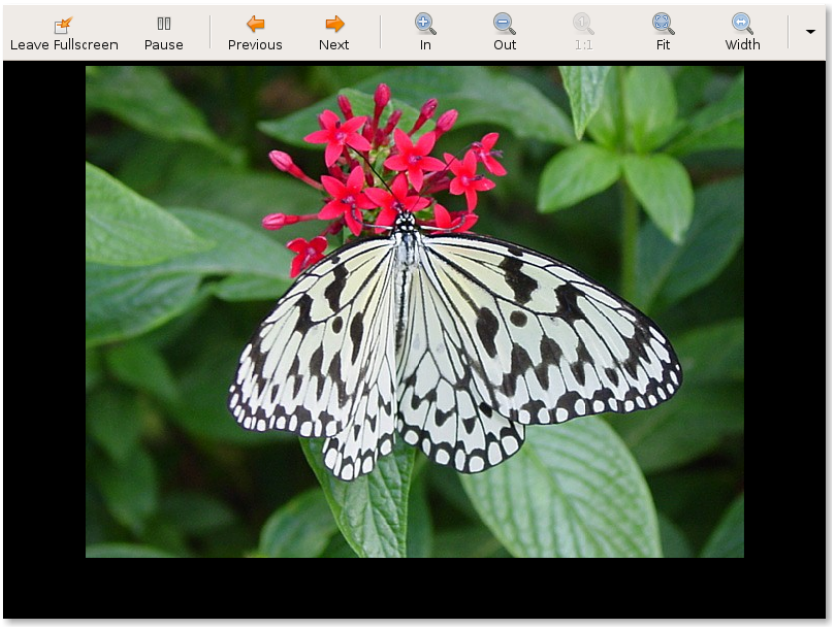


Figure 7.6: Viewing Image in Slide Show Mode

2. The gThumb slide show uses the default settings of a 4-second delay between images, one-time play forward and fading effects as transition between images. To change the default slide show settings, on the **Edit** menu, click the **Preferences option**. The **gThumb Preferences** dialogue box opens.

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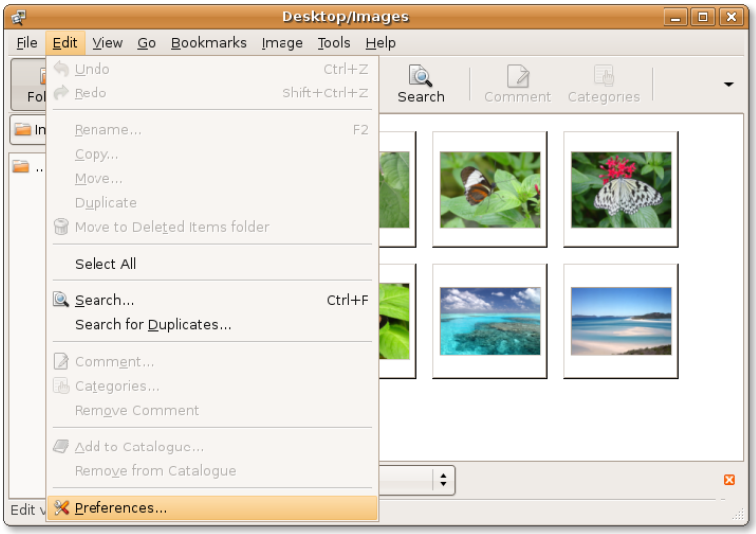


Figure 7.7: Modifying gThumb Preferences

3. In the **gThumb Preferences** dialogue box, click the **Slide Show** tab and change the slide show settings. Click **Close**.

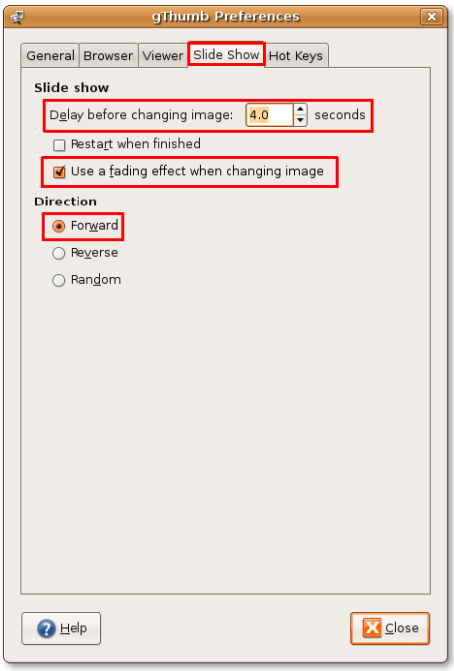


Figure 7.8: Modifying Slide Show Preferences

7.2.2 Removing Red Eye

In some cameras, the proximity of the flash to the lens causes the light from the flash to reflect from the subject's retina to the lens, leaving a red eye mark on the image. Referred to as a red eye, the size of the mark depends on the amount of light reflected. The gThumb software can be used to remove the red eye from images.

1. In the **gThumb** window, double-click the thumbnail of the image that has a red eye. The image opens in a new window.

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Figure 7.9: Image with a Red Eye

2. In the edit window, click **Image** and then click the **Redeye Removal** option. The **Red-Eye Removal** dialogue box opens.

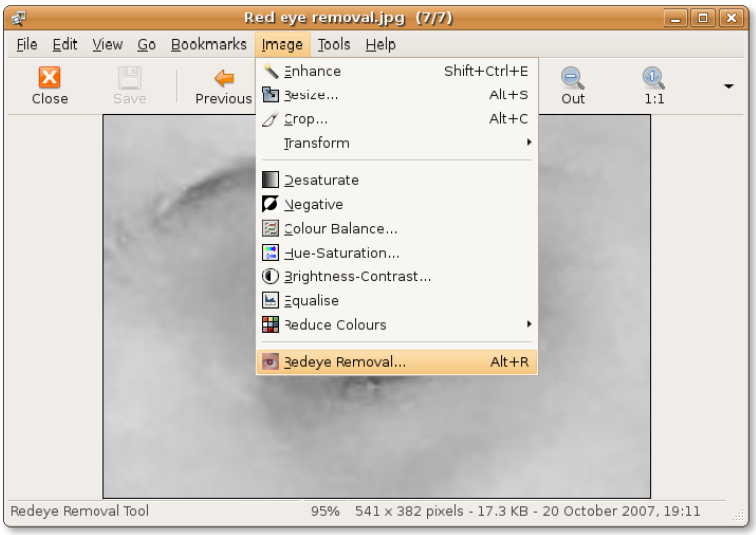


Figure 7.10: Launching Redeye Removal Dialogue Box

3. Click on or near the affected region, to replace the red eye with black. If you are not happy with the result, you can click the **Undo** icon in the **Red-Eye Removal** dialogue box. Click **Save** to replace the affected image with the edited one in the **gThumb** window.

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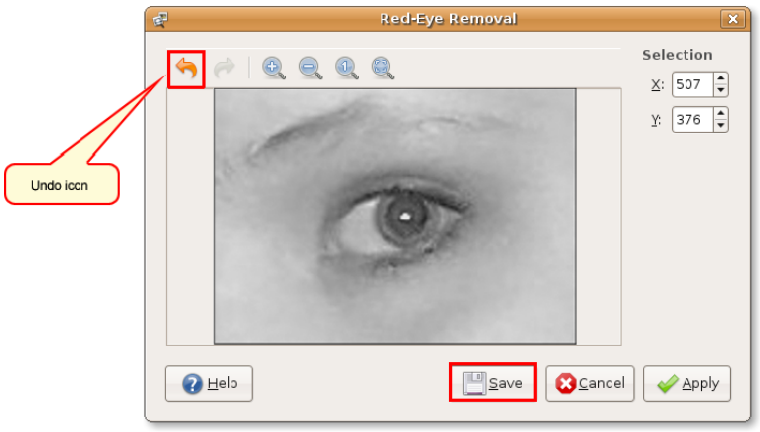


Figure 7.11: Removing Red Eye

Note:
The edited image also replaces the image stored on your computer. Ensure that you save a copy of the image before editing it.

7.3 The GIMP

GNU Image Manipulation Programme (GIMP) is the default graphic application in Ubuntu, licensed under the GNU General Public License. It is an open-source multi-platform image manipulation tool, available in many languages. You can use GIMP to re-touch photos, compose and create images, re-size, crop, manipulate colours and convert image formats.

GIMP has a number of useful features:

- A full suite of painting tools, including brushes, a pencil and an airbrush
- Selection tools such as rectangle, ellipse, free, fuzzy and bezier
- Transformation tools such as rotate, scale, shear and flip
- Tile-based memory management so that the image size is limited only by available disk space
- Multiple undo/re-do operations limited only by disk space
- Advanced scripting capabilities
- Layers and channels for complex drawings
- Sub-pixel sampling for all paint tools to minimise distortion while representing high-resolution images in lower resolution or stretched mode
- Full alpha channel support to simulate transparency in images
- Support for multiple file formats, including GIF, JPEG, PNG, XPM, TIFF, TGA, MPEG, PS, PDF, PCX and BMP

1. On the **Applications** menu, point to **Graphics** and click **GIMP Image Editor**. The **GIMP Tip of the Day** prompt is displayed. Click **Close** on the **GIMP Tip of the Day** prompt. The **GIMP** window opens.

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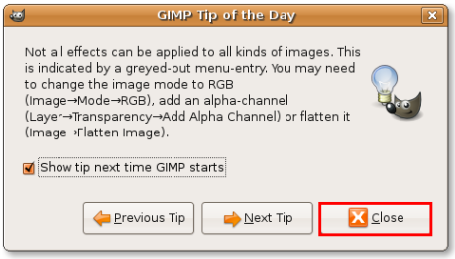


Figure 7.12: GIMP Tip of the Day Dialogue Box

Nice to Know:
The GIMP mascot is a coyote named Wilber. He provides useful tips while you use the application. If you do not want to see the tips, clear the **Show tip next time GIMP starts** check box.

2. To open an image for modification, on the **File** menu, click **Open** and select the image you want to modify.

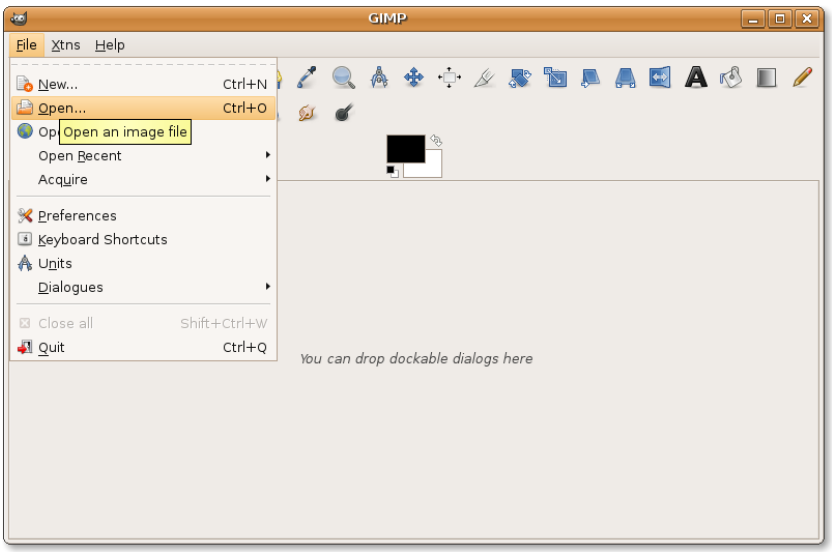


Figure 7.13: Opening an Image for Editing

3. The selected image opens in the **Image** window.

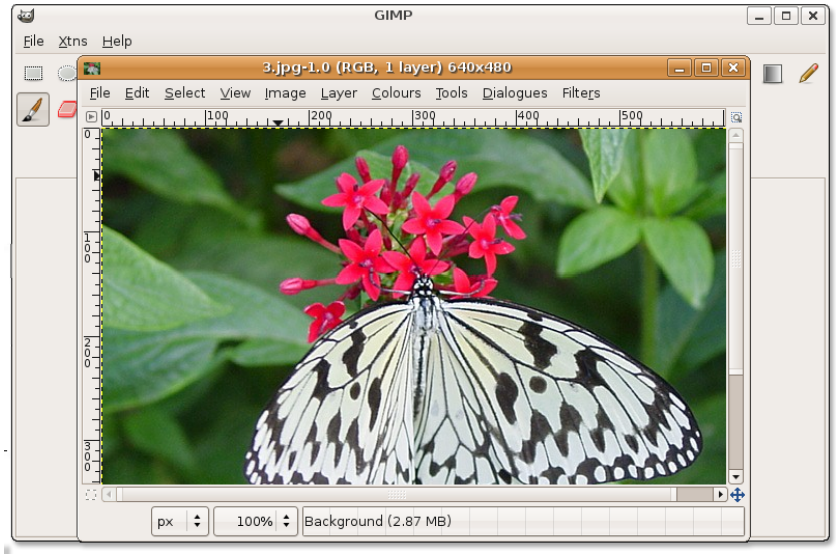


Figure 7.14: Editing Image

You can now modify the image by using the tools available in the **GIMP** window.

Nice to Know:
You can drag and drop a colour from the toolbox or from a colour palette onto an image. This fills the current image or selection with the selected colour.

Instructor Notes:
If time permits, allow students to familiarise themselves with GIMP. Ask students to open an image and perform basic operations such as cropping the image, inserting text into the image, rotating the layer and smudging the image by using the available tools.

7.4 Managing Photos with F-Spot

Instructor Notes:
After a brief explanation of F-Spot and its features, refrain from lengthy explanation of the tasks. Perform a brief demo of the tasks covered in the lesson and ask students to follow.

F-Spot is a personal photo management application for the GNOME desktop. You can import and view pictures from the hard disk on your computer, digital camera or even the ipod. You can attach tags to your photos and categorise them, build a photo CD, export photos over the Internet and share them online or perform basic colour-correction and editing. F-Spot supports 16 common file types, including JPEG, GIF, TIFF and RAW.

The following graphic shows the elements in the F-Spot interface:

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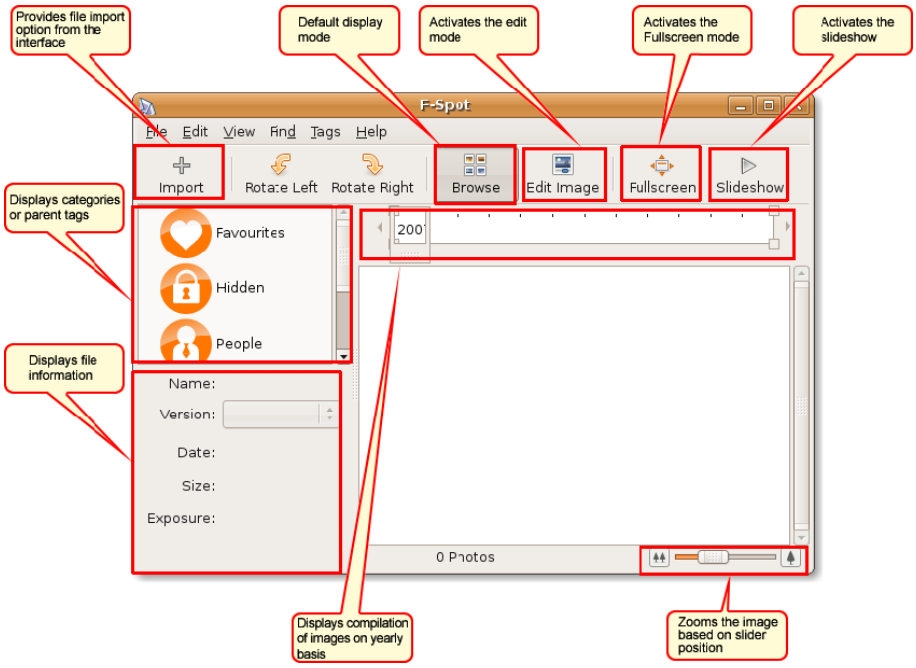


Figure 7.15: F-Spot Window

7.4.1 Importing Photos in F-Spot

After importing the photographs, you can categorise and tag them as you would to create a playlist in a music player. To import photographs into F-Spot from the hard disk of your computer:

1. On the **Applications** menu, point to **Graphics** and click **F-Spot Photo Manager**. The **F-Spot** window opens.
2. Click the **Import** button on the toolbar. The **Import** dialogue box opens.

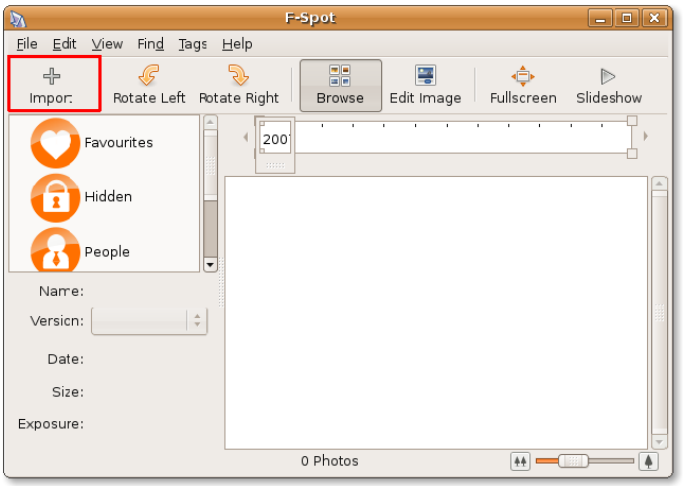


Figure 7.16: *Importing Photos*

Note:
You can also click **Import** on the **File** menu to open the **Import** dialogue box.

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3. In the **Import Source** box, the **Select Folder** option is selected by default. Retain the option, navigate to the folder that contains the photographs and click **Open**.

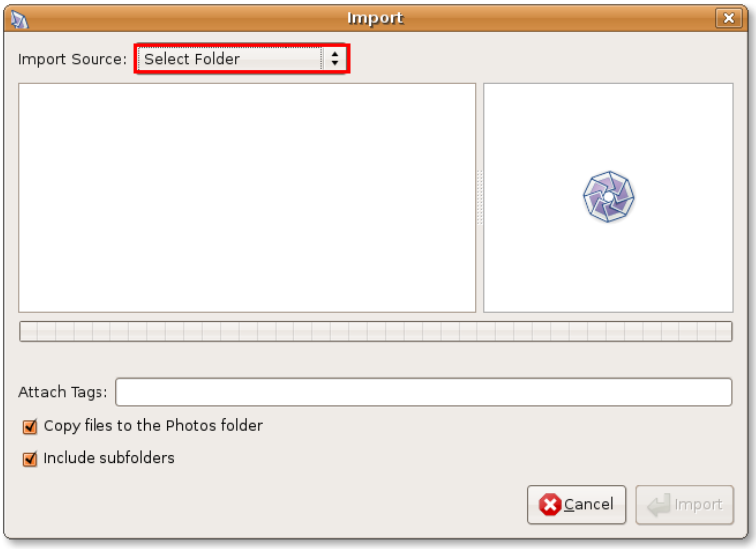


Figure 7.17: *Selecting Photo Import Source*

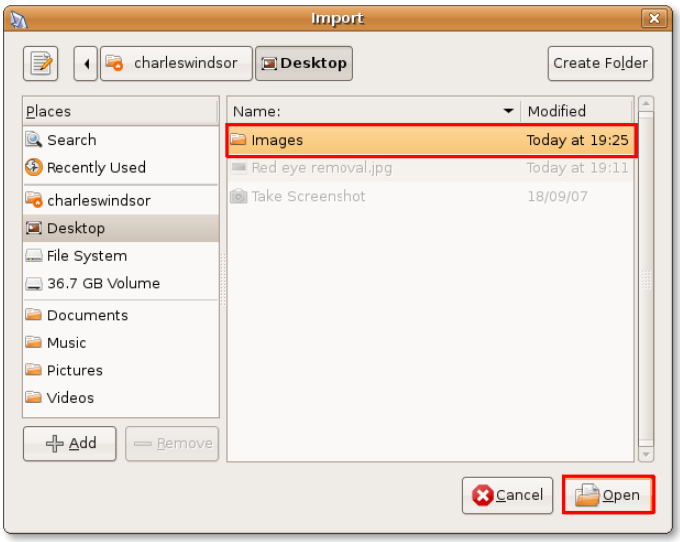


Figure 7.18: *Displaying Images to Import*

4. Click **Import** in the **Import** dialogue box.

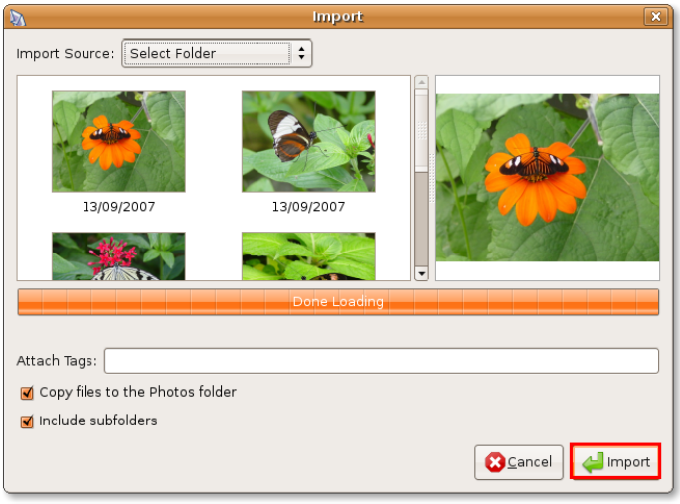


Figure 7.19: *Importing Photos*

The photographs are listed as thumbnails in the **F-Spot** window. Notice that the timeline slider is positioned according to the dates on which the images were saved on the hard disk of your computer.

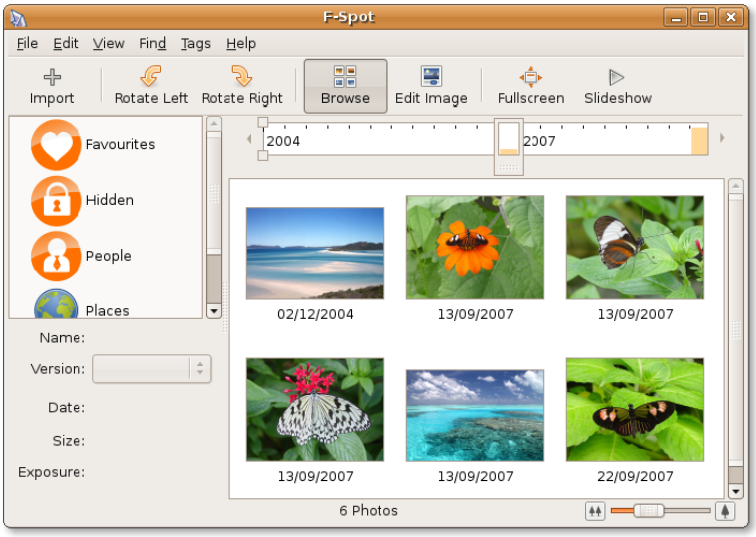


Figure 7.20: *Browsing Photos*

Note:
The photographs listed in the F-Spot window are not associated with any category or parent tag.

To import photographs into F-Spot from a digital camera:

1. Click the **Import** button on the toolbar. The **Import** dialogue box opens.
2. Click the **Import Source** box. Plug the camera on the computer. F-Spot detects the camera and displays the model and type of the camera in the **Import Source** box.

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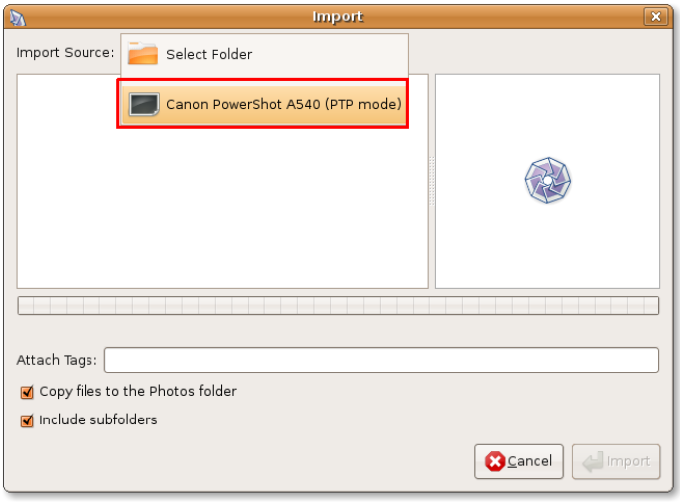


Figure 7.21: *Selecting Photo Import Source*

3. Click the camera as the source for the photographs. The **Select Photos to Copy From Camera** dialogue box opens, which lists all the photos in the camera. Select the photos you want to import and click **Copy**.

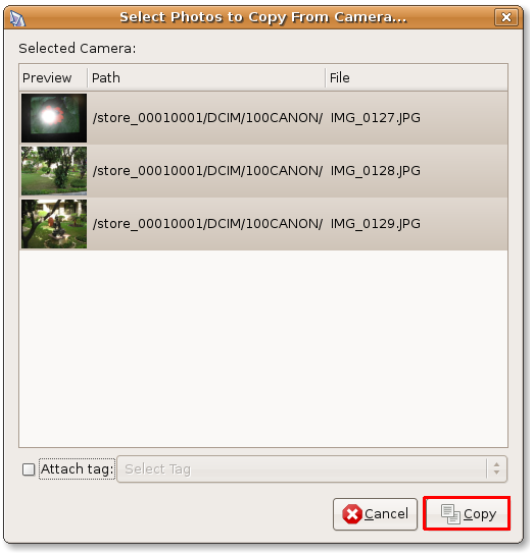


Figure 7.22: *Selecting Images to Copy*

4. F-Spot copies the photographs to the specified location and displays the copied photographs in the right pane of the **F-Spot** window.

7.4.2 Viewing Photos

After importing, you can view all the photographs as thumbnails in the right pane of the **F-Spot** window. You can view photographs in F-Spot by:

- Double-clicking each thumbnail to enlarge the view

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- Select a thumbnail and click **Fullscreen** on the toolbar

The image opens in fullscreen mode.

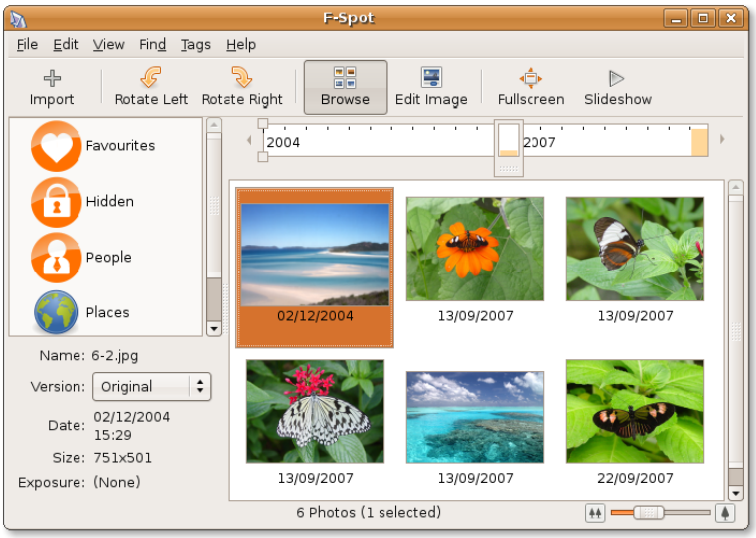


Figure 7.23: Browsing Photos

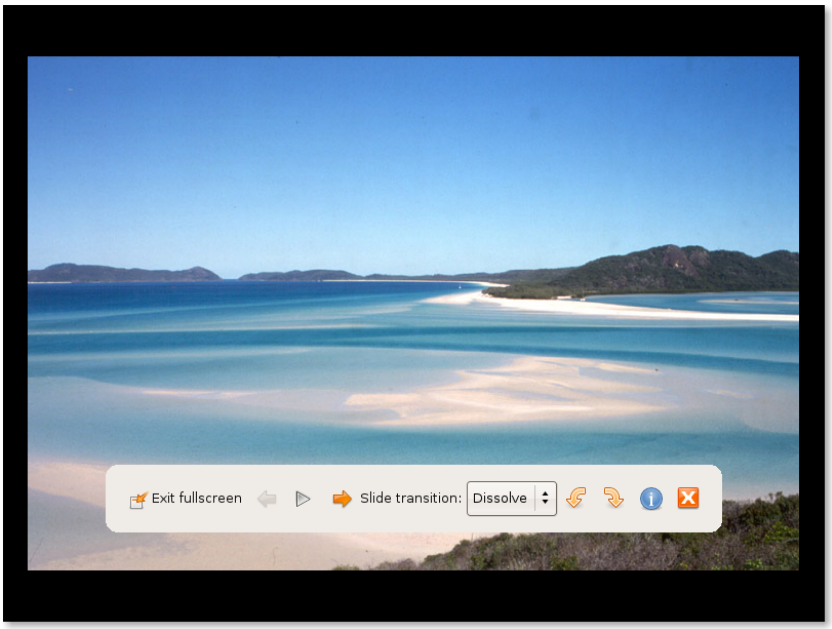


Figure 7.24: Viewing Photos in Full Screen Mode

Click **Exit fullscreen** to return to the **F-Spot** window.

7.4.3 Organising Photos

By default, F-Spot organises photographs based on the dates in which they were saved on the computer. You can view photographs for a specific date and time by clicking the corresponding year on the timeline slider or moving the slider along the

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timeline. For example, assume that there are 100 images in the right pane, 50 of which were saved in 2004 and 50 in 2007. To view the images for 2004, position the slider on the timeline at the 2004 mark.

To organise the photographs differently, you can attach a tag or a label to each photo and categorise them. You can then view photographs based on these categories.

Some categories are already predefined and visible in the left pane of the **F-Spot** window. You can group your photos under these tags.

To add a tag to a photograph:

- In the **F-Spot** window, right-click a photograph, point to **Attach a Tag** and click the tag with which you want to associate the photograph. The tag is displayed at the bottom of the photograph.

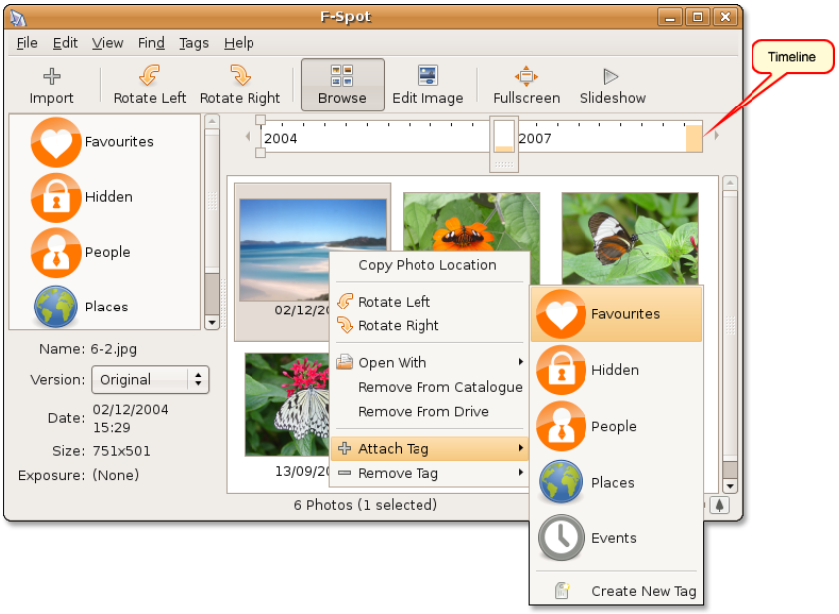


Figure 7.25: Tagging an Image

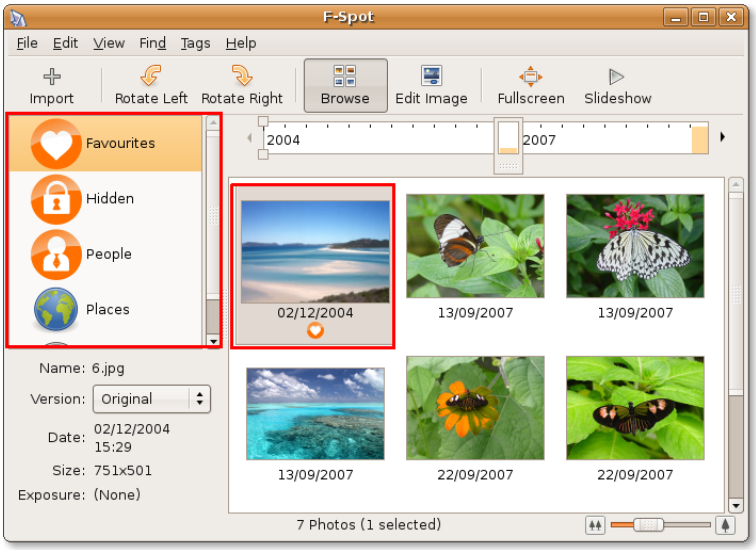


Figure 7.26: Viewing Tagged Images

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The tagged image is now displayed under the tagged category.

7.5 Drawing with Inkscape

Inkscape helps you draw illustrations for the Web, graphics for mobile phones, simple line drawings, cartoons, complex works of art, figures for chapters and books or organization charts.

Inkscape is a high-end graphic tool with capabilities similar to Illustrator, CorelDraw or Xara X. It is multi-platform software that is freely available for the Linux, Microsoft Windows, Solaris and Mac OS X operating systems.

You can use it to rotate, re-size, skew, proportion, fill and stroke objects with a high level of precision. Advanced visual effects such as gradient and transparency are also available.

Inkscape is not part of the default graphics package in Ubuntu however, you can install this package from repositories.

7.5.1 Installing Inkscape

There are two ways to install Inkscape. You can install this application from the repositories by using Synaptic Package Manager or from the Command Line Interface (CLI).

Note:
Your computer should be connected to the Internet while installing the application from the repositories.

---

1. On the **System** menu, point to **Administration** and click **Synaptic Package Manager**. The **Synaptic Package Manager** window opens.

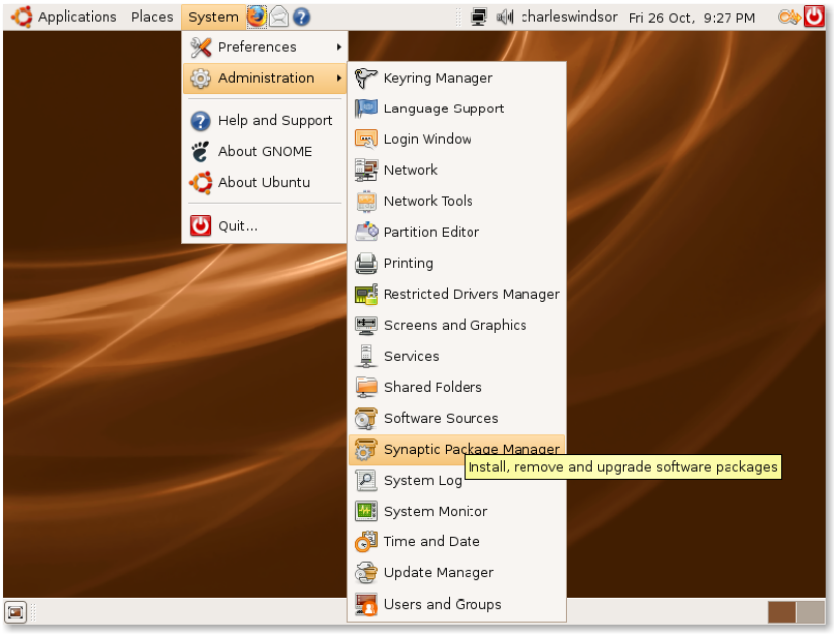


Figure 7.27: *Launching Synaptic Package Manager*

2. In the **Synaptic Package Manager** window, the left pane lists the categories of software and the right pane lists the packages in a category. Click **Search**. The **Find** dialogue box opens. Type **Inkscape** in the **Search** field and click **Search**.

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Note:
To view installed and uninstalled packages, click **Status**. For the source repository of the package, click **Origin**. Click **Custom Filters** to determine whether a package is broken or upgradeable. To return to the list of categories after searching the packages, click **Sections**.

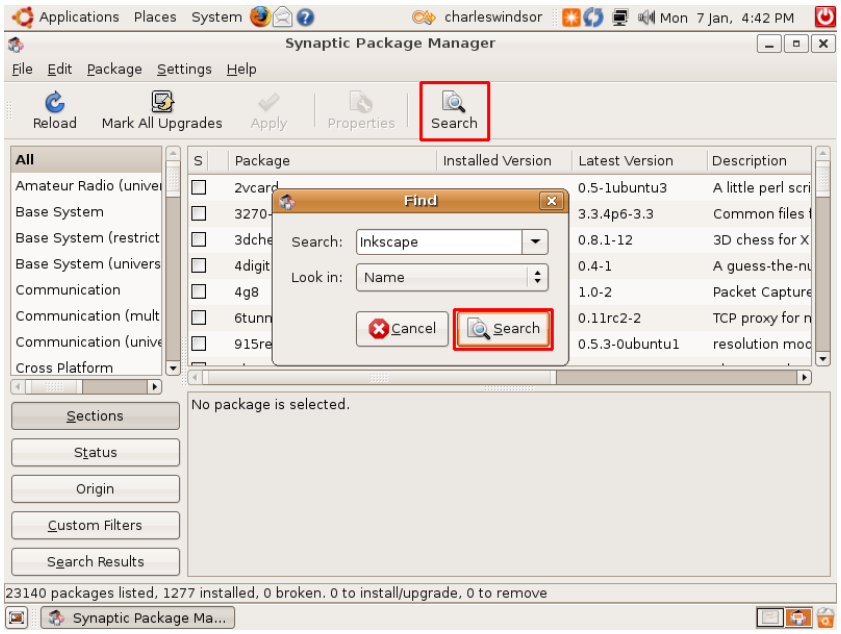


Figure 7.28: *Searching Inkscape*

3. The **Search** results are displayed in the right pane of the **Synaptic Package Manager** window. Right-click **Inkscape** and select the **Mark for Installation** check box.

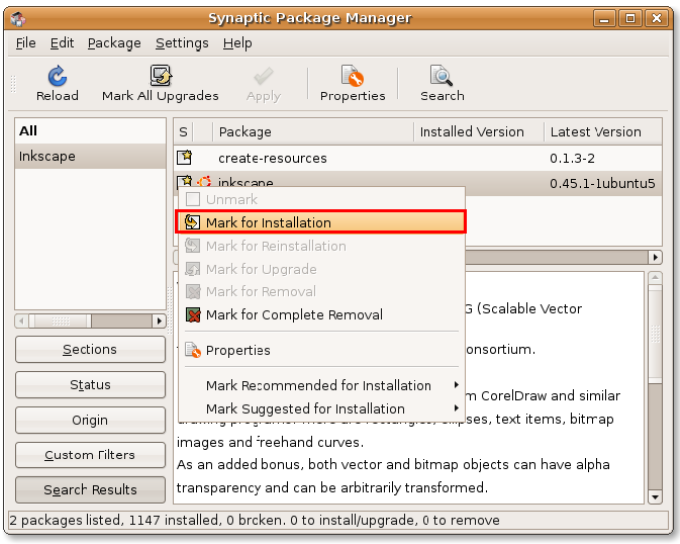


Figure 7.29: *Marking Inkscape for Installation*

4. Click **Apply** on the toolbar to begin the installation process. A **Summary** dialogue box is displayed, which prompts you to confirm the changes. Click **Apply** to proceed with the installation.

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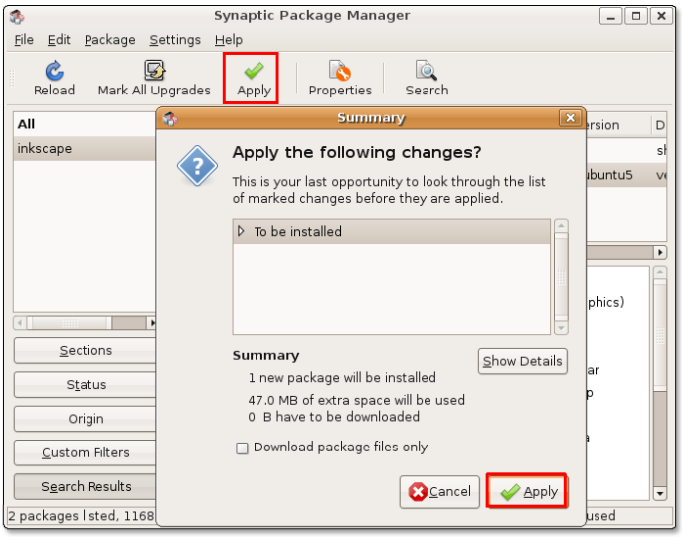


Figure 7.30: *Confirming Changes*

5. After the installation is complete, click **Close** in the **Changes applied** dialogue box.

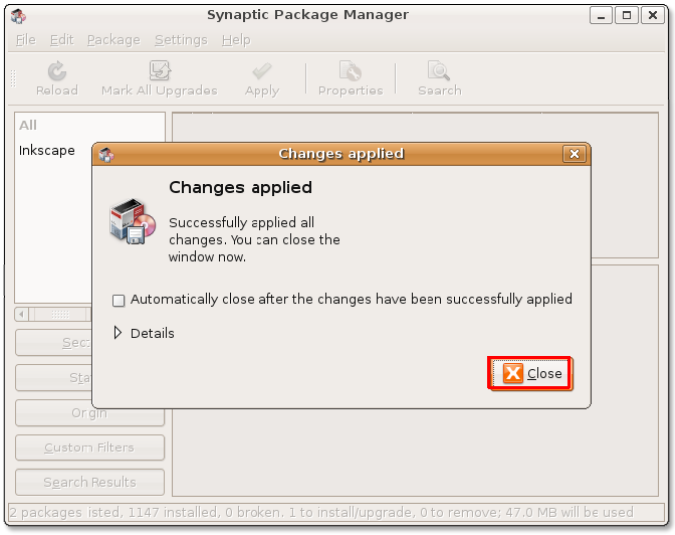


Figure 7.31: *Changes Applied Confirmation*

To launch Inkscape, on the **Applications** menu, point to **Graphics** and click **Inkscape Vector illustrator**.

7.5.2 Creating Vector Graphic Images Using InkScape

Instructor Notes:
To utilise the full potential of this application requires some hands-on experience on similar applications. This topic introduces students to Inkscape and covers the basic concepts. To engage students with some prior experience, use an example from the help manual and make them perform the steps given in the manual.

Page: This area enables you to specify various options for the output. For example, you can specify the Page dimensions for printing on A4 size paper. The Page adjusts accordingly and you can adjust the proportion the drawing relative to the Page.

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Menu Bar: This toolbar provides menus such as file save and zoom. You can perform all operations in Inkscape by using the options listed on these menus.

Command Bar: This toolbar provides shortcuts to major operations on the menu bar.

Drawing Toolbar: This toolbar provides options to perform drawing operations. You can create basic shapes such as a rectangle, a square or an ellipse.

Tools Control Bar: This toolbar provides options specific to a tool on the Drawing toolbar. For example, if you select the polygon tool from the Drawing toolbar, the Tools Control Bar displays options to set the corners in the polygon.

Status Bar: This toolbar indicates the status of objects such as dimensions and layers. For example, when you roll the mouse over the window, the Status Bar indicates the position of the cursor relative to the window.

Note:
Vector drawing software uses standard notation to refer to shapes such as simple lines, rectangles and complicated shapes as objects.

Creating and Saving Objects Creating a new object in Inkscape requires extensive use of the Drawing toolbar. However, the options in this toolbar help you to create basic shapes. To create complex objects, you need to further edit, combine and manipulate these shapes.

1. Click the object button associated with the shape you want to draw. Point anywhere in the page where you want to start drawing the object.
2. Drag the cursor to the desired size of the object. The object is displayed in the page.

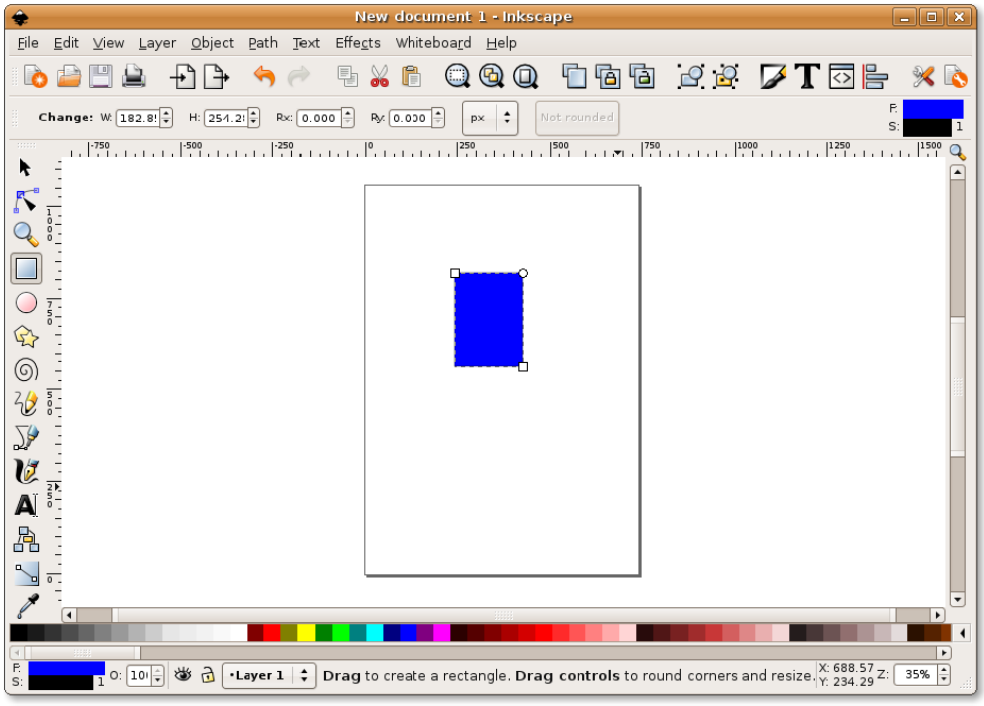


Figure 7.32: Drawing an Object

The Tools Control Bar displays options to create the object. For example, if you are creating a rectangle, the toolbar provides the option to specify the height and the width of the rectangle.

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3. After creating the shape, click **Save** on the Command Bar. The **Select file to Save to** dialogue box is displayed. Type the name of the file in the **Name** text box, specify the location where you want to save the file and click **Save**.

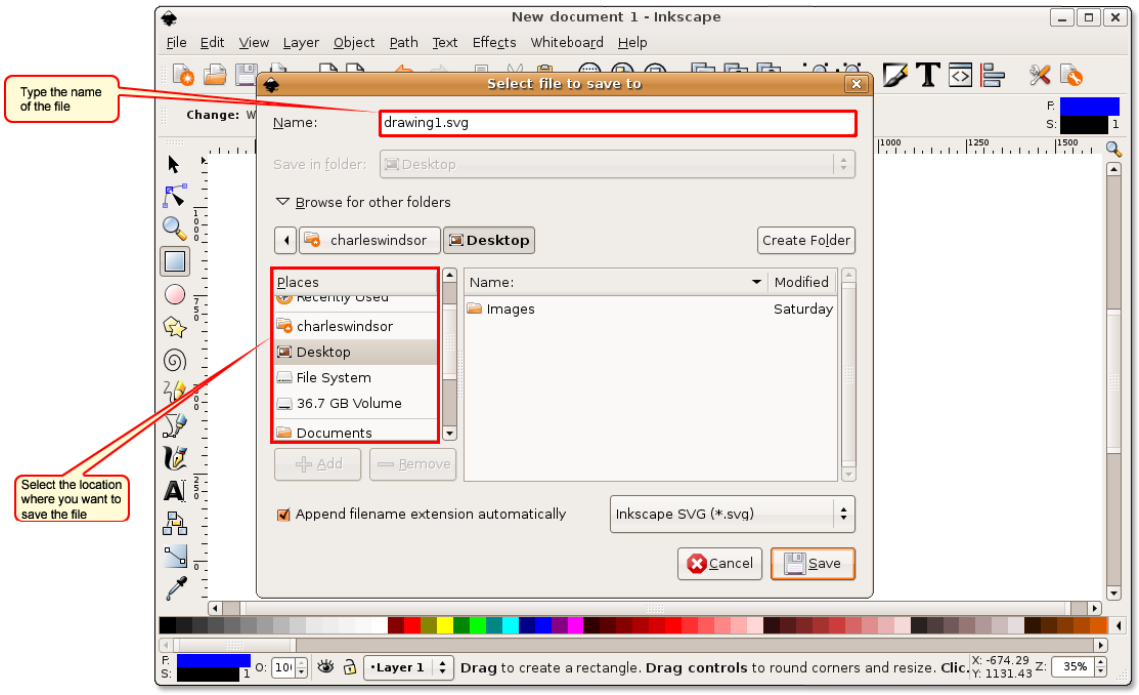


Figure 7.33: Saving an Object

Note:
Inkscape saves images as vector graphics. You can resize a vector image without affecting the resolution of the image.

7.6 Using a Scanner

Scanning an object in Ubuntu is simple. If you have a USB scanner, plug the scanner directly into your computer. Most plug-and-play devices are compatible with Ubuntu, if however, the computer fails to detect the scanner, you will need to check its compatibility with Ubuntu.

7.6.1 Checking Scanner Compatibility

You can check the compatibility of your scanner with Ubuntu in one of two ways:

- Visit this Web site for the list of scanners and drivers compatible with Ubuntu: https://wiki.ubuntu.com/HardwareSupportComponentsS
- Check the status of your scanner at the following Web site: http://www.sane-project.org/sane-backends.html. This site lists the drivers distributed with sane-backends-1.0.18 and supported hardware and software.

7.6.2 Scanning an Image

You can scan an image by using the scanner interface or the scanning application XSane, which is available in Ubuntu.

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1. On the **Applications** menu, point to **Graphics** and click **XSane Image Scanner**. XSane automatically searches for a scanner attached to the computer. After your computer detects the scanner, the **XSane Options** dialogue box is displayed.

2. The **XSane Options** dialogue box provides options to modify the default settings of the output. You can specify the number of copies to be scanned, the name of the output file, the output file type, and colour and contrast options. After you specify the properties of the output file, place the object on the scanner and click Scan to begin scanning the object.

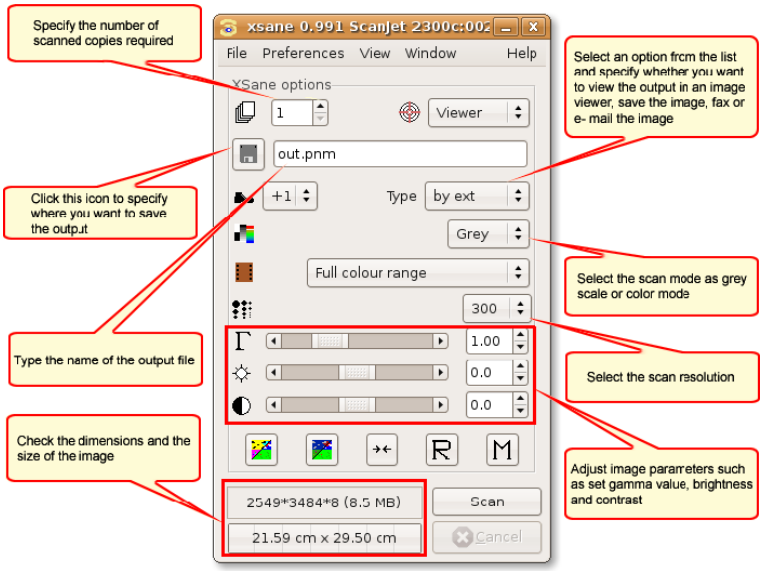


Figure 7.34: Using XSane

3. After the object is scanned, a viewer window displays the output.

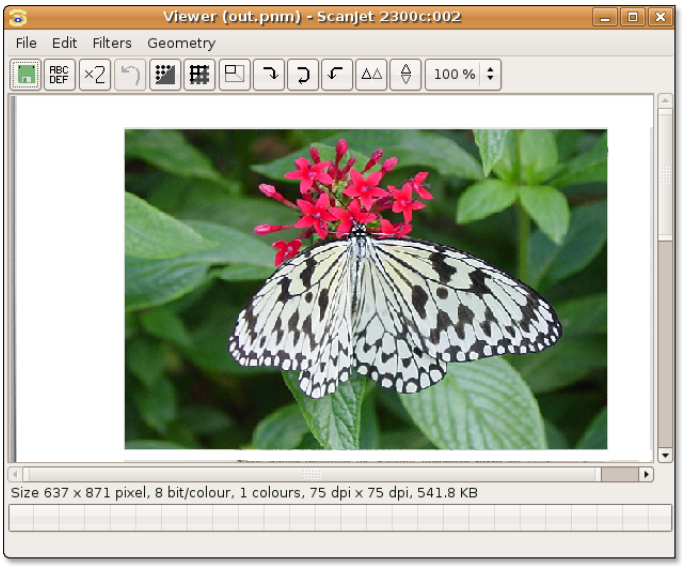


Figure 7.35: Viewing Scanned Output

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Note:
Before beginning the scanning operation, check the compatibility of your scanner with Ubuntu. Sometimes, Ubuntu detects the scanner as hardware but fails to scan if the required driver is missing.

4. Continue to scan other images or close the **XSane Options** dialogue box to exit the application.

7.7 Lesson Summary

In this lesson, you learned how to:

- View and organise your photo collection by using the default Ubuntu graphic applications:
  - The **gThumb Image Viewer** enables you to import pictures, create a photo CD, display photos as a slide show and create albums of your photo collection for the Web.
  - **F-Spot** enables you to tag, categorize and export your images to the Web.
- Use GIMP for advanced image manipulation and creation.
- Create graphics in the SVG format by using the Inkscape vector graphics editor.
- Scan your images and save them in various formats by using XSane Image Scanner.

7.8 Review Exercise

Question: Which of the default graphics applications provides the option to display only a category of images from a randomly stored pool of images? (Choose two).

a) Inkscape

b) gThumb

c) F-Spot

d) Xsane

e) GIMP

Answer: b) gThumb and c) F-Spot

Question: Which default graphics application in Ubuntu facilitates photo sharing over the Internet?

Answer: The F-Spot Photo Manager

Question: Is there any additional software required to import images from a digital camera?

Answer: No, Ubuntu automatically identifies plug-and-play devices. F-Spot or gThumb identify the connected device and enable you to import images directly from the application interface.

7.9 Lab Exercise

Exercise 1: Creating a Web Album by using gThumb You have just returned from a vacation with your friends. You decide to write about this experience on your blog and post some photographs of the trip. However, uploading images one by one to the Web site involves a lot of effort and time. You want to find a more convenient way to do this.

1. Launch **gThumb**. The **Desktop/Images** window is displayed.

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2. Click **Images** on the left navigation bar and navigate to the folder in which the images are stored. Click **Open**. The workspace displays all the images available in the folder.
3. Select the images you want to include in the Web album.
4. On the **Tools** menu, click **Create Web Album**. The **Web Album** window **is** displayed.
5. In the **Web Album** window, enter the required information, including the destination folder, the index file, the index page layout and the album style. Click **Save**.
6. The gThumb software creates the album and saves it at the specified location. Now, you can upload the Web album to a Web server.

Exercise 2: Exporting Images to the Web by using F-Spot You now want to share the photographs you uploaded only with friends. You also want to retain the photographs for a longer period than is typically permitted by Web hosting sites. How can you do this?

1. Launch **F-Spot**.
2. Click the **Import** button on the toolbar. The **Import** dialogue box is displayed.
3. In the **Import** dialogue box, click **Select Folder** from the **Import Source** box. Navigate to the source folder and click **Open**. The images are displayed.
4. Click **Import** in the **Import** dialogue box.
5. Select the images you want to export.
6. On the **File** menu, point to **Export** and click the destination.

Note:
To export images to the Web, you need to have an active account with the target Web site.

Exercise 3: Removing Red Eye from an Image You took photographs at your recent birthday party but some of the people have red eye marks which need to be removed.

1. Launch **gThumb** and import the affected images.
2. Double-click an image with a red eye mark.
3. On the **Image** menu, click **Redeye Removal**. The **Red-Eye Removal** dialogue box is displayed.
4. In the **Red-Eye Removal** dialogue box, click on or near the red eye. This replaces the red eye with black colour.
5. Click **Undo** if you are not happy with the result. Save the edited version of the image.

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Chapter 8

Playing Music and Videos

Objectives In this lesson, you will learn to:

- Play, edit and organize music and video files.

Instructor Notes:
It is recommended to cover all the topics in this lesson. However,if you fall short of time then cover only the following topics:
Legal Restrictions
Playing Audio Files
Using an iPod
Viewing DVDs
Playing Online Media

8.1 Legal Restrictions

Ubuntu fully supports playback of music, videos and DVDs available in free and unrestricted formats. A number of multimedia formats are restricted by licenses and software patents in some jurisdictions. Ubuntu does not offer out-of-the-box support for these formats. It is possible to enable playing the proprietary formats in Ubuntu, you must do so after considering the patent and copyright restrictions guiding the use of the proprietary file formats.

The license of the format is different from the license of the content itself. For example a video's content can be licensed under a Creative Commons license, and be available as MPEG file. While the content can be distributed freely, the format is proprietary and a software for playback may need to be licensed in some jurisdictions.

To understand the legal issues associated with the use of proprietary formats, you need to first grasp the difference between free and non-free or proprietary formats.

8.2 Playing Music Files

Ubuntu comes with the Rhythmbox Music Player to play and organise music files. Similar to iTunes in its interface, this music player is a free software application designed to work in the GNOME desktop environment. Using Rhythmbox, you can play your music files, listen to Internet radio, import music from CDs and organise your music files. Rhythmbox offers comprehensive audio support for a large number of audio formats and contains various useful features that make playing music easy and enjoyable.

Instructor Notes:
You must demonstrate and let the students play fully with at least 1 music, 1 DVD playback and 1 audio recording.

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8.2.1 Playing Music using Rhythmbox

1. On the **Application** menu, point to **Sound & Video** and then click **Rhythmbox Music Player**. A welcome screen is displayed.

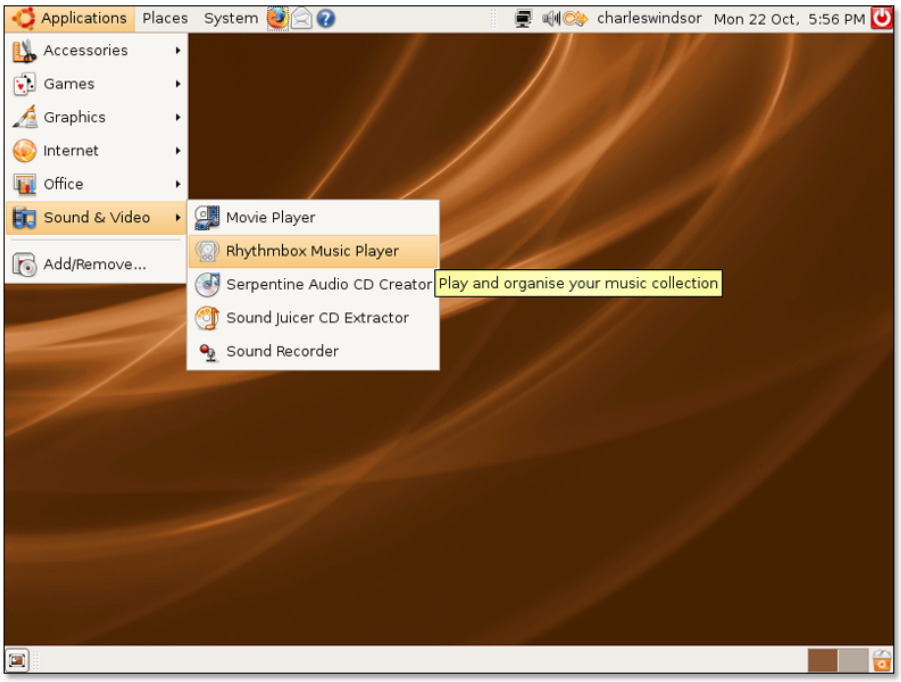


Figure 8.1: Launching Rhythmbox

2. The main window of the Rhythmbox Music Player opens. Now, you will be able to organise your favourite music using this window.

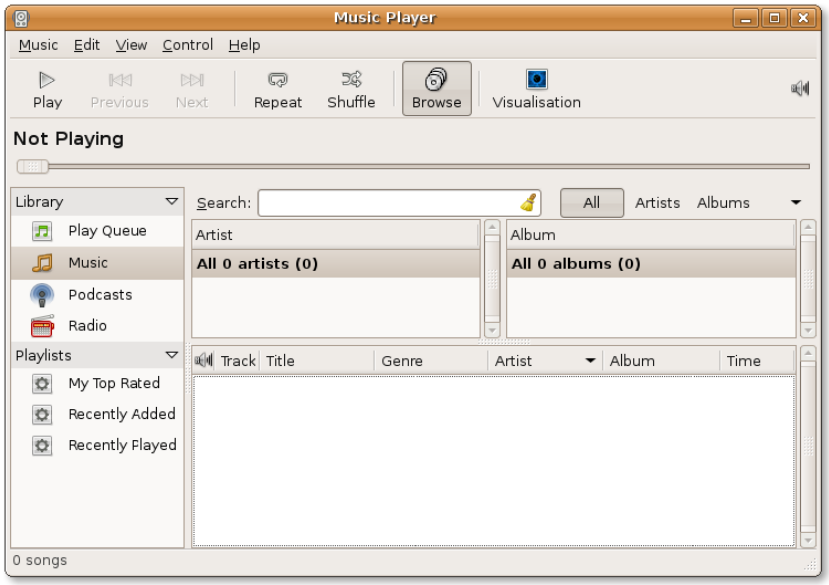


Figure 8.2: The Rhythmbox Music Player

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3. To start playing music in Rhythmbox, you need to first select the music source from the **Source** list. By default **Library** is selected as the source when you open Rhythmbox for the first time.

   Library is the main source available in Rhythmbox. You can import all your music files into the Rhythmbox library and can start playing immediately. You also use the music files in your library to create smart customised playlists and play-queues. To start importing individual music files, right-click **Library** and click **Import File**. It displays the **Import File into Library** dialogue box.

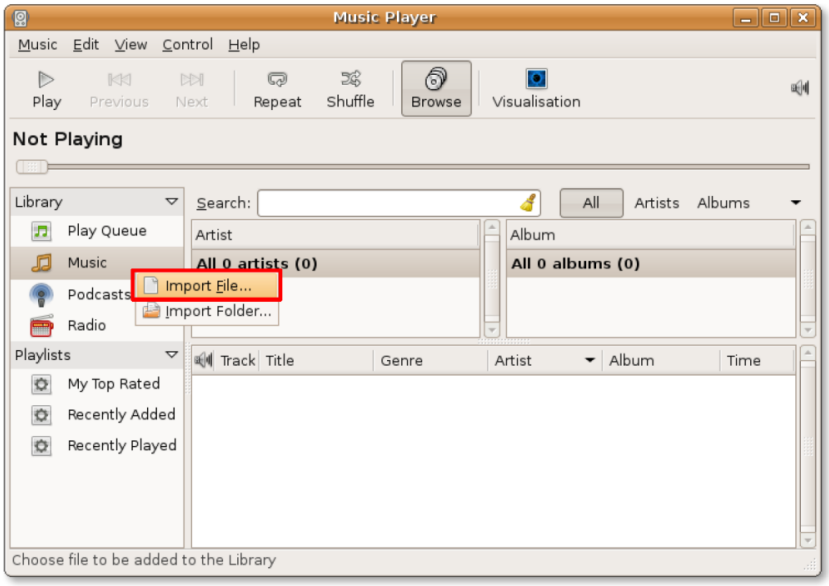


Figure 8.3: Importing Music Files

4. In the **Import File into Library** dialogue box, navigate to the folder from which you want to import the files. Select the files that you want to import and click **Open**.

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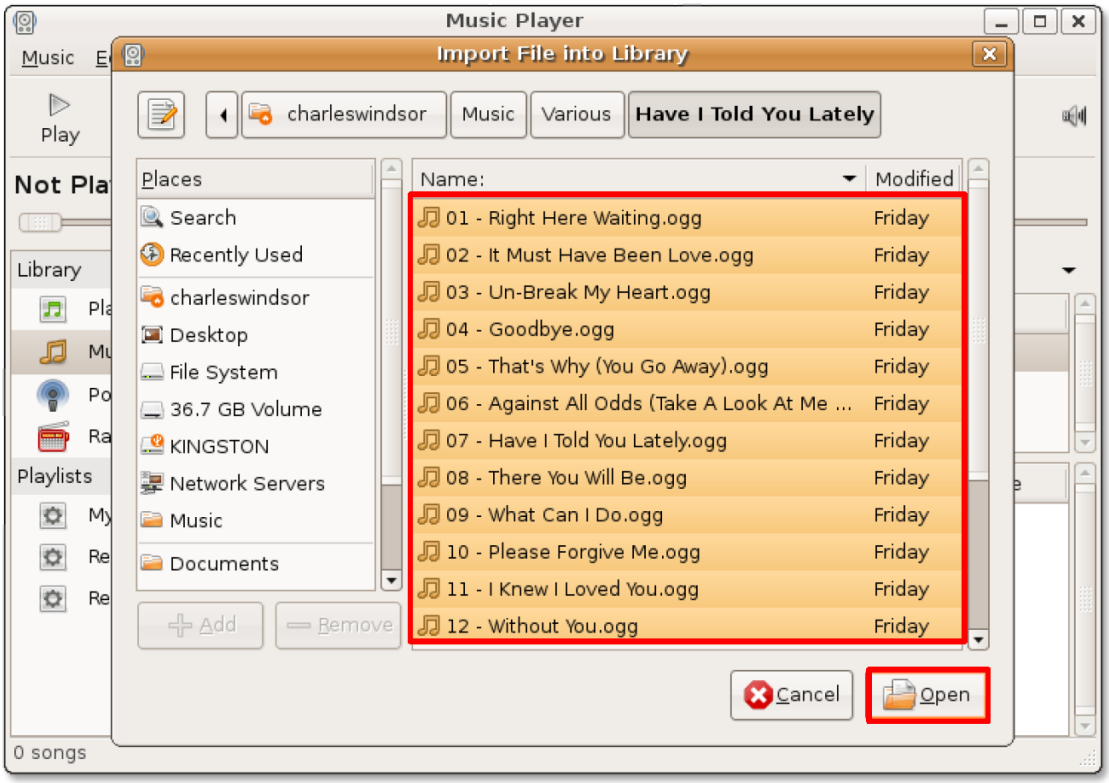


Figure 8.4: Selecting the Files to Import

Nice to Know:
While importing music files from your music collection, Rhythmbox also imports the metadata tags associated with the files. These tags are used by Rhythmbox to categorise the music files by genre, artist, album, title, and track number.

5. The selected music files are imported into the library and displayed in the the Rhythmbox window. You will notice that the main Rhythmbox window is split into various panes. Each pane displays different details about your music collection. To play music from the library, you can use the **Artist, Album** and **Track** panes to select the music tracks that you want to play and then use the playback controls to start playing the music tracks. Click the **Play** button to start playing the selected track.

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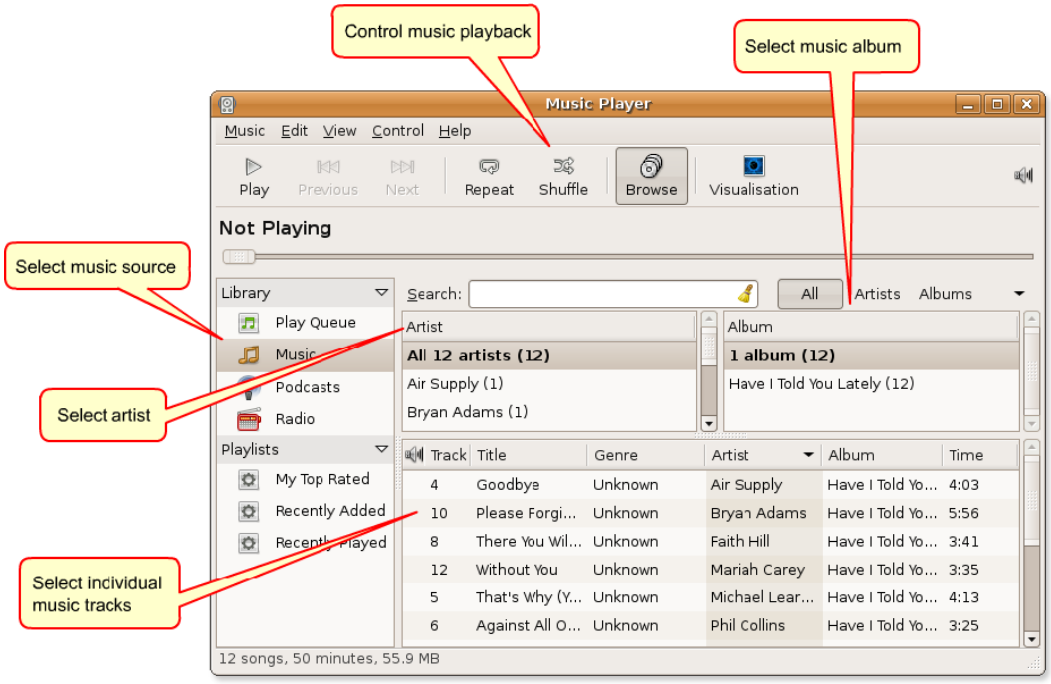


Figure 8.5: The Rhythmbox Window

6. If you click the **Play** button without selecting any track, Rhythmbox will start playing the first track from your current view. You can use the **Shuffle** button to play tracks randomly. You can also create a play list by right-clicking a music track and selecting **Add to Playlist**. To stop or pause a track, click the **Play** button again.

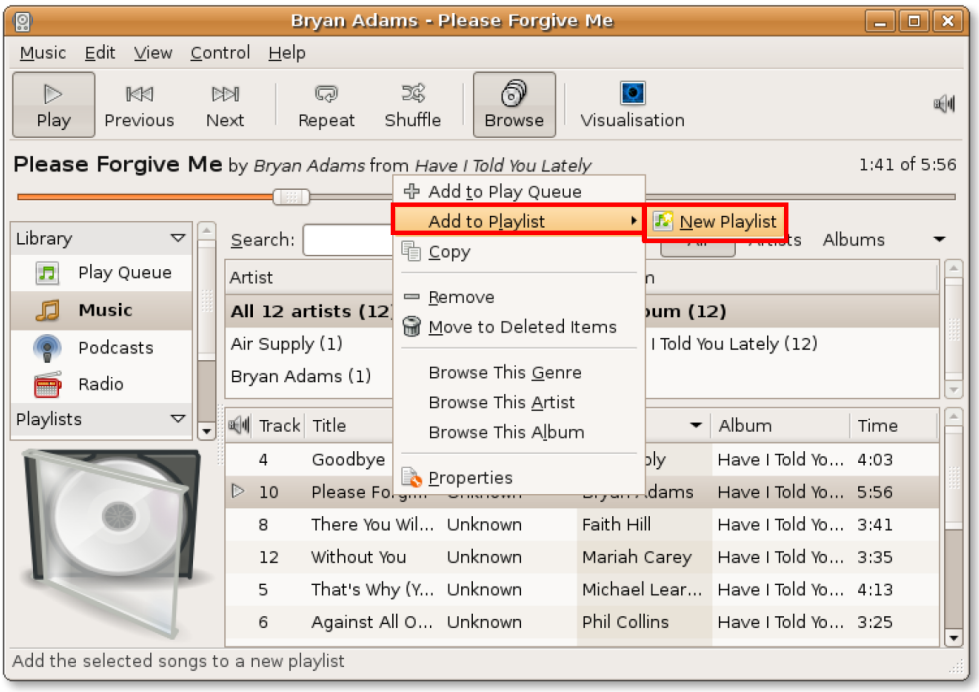


Figure 8.6: Creating New Playlist

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7. Rhythmbox offers many additional useful features in the form of various plugins. Some of these plugins are not turned on by default. To access these plugins, on the **Edit** menu, click **Plugins.** The **Configure Plugins** dialogue box opens.

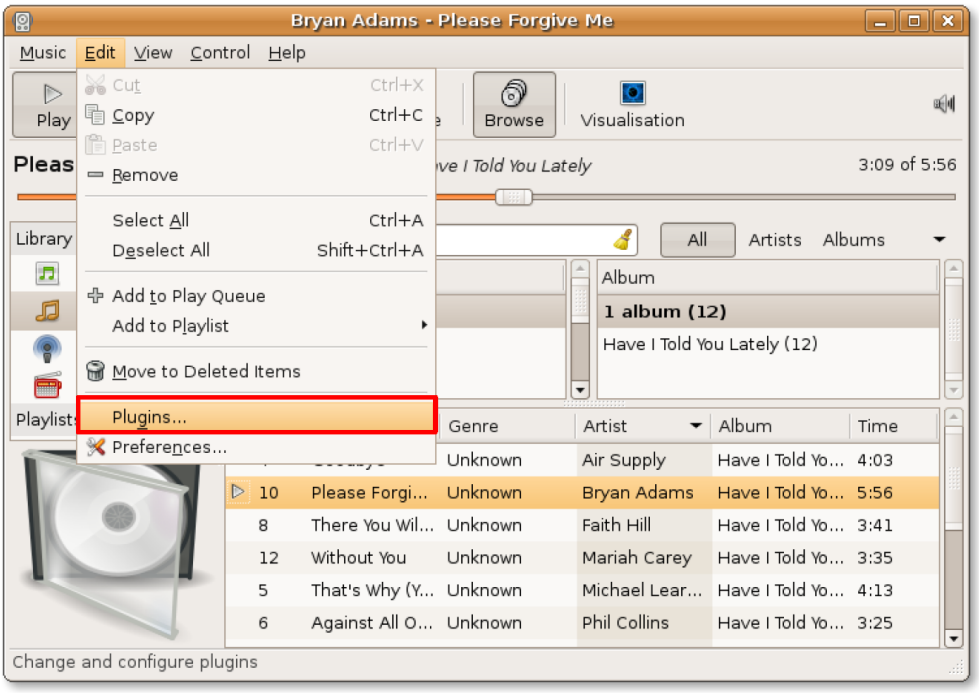


Figure 8.7: Accessing Plugins

8. You can view all the available plugins in the left pane of the **Configure Plugins** dialogue box. Selecting a plugin displays its details in the right pane of the dialogue box.

9. Depending on your requirements and preferences, you can activate these plugins to get extra functionality in your Rhythmbox. For example, activating **Magnatune Store** plugin enables iTunes-style song previews and paid downloads. Activating **Visualization** renders a real-time visualization of the music on the screen while you listen to a song track. Similarly, if you want to automatically retrieve the lyrics of the song being played, activate **Song Lyrics** by selecting the corresponding check box and click **Close** to exit the **Configure Plugins** dialogue box.

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Figure 8.8: Activating Plugins

10. You are returned to the main Rhythmbox interface. To start retrieving the song lyrics, on the **View** menu, click **Song Lyrics**.

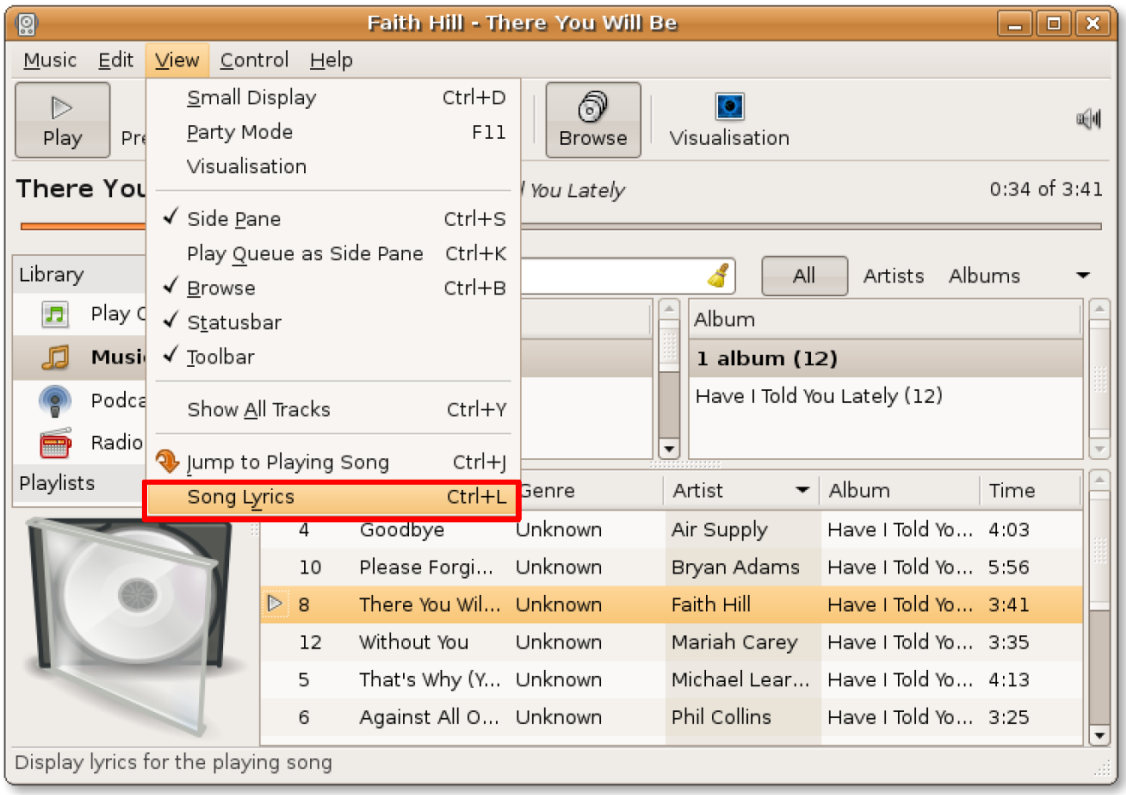


Figure 8.9: Retrieving Song Lyrics

11. Amazingly, Rhythmbox retrieves the song lyrics for you. Now, you can sing along while listening to your favourite song.

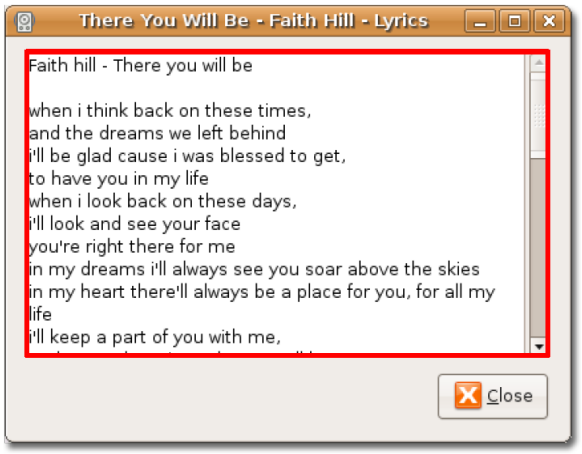


Figure 8.10: The Song Lyrics Retrieved

12. Similarly, if you wish to view animations while listening to a song, click the **Visualization** button.

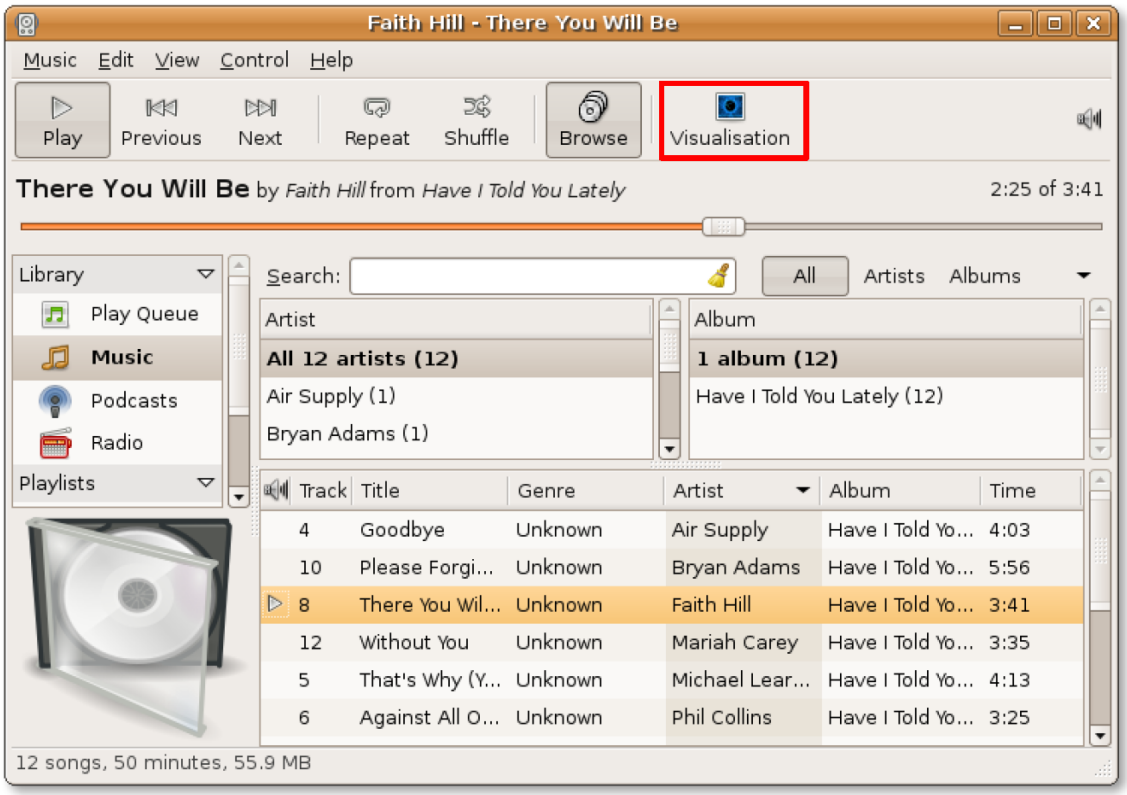


Figure 8.11: Activating Visualisation

13. You can view animations while playing a song.

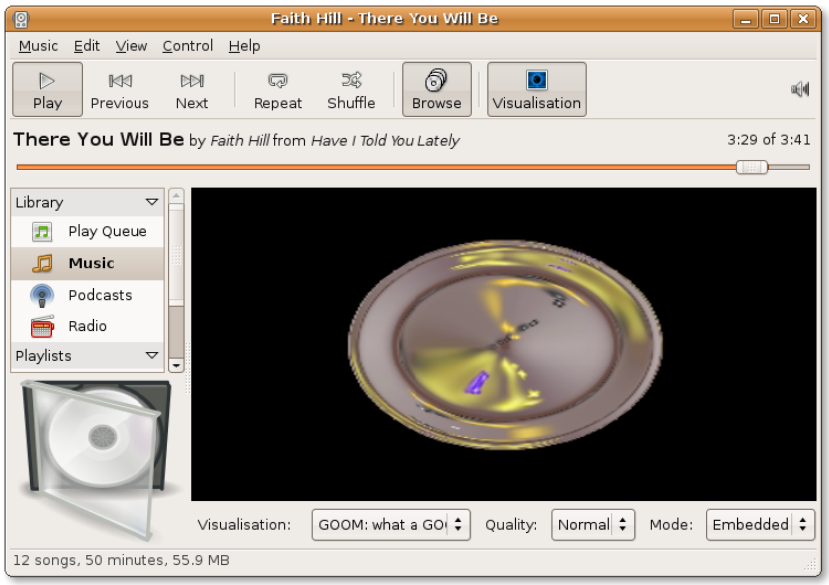


Figure 8.12: Viewing Animations

14. Rhythmbox also enables you to listen to music from a variety of sources, such as Internet radio stations and podcasts.

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To play music from a podcast of your choice, right-click the **Podcast** option in the **Source** list and select **New Podcast Feed**.

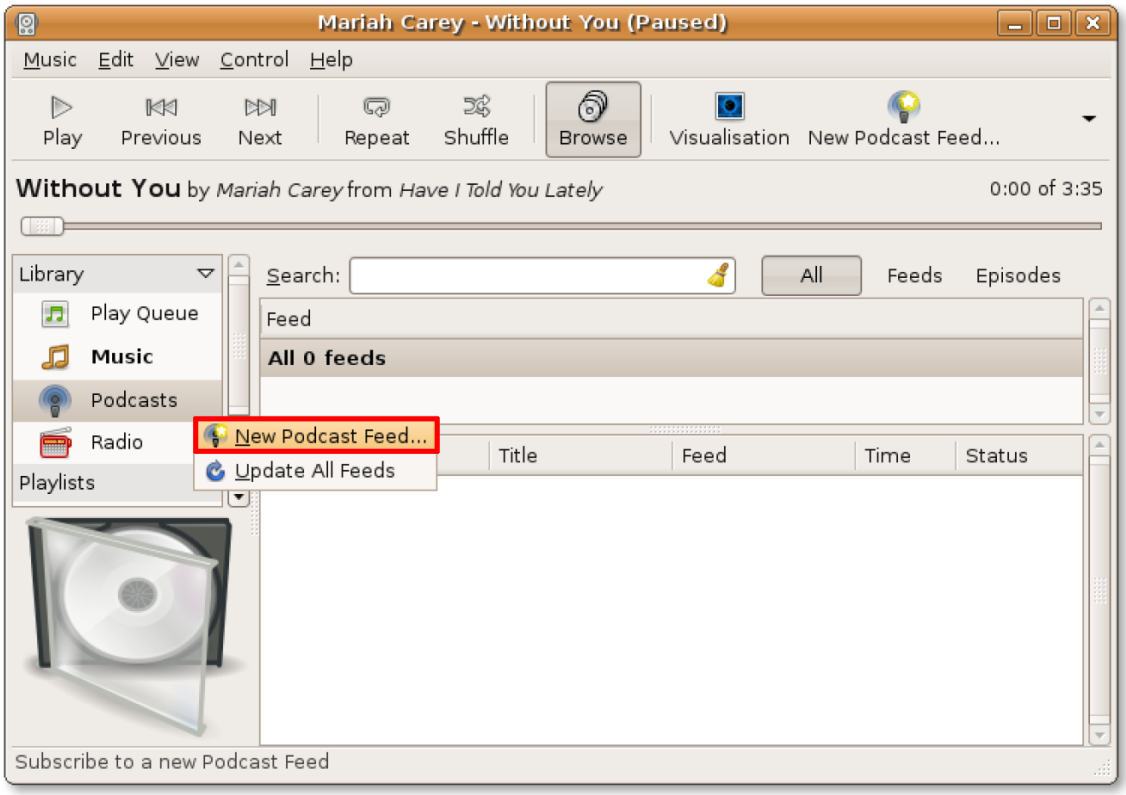


Figure 8.13: Adding New Podcast Feed

Note:
Podcasts are audio shows broadcast over the Internet that you can subscribe to. Subscribing to a podcast enables you to download each new audio release from the subscribed podcast source.

Instructor Notes:
If the students want to know more about podcasts, advise them to read the Wikipedia article on podcasting: http://en.wikipedia.org/wiki/Podcasting.

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15. Enter the podcast feed URL in the **New Podcast Feed** text box and click **Add**.

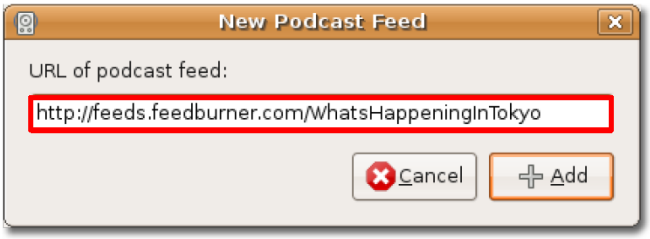


Figure 8.14: Entering Podcast Feed URL

16. Rhythmbox automatically looks for the latest podcasts and downloads them for you. To play a podcast episode, select the episode that you want to play and click the **Play** button.

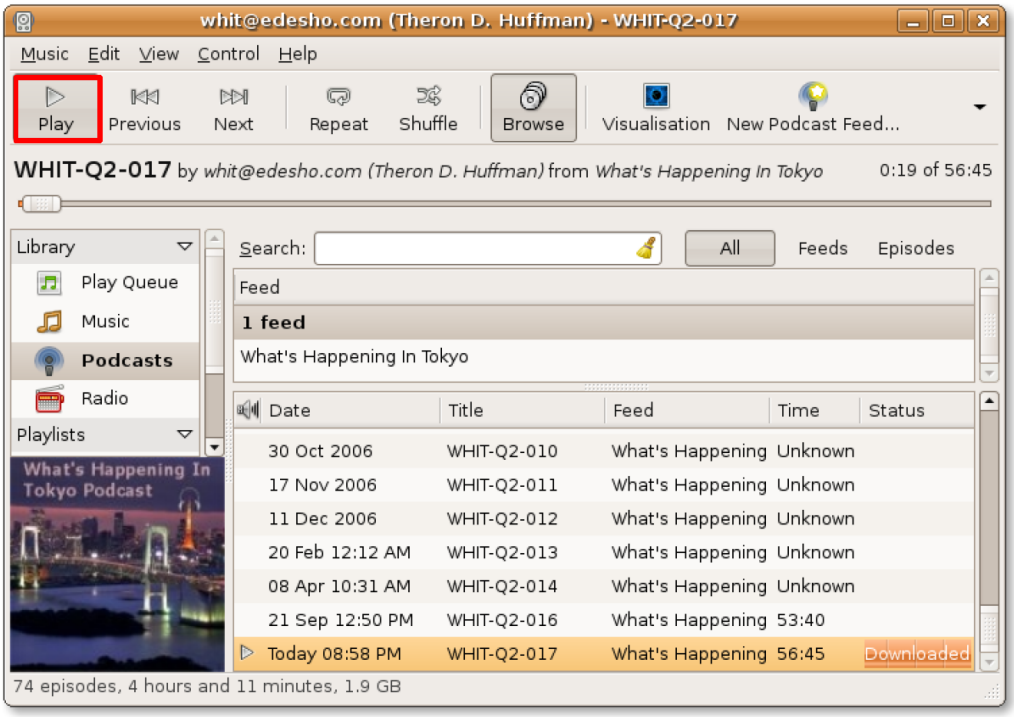


Figure 8.15: Playing a Podcast

17. Rhythmbox also allows you to listen to radio streamed from Internet radio stations across the world. To listen to Internet radio, click the **Radio** source in the **Source** pane.

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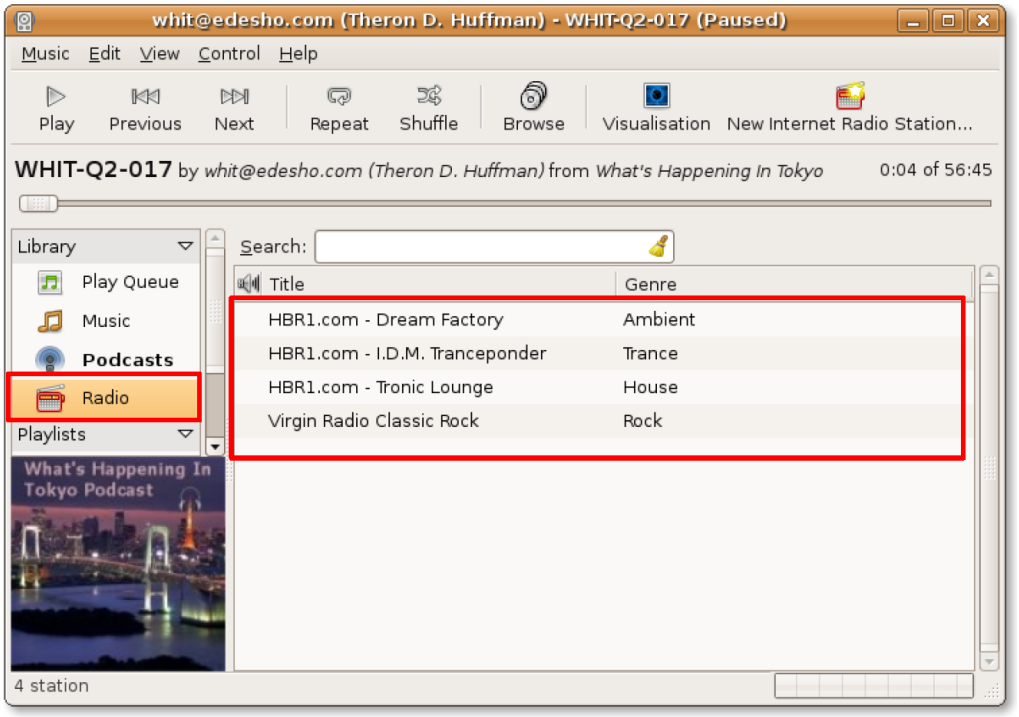


Figure 8.16: Playing Internet Radio

18. By default the **Radio** source lists several radio stations, each of them broadcasting a different genre of music. Double-click on the radio station of your choice to listen to the streaming media.

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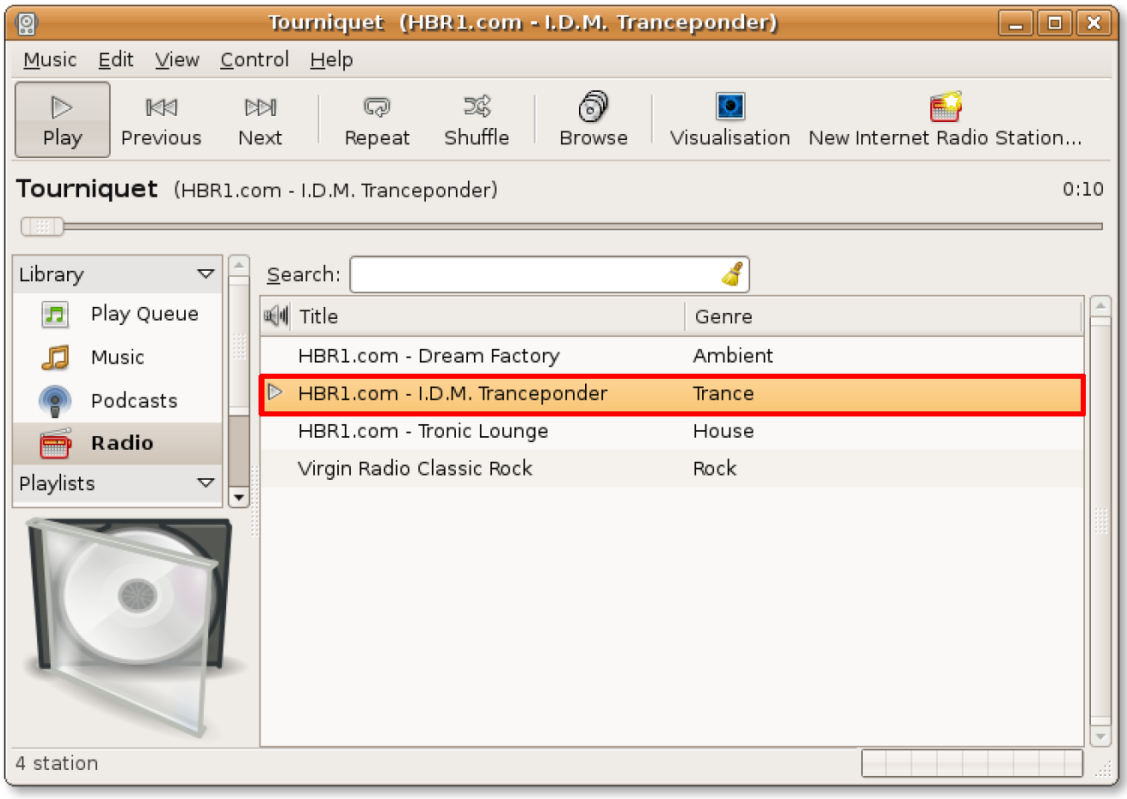


Figure 8.17: Listening to a Radio Station

Instructor Notes:
Advise students to read the Wikipedia article on Internet Radio if they want more background information: http://en.wikipedia.org/wiki/Internet_radio.

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19. You can also add a new radio station to the existing list by clicking **New Internet Radio Station** and pasting the URL of the new radio station in the **URL of Internet radio station** text box. Click **Add** to add the radio station in the existing list.

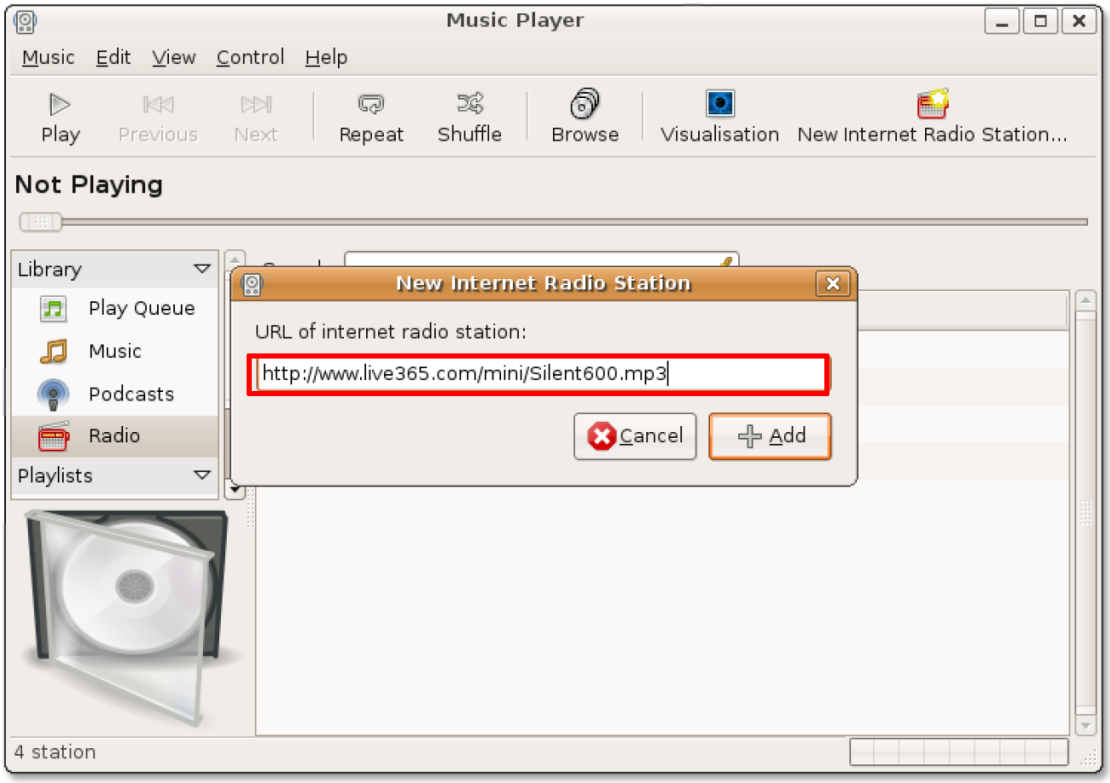


Figure 8.18: Adding New Radio Station

20. You can add many more Internet radio stations in the same way and listen to your favourite radio stations with just a click of your mouse.

8.3 Playing and Extracting Audio CDs

Sound Juicer is the default application available in Ubuntu for playing and extracting audio compact discs (CDs). It is an easy-to-use CD player and ripping tool that requires minimal user intervention in playing and extracting audio CDs. Using Sound Juicer, you can play audio tracks directly from the CD and extract audio tracks and convert them into audio files. Sound Juicer allows you to extract audio files into the following three formats:

- Ogg Vorbis: Ogg vorbis is a free, unpatented and open source alternative to the proprietary MP3 format. Like the MP3 format, it discards parts of the sound that humans cannot normally hear. An Ogg Vorbis file is typically a tenth of the size of a WAV format file containing the same content.
- FLAC: FLAC stands for Free Lossless Audio Codec. It is an unpatented, open source audio format. Unlike MP3 or Ogg Vorbis, FLAC compresses audio without discarding any information. A FLAC file is typically half the size of a WAV file containing the same content.
- WAV: WAV is short for Waveform Audio Format. It is an uncompressed format typically used for short snippets of sound and voice recordings.

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Note:
To know more about Ogg Vorbis and FLAC audio format, visit the following Web sites:

- http://www.vorbis.com/faq/
- http://flac.sourceforge.net/

8.3.1 Playing Audio CDs

1. Insert an audio CD in the CD drive of your computer. The Sound Juicer CD player and ripper is launched automatically. To start Sound Juicer manually. On the **Applications** menu, point to **Sound & Video** and then click **Sound Juicer CD Extractor**.

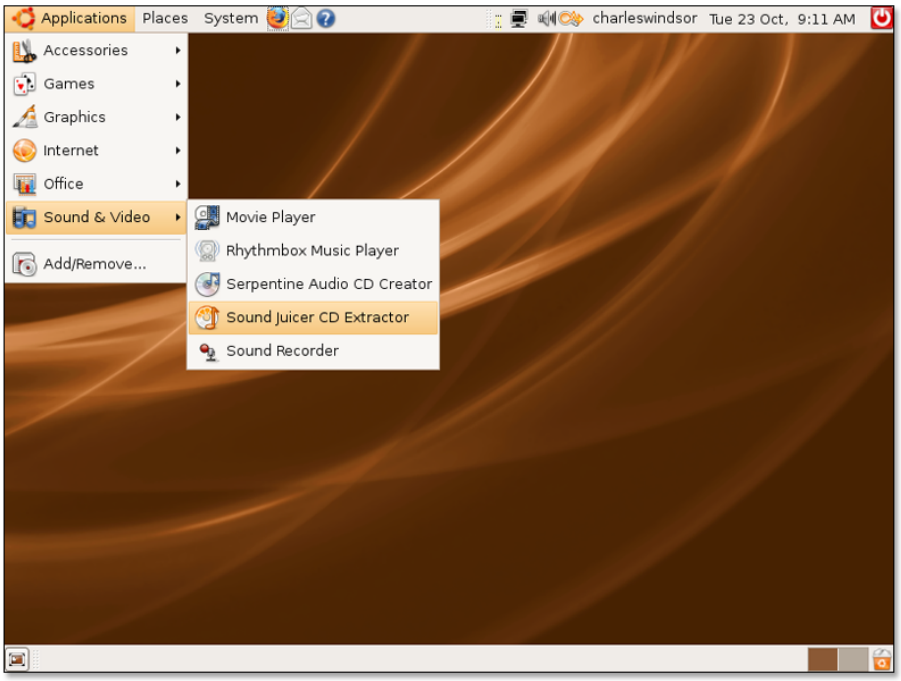


Figure 8.19: Launching Sound Juicer

2. Sound Juicer's main interface is displayed. When Sound Juicer detects a CD, it examines the CD and tries to search the Internet to locate information about the CD's content. If you are connected to the Internet, Sound Juicer will retrieve the CD artist, title, and track data from MusicBrainz.org.

   To play all the tracks sequentially, you can simply click the **Play** button.

   Note:
   MusicBrainz.org is a community-maintained online database, which contains data on over 360,000 published albums.

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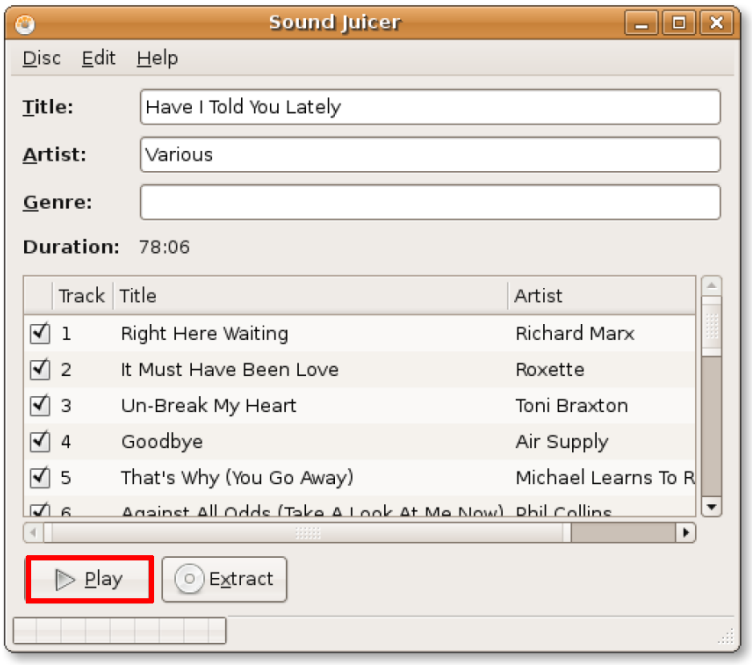


Figure 8.20: Playing Audio CD

Notice that Sound Juicer has fetched the track information from MusicBrainz.org. In the upper part of the Sound Juicer window, you can see the basic information about the disc, including title, artist, genre and total duration. The lower part of the window displays a list of tracks, each with its full title, artist and duration.

3. To play only the tracks of your choice, select the particular tracks by selecting the corresponding checkboxes and then click the **Play** button.

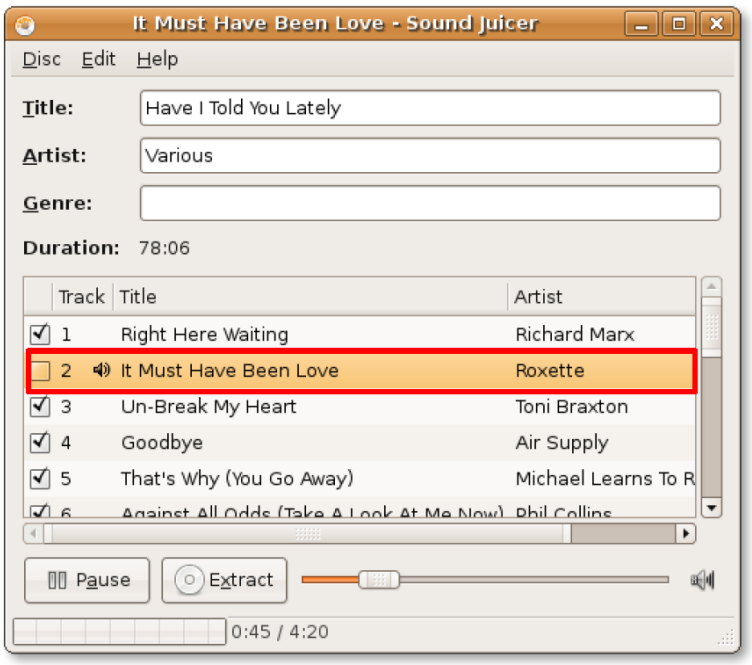


Figure 8.21: Selecting the Song tracks

4. You can now enjoy listening to your favourite music tracks.

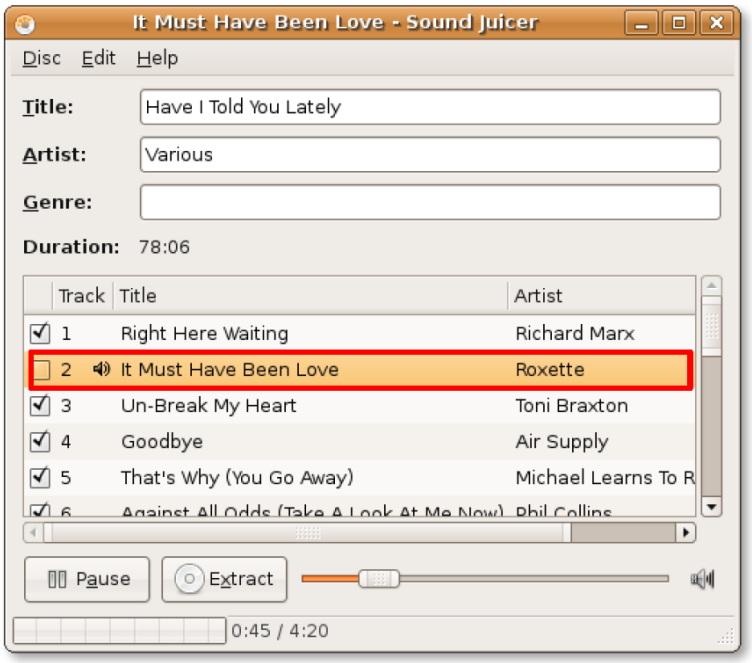


Figure 8.22: Playing the Selected Tracks

8.3.2 Extracting Audio CDs

If you want to listen to your favourite music tracks without needing to insert a CD every time, you can create a copy of the CD and extract the music tracks on your computer.

1. Insert the audio CD and click the **Extract** button. However, if you want to define the audio quality, format and the location where the files would be stored, click **Preferences** on the **Edit** menu. This displays the **Preferences** dialogue box.

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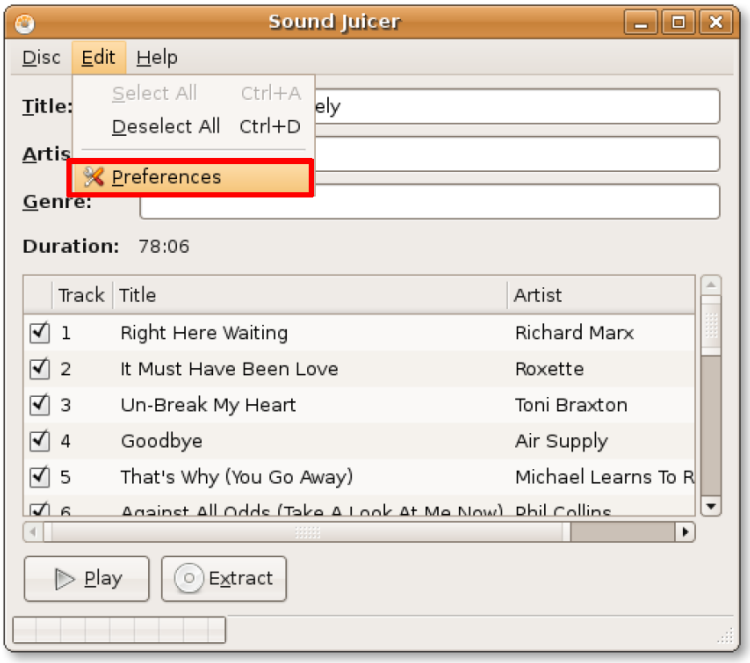


Figure 8.23: Defining Preferences For Audio Files

2. You can use the **Preferences** dialogue box to define a number of things such as how the folder hierarchy should be saved, how the files should be named and whether to eject the CD automatically after the tracks are extracted.

   In the last section of the **Preferences** dialogue box, you can define the file format in which the tracks would be stored on your computer. Based on your requirements, select any one format from the **Output Format** drop-down list.

Nice to Know:
You can also extract CD audio files to the proprietary, non-free MP3 format. Instructions for extracting audio files into the MP3 format can be found in the help for Sound Juicer. Go to **Help>Content** and then navigate to the Preferences section.

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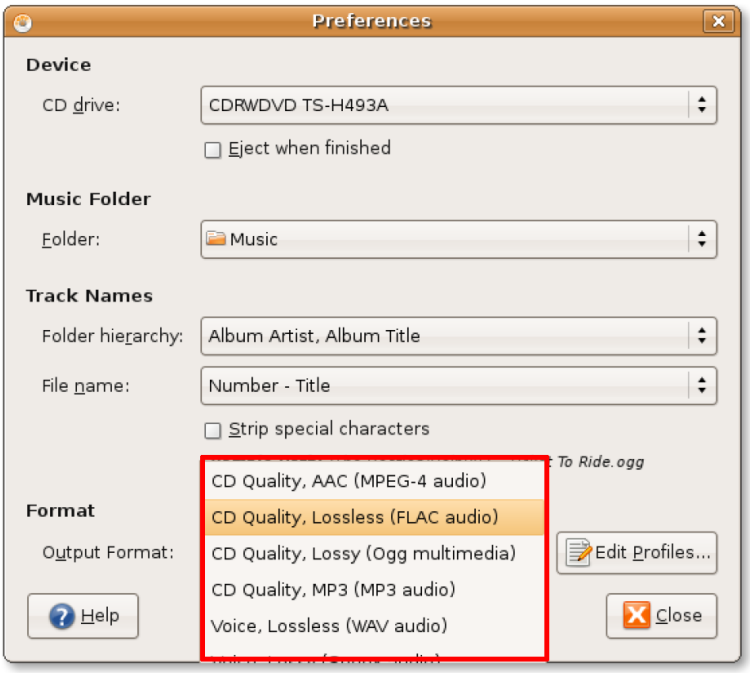


Figure 8.24: Specifying Audio Format

3. Each of these file format has its own customisable profile. Depending on the type of the music track and the destination where it has to be stored, you may need to customise these file formats. Click the **Edit Profiles** button, then select the desired profile and click the **Edit** button to edit the profile of the selected file format according to your needs.

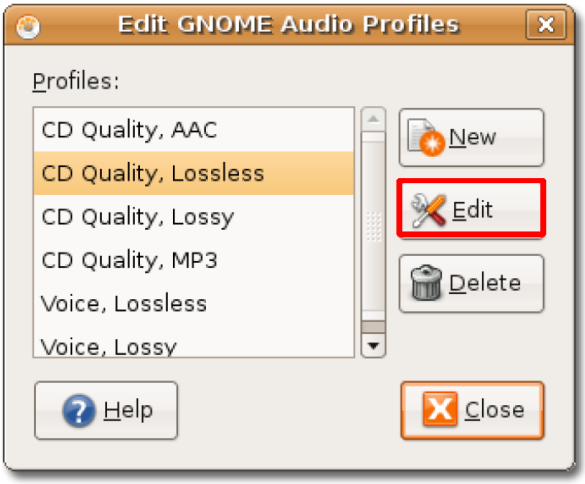


Figure 8.25: Editing Audio Profile

4. The **Editing profile** dialogue box for the selected audio profile is displayed. You can edit the audio profile according to your requirements and the click **Close** to exit.

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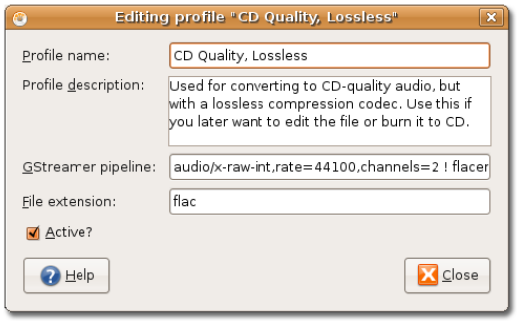


Figure 8.26: Customising Audio Profile

5. You can also use the **Preferences** dialogue box to define the location where you want the audio files to be stored on your computer. By default, Sound Juicer stores the audio files in the Home directory. To define a location of your choice, select a directory from the **Music Folder** drop-down list and click **Close** to exit the **Preferences** dialogue box.

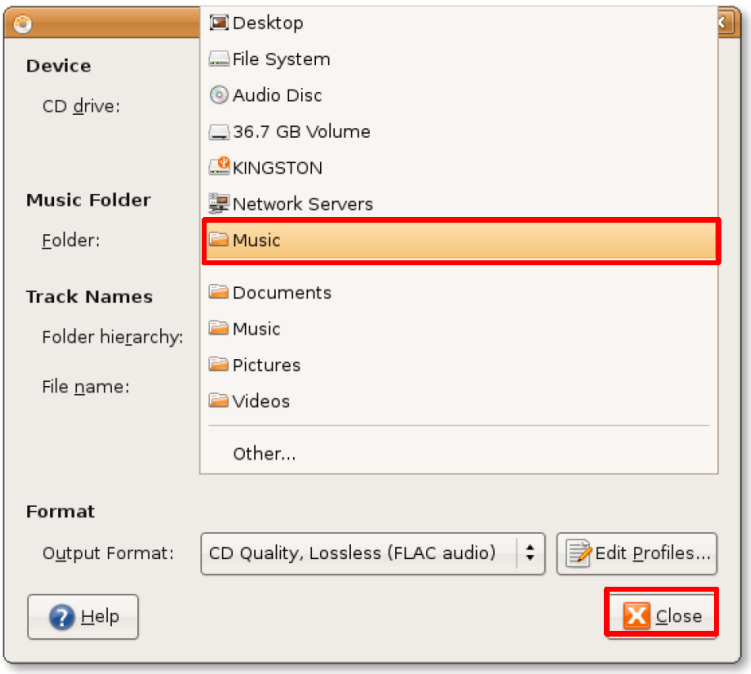


Figure 8.27: Specifying Audio File Location

6. After configuring your preferences, you can go ahead and start extracting all the tracks by clicking the **Extract** button. However, if you want to exclude some tracks, deselect them by clearing the corresponding check boxes.

   Depending on the speed of your computer, the extracting process can take a long time. You can watch the total progress of the process in the lower left section of the **Sound Juicer** window.

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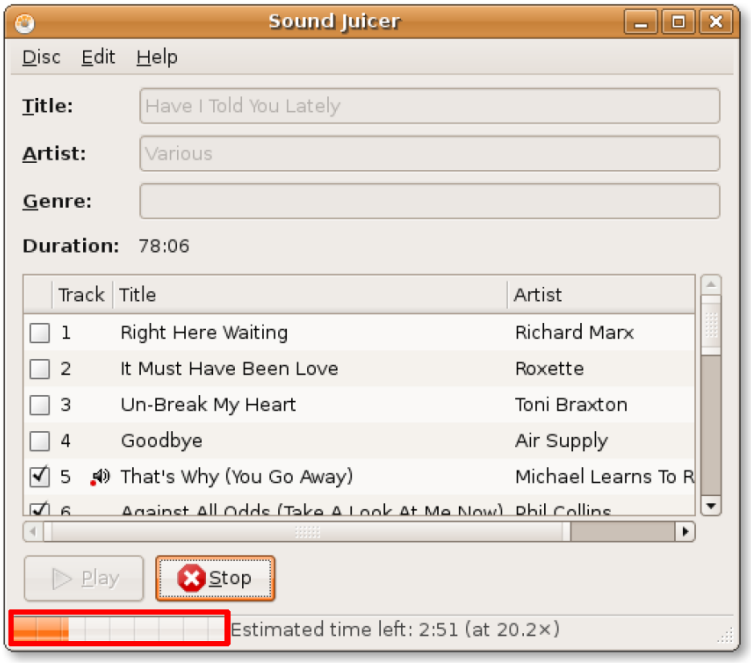


Figure 8.28: Extracting Song Tracks

7. Sound Juicer notifies you after the selected tracks are extracted successfully. Click **Open** to view the tracks copied on your hard disk.

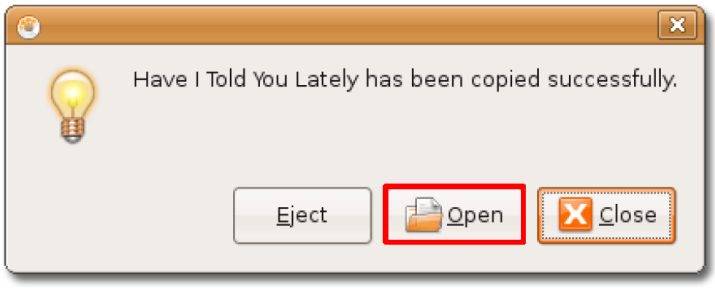


Figure 8.29: Viewing Copied Tracks

8. The CD audio tracks are now copied as audio files on your hard disk. You can listen to these tracks by simply double-clicking them.

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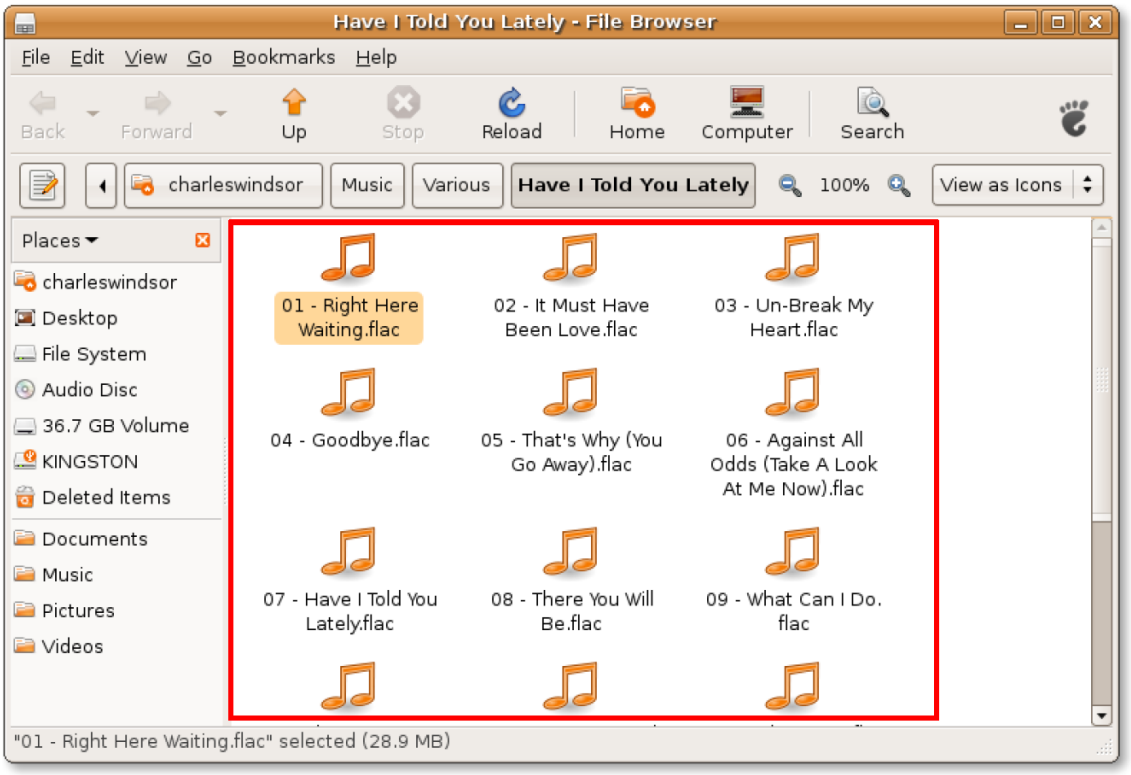


Figure 8.30: The Copied Tracks

8.4 Burning Audio CDs

Besides copying audio tracks from a CD to your computer, Ubuntu also enables you to copy music files from your computer onto a CD. Serpentine is the audio CD burner application that comes bundled with Ubuntu, by default. It is an easy-to-use but very powerful CD audio recording application.

1. Insert a blank (recordable) CD in the CD drive of your computer. You will receive a notification asking whether you want to burn a data CD or an audio CD. When you click the **Make Audio CD** button, Serpentine will be launched automatically.



Figure 8.31: Auto-launching Serpentine

2. Alternatively, you can launch Serpentine through the **Applications** menu. To launch Serpentine manually, on the **Applications** menu, point to **Sound & Video** and then click **Serpentine Audio CD Creator**. The **Serpentine** window is displayed.

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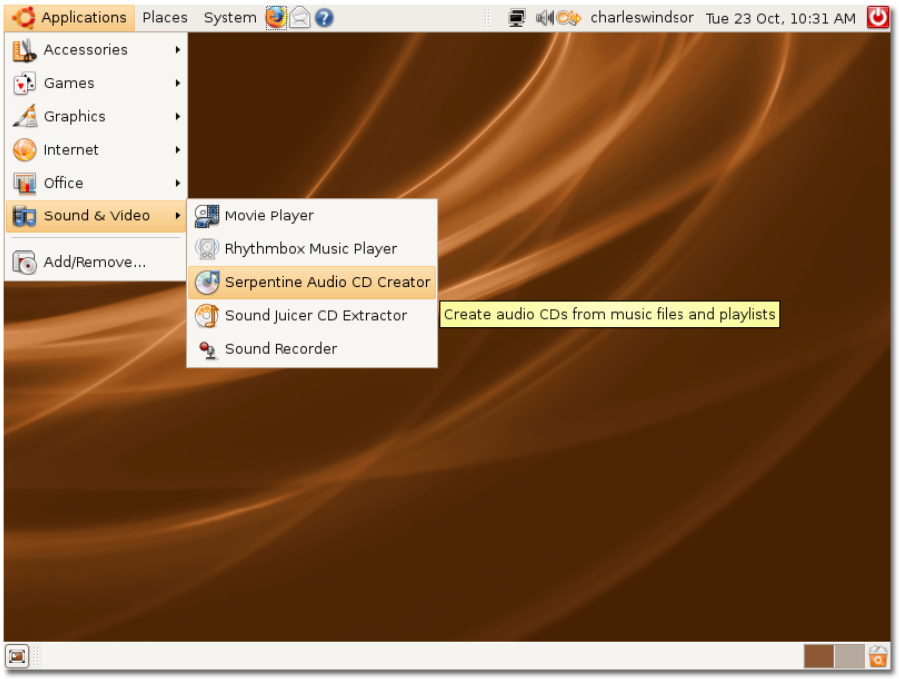


Figure 8.32: Launching Serpentine

3. The **Serpentine Window** displays the disc usage of the inserted disc graphically as well as in words. You can now click the **Add** button to start adding the tracks that you want to be copied to the disk. However, if you want to change the default configuration settings for Serpentine before burning the audio CD, open the **Serpentine Preferences** dialogue box by clicking **Preferences** on the **Edit** menu.

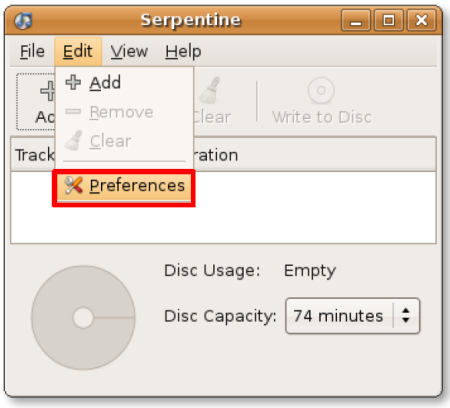


Figure 8.33: Displaying Configuration Settings

4. You can use the **Serpentine Preferences** window to specify the writing speed for burning CD and to define some writing options such as whether to insert two seconds gap between two tracks or to eject the CD after recording is complete. After defining your preferences, click **Close** to apply the changes and exit the **Serpentine Preferences** window.

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Figure 8.34: Customising Preferences

5. Now you need to specify the files that you want to be copied on the inserted CD. To start specifying the desired audio files, click **Add**. This opens a browser window. In the browser window, navigate to the desired folder and click **Open** to display its contents.

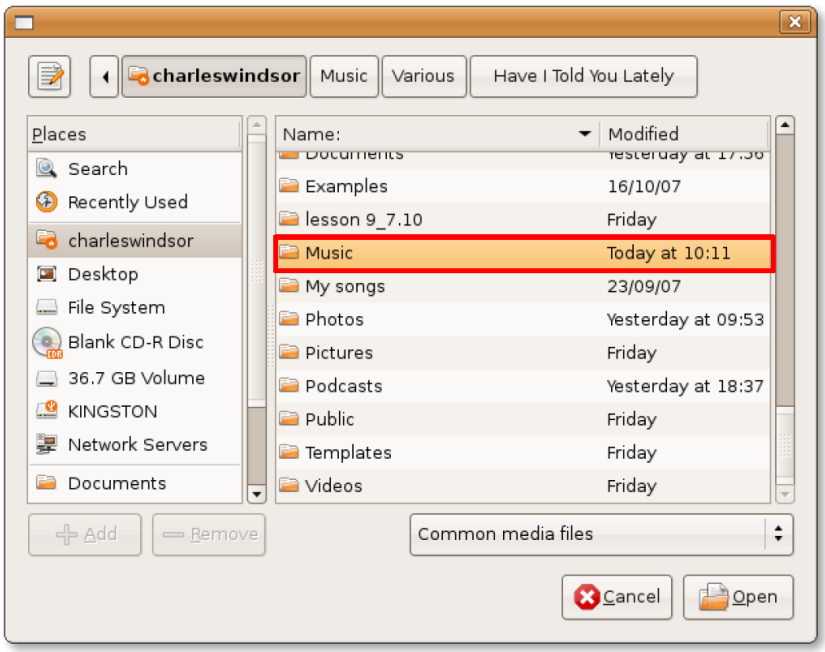


Figure 8.35: Specifying Audio Files to Copy

6. Select the specific audio files that you want to be copied and click **Open**. You are returned to the **Serpentine** window.

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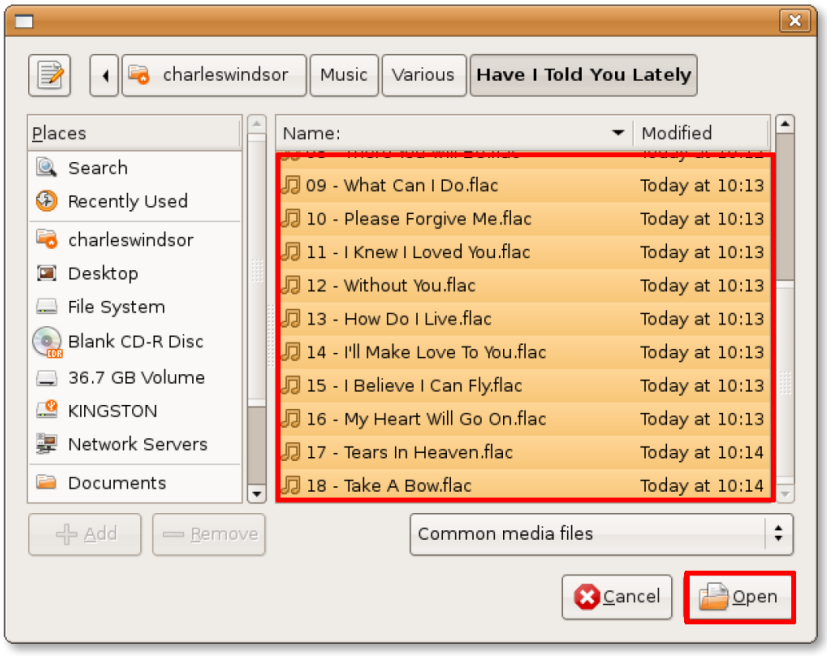


Figure 8.36: Selecting the Files to Copy

7. The selected files now appear in the Serpentine window. You can also view the estimated disc usage once these files are written to the disc. Based on this data, you may decide to add or delete some files from your current selection. Once you are sure of the files to be copied to the disc, click the **Write to Disc** button to start writing the audio files from your computer to the CD.

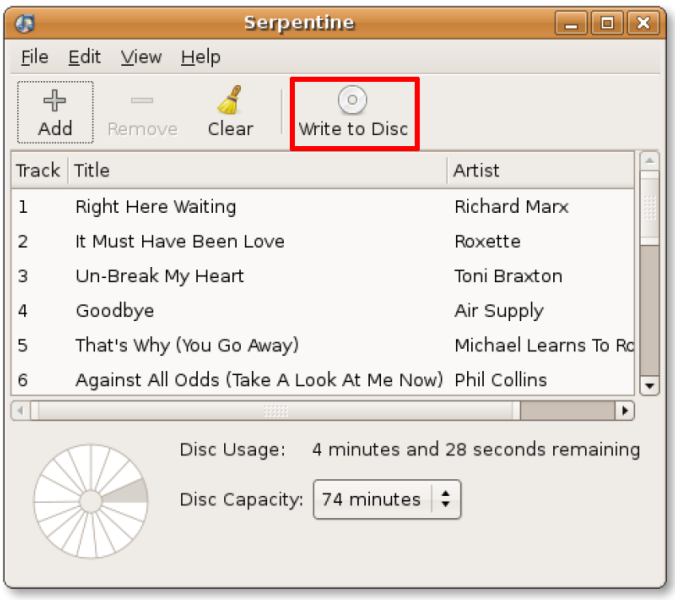


Figure 8.37: Writing Audio Files to Disc

8. You are asked to confirm your decision to record a media disc. Click **Write to Disc** to continue.

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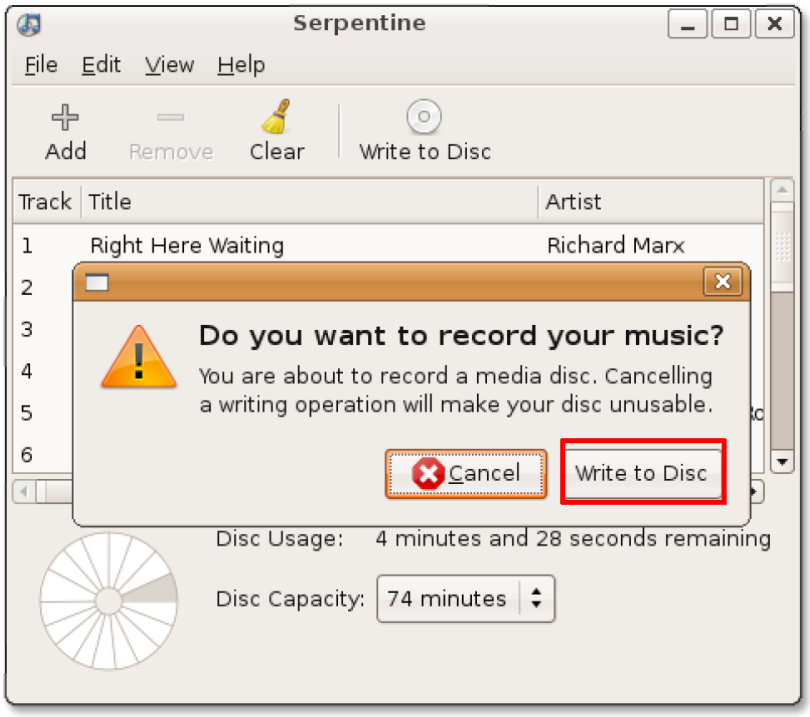


Figure 8.38: Confirming the CD Writing

9. Serpentine now starts writing the music files to the media disc. You can view the progress of the process in the **Writing Audio Disc** dialogue box. This process may take some time depending on the size of the files to be written to disc. Once the process is complete, you get a new CD containing all your favourite songs.

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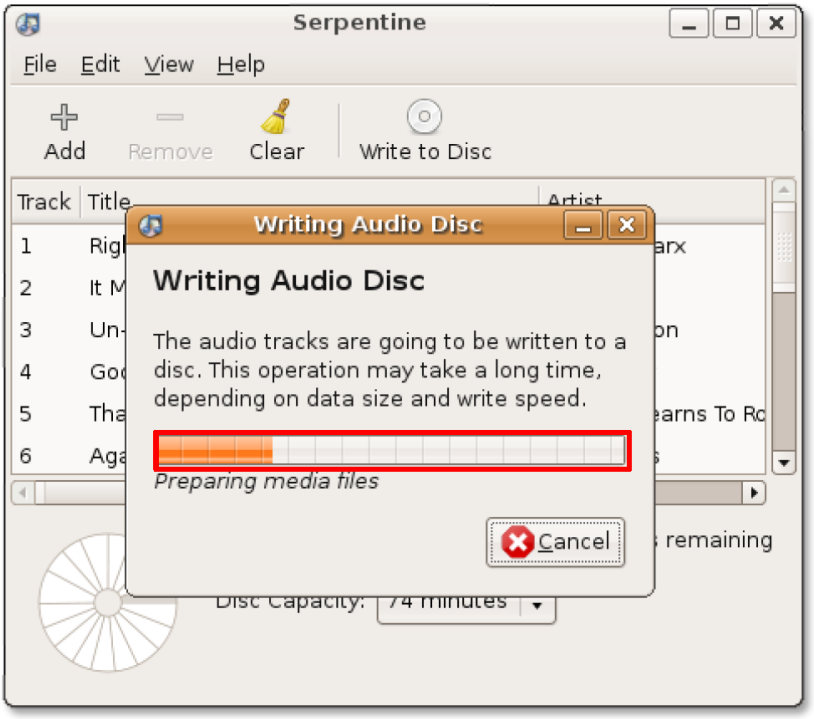


Figure 8.39: Writing Audio CD

8.5 Playing Proprietary Multimedia Formats

As previously stated, due to the legal restrictions associated with the use of proprietary formats, Ubuntu does not offer support for such formats by default. If you wish to play such proprietary formats, you will need to install additional multimedia codecs. A multimedia codec is a small piece of software that allows you to watch videos or listen to music of a specific format. Although Ubuntu includes many codecs by default, you may need to install more because there are many different multimedia formats and it is unrealistic to provide them all.

Playback of multimedia files in Ubuntu is handled by the Gstreamer multimedia framework. GStreamer by itself does not provide any multimedia codecs, it relies on codecs that have been packaged into a **plugin** that it uses to perform the actual recording and playback. Typical plugins are:

- gstreamer0.10-plugins-ugly
- gstreamer0.10-plugins-ugly-multiverse
- gstreamer0.10-plugins-bad
- gstreamer0.10-plugins-bad-multiverse
- gstreamer0.10-ffmpeg

Note:
To know more about which Gstreamer package contains which plugins, visit the following Web site: http://gstreamer.freedesktop.org/documentation/plugins.html.

Other applications, such as VLC, MPlayer and Xine, do not use the Gstreamer framework.

You can use the Synaptic Package Manager, or the Command Line Interface (CLI) to install these multimedia codecs available in the repositories.

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Nice to Know:
Codecs can be installed directly from the Movie Player. When Movie Player recognizes a format it cannot play, it checks if a Gstreamer plugin is available for this format. If it finds one, you can install the codec easily without following the lengthy solution presented below.

1. On the **System** menu, point to **Administration** and then click **Synaptic Package Manager**. The **Synaptic Package Manager** window opens.

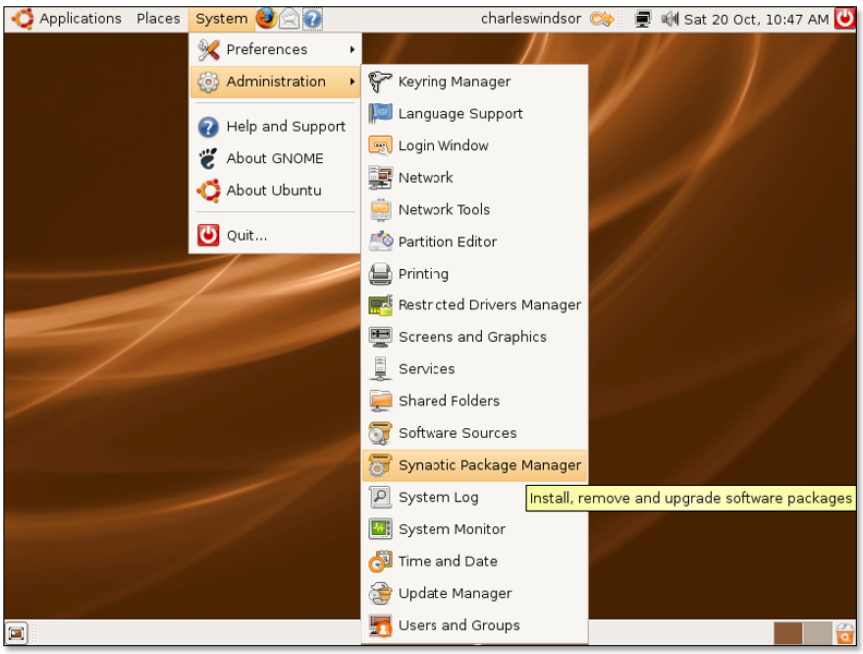


Figure 8.40: Launching Synaptic Package Manager

2. The **Multiverse** and **Restricted** repositories are not activated by default in Ubuntu. To install the additional multimedia codecs, you need to first activate these repositories. On the **Settings** menu, click **Repositories**. The **Software Sources** dialogue box is displayed.

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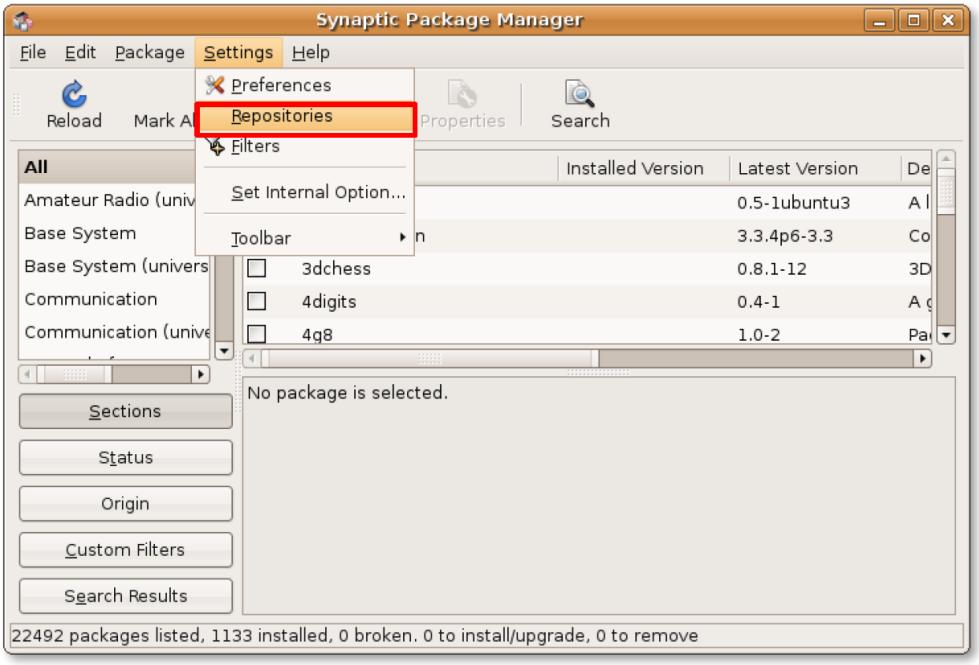


Figure 8.41: Displaying Software Sources

3. To enable the Multiverse and Restricted repositories, select the third and fourth check boxes available on the **Ubuntu Software** tabbed page, and click **Close** to exit the dialogue box.

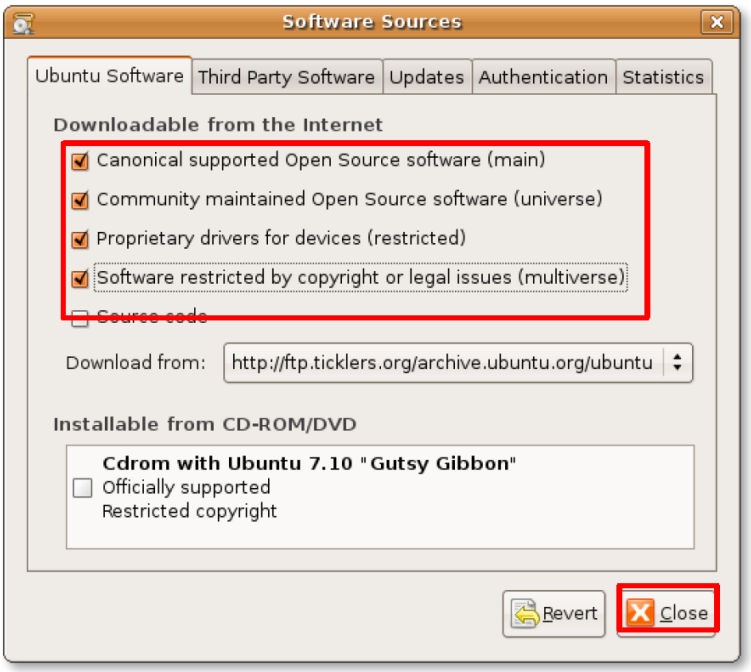


Figure 8.42: Enabling Repositories

4. You may receive a notification that your repository information has changed. Click **Close** to exit this message.

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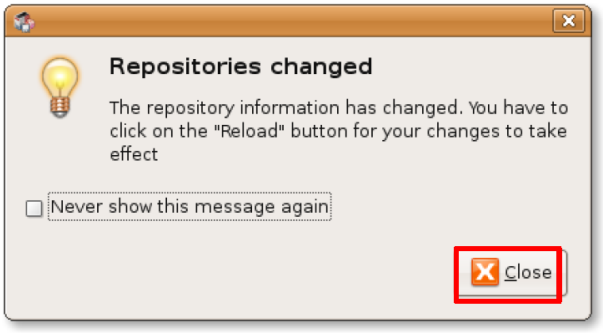


Figure 8.43: Repositories Information Notification

5. Once you return to the Synaptic Package Manager window, you are required to click the **Reload** button to apply your changes.

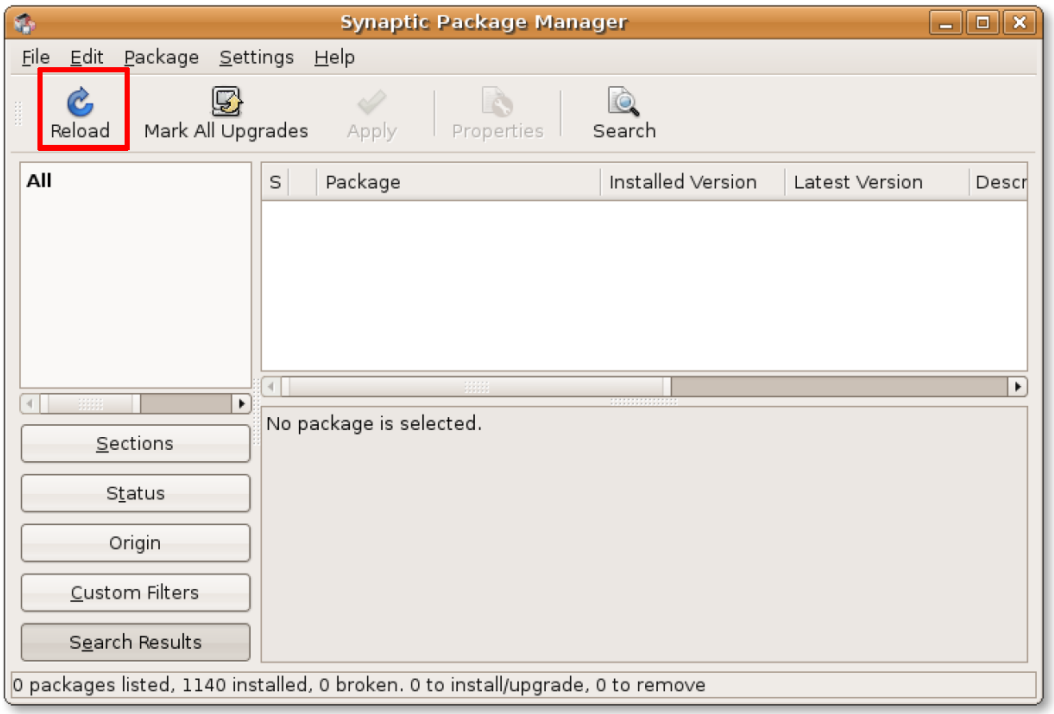


Figure 8.44: Applying Changes

6. On clicking the **Reload** button, the system starts checking the repositories for new, removed or upgraded software packages.

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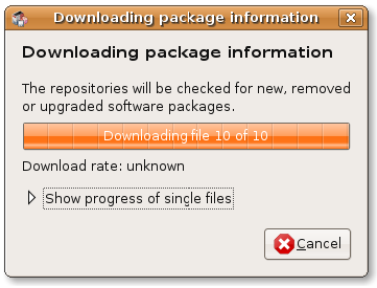


Figure 8.45: Checking Package Information

7. After the Multiverse and Restricted repositories are added in the Ubuntu software sources, you can download and install additional multimedia codecs. To install a software package, you need to first locate the package in the Synaptic Package Manager window. You can either search for a specific software package manually or run a search using the search utility provided in the Synaptic Package Manager. To initiate a search for a specific package, click **Search.**

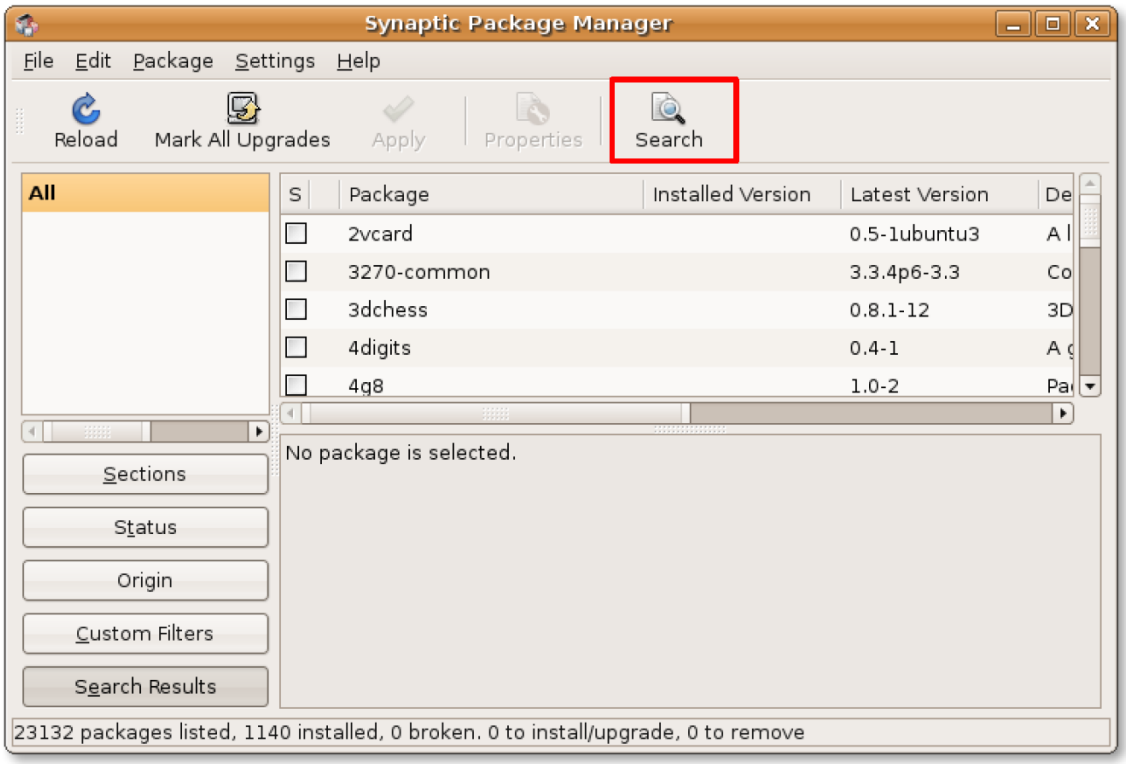


Figure 8.46: Initiating Software Search

8. In the **Search** field, enter the name of the software package that you are looking for. Click **Search** to begin the search.

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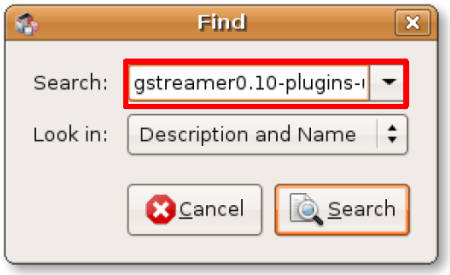


Figure 8.47: Searching a Software Package

9. The search results are displayed in the right pane of the Synaptic package Manager window. Right-click the package to be installed and select **Mark for Installation**.

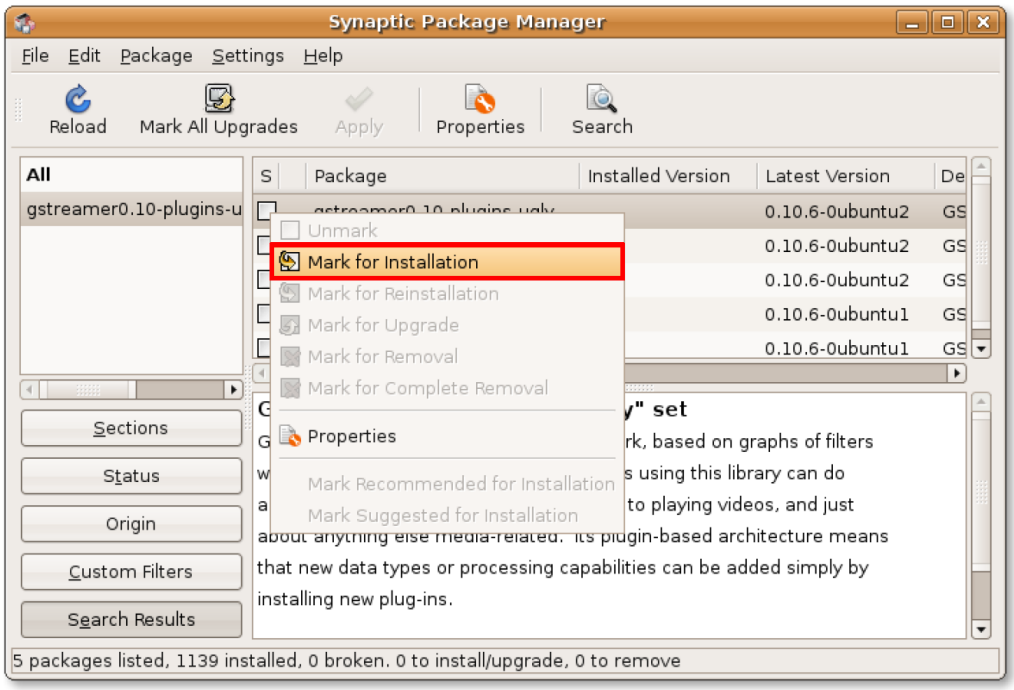


Figure 8.48: Marking Packages for Installation

10. You can mark multiple packages for installation by following the same procedure. Once all the required packages are marked, click **Apply** to start downloading the packages. The **Summary** dialogue box is displayed.

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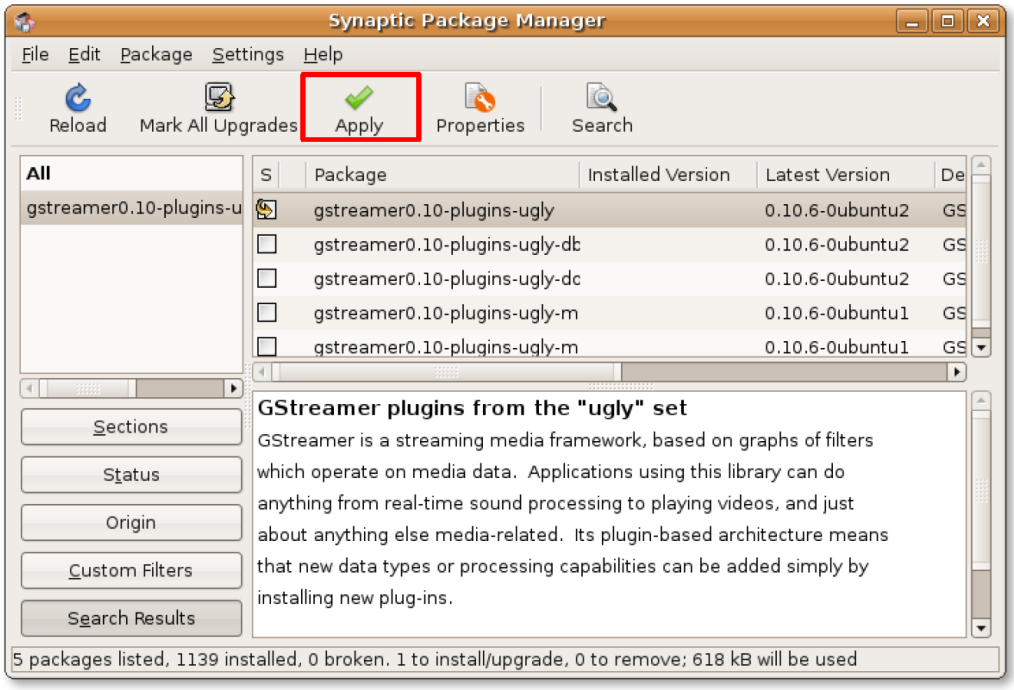


Figure 8.49: Initiating Package Download

11. The **Summary** dialogue box allows you to take a last look at all the software packages that you have marked for installation. To go ahead with the marked installations, click **Apply.**

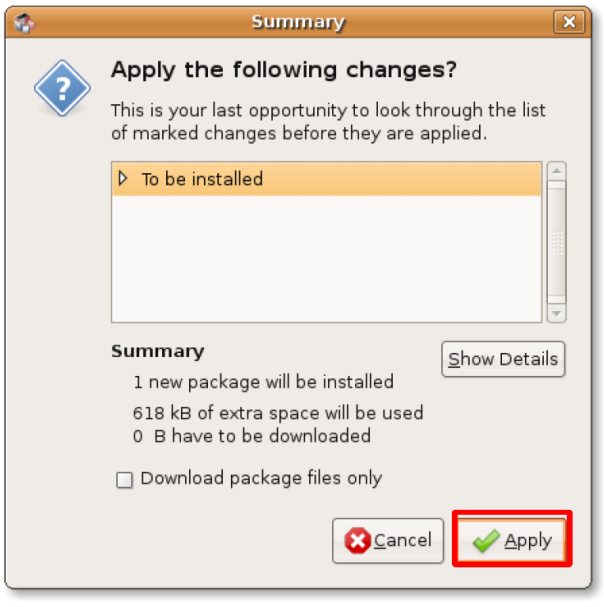


Figure 8.50: Conforming Package Installation

12. After all the marked software packages are downloaded and installed, the **Changes Applied** dialogue box is displayed. Click **Close** to exit the **Changes Applied** dialogue box.

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Figure 8.51: Changes Applied Notification

13. The check box corresponding to the recently installed software package has changed to green, indicating that the software has been installed successfully. You can repeat the same procedure to install all the multimedia codecs required for playing proprietary multimedia formats.

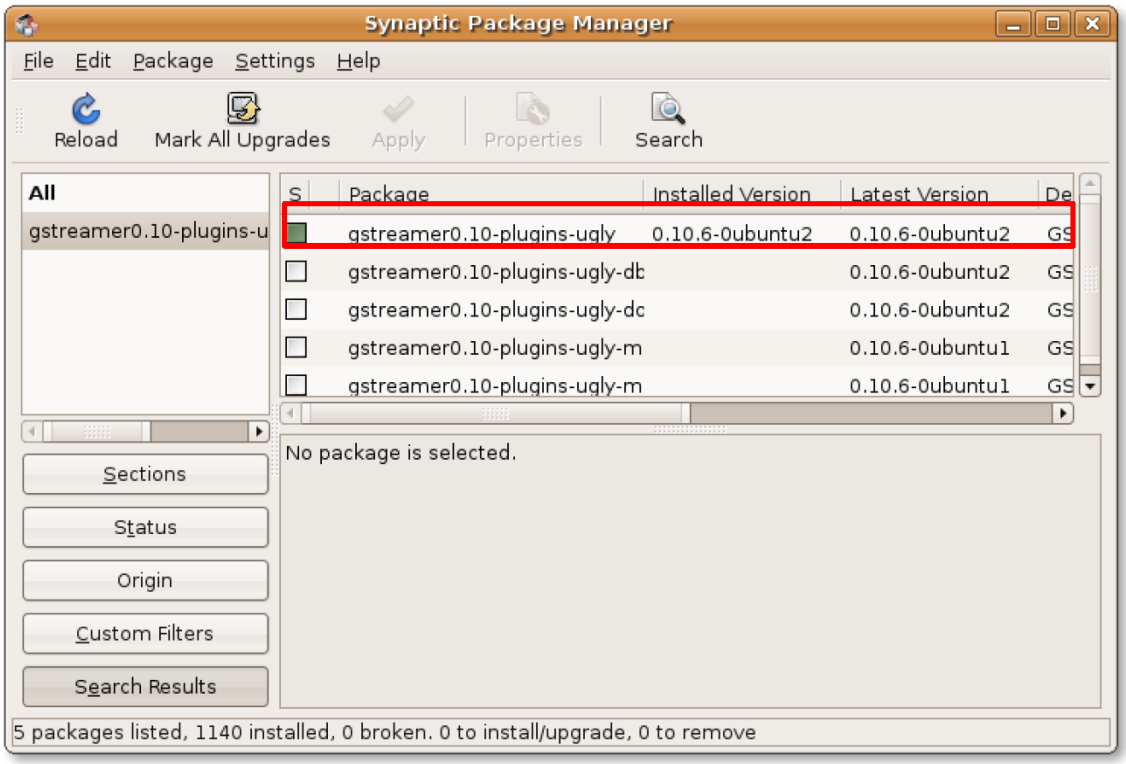


Figure 8.52: Software Successfully Installed

8.6 Using an iPod

The iPod is a popular portable media player, designed and marketed by Apple. You can play music in MP3 and AAC (Advanced Audio Coding) audio file formats and store up to ten thousand songs on the device itself. The iPod does not support free multimedia formats.

8.6.1 Playing Music Using an iPod

1. Plug your iPod into one of your computer's USB ports. Ubuntu automatically mounts it and places it as an icon on your desktop. Simultaneously, the iPod device opens in the Rhythmbox Music Player window. You can view all the files loaded on your iPod device in the lower right pane of the Rhythmbox window. To play a music track from your iPod, just select the track from the list and click the **Play** button.

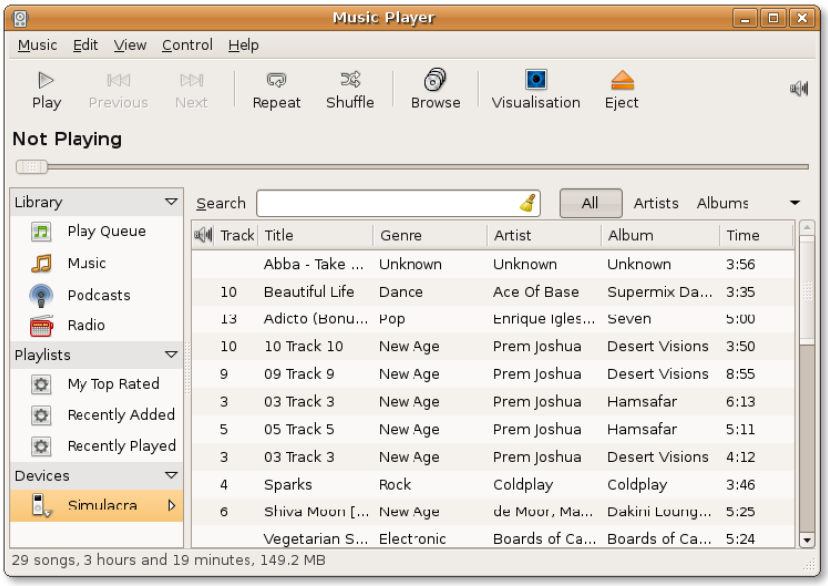


Figure 8.53: Plugging in an iPod

2. The song starts playing in the Rhythmbox Music Player. However, if the format of the music file is not supported by the Rhythmbox Music Player, you may not be able to play the file and you will receive an error message. In this case, you will need to follow the procedure described in the previous section to download all the necessary software codecs from the Ubuntu repositories.

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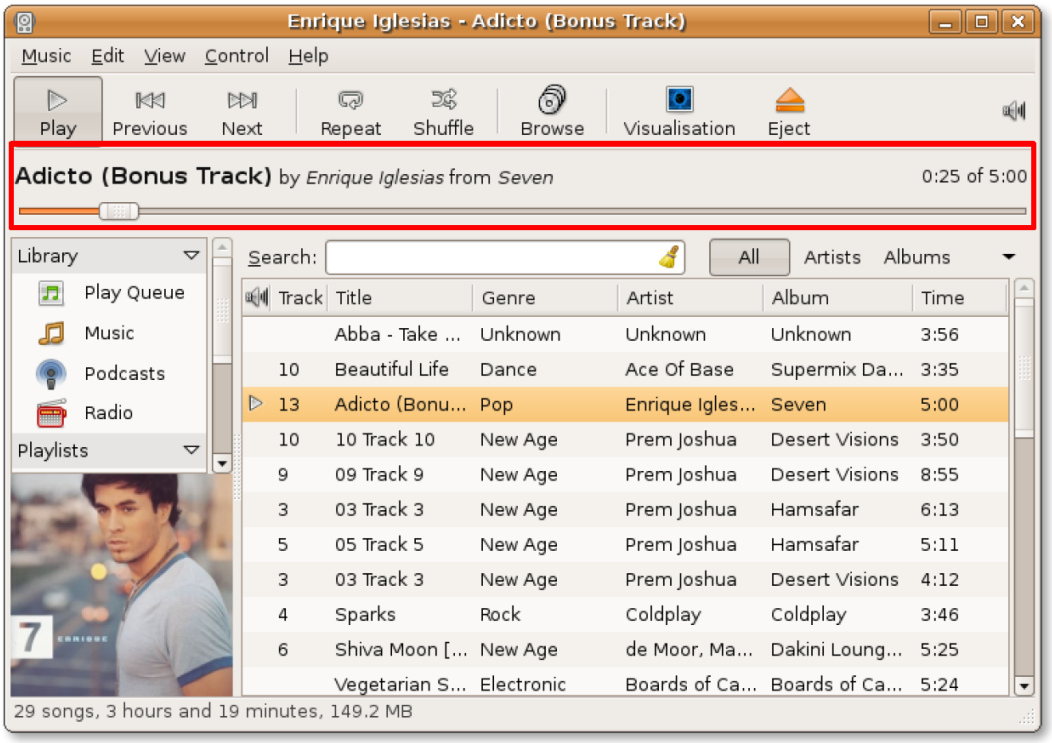


Figure 8.54: Playing Music from iPod

3. Ubuntu also allows you to transfer music files to and from the iPod device. However, this is not possible using Rhythmbox. You will need to install the **gtkpod** software to be able to transfer music file between your computer and the iPod device. You can easily download this software from the Universe repository using the Synaptic Package Manager.

   To access gtkpod, after it is successfully installed on your computer, on the **Applications** menu, point to **Sound & Video** and then click **gtkpod**. The **gtkpod** window opens.

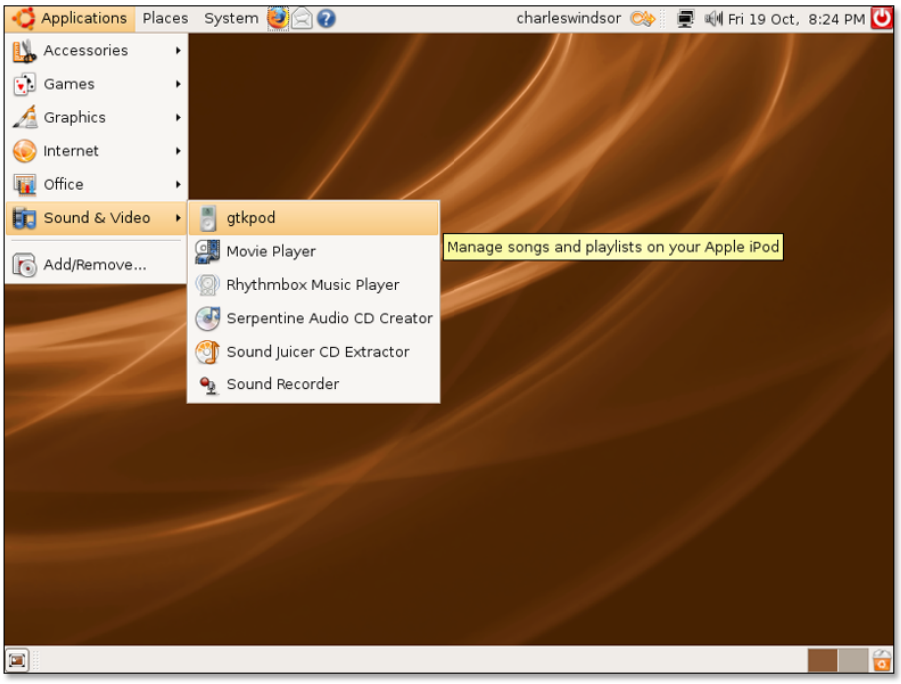


Figure 8.55: Launching gtkpod

4. You can view all the music files stored on the iPod device in this gtkpod window. Notice that in the gtkpod interface, your music files have automatically been categorised based on artists, album and genre. This categorisation helps you quickly browse through your collection and select.

   You can use the gtkpod interface to manage the files on your iPod in multiple ways. You can create and edit playlists, normalize the volume on single tracks or multiple tracks at a time. You can also use the gtkpod interface to add more files in your iPod or transfer files from your iPod onto your computer. To add files from your computer to your iPod device, click **Files**. This displays the **Add Files to 'device name'** dialogue box.

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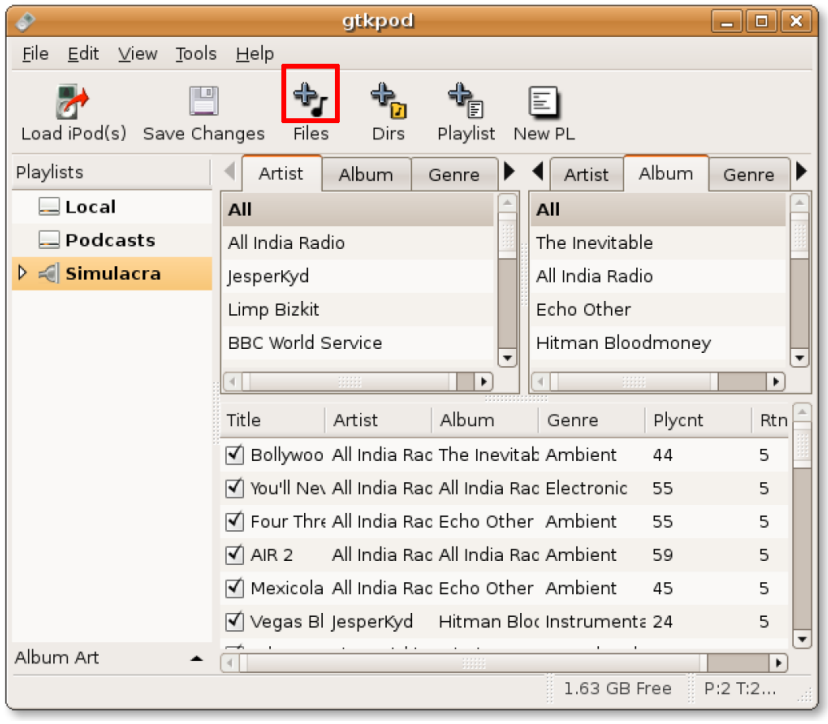


Figure 8.56: Using gtkpod to transfer files to iPod

5. In the **Add Files to 'device name'** dialogue box, navigate down to the folder from which you want to add the files to your iPod. Depending on your preferences you may either add a single file at a time or an entire directory. Select the tracks that you want added and click **Open.**

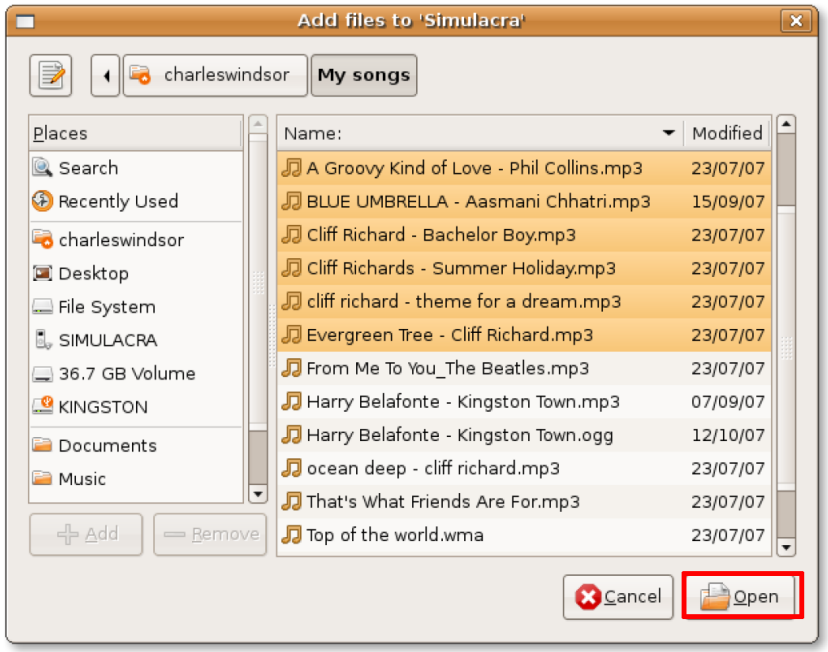


Figure 8.57: Selecting the Files to Transfer

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6. Gtkpod starts adding the files to your iPod. When the process is complete a message "Successfully added files" is quickly flashed at the bottom of the gtkpod window. You can also view the recently added files in the bottom pane of the gtkpod window.

   You can repeat the aforementioned steps to add more files from different folders. After you have added all the required files to your iPod, click the **Save Changes** button to load and save the files.

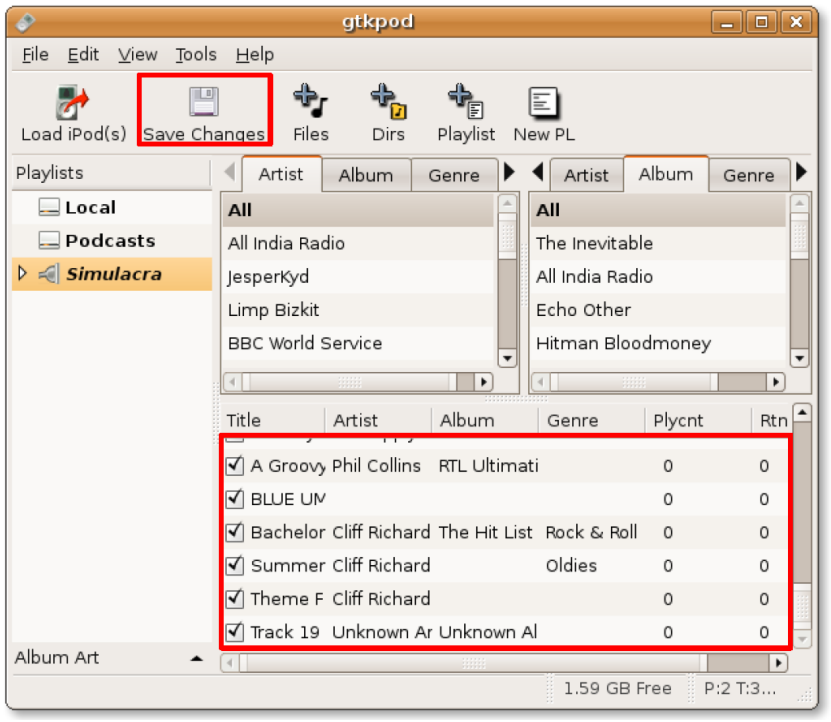


Figure 8.58: Updating the iPod

7. When you are done updating your iPod and want to disconnect it, close down the Rhythmbox window. Right-click the iPod icon on the desktop and then select **Eject**. Now you can safely remove your iPod from the computer.

8.7 Creating and Editing Audio Files

Ubuntu provides you with various tools to create your own music and audio files. The default application available in Ubuntu for creation of audio files is the GNOME Sound Recorder. Similarly, you can also edit audio files using Audacity.

8.7.1 Creating Audio Files

Ubuntu provides you with tools to create new audio files using an input device such as a microphone. GNOME Sound Recorder is the default application available in Ubuntu for creating audio files.

1. On the **Applications** menu, point to **Sound & Video** and then click **Sound Recorder**. Alternatively, you can just press **ALT+F2**, type **GNOME-sound-recorder** and click **Run.** The **Sound Recorder** is launched.

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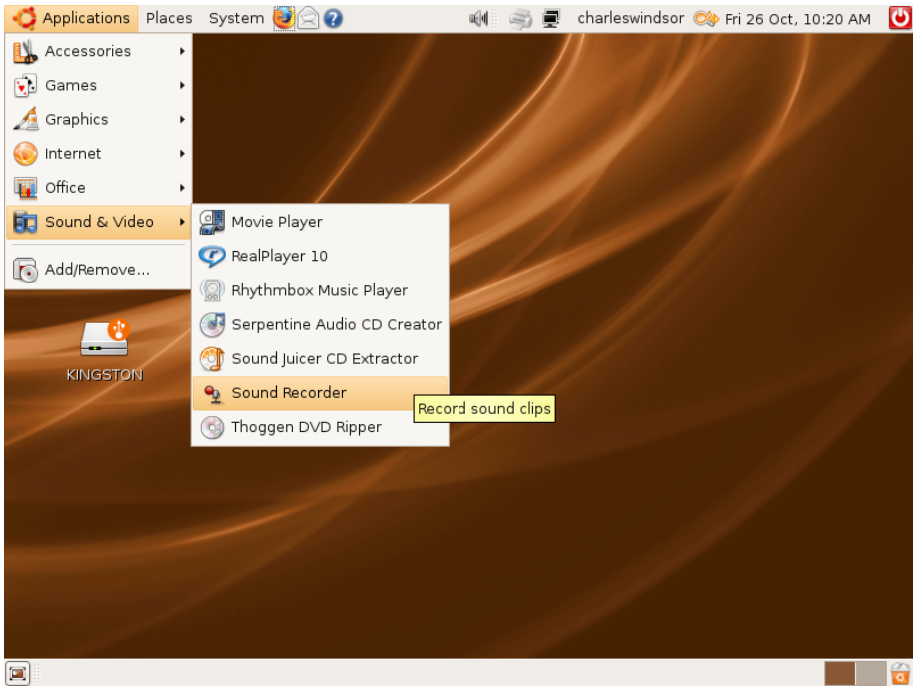


Figure 8.59: Launching Sound Recorder

2. The Sound Recorder allows you to record and play .flac, .ogg, and .wav audio files. To start a recording session, you need to select an input device, such as a microphone, phone or line-in, from the **Record from input** drop-down list. You can also select the audio quality from the Record as drop-down list.

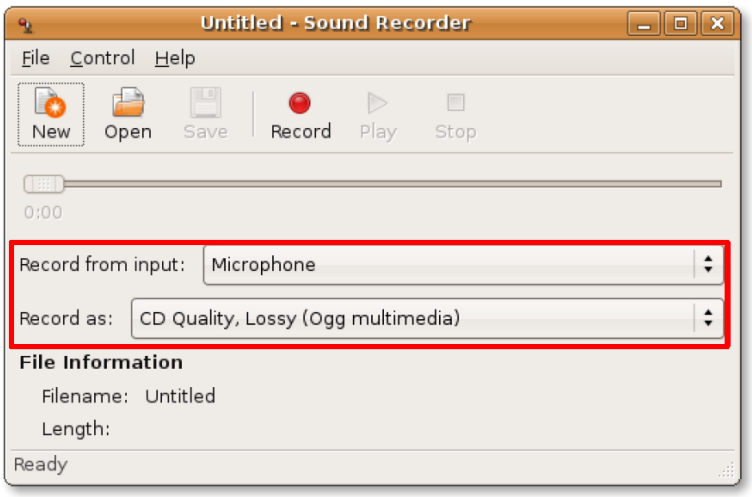


Figure 8.60: Selecting the Input Device

3. Before starting the recording, it is advisable to configure the volume control settings to derive quality audio output. To access the volume controls, on the **File** menu, click **Open Volume Control**.

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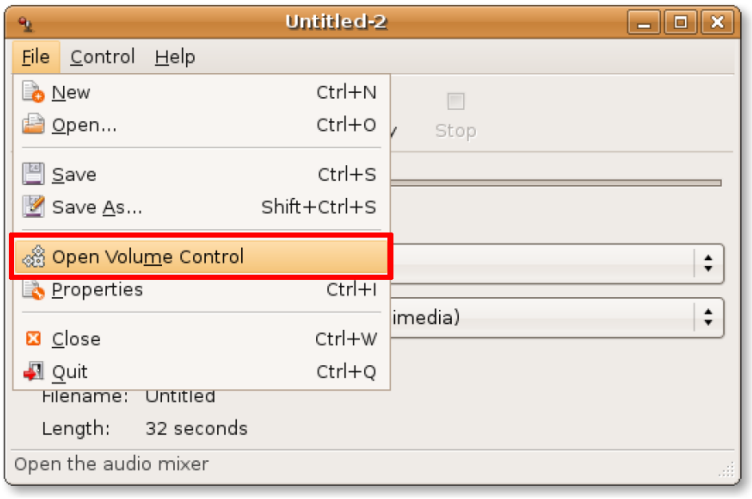


Figure 8.61: Accessing Volume Controls

4. You use the slider buttons on the tracks to set the volume control for all the audio input and output devices. To further specify your volume preferences, click Preferences on the Edit menu. This opens the **Volume Control Preferences** dialogue box.

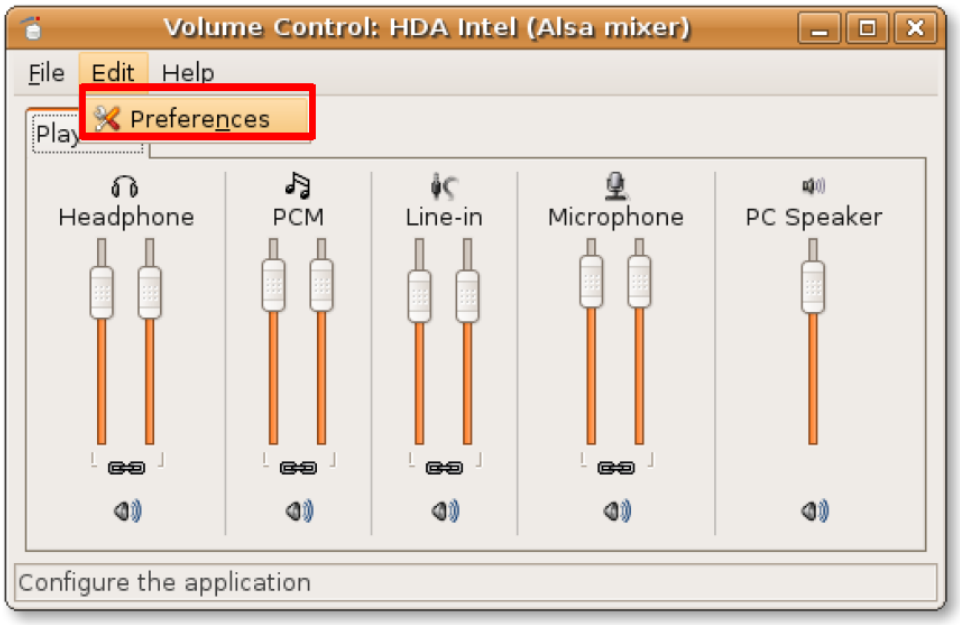


Figure 8.62: Displaying Volume Preferences

5. The **Volume Control Preferences** dialogue box allows you refine the sound settings by selecting or clearing the various options. Click the **Close** button to exit this dialogue box.

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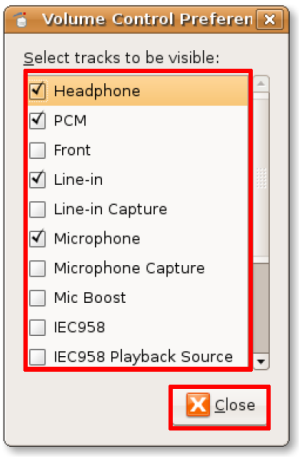


Figure 8.63: Configuring Sound Settings

You are returned to the **Sound Recorder** window. Now, you can start recording the audio from the selected input device by clicking the **Record** button. The recording starts.



Figure 8.64: Recording Sound

6. After the recording is complete, you can play the recorded sound file by clicking the **Play** button. The progress indicator moves along the progress bar as the sound file is playing. You can also view the duration of the recorded file in minutes and seconds under the **File information** section.

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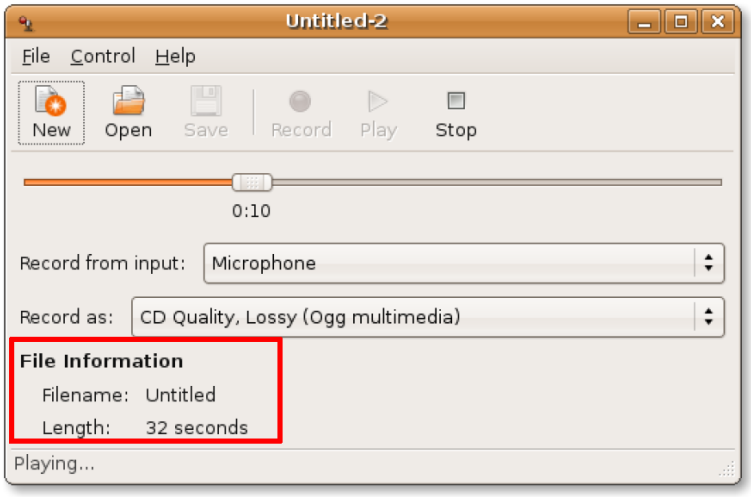


Figure 8.65: Playing Recorded Sound File

8.7.2 Editing Audio Files

You can use Audacity for editing audio files. However, Audacity is not included in the default installation of Ubuntu. But it is a free and open source software application, which can be installed easily from the Universe repository of Ubuntu. Therefore, you will first need to install Audacity using either the Add/Remove Applications or the Synaptic Package Manger.

1. On the **Applications** menu, point to **Sound & Video** and then click **Audacity Sound Editor**.

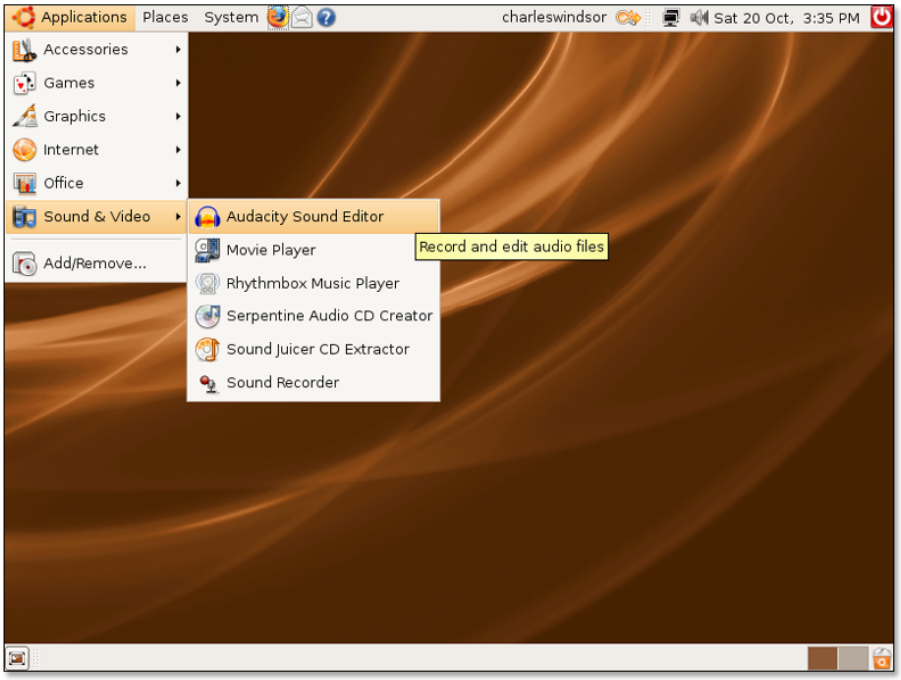


Figure 8.66: Launching Audacity

2. When you access Audacity for the first time, it will ask you to select a language to use with the application. Apart from English, Audacity provides language support for more than 30 languages, including Arabic, Bulgarian, catalan, Czech,

Danish, Finnish and many more. Select the language of your preference from the **Choose Language for Audacity to use** drop-down list and click **OK**.

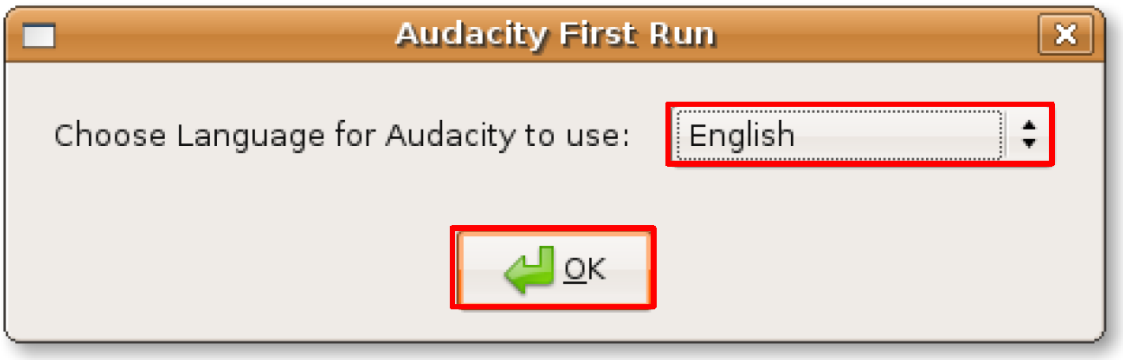


Figure 8.67: Selecting Language for Audacity

3. The Audacity main interface window is displayed. You can use the various controls and tools available on this window to play, create and edit audio files.

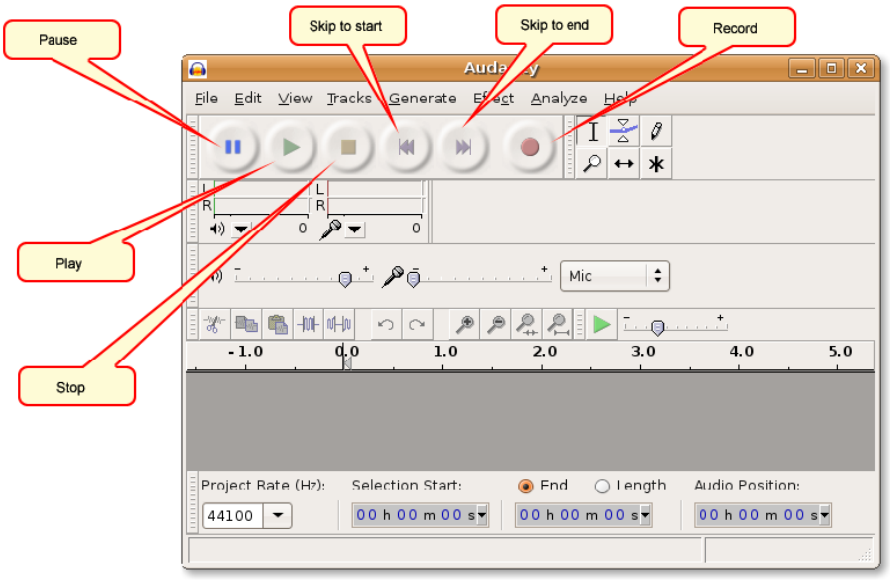


Figure 8.68: The Audacity Window

4. You can now start editing an existing audio file in Audacity. To do so, you need to first import the audio file into Audacity. To import an audio file, on the **File** menu, point to **Import** and then select **Audio**. The **Select one or more audio files** dialogue box opens.

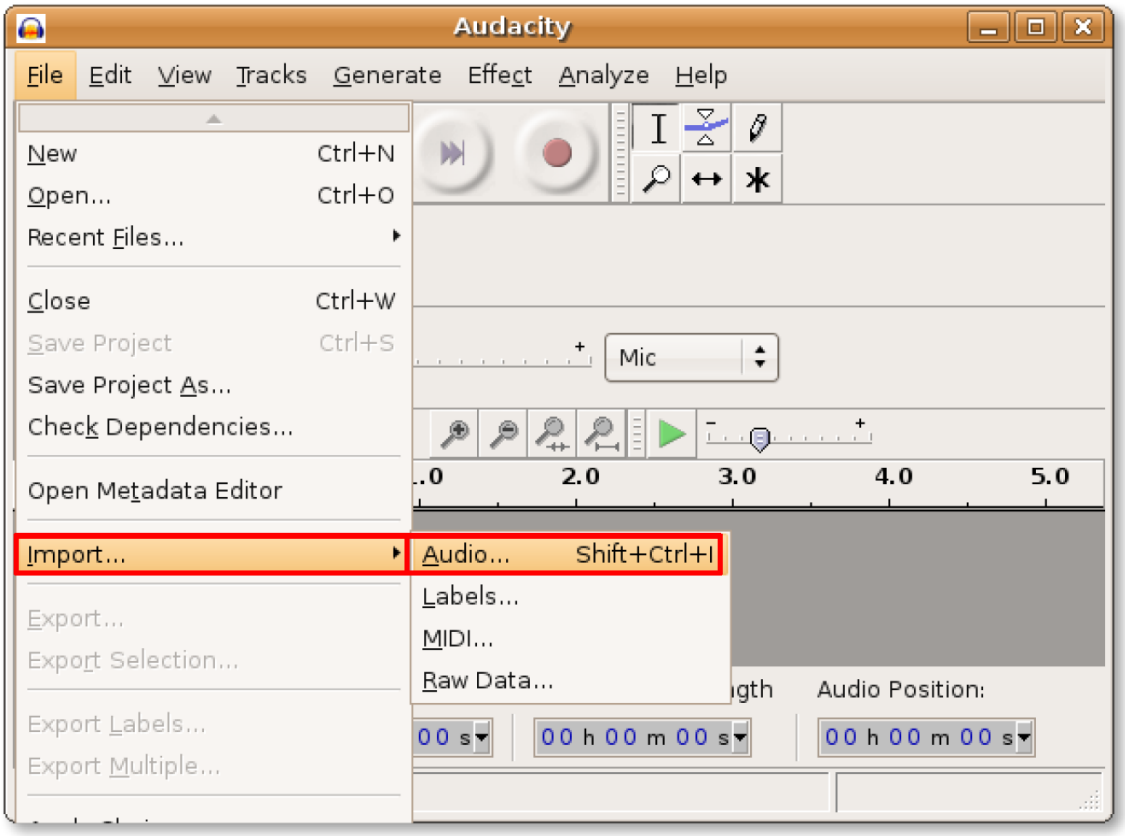


Figure 8.69: Importing Audio Files into Audacity

5. Select the audio file that you want to edit and click **Open** to open the file in Audacity.

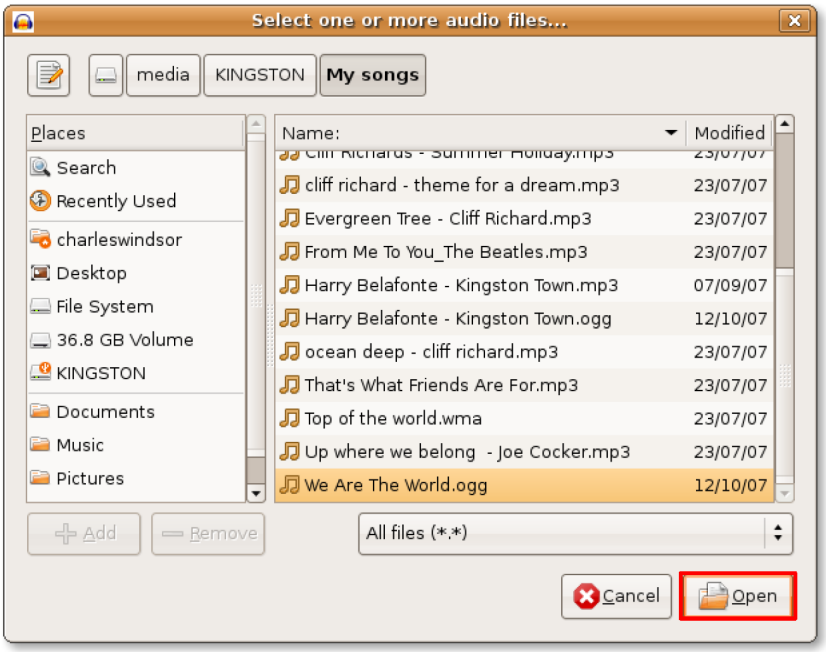


Figure 8.70: Selecting the Files to Import

6. The selected audio file opens in the Audacity interface. The audio file is represented as the blue waves in the lower part of the Audacity window. Now you can perform a whole range of tasks on this file.You can cut off some unwanted portion of the imported audio file, insert silence at some point, can add various audio effects on different sections of the file and may even export the file into an altogether different file format.

   In addition, Audacity also allows you to play an audio file. Click the **Play** button to start playing the audio file.

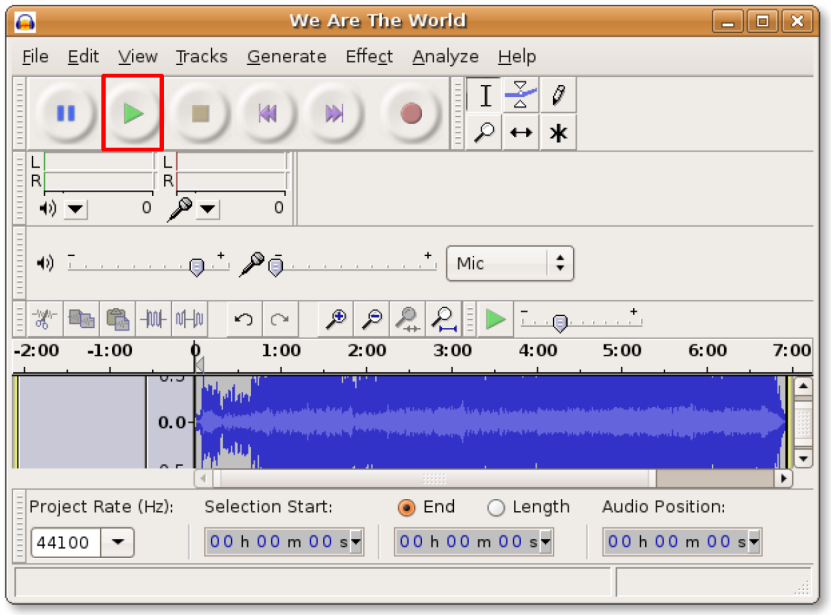


Figure 8.71: Playing the Imported File

7. The audio file starts playing in the Audacity audio editor. You can use the various tools available with Audacity to start editing the current audio file:

   - Magnifying tool: If you find that due to the length of the current file, you are unable to view the portions that you want to edit, you can use the Magnifying tool. This will let you zoom in on a specific area.
   - Envelop tool: This enables you to change the volume of specific selections of the sound file.
   - Time Shift tool: Allows you to move the entire sound file in relation to time; helpful when you are working with multiple tracks.
   - Selection tool: Enables you to highlight portions of the sound file on which you want to work.

   To start editing a specific portion of the sound file, activate the **Selection** tool by clicking it.

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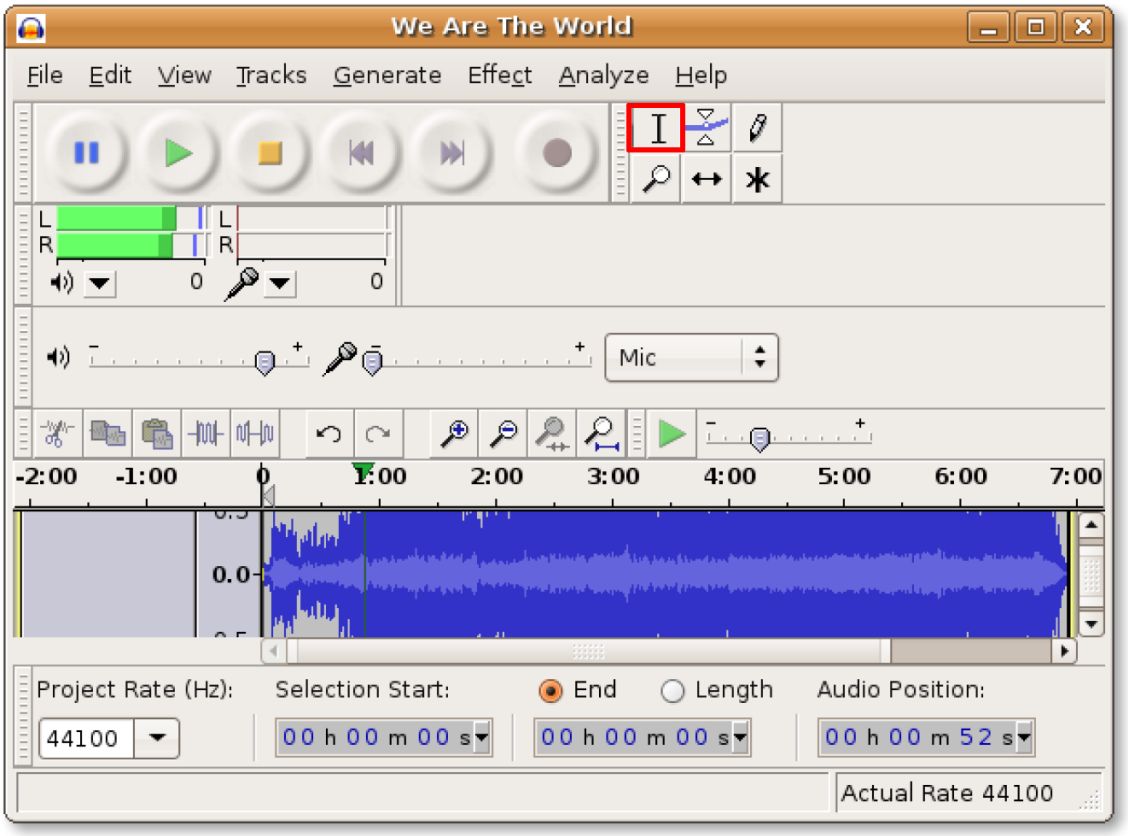


Figure 8.72: Picking the Selection Tool

8. Select the area you wish to edit by dragging across the area while pressing the left mouse button. The selected area appears in a shade of darker gray.

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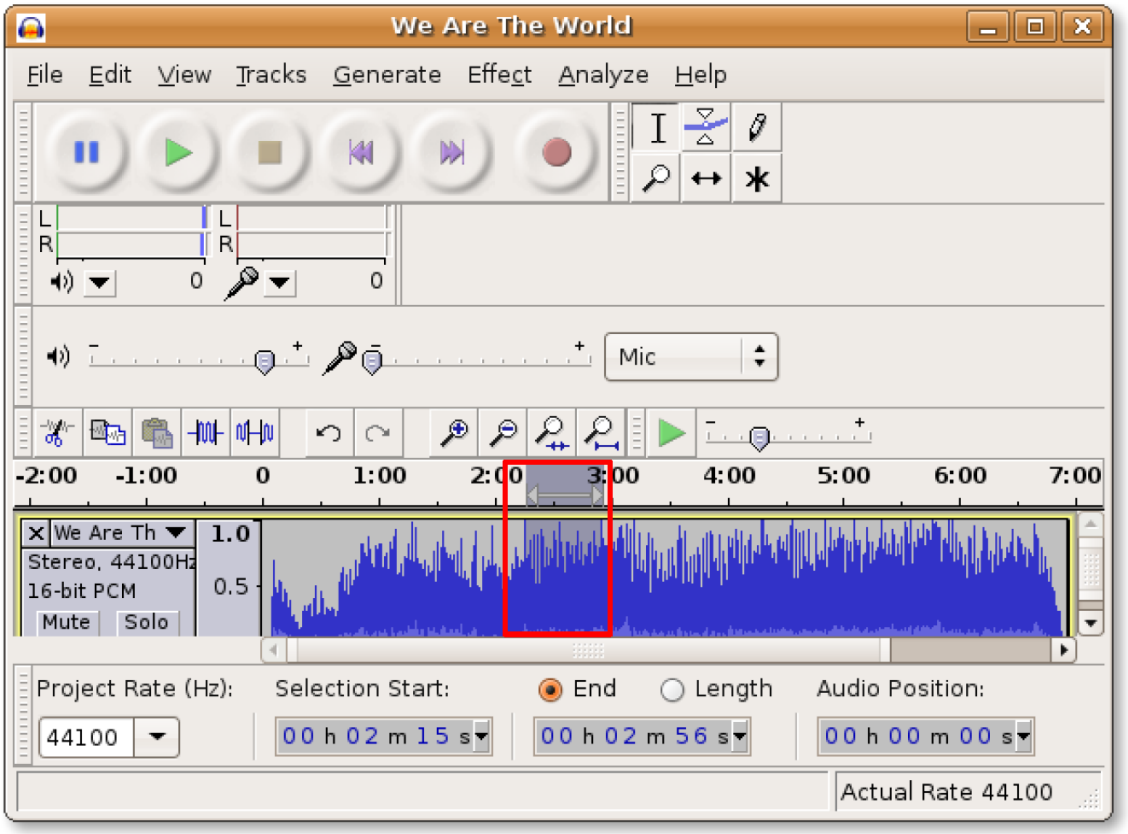


Figure 8.73: Selecting Audio Portion to Edit

9. You can now cut the area if you wish to remove this part of the audio file otherwise, edit this portion by applying various sound effects to it. The Effect menu contains all the digital audio effects that you can apply on an audio file. Some of these are:

   - Amplify - Increases or decreases volume without altering sound quality
   - BassBoost - Increases the volume of a specific frequency.
   - Echo - Allows you to add an echo specify the delay time.
   - Fade in - Fades from silence to the present volume
   - Fade out - Fades from present volume to silence
   - Invert - Flips the audio samples upside down
   - Noise Removal-Allows you to remove background noise
   - Reverse - Allows you to play the selection backward

   To increase the volume of the selected portion, on the **Effect** menu, select **Amplify**. The **Amplify** window opens.

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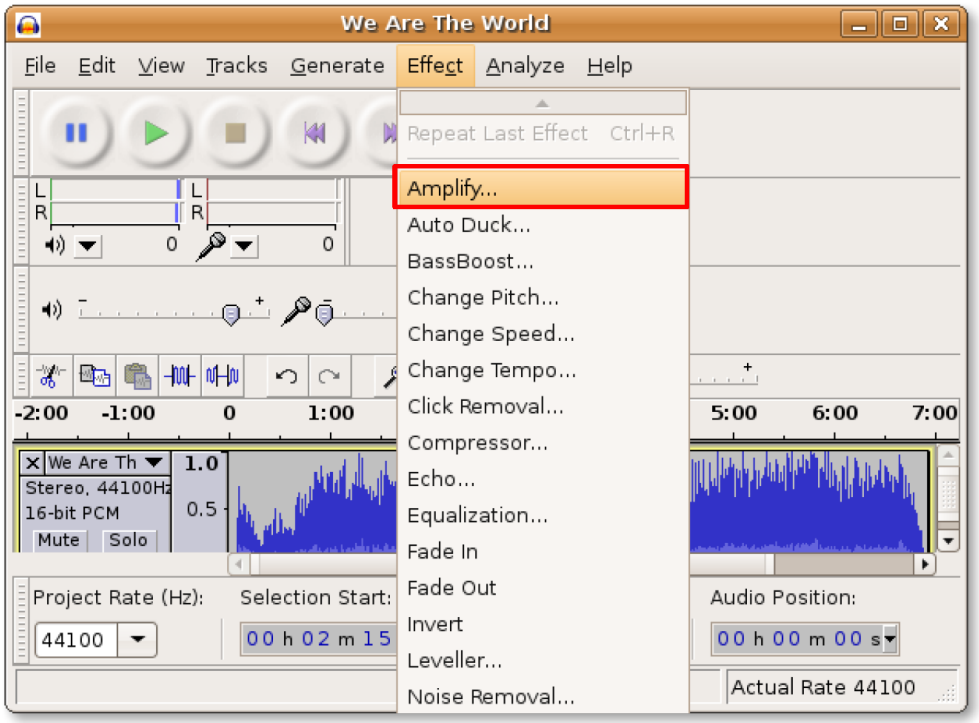


Figure 8.74: Applying Sound Effects

10. In the **Amplify** window, you can use the slide bar to increase or decrease the amplification. Click OK to apply the effect to the selected portion of the audio.

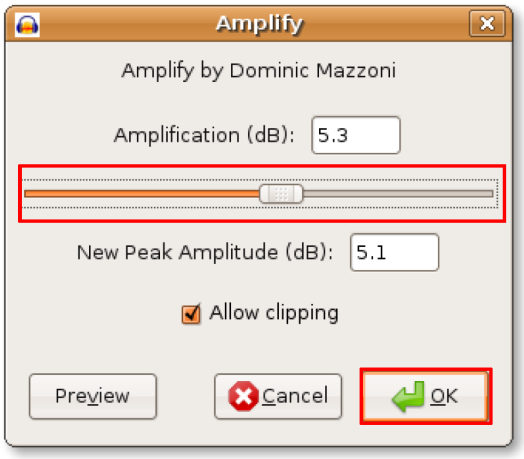


Figure 8.75: Amplifying the Audio Clip

11. Notice that the blue waves in the selected area have changed. You can now listen to the changed audio by clicking the **Play** button.

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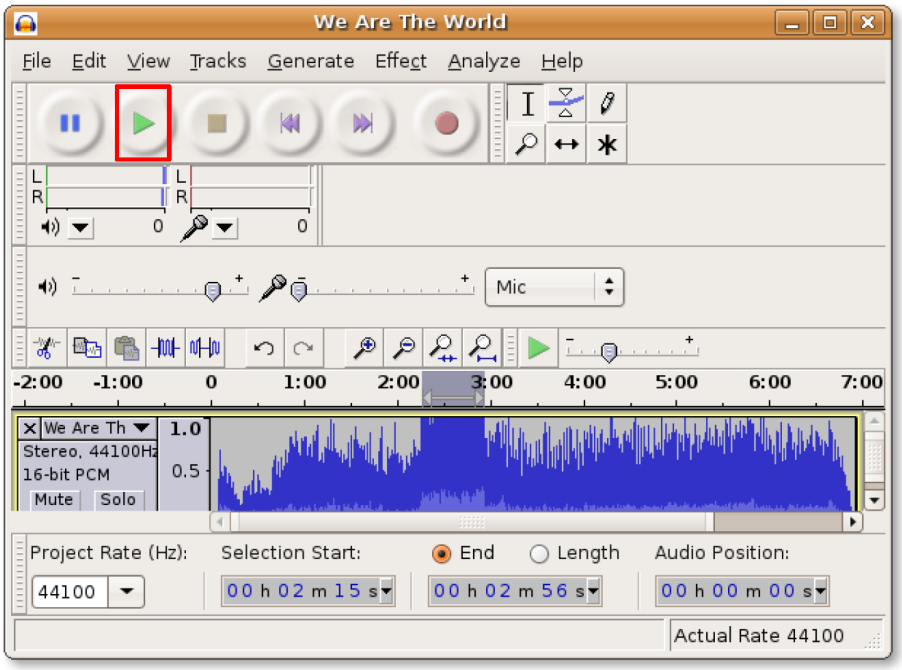


Figure 8.76: Verifying the Edit Effects

12. After you are satisfied with all the edit effects, you can save the edited audio file. Because the default audio format of Audacity is not readily supported by many applications you should save the file in a more popular audio format, such as Ogg Vorbis or MP3.

    To save the file in a different file format, click **Export**.

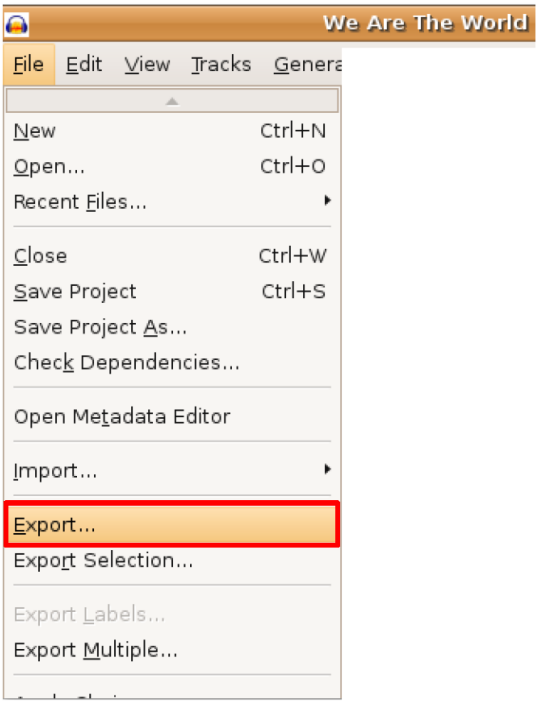


Figure 8.77: Exporting Audio File

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13. In the **Export File** dialogue box, select the folder where you want to save the file. Then, select the desired file format from the drop-down list and then click **Save** to export the file in the specified file format.

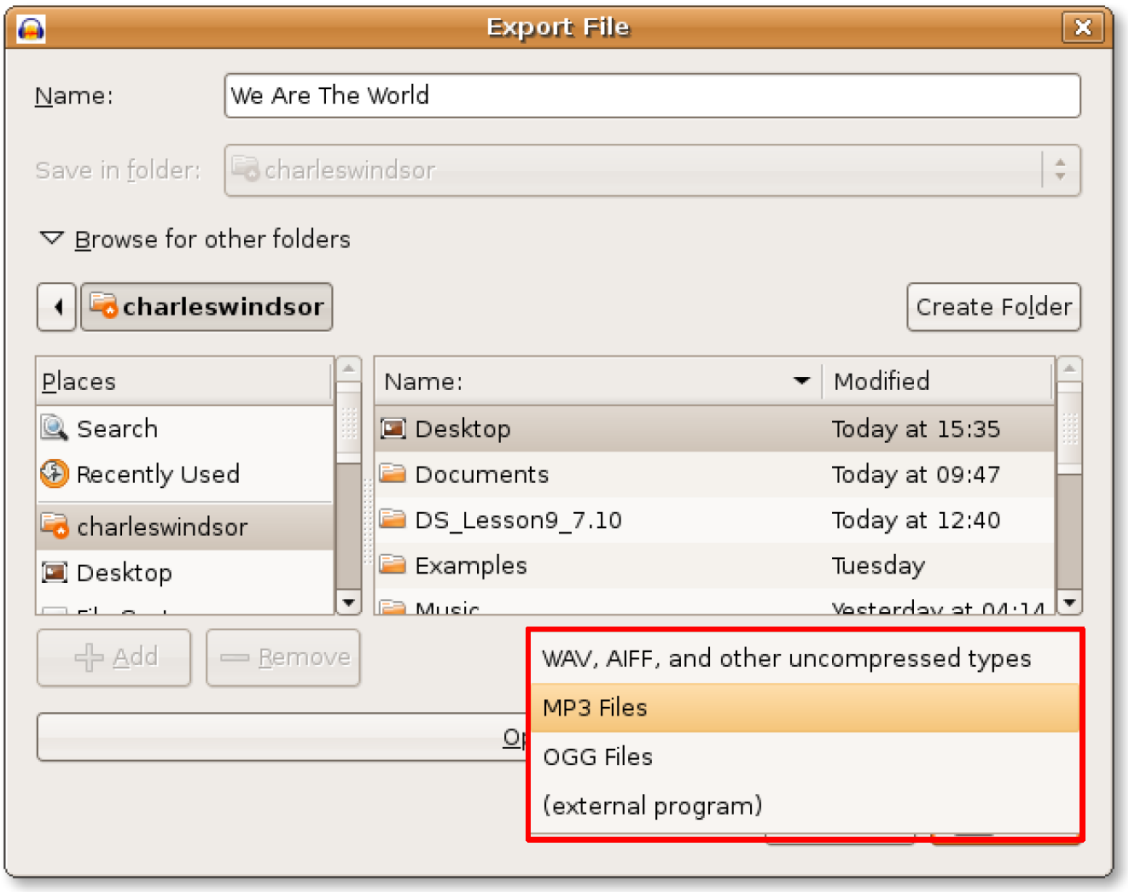


Figure 8.78: Exporting as MP3 File

14. Audacity starts exporting the file in the specified file format. This process may take up some time depending on the length of the audio file.



Figure 8.79: Export Progress Indicator

The audio file is exported to the specified location. You can now close the Audacity window and listen to the edited audio file whenever you wish.

8.8 Playing DVDs

By default, Ubuntu is capable of playing DVDs that are not scrambled. Most commercial DVDs are scrambled with the Content Scrambling System (CSS), which attempts to restrict the sotware that can play a DVD. Due to legal restrictions surrounding the scrambled format, as well as Ubuntu's total commitment to free multimedia formats, some software packages needed for encrypted DVD playback are not installed by default in Ubuntu. You can install these packages from Ubuntu repositories to enable the playback of scrambled DVDs.

Note:
It is possible that the use of some of the following software to play or copy DVDs is not permitted by law in some countries. Please clarify your rights before proceeding.

You may also consider downloading the following additional applications that are capable of playing certain formats by default:

- Mplayer movie player
- VLC media player
- Xine
- Totem-xine

Totem-gstreamer, the default movie player included in Ubuntu can automatically play a DVD when it is inserted into the DVD drive. However, it will not provide access to the DVD menu. Other free software media players like VLC, mplayer and xine do make the DVD menu available.

8.8.1 Playing DVDs in Totem

After you have installed all the required software packages from various Ubuntu repositories, you can play a DVD on your Totem movie player.

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1. Insert the DVD in the DVD drive of your computer. This will automatically launch the Totem and the DVD will start playing.



Figure 8.80: Playing DVD in Totem

2. To view the DVD in full screen mode, on the **View** menu, click **Fullscreen**. Alternatively, you can simply press **F** on your keyboard.

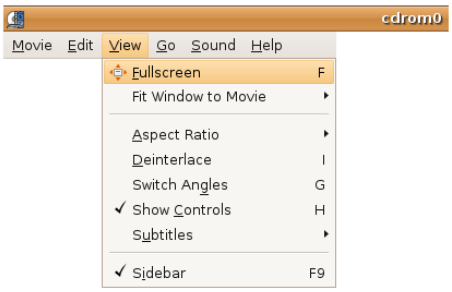


Figure 8.81: Enabling the Full Screen View

3. You can enjoy the DVD in full screen mode or press **ESC** and return to the Totem window.

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Figure 8.82: Viewing DVD in Full Screen

4. Totem also allows you to configure some settings to view the DVD according to your preferences. To configure the preferences settings, on the **Edit** menu, click **Preferences**.

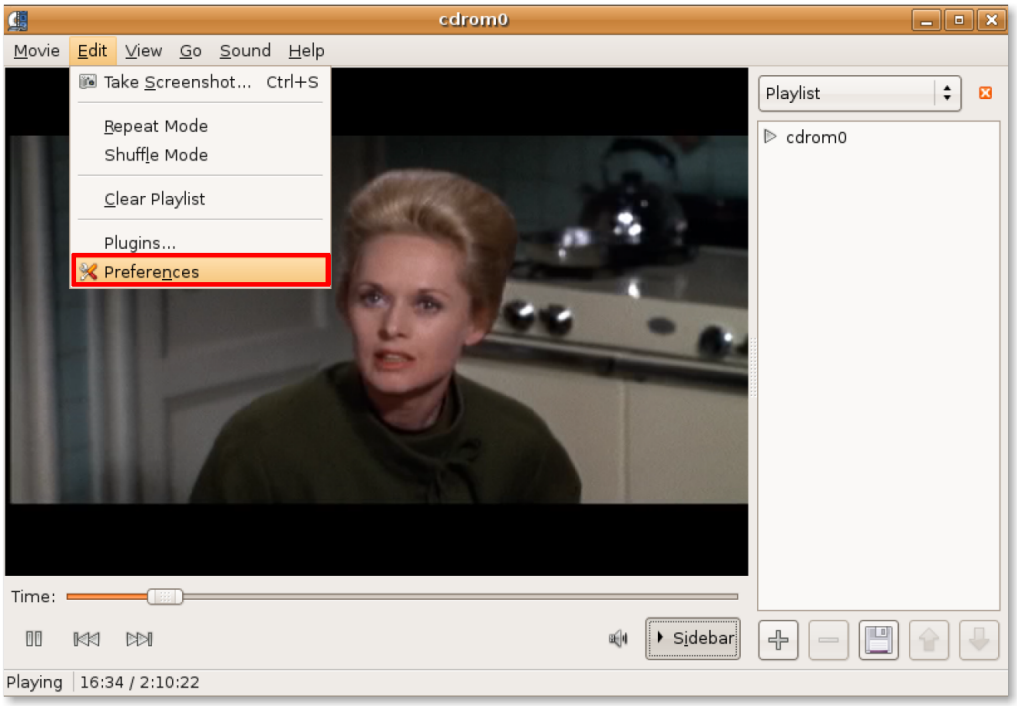


Figure 8.83: Displaying Totem Configuration

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5. You can use the Preferences dialogue box to define various display settings, such as the brightness, colour, hue and saturation of the display. After specifying your preferences, click **Close** to exit the dialogue box.

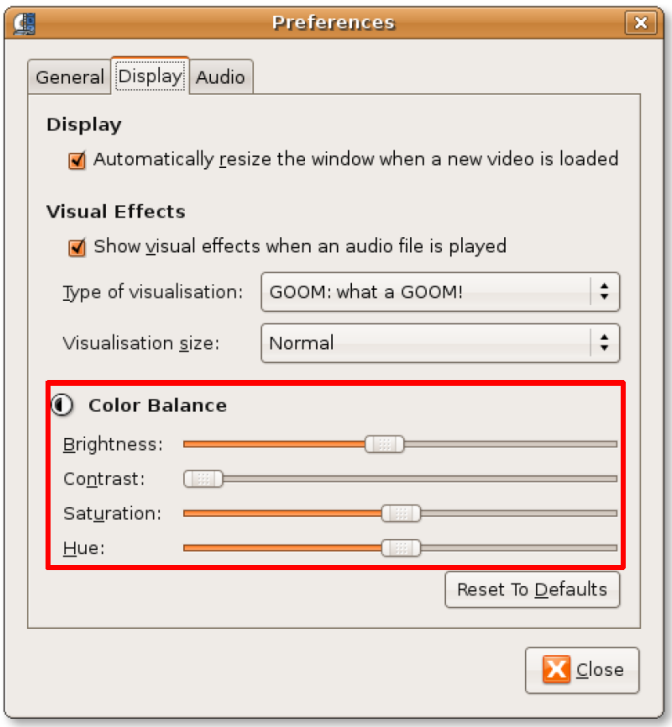


Figure 8.84: Customising Display Settings

6. When watching a DVD, you can use the various options provided in the **Go** menu to navigate inside the DVD. To skip to the next frame, on the **Go** menu, click **Skip Forwards**.

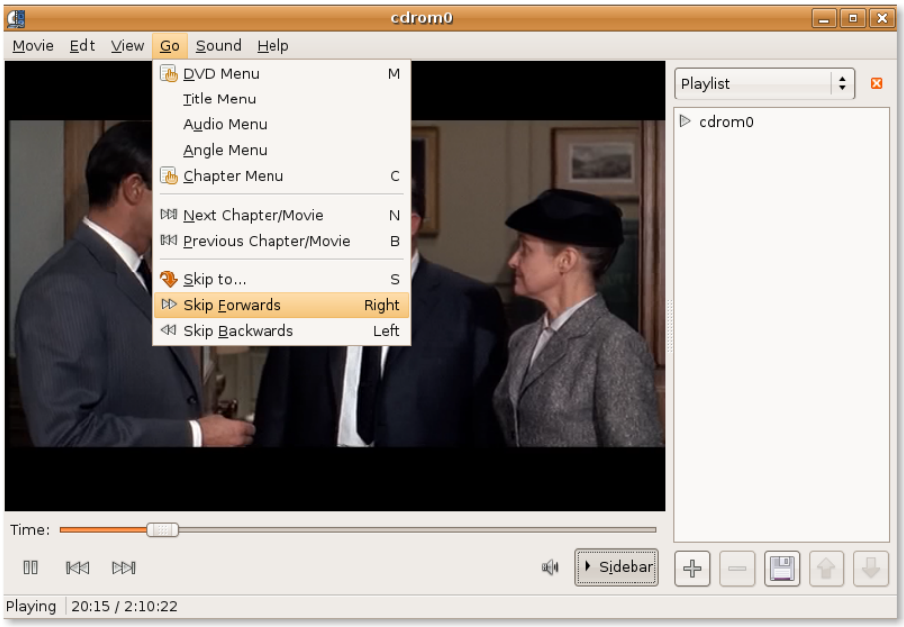


Figure 8.85: Navigating Inside DVD

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7. You are taken to the next frame in the DVD. If you do not want to view the side bar when playing the DVD, click the **Sidebar** button.

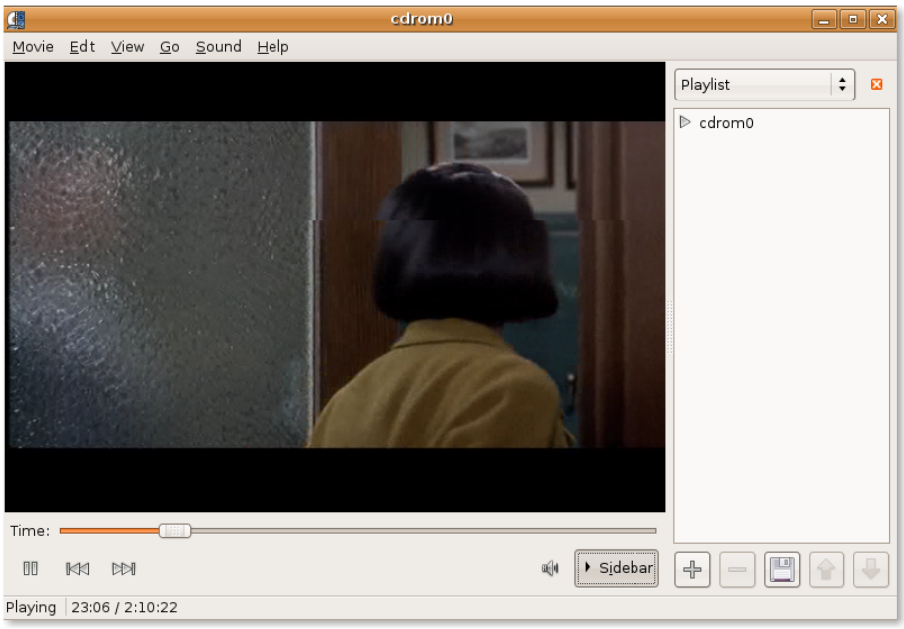


Figure 8.86: Hiding the Sidebar

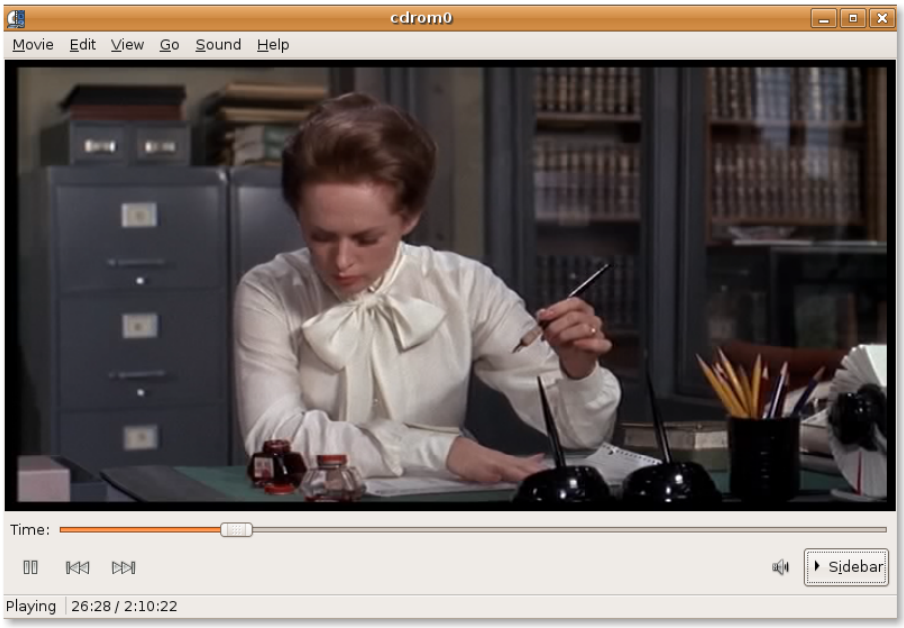


Figure 8.87: Viewing the DVD

8. This hides the side bar and now you can view the DVD on a larger space and simultaneously, have all the playback controls right in front of you.

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8.8.2 Backing up DVDs

If you have a collection of old and not-so-easy-to-find DVDs, you may wish to back up these on your computer or create extra copies of them. You may even want to extract certain tracks from your DVD and watch it later. To do so, Ubuntu provides you with a number of DVD backup applications or DVD rippers. Although these applications are not included in Ubuntu by default, you can download and install them from the Ubuntu repositories. Some of these applications are:

- Thoggen
- K9copy
- dvd::rip
- HandBrake

Instructor Notes:
If the students want to know more about the above applications, advise them to visit the following Web pages: For dvd::rip- http://www2.exit1.org/dvdrip/ For K9copy- http://k9copy.sourceforge.net/ For HandBrake- http://handbrake.m0k.org/-?chapter=documentation.

Backing up DVDs Using Thoggen Thoggen is a DVD backup utility for Linux, based on GStreamer and Gtk+. This application is designed to be easy-to-use. Rather than exposing the complexities of the DVD ripping process, which many other applications tend to do, it tries to simplify the process for average users by offering sensible default options.

Thoggen includes certain key features:

- Is easy to use and has a nice graphical user interface (GUI)
- Supports title preview, picture cropping, and picture resizing
- Provides language Selection for audio track
- Encodes into Ogg/Theora video
- Can encode from local directory with video DVD files
- Is based on the GStreamer multimedia framework, which makes it fairly easy to add additional encoding formats/codecs in future.

Note:
Thoggen is still beta software, but should work fine nevertheless. It is advisable, however, to check the list of known issues at http://thoggen.net/download/.

To be able to back up your DVD using Thoggen, you need to first install it. You can easily find this application in the Universe repository of Synaptic Package Manager and install it on your computer.

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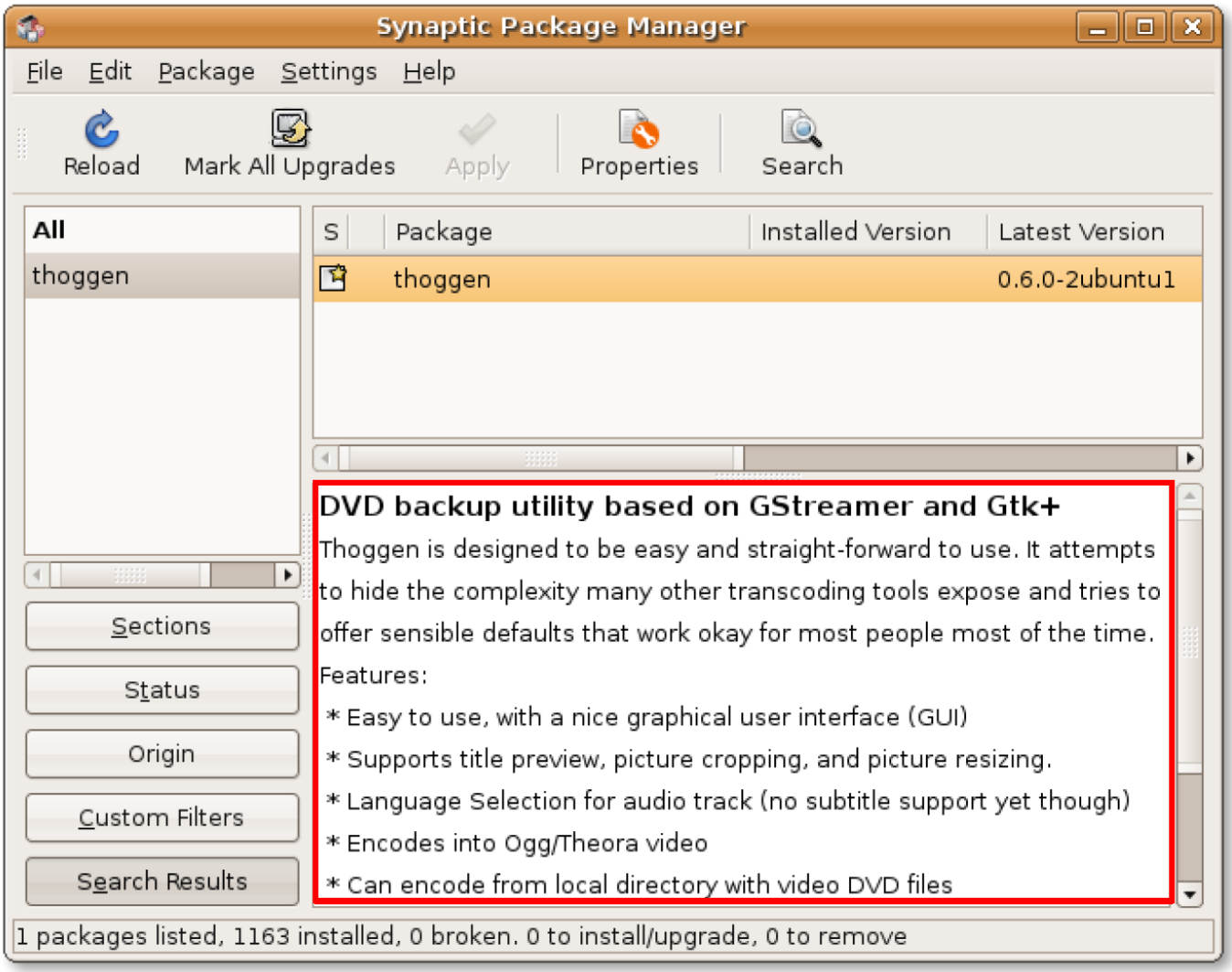


Figure 8.88: Installing Thoggen

1. On the **Applications** menu, point to **Sound & Video** and then click **Thoggen DVD Ripper**.

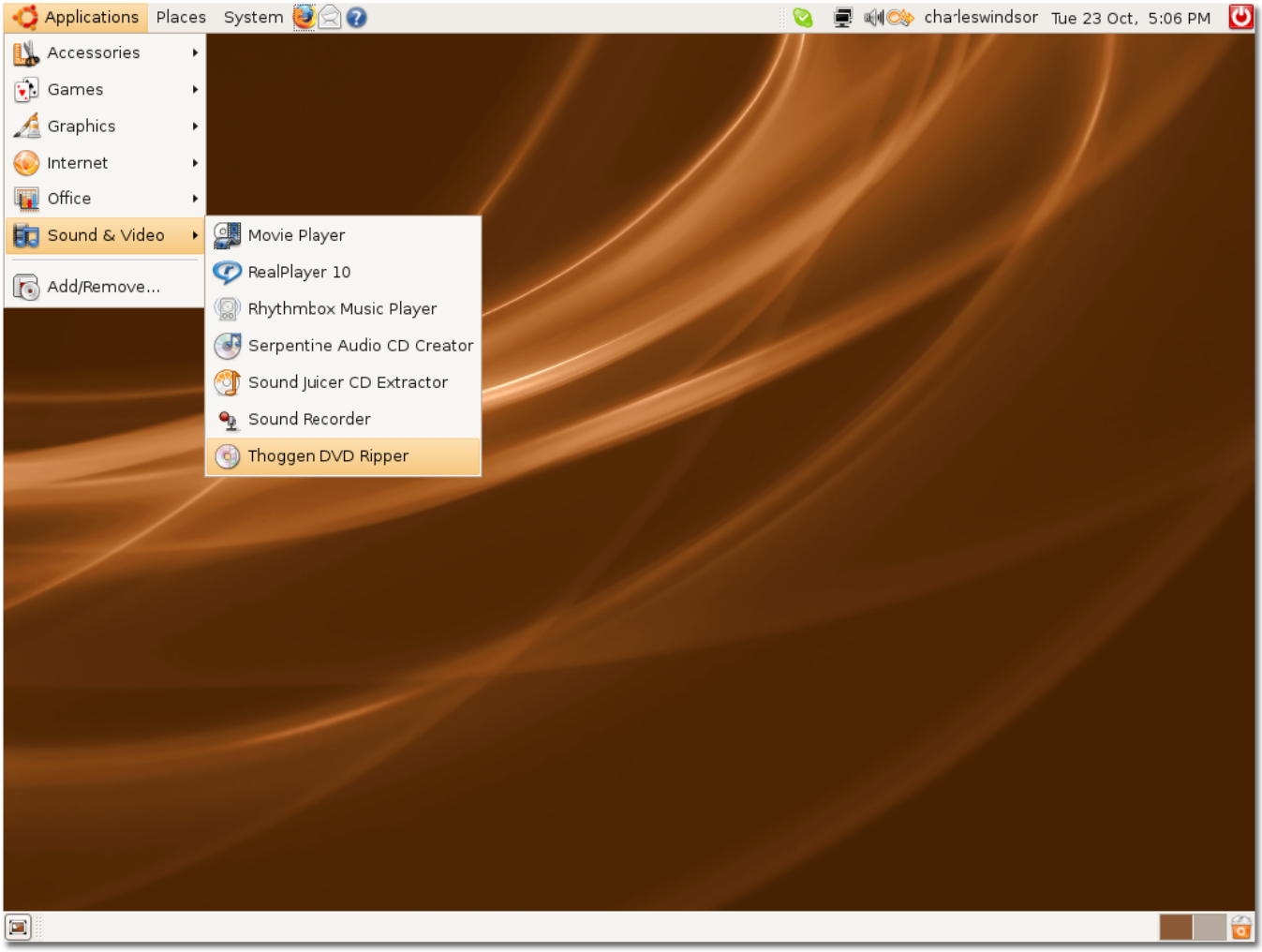


Figure 8.89: Launching Thoggen

2. The **Thoggen** window appears. As a first step to backing up your DVD, it simply asks you to select the specific tracks on the DVD that you want to back up. Specify the tracks by selecting the corresponding check boxes and then click **OK** to proceed.

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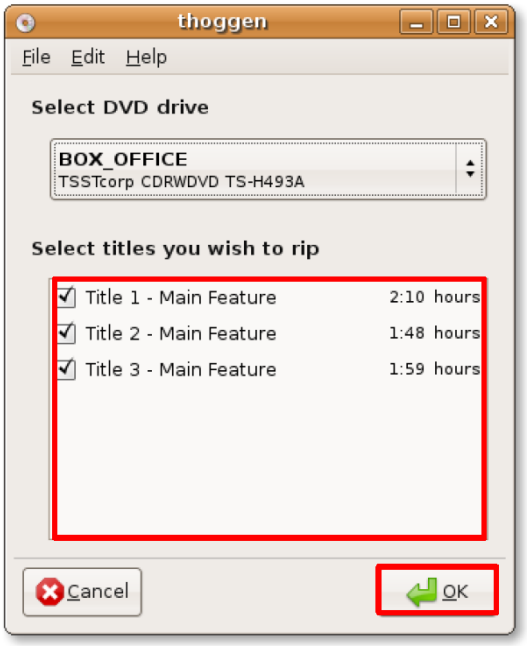


Figure 8.90: Specifying the Tracks to Back up

3. In the next step of the backing up process, you are allowed to view and configure some of the settings according to your requirements. You can select the picture size from the corresponding drop-down list and define the output crop, by clicking the **Configure Cropping** button. Otherwise, you cam simply click **OK** to accept the default settings and continue with the process of backing up your DVD.

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Figure 8.91: Changing Default Settings

4. The DVD backing process starts immediately. You can view the progress of the current as well as the entire process in the **Progress** section of the Thoggen window. Thoggen takes quite long to backup a DVD. However, the final output is quite satisfying.

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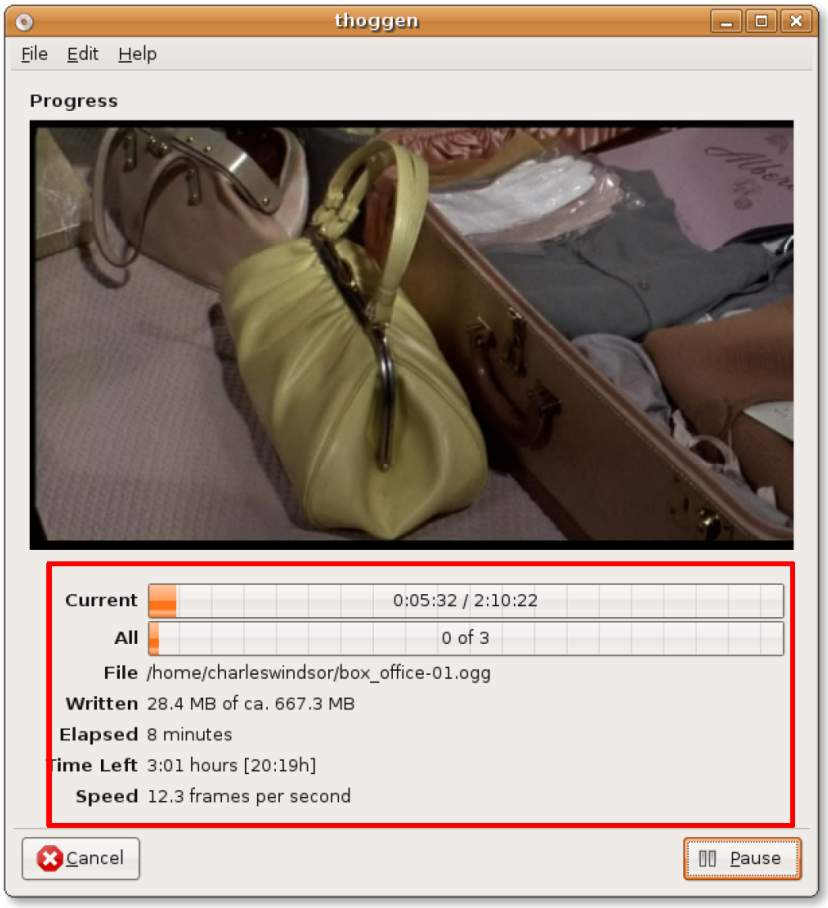


Figure 8.92: Backing up DVD

8.9 Playing Online Media

Ubuntu provides you with tools to directly play music and videos available on the Internet. You can listen and watch online videos and audios directly from within your browser but may require to install some special player for this. Your ability to watch or listen to online media depends on how the provider of the music and video has made them available.

8.9.1 Watching Videos in a Web Browser

You can play many of the videos available on the Internet directly from within your browser. For example, You can watch the Google videos and the You Tube videos directly in your FireFox window without installing any special player or additional browser plugins. The following screenshot displays a video being played inside the Firefox window:

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Figure 8.93: Watching Video in a Web Browser

However, depending on the format of the video that you want to watch, you may also require to download and install certain additional browser plugins. Some of the plugins available for the default Firefox web browser are:

- **Totem Xine plugin:** Install the **totem-xine-firefox-plugin** package from the "Universe" repository.
- **Totem gstreamer plugin:** Install the **totem-gstreamer-firefox-plugin** package from the "Universe" repository.
- **Mplayer plugin:** Install the **mozilla-mplayer** package from the Universe repository
- **Flash plugin:** install the **flashplugin-nonfree** package from the "Multiverse" repository

The plugin installation process depends on the framework you use. If you use Totem-gstreamer, the default movie player included in Ubuntu, you need to install the totem-gstreamer-firefox-plugin package. However, to enable playing streaming video in your browser, you need to first install the Microsoft Windows codec and then install the totem plugin.

You can even install an additional mediaplayer, such as RealPlayer 10, to watch online video streams in Realmedia formats. When you have installed all the above mentioned plugins and codecs, you can watch RealMedia files even with your default media player, such as Totem. But, you may also want to install RealPlayer on your computer because RealPlayer supports streaming RealMedia files slightly better than other players.

The RealPlayer, developed by RealNetworks, supports a number of audio and video codecs such as realaudio, realvideo 10, mp3, ogg vorbis and theora, h263 and AAC. The RealPlayer for Linux is available in the Canonical commercial repository and can also be freely downloaded from the RealPlayer web site.

Note:
RealPlayer is a proprietary software and is not supported by the Ubuntu community.

Installing RealPlayer As mentioned above, the realPlayer for Linux is available in the Canonical commercial repository. Ubuntu does not include this repository by default. Therefore, you will first need to add Canonical's commercial repository to your system. Once the repository is added, you can search for the Realplayer package and then install it on your computer.

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1. You can now access the realPlayer from the Applications menu. To access RealPlayer, on the **Applications** menu, point to **Sound & Video** and then click **RealPlayer 10**.

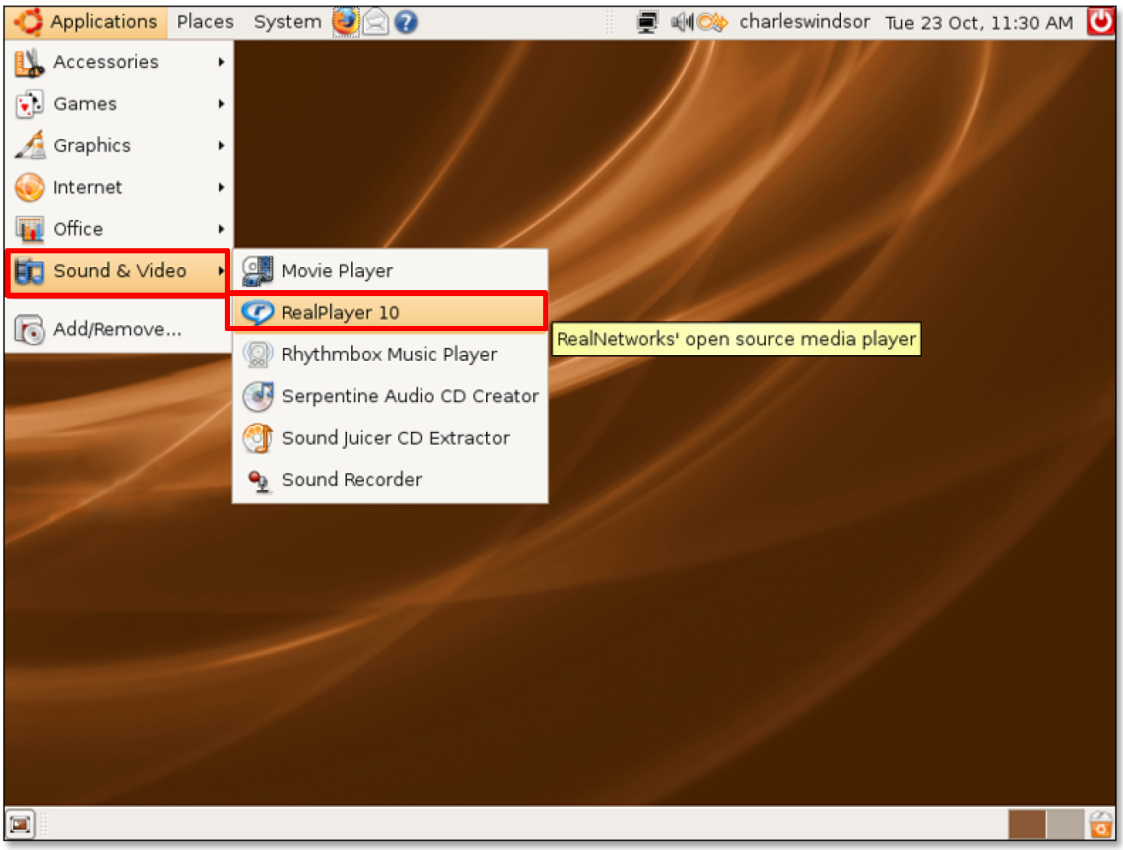


Figure 8.94: *Launching RealPlayer*

2. The **RealPlayer Setup Assistant** is displayed to guide you through the set up of the RealPlayer. Click **Forward** to start the set up process.



Figure 8.95: *Initiating RealPlayer Set up*

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3. After reviewing the release notes of the RealPlayer 10, click **Forward** again to proceed.

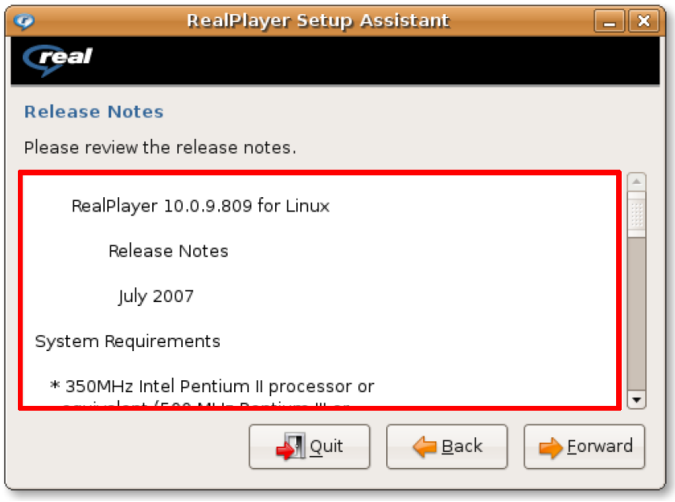


Figure 8.96: *Reviewing realPlayer Release Notes*

4. Before installing the RealPlayer application on your computer, you need to review the terms of the end user license agreement and accept it to be able to proceed with the setup. Click **Accept.**



Figure 8.97: *Accepting the License Agreement*

5. You have reached the final screen of the Realplayer setup Assistant. Specify the provided options and click **OK** to complete the set up.

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Figure 8.98: *Completing the Set-up Process*

6. The **RealPlayer** window is displayed, indicating that the set up was successful. Now you can watch online streaming media in the RealPlayer.



Figure 8.99: *The RealPlayer Window*

7. To start viewing the online video of your choice, launch your Firefox and paste the URL of the Web page from which you want to view the streaming media.

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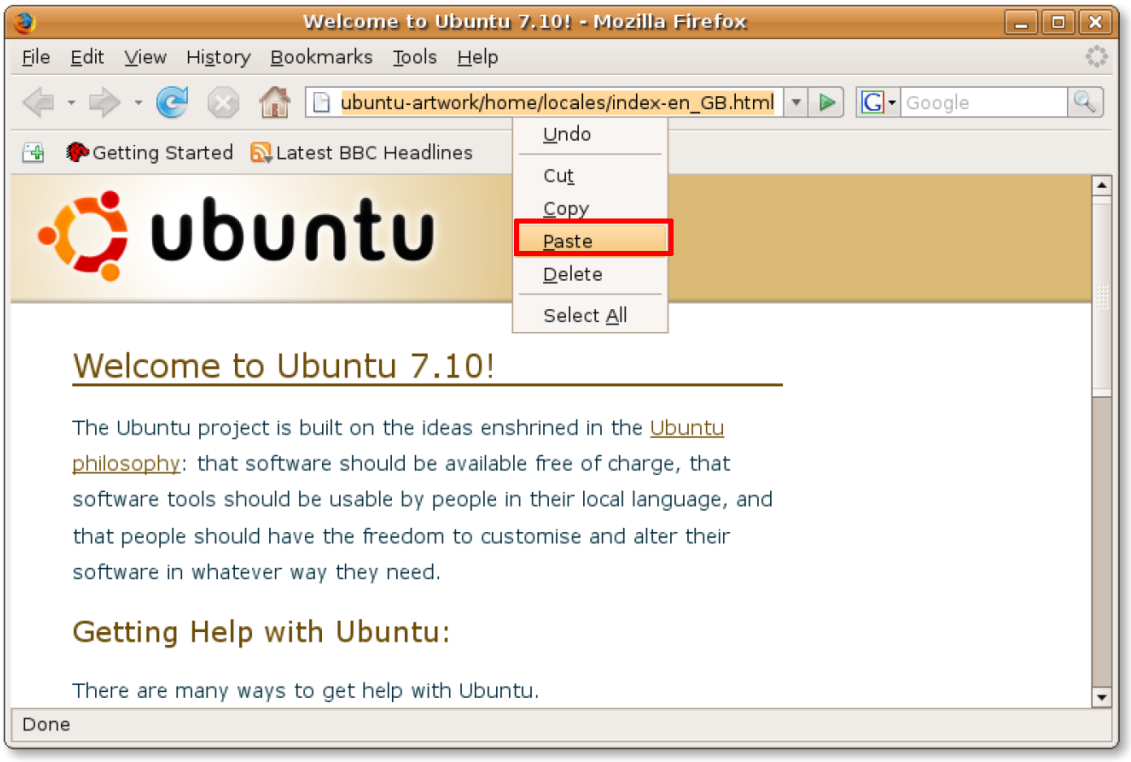


Figure 8.100: *Opening the Desired Web Page*

8. On the Web page, click the link to open the video of your choice.



Figure 8.101: *Selecting the Link to the Online Video*

9. You are asked to specify whether you want to open the linked file in RealPlayer or save it to your computer. To view the video as online streaming media, accept the default selection and click **OK**.



Figure 8.102: *Viewing Video as Streaming Media*

10. The **Downloads** dialogue box displays the progress of the download. After the file is downloaded to your temporary Internet folder, the video starts playing in the **RealPlayer** window.

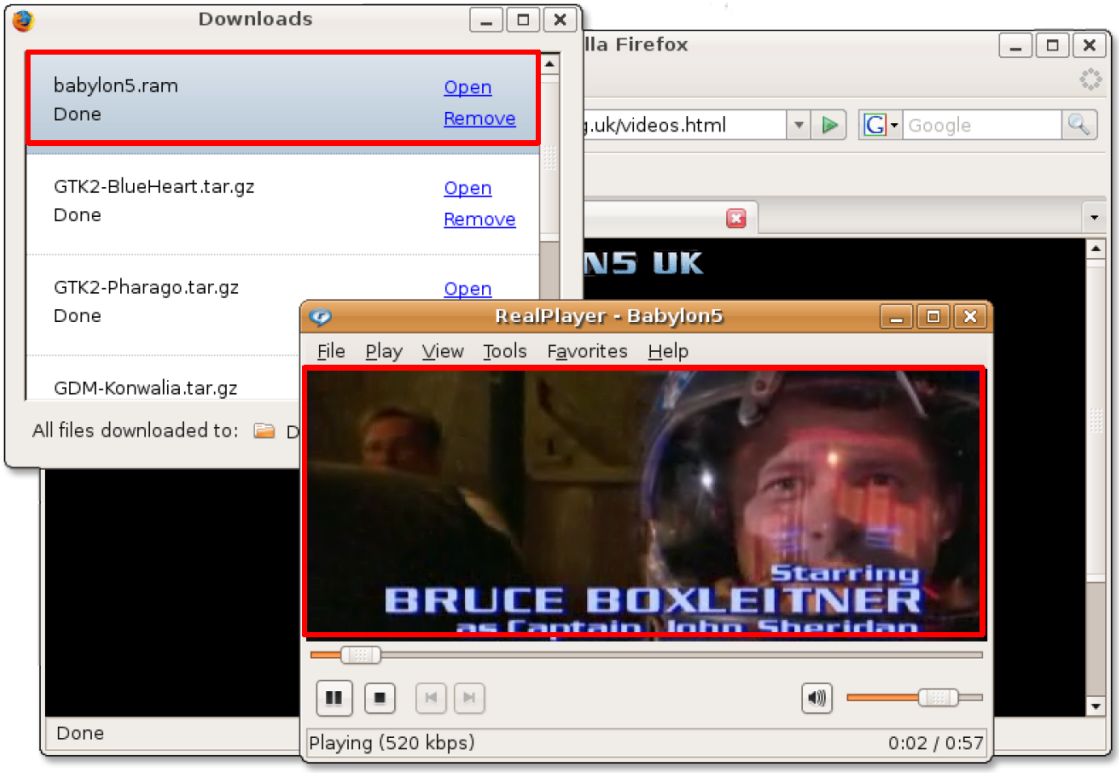


Figure 8.103: *Watching Online Video in RealPlayer*

11. You can add the link to your **Favorites** list to be able to view the video again without searching for it on the Internet. To save the video as a **Favorite,** on the the **Favorites** menu, click **Add to Favorite**.

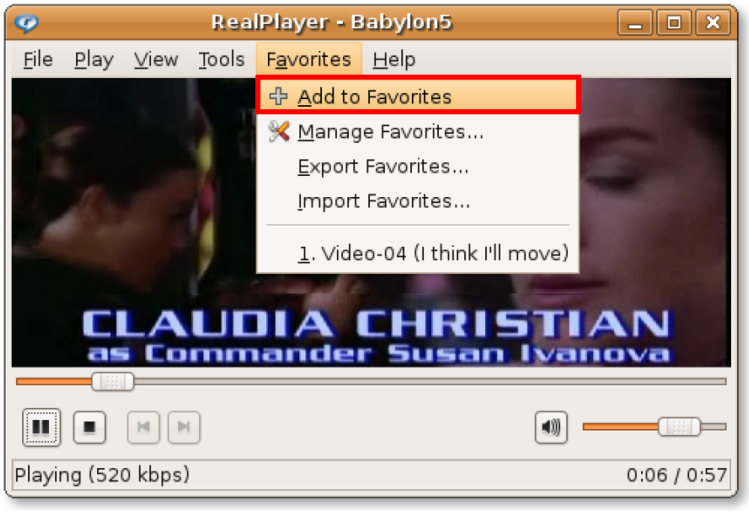


Figure 8.104: *Saving a Video as Favourite*

12. The video is now saved as your favorite. In future, you can view this video directly from inside your RealPlayer by selecting the link from the **Favorites** menu. You can also play an online video directly from inside the RealPlayer by specifying the location of the video. To do so, on the **File** menu, click **Open Location**.

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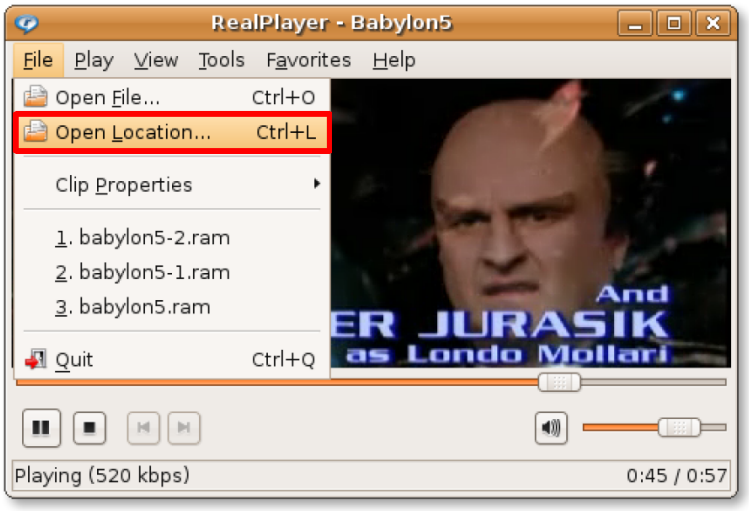


Figure 8.105: *Viewing Online Video Directly from RealPlayer*

13. Type the URL or the file path of the video in the **Open Location** dialogue box and click **OK** to start playing the online streaming video.

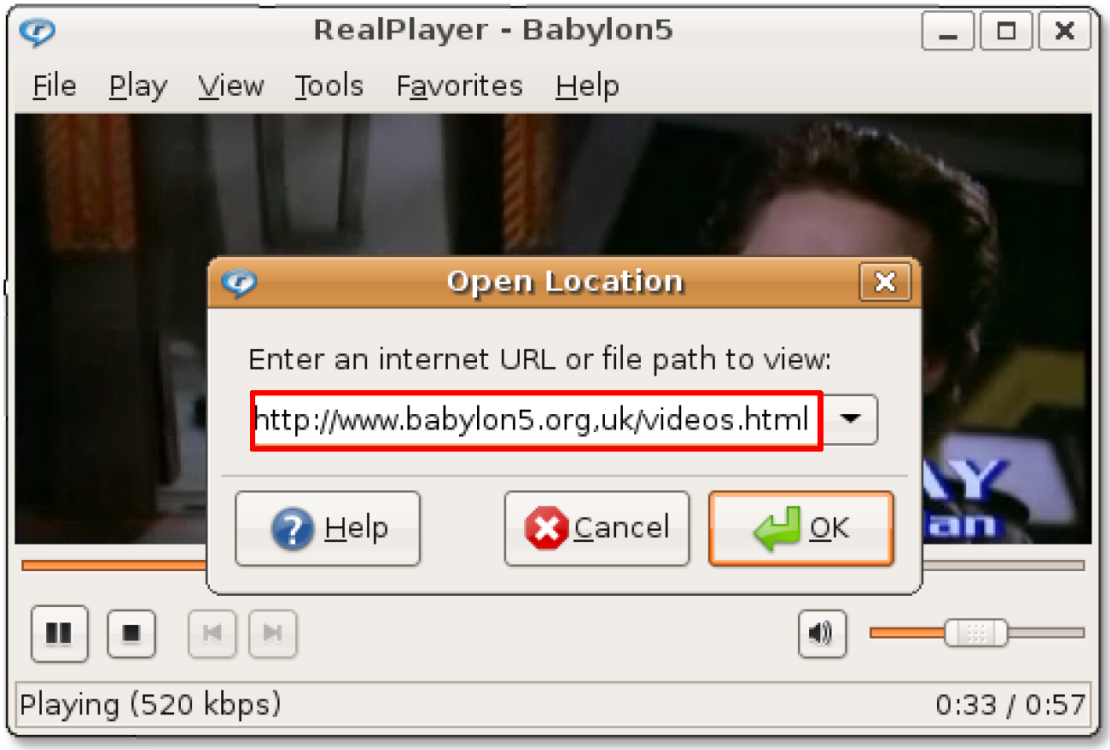


Figure 8.106: *Specifying Video Location*

8.10 Editing Videos

In addition to viewing movies and videos, Ubuntu also provides you tools to help you edit a video. The tools available with Ubuntu include:

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Kino: An advanced video editor, Kino captures video to disk in Raw DV and AVI format. It allows you to load multiple video clips, cut and paste portions of video, and save it to an edit decision list in SMIL and XML formats.

Stopmotion: Stopmotion is a free application for creating stop-motion animation movies. It enables you to create stop-motions from pictures imported from a camera or from the harddrive, add sound effects and export the animation to different video formats such as mpeg or avi.

Subtitle Editor: Subtitle Editor is a GTK+2 tool to edit subtitles for movies and videos. you can use it for creating new subtitles or to transform, edit, correct and refine existing subtitles. This programme also shows sound waves, which makes it easier to synchronise subtitles to voices.

Pitivi Video Editor: Pitivi Video Editor is a non-linear editor, which allows you to easily edit audio and video projects. Using Pitivi, you can capture audio and video, mix, resize, cut, and apply effects to audio and video sources. It also allows you to save the projects in any format supported by the GStreamer framework.

8.10.1 Editing videos using Pitivi video editor

Pitivi Video Editor is not included in Ubuntu by default. It is available in the Universe repository of Ubuntu. You can install Pitivi using Synaptic Package Manager.

1. On the **Applications** menu, point to **Sound & Video** and then click **Pitivi Video Editor**. The **Pitivi vo 10.3** window opens.

2. The main Pitivi interface is divided into a number of panes. You can use the various buttons on the task bar to perform tasks such as opening, importing, adding, viewing and saving video clips. To edit a video clip, first import the clip in the Pitivi Video editor by clicking the **Import Clips** button.

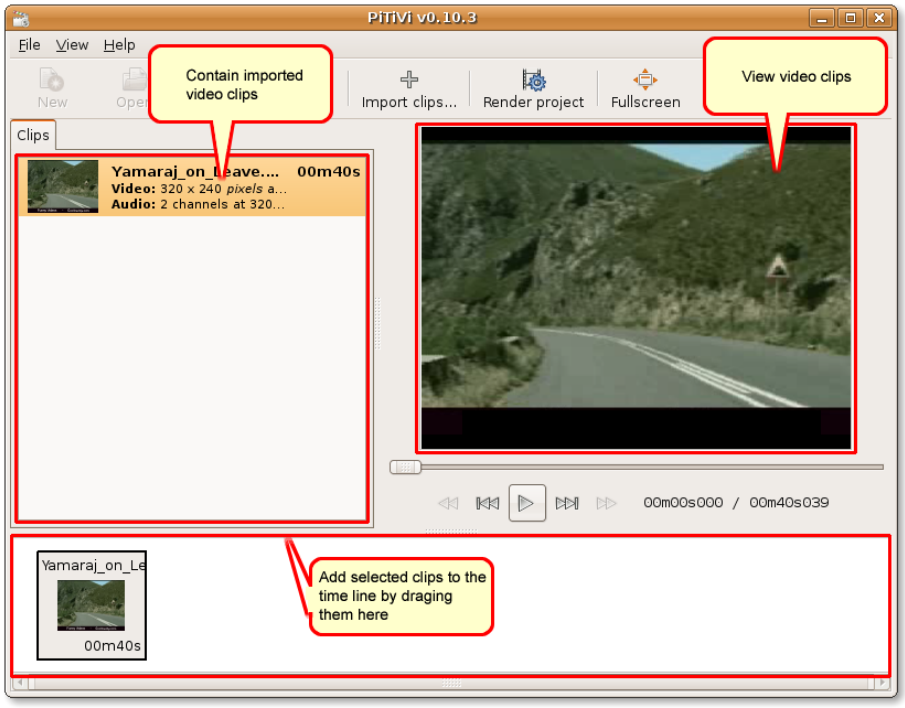


Figure 8.107: The Pitivi Interface

3. In the Import a clip dialogue box, navigate to the folder from where you want to import the video clip, select the single or multiple clips to be edited and click **Add** to import it in the **Pitivi** window.

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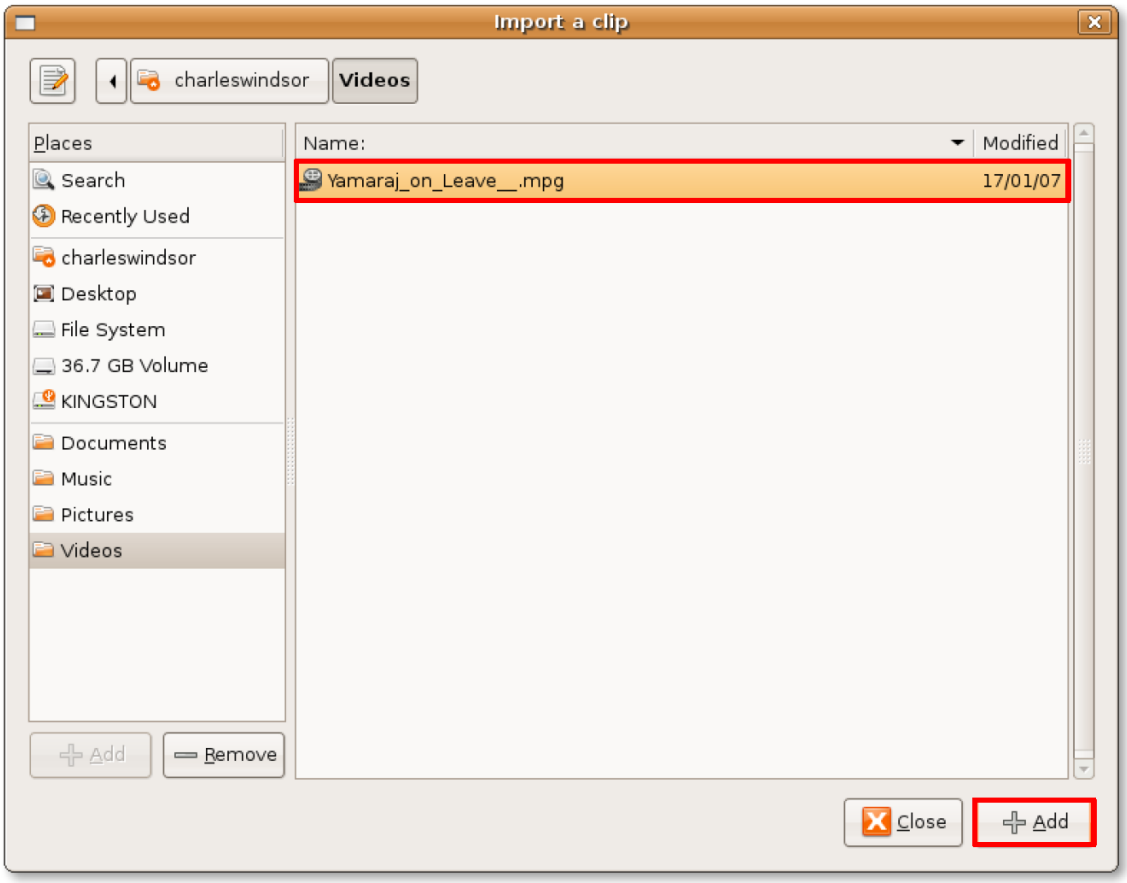


Figure 8.108: Importing Video Clips in Pitivi

4. The selected video clip is now imported into the Pitivi Video editor. You can double-click the video clip to view it in the right pane. Click the **Stop** button on the control bar to stop the playback.

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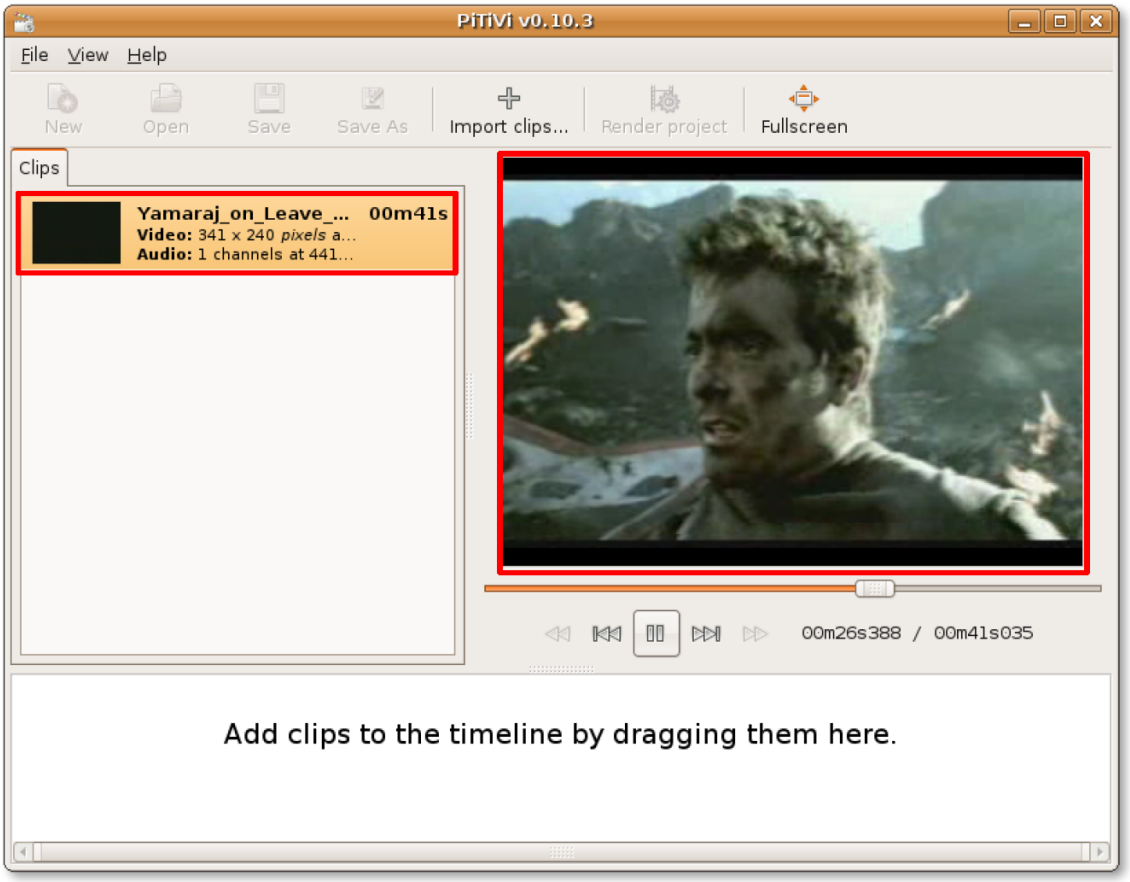


Figure 8.109: Viewing the Imported Video

5. To edit the imported video clip, you need to drag them to the bottom pane to add them to the time line and then select the **Project Settings** option from the **File** menu. This opens the **Projects Settings** dialogue box.

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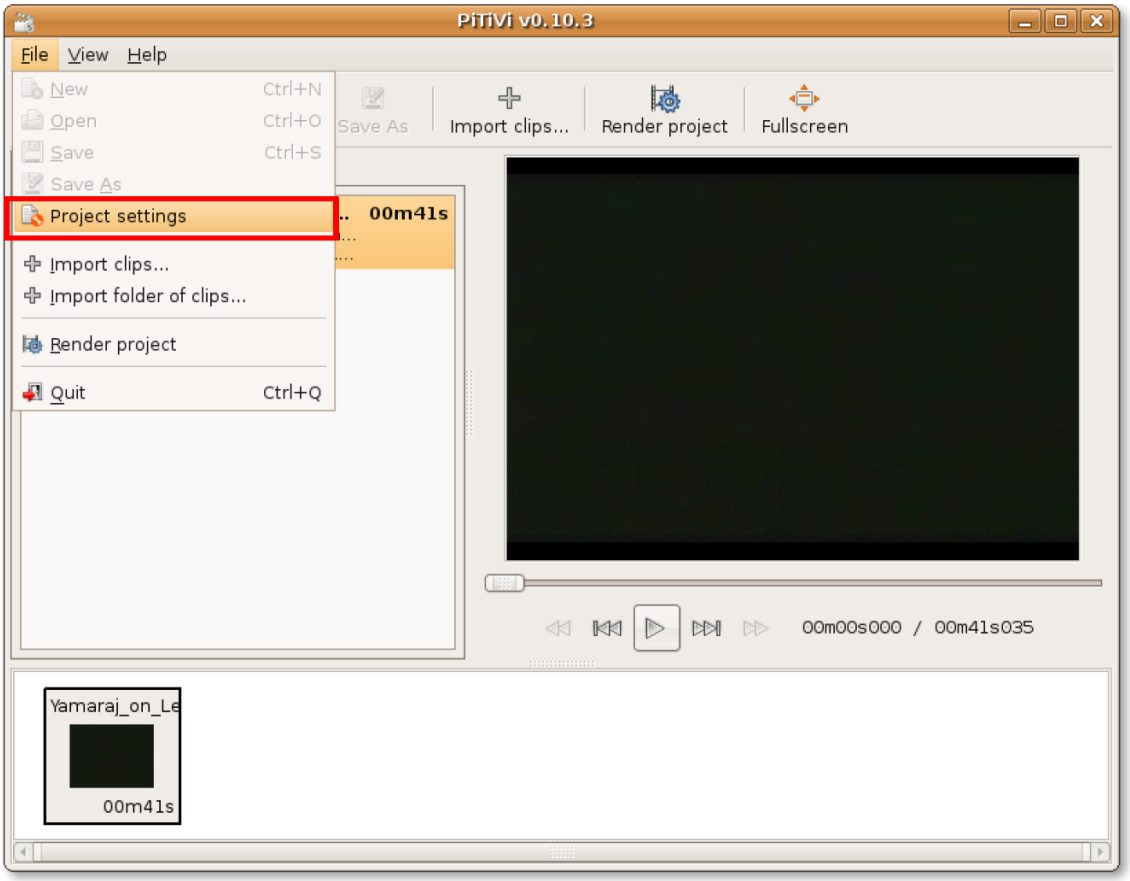


Figure 8.110: Displaying the Project Settings Dialogue Box

6. In the **Projects Settings** dialogue box, you can edit the various aspects of the selected movie clip by defining various specifications according to your preferences. You can use the **Video Output** section to define the height, width and the frame rate of the video. Similarly, you can define the audio specifications under the **Audio Output** section. Click **OK** after specifying your preferences.

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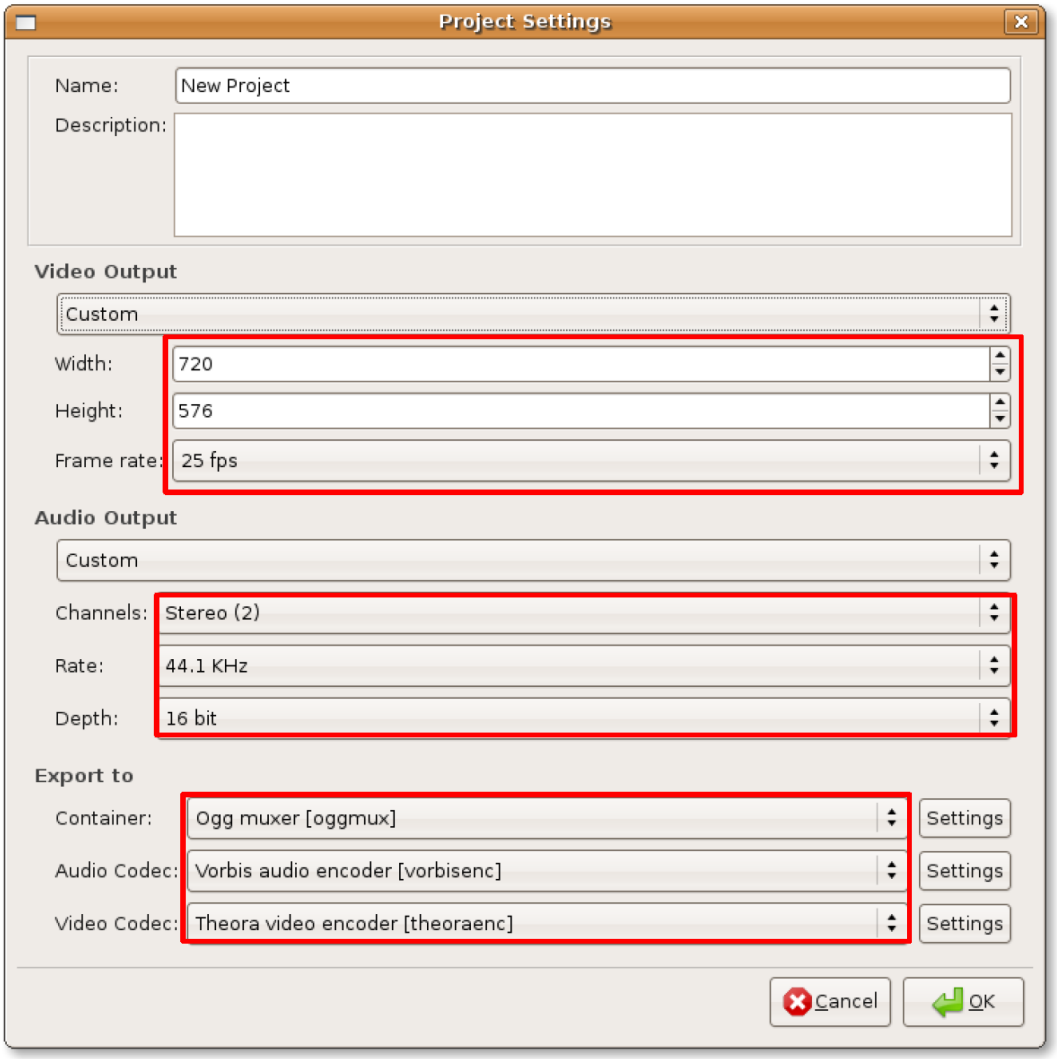


Figure 8.111: Specifying Edit Preferences

7. You return to the Pitivi window. To start applying your specifications on the selected video clip, click the **Render project** button. This displays the **Render project** dialogue box. You can use the **Modify** button on the **Render project** dialogue box to further modify your specifications for the video clip. Otherwise, click the **Choose file** button to specify a file name for the edited video clip.

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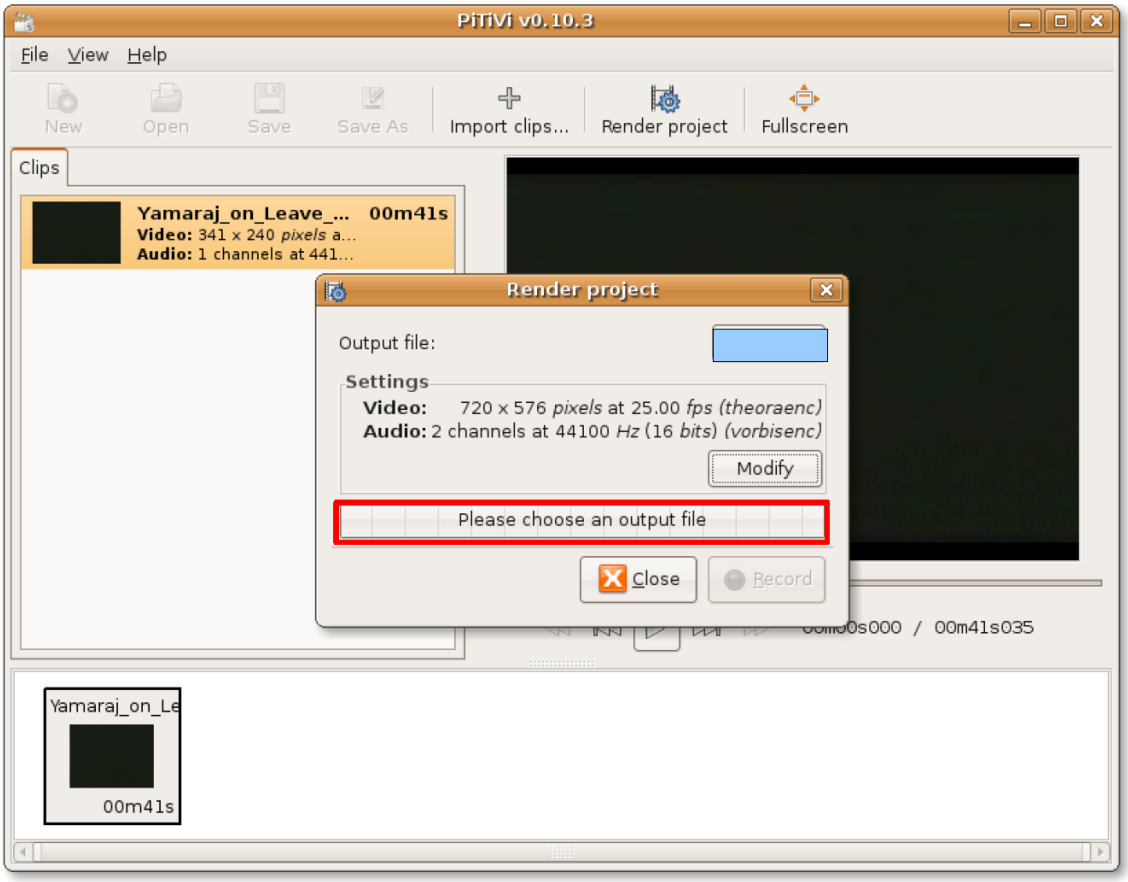


Figure 8.112: Specifying the Output File

8. This opens the **Choose file to render to** dialogue box. Use this dialogue box to assign a name for the edited video clip and specify the location where you want it to be saved. After specifying these details, click **OK** to exit the **Choose file to render to** dialogue box.

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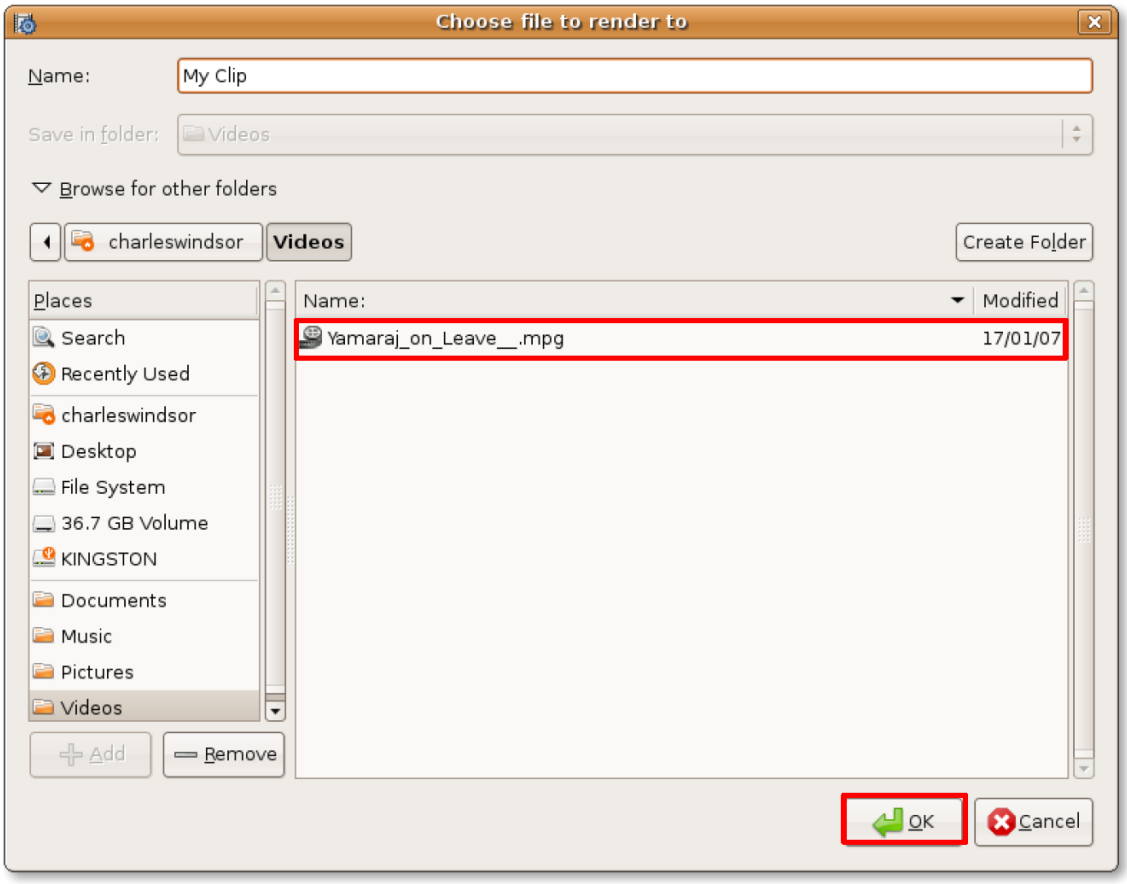


Figure 8.113: Selecting the File to Render to

9. The name of the file now appears on the **Output file** button. Start editing the video clip by clicking the **Record** button.

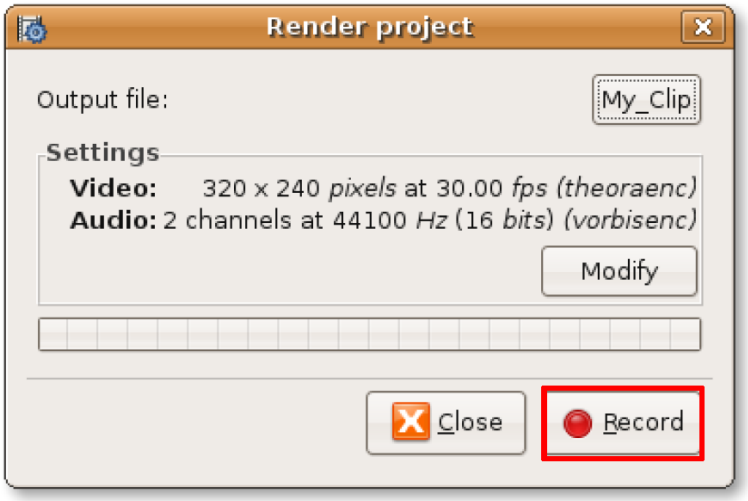


Figure 8.114: Editing the Video File

10. The Pitivi Video Editor has started rendering a new project based on your specifications. You can view the progress of the process in the progress bar. Once the rendering is complete, click the Close button on the top-right corner to exit the

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Render project dialogue box.

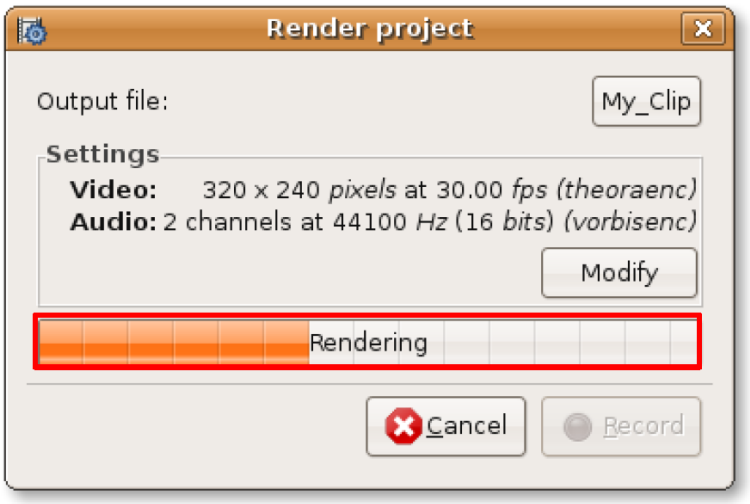


Figure 8.115: Project Rendering Progress Indicator

11. The newly edited video clip is now saved at the specified location.

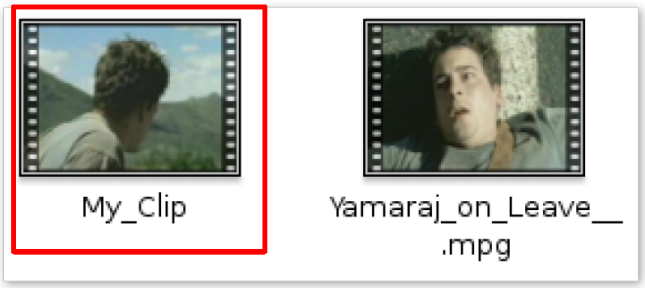


Figure 8.116: The Edited Video Clip

8.11 Lesson Summary

In this lesson, you learned that:

- Software usage and distribution is controlled by laws and legislations unique to each country.
- When using or redistributing proprietary media formats, you should be aware of the associated patent or copyright laws.
- You can use Rhythmbox to play and organise music, listen to Internet radio and import music from CDs.
- Using Sound Juicer, you can play audio tracks direct from the CD, extract audio tracks and convert them into audio files in various file formats. In addition, the default audio CD burner for Ubuntu, Serpentine, can be used to create audio CDs.
- Playback of proprietary multimedia formats can be enabled in Ubuntu by installing additional multimedia codecs from the repositories.
- Ubuntu offers you tools to play music from your iPod through gtkpod.
- GNOME Sound Recorder can be used to create audio files in various formats.

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- Audacity enables you to record and edit audio files.
- DVD playback in Totem Movie Player can be enabled by installing the required software packages.
- Thoggen is a DVD backup utility for Linux that can be used in Ubuntu to rip DVDs.
- Ubuntu provides you with tools to listen and watch online videos and audios directly from within your browser or in a mediaplayer such as RealPlayer.
- Pitivi video Editor can be used to play and edit videos.

8.12 Review Exercise

Question: List the main features of a free software license.

Answer: A free software license include the following features:

- Enables anyone to distribute or sell the software
- Makes the source code of the software available
- Allows users to make modifications and to produce derived works
- Does not restrict the use of other software

Question: Which is the default music player in Ubuntu?

- Totem
- Rhythmbox
- Audacity
- gtkpod

Answer: b) Rhythmbox

Question: What are podcasts?

Answer: Podcasts are audio shows, broadcasted over the Internet, that you can subscribe to. Subscribing to a podcast enables you to download each new audio release from the subscribed podcast source.

Question: Which application is available in Ubuntu by default to play and extract audio compact discs?

- Xine
- RealPlayer
- Serpentine
- Sound Juicer

Answer: Sound Juicer

Question: In which formats does Sound Juicer enable you to extract audio files onto your computer?

Answer: Sound Juicer enables you to extract audio files into the following three formats:

- Ogg Vorbis
- FLAC

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- WAV

Question: From where does Sound Juicer retrieves retrieve the CD artist, title, and track data?

Answer: Sound Juicer will retrieve the CD artist, title, and track data from MusicBrainz.org.

Question: Name the default CD audio recording application available in Ubuntu?

Answer: Serpentine is the audio CD burner application that comes bundled with Ubuntu, by default.

Question: Why do you need to install additional multimedia codecs in Ubuntu?

Answer: Due to the legal restrictions associated with the use of proprietary formats, by default, Ubuntu does not offer support for such formats. You need to install additional multimedia codecs to enabling such proprietary media formats in Ubuntu.

Question: You can download and install multimedia codecs using the _____.

Answer: Synaptic Package Manager or Command Line Interface

8.13 Lab Exercise

Exercise 1: Playing Music Using Rhythmbox You have recently installed Ubuntu and want to play and organise your music files, listen to music podcasts and Internet radio. List the steps that you would take.

1. On the **Application** menu, point to **Sound & Video** and then click **Rhythmbox Music Player**.
2. To start importing individual music files into Rhythmbox, right-click **Library** and click **Import File**.
3. In the **Import File into Library** dialogue box, navigate to the folder from which you want to import the files.
4. Select the files that you want to import and click **Open.**
5. Select the music tracks that you want to play and the **Play** button to start playing the selected track.
6. To play music from a podcast of your choice, right-click the **Podcast** option in the **Source** list and select **New Podcast Feed**.
7. Enter the podcast feed URL in the **New Podcast Feed** text box and click **Add.**
8. To play a podcast episode, select the episode that you want to play and click the **Play** button.
9. To listen to Internet radio, click the **Radio** source in the **Source** pane.
10. Double-click on the radio station of your choice to listen to the streaming media.
11. To add a new radio station to the existing list of stations, click **New Internet Radio Station** and paste the URL of the new radio station in the **URL of Internet radio station** text box.
12. Click **Add** to add the radio station in the existing list.
13. You can add many more Internet radio stations in the same way and listen to your favourite radio stations with just a click of your mouse.

Exercise 2: Playing and Extracting Audio CDs You have built up an impressive CD collection over the years and you would like to play these on your Ubuntu desktop, retrieve details about the music tracks and extract your favourite music tracks onto your computer in a compatible format to be able to play them later. List the steps that you would need to perform to do all that you want.

1. Insert an audio CD in the CD drive of your computer. The **Sound Juicer** CD player and ripper is launched automatically.
2. Notice that **Sound Juicer** has fetched the tracks' information from MusicBrainz.org.
3. To play the tracks of your choice, select the particular tracks by selecting the corresponding checkboxes.

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4. Click the **Play** button to play the tracks.

1. Insert the audio CD into your computer's CD drive.
2. On the **Edit** menu, click **Preferences.**
3. In the **Preferences** dialogue box, click the **Output Format** drop-down list.
4. Select the format of your choice from the **Output Format** drop-down list.
5. Select the directory where you want to extract the files from the **Music Folder** drop-down list.
6. Click **Close** to exit the **Preferences** dialogue box.
7. In the **Sound Juicer** window, select the tracks that you want to extract by selecting the corresponding check boxes.
8. Click the **Extract** button to start extracting the files.
9. Sound Juicer notifies you after the selected tracks are extracted successfully. Click **Open** to view the tracks copied on your hard disk.
10. The CD audio tracks are now copied as audio files on your hard disk. You can listen to these tracks by simply double-clicking them.

Exercise 3: Burning Audio CDs You have recently discovered a Web site from where you can freely download hundreds of songs. You do not want these files to occupy the precious space on your computer's hard drive. Therefore, you want to copy these files on audio CDs, so that you can listen to them in future without taking up capacity of the hard drive.

1. Insert a blank (recordable) CD in the CD drive of your computer.
2. Click the click the **Make Audio CD** button, on the **Choose Disc Type** dialogue box. This launches the **Serpentine** audio CD burner.
3. To change the default configuration settings for **Serpentine** before burning the audio CD, open the **Serpentine Preferences** dialogue box by clicking **Preferences** on the **Edit** menu.
4. Select the **Add** two seconds gap between two tracks check box to insert two seconds gap between two tracks.
5. Click **Close** to apply the changes and exit the **Serpentine Preferences** window.
6. Now you need to specify the files that you want to be copied on the inserted CD. To start specifying the desired audio files, click **Add**.
7. This opens a browser window. In the browser window, navigate to the desired folder and click **Open** to display its contents.
8. Select the specific audio files that you want to be copied and click **Open.** You are returned to the **Serpentine** window.
9. Once you are sure of the files to be copied to the disk, click the **Write to Disc** button to start writing the audio files from your computer to the CD.
10. You are asked to confirm your decision to record a media disc. Click **Write to Disc** to continue.
11. Serpentine now starts writing the music files to the media disc. You can view the progress of the process in the **Writing Audio Disc** dialogue box.

Exercise 4: Playing Proprietary Multimedia formats You have a huge collection of music in MP3 format stored on your computer and want to play these music files on your Ubuntu desktop. List the steps that you will need to take to be able install the required multimedia codecs.

1. On the **System** menu, point to **Administration** and then click **Synaptic Package Manager**. The **Synaptic Package Manager** window opens.

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2. The Multiverse and Restricted repositories are not activated by default in Ubuntu. To activate these repositories, on the **Settings** menu, click **Repositories.** The **Software Sources** dialogue box is displayed.
3. To enable the Multiverse and Restricted repositories, select the third and fourth check boxes available on the **Ubuntu Software** tabbed page, and click **Close** to exit the dialogue box.
4. You may receive a notification that your repository information has changed. Click **Close** to exit this message.
5. Once you return to the Synaptic Package Manager window, you are required to click the **Reload** button to apply your changes.
6. On clicking the **Reload** button, the system starts checking the repositories for new, removed or upgraded software packages.
7. To install a software package, you need to first locate the package in the Synaptic Package Manager window.
8. To initiate a search for a specific package, click **Search.**
9. In the **Search** field, enter the name of the software package that you are looking for. Click **Search** to begin the search.
10. Right-click the package to be installed and select **Mark for Installation**.
11. Once all the required packages are marked, click **Apply** to start downloading the packages. The **Summary** dialogue box is displayed.
12. To go ahead with the marked installations, click **Apply** on the **Summary** dialogue box.
13. After all the mark software packages are downloaded and installed, the **Changes Applied** dialogue box is displayed. Click **Close** to exit the **Changes Applied** dialogue box.
14. The check box corresponding to the recently installed software package has changed to green, indicating that the software has been installed successfully.

Exercise 5: Playing DVDs One of your friends has recently given you a DVD gift box set of your favourite movies of all times. Now, you want to play this DVD in your Ubuntu desktop and enjoy your favourite movies.

1. Install the following software packages from the Universe and Multiverse repositories using the Synaptic Package Manager.
   - gxine
   - libdvdcss2
   - libdvdnav4
   - libdvdplay0
   - libdvdvread3
2. Install the Ubuntu Restricted Extras software package from the Ubuntu repository.
3. Insert the DVD into the DVD drive of your computer. This will automatically launch the Totem and the DVD will start playing.
4. To view the DVD in full screen mode, on the View menu, click Fullscreen. Alternatively, you can simply press F on your keyboard.
5. You can enjoy the DVD in full screen mode. At any point of time, while watching the DVD in fullscreen mode, you can press ESC and return to the Totem window.
6. To configure the preferences settings, on the **Edit** menu, click **Preferences.**
7. After specifying your preferences, click **Close** to exit the dialogue box.
8. To skip to the next frame, on the **Go** menu, click **Skip Forwards**.
9. You do not want to view the side bar when playing the DVD, click the **Sidebar** button.
10. This hides the side bar and now you can view the DVD on a bigger space and simultaneously, have all the playback controls right in front of you.

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Chapter 9

Ubuntu Help and Support

Objectives In this lesson, you will learn how to seek help for Ubuntu from various sources such as system documentation, online documentation, commercial support, community support, Launchpad and The Fridge.

Instructor Notes:
This lesson includes an optional hour. In addition to covering the lesson content, you can devote this hour to elaborate on topics already covered in the previous lessons or select something from the optional material, such as partitioning and booting or sections from the music and video lesson.

9.1 Introduction

Help and support for Ubuntu is readily available through a number of sources so you need not panic if you run into a problem. Essentially there are two channels for accessing support:

- *The first level is:* Free, community based and involves system and online documentation, mailing lists, forums, IRC channels and Launchpad.

- *The second level is:* Paid for, commercial services through Canonical itself and / or various partners.

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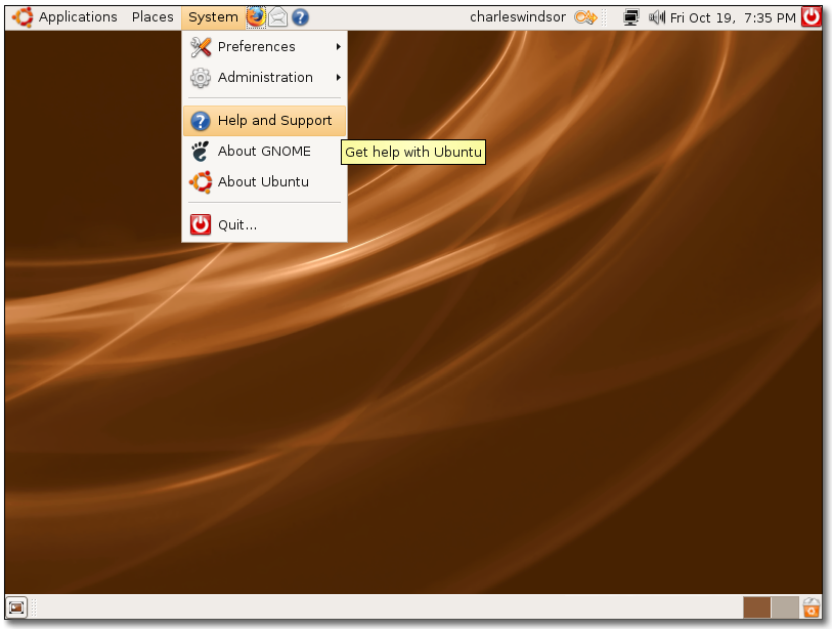


Figure 9.1: Accessing System Documentation

9.2 System Documentation

The first resource that you should explore is the offline system documentation. The Ubuntu Documentation Team maintains and updates the documentation for each release. This documentation is very reliable and available in different languages.

Ubuntu System documentation is organised into topic based help, including answers to common questions. It is accessed by clicking the **Help and Support** button located under the System Menu. The following screenshot shows the home page of the Help and Support offline system documentation.

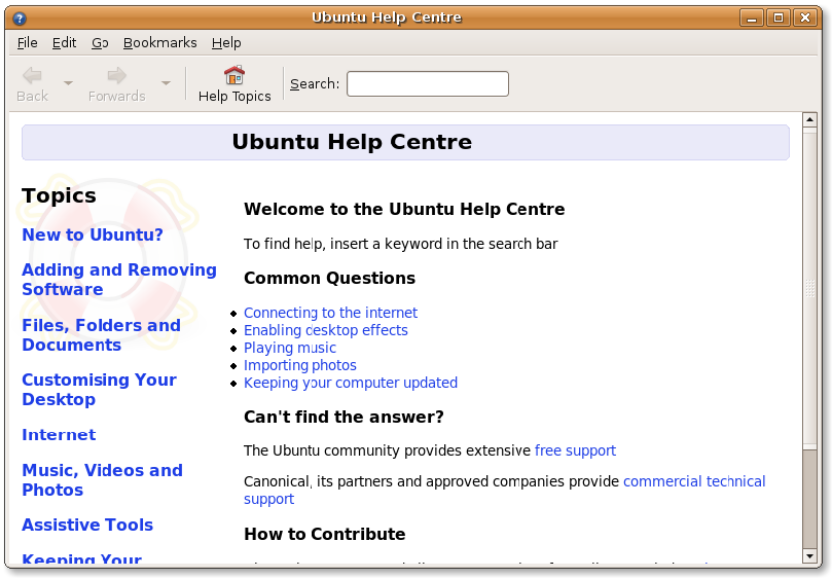


Figure 9.2: System Documentation

New to Ubuntu? This section introduces you to the wonderful world of Ubuntu including an easy to use guide if you are migrating

from Microsoft Windows to Ubuntu. Also in this section, the help guide will explain how to use your desktop, the role of the administrator and basic computer skills. A great resource for any newcomers and a top-up to this desktop course.

Some applications do also offer access to the help system through the *Help* menu or keyboard shortcut *F1*.

One of the great features of the system documentation is the ability to search the documentation to help solve the problem you have. Simply type in the term you are looking for and the system will search all the documents and guides with related information.

9.3 Online Documentation

Instructor Notes:
Guide the students through each one of the options on the Web.

The online Ubuntu documentation is available at https://help.ubuntu.com. There are two different types of documentation available on this site, official and community.

The official documentation is the documentation that is included with your Ubuntu installation by default and is locally accessible from your Ubuntu desktop. You can also access this documentation on the Internet at the Web site mentioned above.

The following screenshot shows the home page of the Ubuntu documentation site:

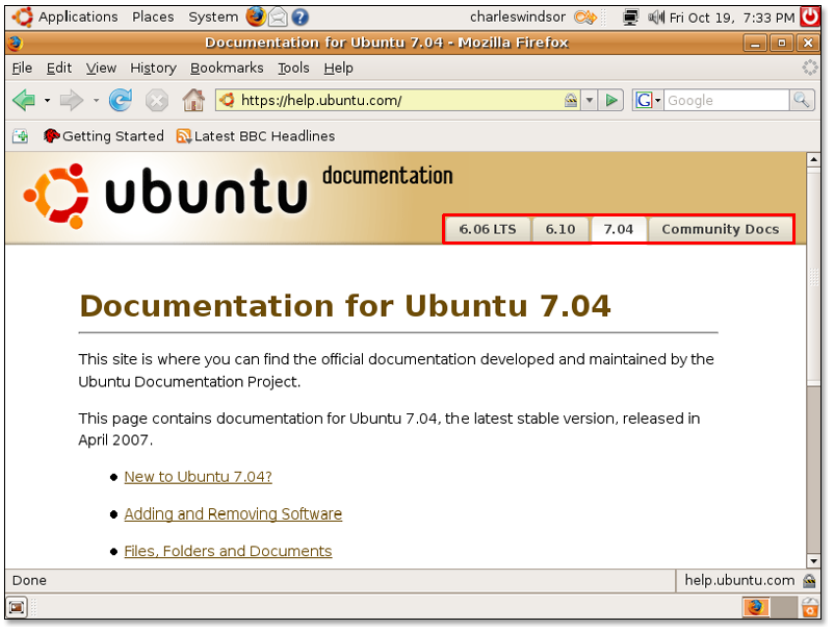


Figure 9.3: Online Documentation

For your convenience, the documentation is classified under various categories. You can also find documentation specific to various Ubuntu distributions, such as Ubuntu 6.06 LTS, 7.04 and 7.10 under the multiple tabs on this page.

To access the official documentation locally from your Ubuntu desktop, without connecting to the Internet, on the **System** menu, click **Help and Support**.

The information available in the official documentation will be enough to guide you through most problems. However, if you are unable to find an answer to your queries here, you can look for answers in the second type of documentation available on this site. This is documentation created by the community, without following the stringent quality control process of the Ubuntu Documentation Team. Access this documentation via the tab labelled **Community Docs**. The community documentation is

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stored on a Wiki, which allows the documentation to be changed quickly. While the community documentation covers more topics and some subjects also in greater depth than the official documentation, the lack of quality assurance control and especially maintenance makes it a slightly less reliably alternative.

The community documentation is a large collection of community-contributed documents, primarily covering the following topics:

- Migrating from other operating systems, such as Microsoft Windows and Red Hat
- Post-installation configuration for a variety of tasks such as
  - Maintaining your computer
  - Connecting and configuring hardware

The following screenshot displays the information available in the community documentation:

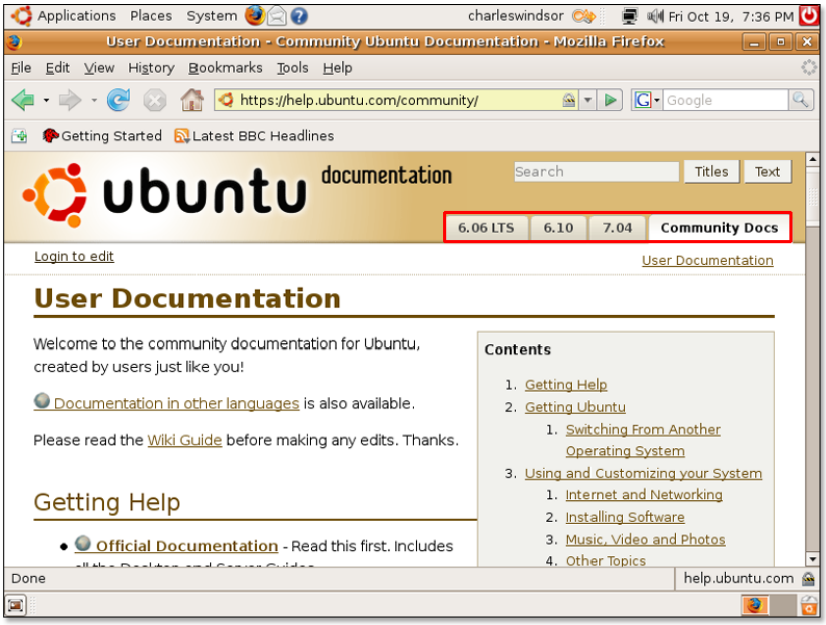


Figure 9.4: Community Documentation

The community documentation is also classified under various categories. You can select the desired category from the page index at the right of the page. You can also use the **Search** field in the top-right corner of the page to look for specific information within the community documentation. Be aware that **Titles** will restrict the search of your term to the pages titles only. If a search via titles does not produce any results, a full **Text** search may find the right page.

You can also find relevant information on the **CommonQuestions** page. Access the **CommonQuestions** page by clicking the **Common Questions** link on the community documentation page.

The following screenshot displays the **CommonQuestions** page on the Ubuntu Web site:

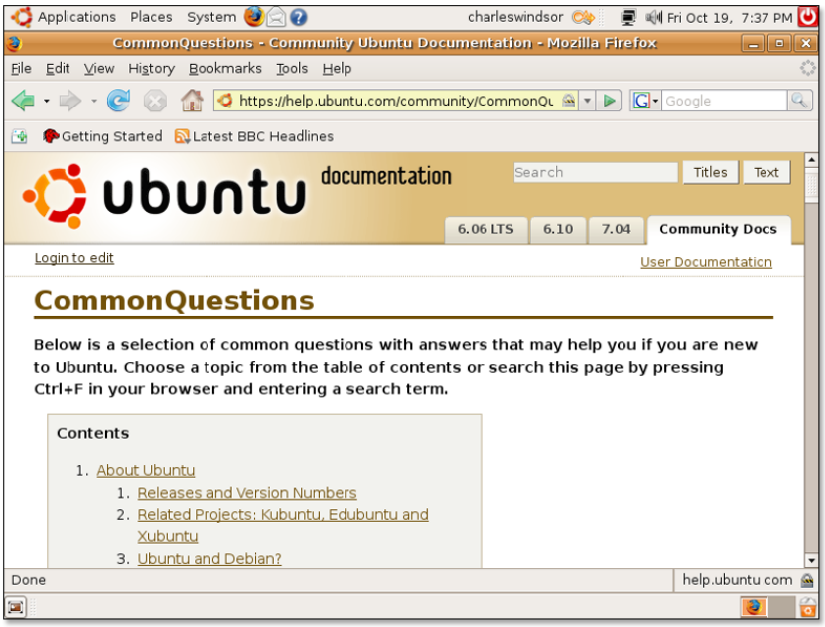


Figure 9.5: The CommonQuestions Page

Additional help is available to you in the form of Ubuntu screencasts. You can click the **Ubuntu Screencasts** link on the **Community Documentation** page to access a number of videos on using and installing Ubuntu. Each video is created with the aim of educating new users of Ubuntu. Each video is available in three sizes, large, medium and small, and two formats, OGG and Flash.

The following is an example of a screenshot from a video on installing applications:

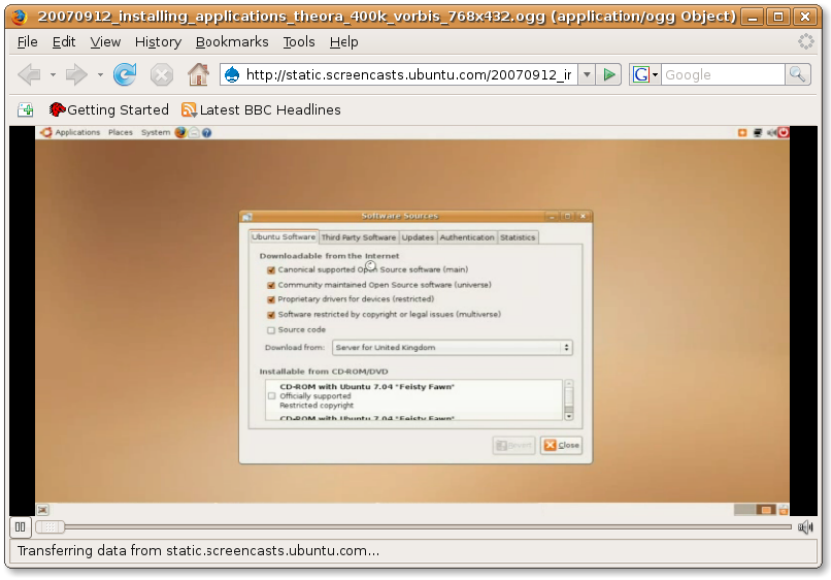


Figure 9.6: The Screencasts Page

Note:
These screen casts are licensed under the Creative Commons Attributions-Share Alike 3.0 License. You are free to modify, share, sell or distribute these screencasts as long as the attribution to Ubuntu is intact.

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9.4 Community Support

The vast and ever growing Ubuntu community also offers a range of free support options for your Ubuntu desktop. Apart from the community documentation, the Ubuntu community provides support through:

- Mailing lists
- Web Forums
- IRC Channels
- LoCo Teams
- The Ubuntu Team Wiki

9.4.1 Mailing Lists

To get help on a specific problem, all you need to do is to send your query through e-mail to the relevant mailing list and you will get a quick response from the team.

You will need to subscribe to the mailing list first by visiting the Ubuntu Mailing Lists Web site at https://lists.ubuntu.com/. The **Mailing Lists** page displays all the public mailing lists to which you can subscribe and their topic.

The following screenshot displays the **Mailing Lists** page:

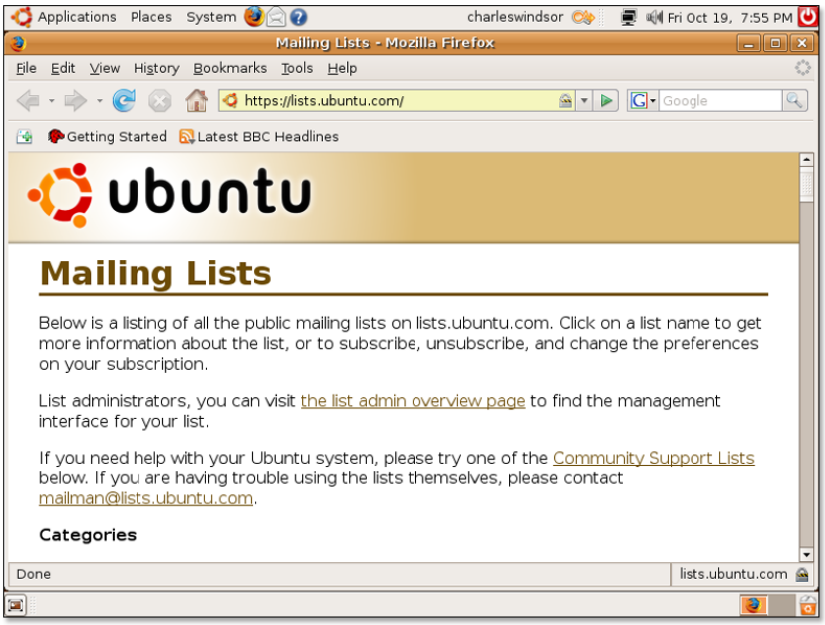


Figure 9.7: The Mailing Lists Page

To get help for your Ubuntu desktop, you should go to the **Community Support** and select the **ubuntu-users** mailing list. This will take you to a page like the following:

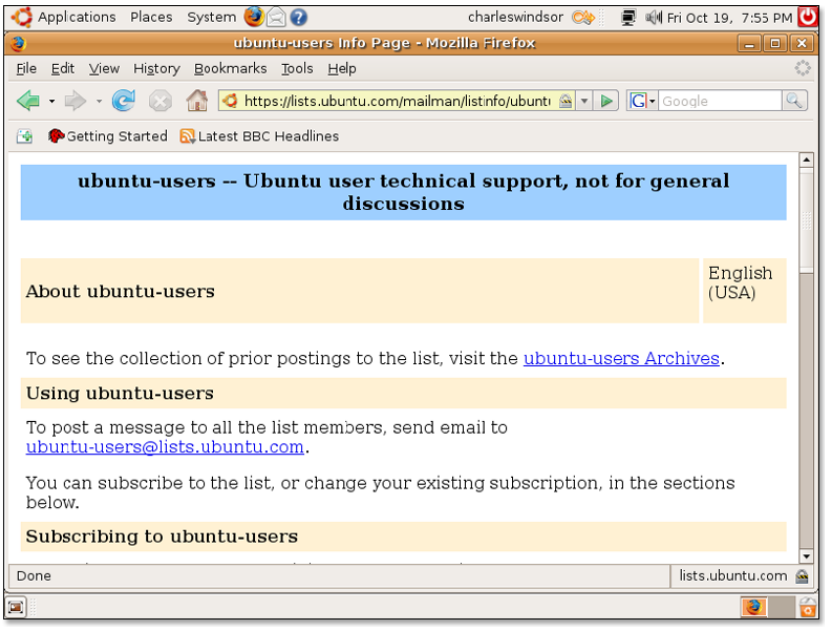


Figure 9.8: Subscribing to Ubuntu-users Mailing List

You need to provide your e-mail address, your name and a password in the appropriate boxes and then click the **Subscribe** button.

When you subscribe to a mailing list, a confirmation mail is sent to your provided e-mail to verify that it is your address. To activate this mailing list, you need to first open your e-mail account and then click the link provided in the confirmation e-mail.

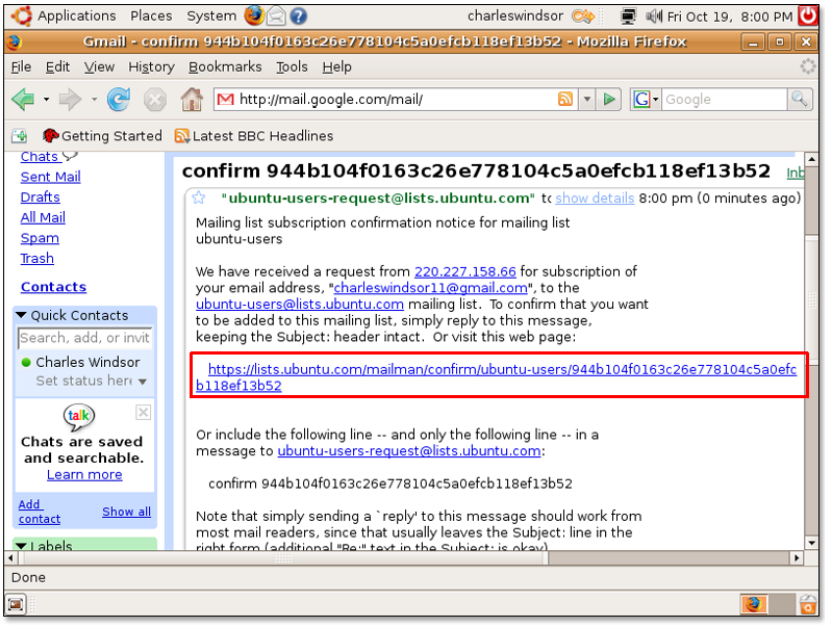


Figure 9.9: Confirmation Mail

Clicking this link takes you to the **Confirm subscription request** page, where you can verify the details of your subscription request and subscribe to the selected mailing list by clicking the **Subscribe to list ubuntu-users** button.

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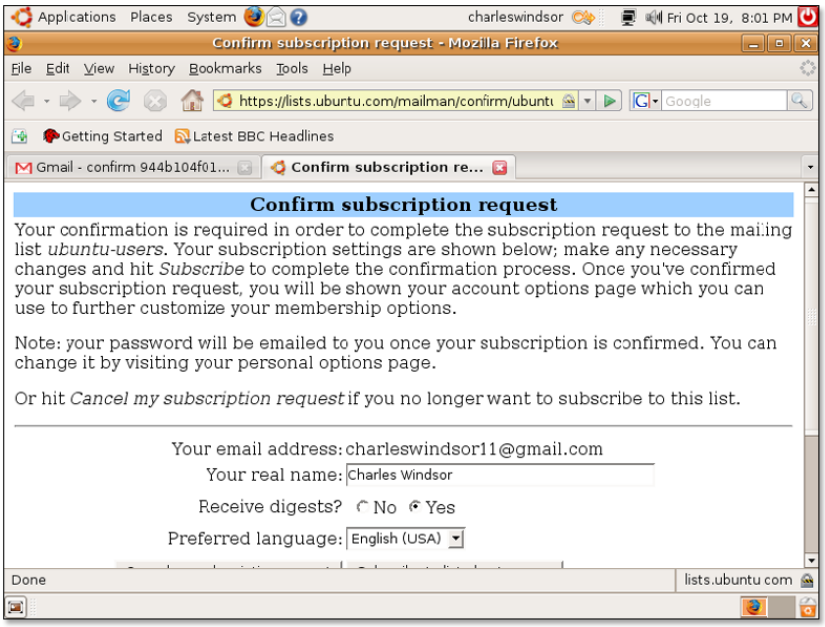


Figure 9.10: Confirm Subscription Request Page

Finally, you will receive a confirmation message saying that your subscription request to the selected mailing list has been confirmed.

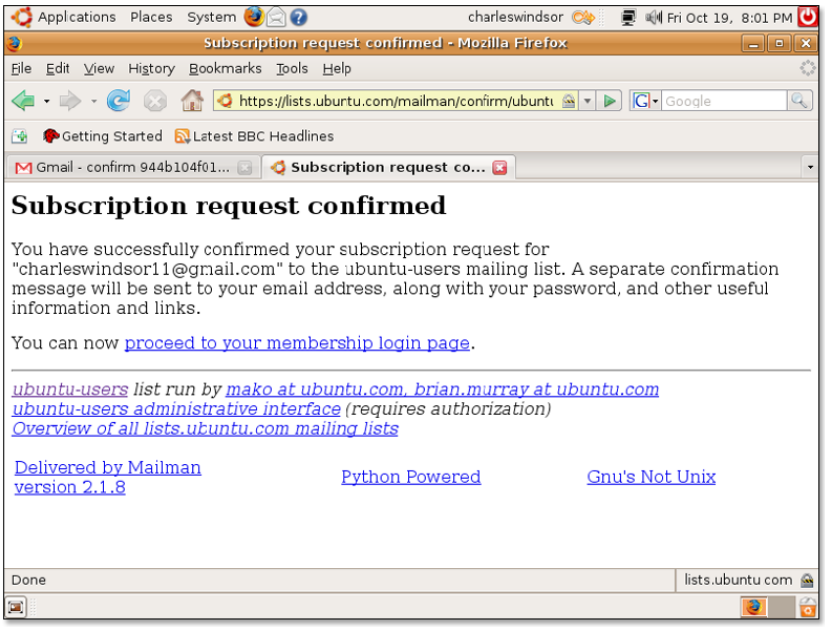


Figure 9.11: Confirmation of Subscription Request Page

Soon after, you will receive a welcome mail containing the mailing address of your selected mailing list and you will then be able to send e-mail messages to this list. Before sending your first query, it is good practice to read a bit of the archive, as the topic may have already been covered. The archive will also give you an idea of how much volume to expect from a list and get a "feel" of others who are active on the list.

It is possible that you will be flooded with many responses to your posting. The level of emails received can be controlled

by adjusting your preferences on the **UserCP (User Control Panel)**. You can use this panel to customize your profile and preferences too.

Instructor Notes:
To use the mailing lists, some guidelines are given in the Mailing List Etiquette page. To read these guidelines, go to http://www.ubuntu.com/support/community/mailinglists/etiquette.

The mailing lists archive is an excellent resource of information, as quite a few questions have been discussed on the lists already. The archive can be seen as a memory for the mailing lists expertise.

9.4.2 Web Forums

Web forums are often an easier and more immediate alternative to mailing lists as you can receive help on various issues without subscribing to a high-traffic mailing list. They are easier to use, available in a Web browser and are an ideal way for you to meet other Ubuntu users and developers.

The following screenshot displays the home page of the Ubuntu forums Web site:

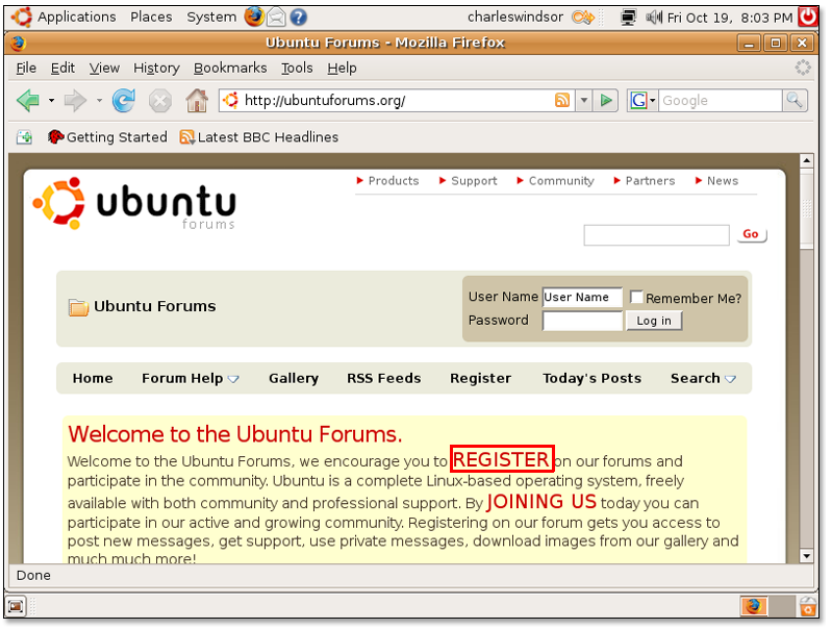


Figure 9.12: Web Forums

Note:
To access the Ubuntu forums, go to: http://ubuntuforums.org/ or http://www.ubuntu.com/community/forums.

The Ubuntu forums are entirely maintained and moderated by volunteers and are available in many languages such as Chinese, Dutch, German, Finnish and French.

The following screenshot displays a view of the Ubuntu French forum:



Figure 9.13: Ubuntu French Forum

You need to register on the forum to be able to post messages and get support. To do this, click the **Register** link displayed on the home page which will lead to the following page:

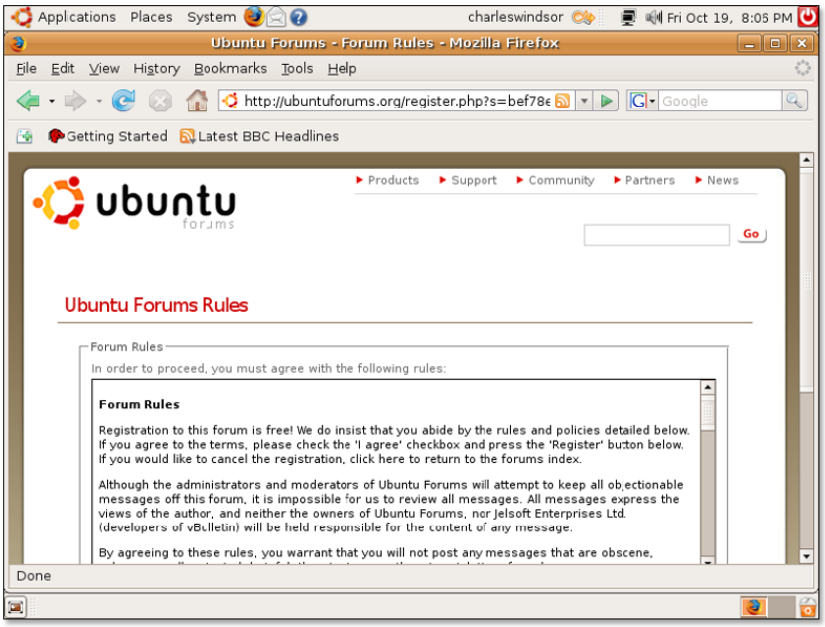


Figure 9.14: Ubuntu Forum Rules Page

Follow all the instructions on this and the following pages to sign on to the Ubuntu forum. You will then receive a confirmation that your registration is complete.

You can now sign in with your new user name and password and start using the Web forum for posting new messages and searching the existing ones. The postings on the Web forum are segregated into several categories based on their subject. To get an answer for a specific question, you may first look into the related category. Each category contains threads to all the postings already made under that category.

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An alternate method to search the desired information is by using the **Search** option on the right of the home page. You can type your question in the **Search Forums** field and run a search. It is more than likely that you will find your desired information in these postings.

However, if you do not find the required information in the questions that have already been asked, you can create a new posting on the Web forum. In all probability, you will soon be flooded with hundreds of responses from the zealous community members, providing assistance.

9.4.3 IRC Channels

The IRC channels are a form of real-time Internet chat that enable users to talk directly (and immediately) with one another.

IRC channels are available on the freenode network, irc.freenode.net. The best channel for you to interact with other Ubuntu users is #ubuntu. Other specialised channels related to Ubuntu variants, such as #kubuntu, #edubuntu and #xubuntu are also available. In addition, channels related to bugs, development, LoCo teams, accessibility and documentation are also available.

Note:
To see a list of IRC channels and clients, go to https://help.ubuntu.com/community/InternetRelayChat.

There are many ways to connect to an IRC channel and one of them is by using the Pidgin instant messenger. Connecting to Pidgin was covered in Lesson 3.

1. Open the **Buddies** menu to view the available options, and click **Add Chat**. This displays the **Add Chat** dialogue box.

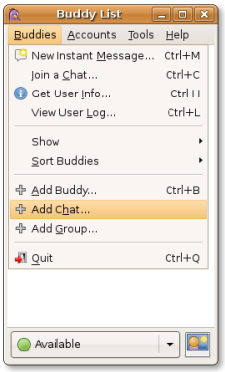


Figure 9.15: Buddies Menu

2. To interact with ubuntu users, type **#Ubuntu** in the **Screen name** field. Then click **Add**. This adds the Ubuntu users' account to your **Buddies List**.

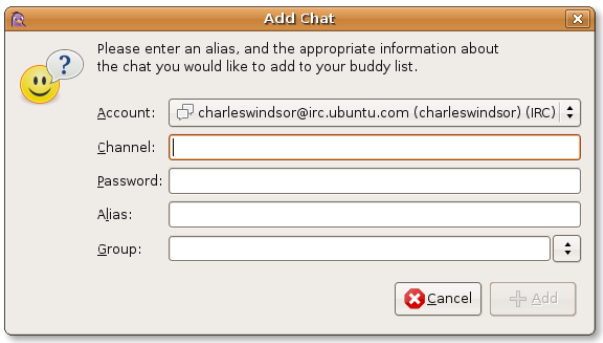


Figure 9.16: Add Chat Dialogue Box

3. Notice that **#ubuntu** is added as an IRC account to your **Buddy List**. Double-click the account name to enter the IRC channel for Ubuntu users.



Figure 9.17: Buddy List

4. You have now entered the IRC channel for Ubuntu users. You can use the box at the bottom of the window to type your messages, and press **Enter** to send them.

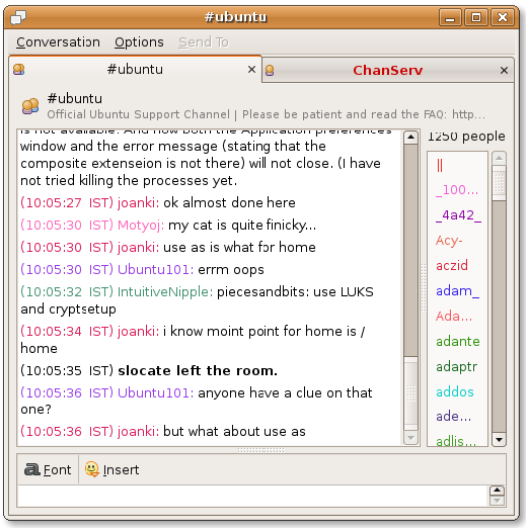


Figure 9.18: IRC Channel for Ubuntu Users

9.4.4 LoCo Teams

The Ubuntu LoCo (short for 'local') teams are a vital resource for providing localised support. With the incredible success of Ubuntu around the world, the Loco project helps groups of Ubuntu fans and enthusiasts work together in their regional teams to help advocate, promote, translate, develop and otherwise improve Ubuntu.You can access them through: http://www.ubuntu.com/-support/community/locallanguage.

The following screenshot displays the list of languages in which you can receive help and support on Ubuntu:

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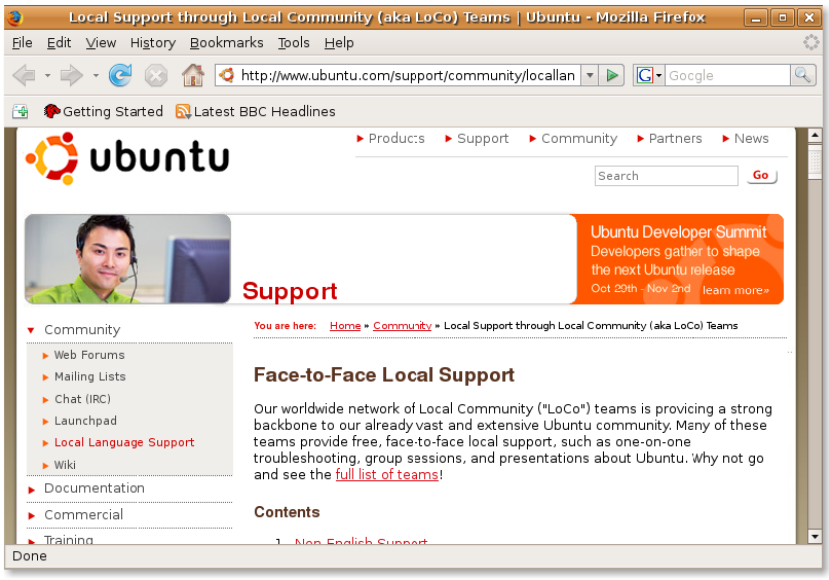


Figure 9.19: The LoCo Teams Page

To receive help and support on Ubuntu in your local language, select the desired language from the **Non-English Support** list.

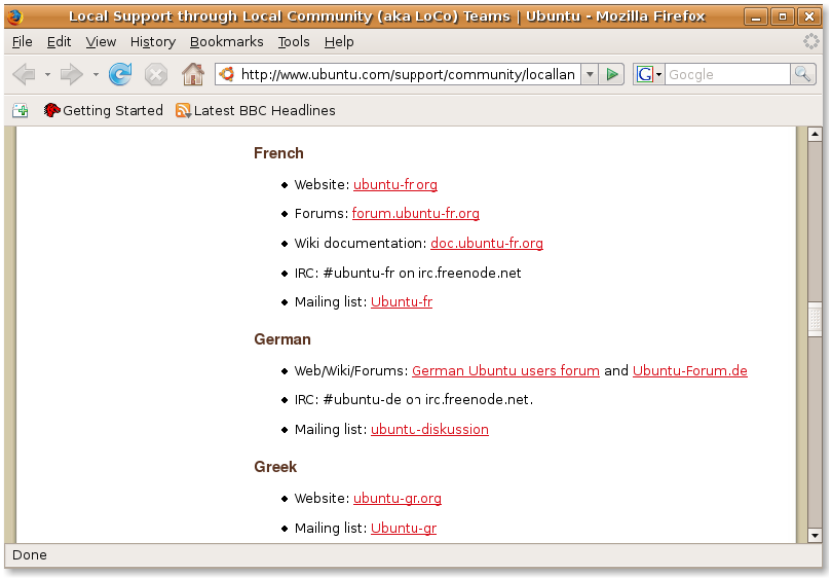


Figure 9.20: Non-English Support Page

Note:
If you want to start a LoCo team or join an existing one, go to: https://wiki.ubuntu.com/LoCoTeams. To view the list of LoCo teams, visit https://wiki.ubuntu.com/LoCoTeamList.

9.4.5 The Ubuntu Team Wiki

A wiki is a Web site that allows users to add, edit or remove content collectively. The Ubuntu Team Wiki is a central Web site that acts as an information hub. It provides access to useful information on Ubuntu and Ubuntu projects and contains more than

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6,000 documents and pages which are continually updated by the Ubuntu community members. The Ubuntu Team Wiki can be accessed at https://wiki.ubuntu.com/.

The following is a screenshot of the Ubuntu Team Wiki home page:

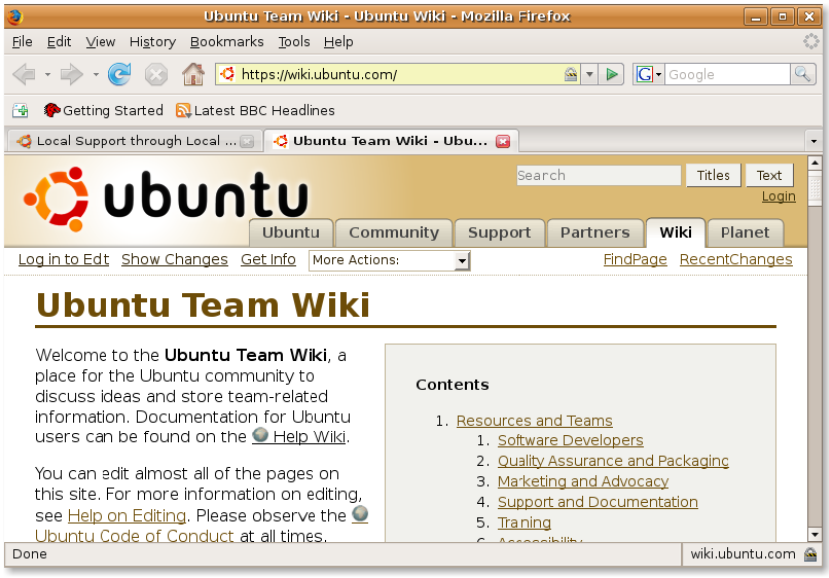


Figure 9.21: The Ubuntu Team Wiki

As an Ubuntu user, you can also contribute to the wiki content and edit any of the pages on this site. However, you must observe the Ubuntu code of conduct while editing any content.

Although the official Ubuntu wiki is available only in English, many wikis exist through the LoCo Web sites. For instance, the French wiki URL is http://wiki.ubuntu-fr.org. You can find other LoCo teams in https://wiki.ubuntu.com/LoCoTeamList.

Note:
For more information on editing the Ubuntu wiki, visit https://wiki.ubuntu.com/HelpOnEditing.

9.5 Launchpad

Launchpad is a collaborative Web-based suite that helps people develop directly or contribute to the development of free and open source software. It is a collaborative system developed by Canonical, with Ubuntu as the most popular project hosted on it. You can use Shipit with your Launchpad ID and order Ubuntu CDs, report a bug, assist in translation of Ubuntu and more. This course covers the Launchpad Technical Answers section, Launchpad Bug Tracking and Shipit (ordering Ubuntu CDs).

You can visit Launchpad at https://launchpad.net. The following screenshot displays the home page of the Launchpad site:

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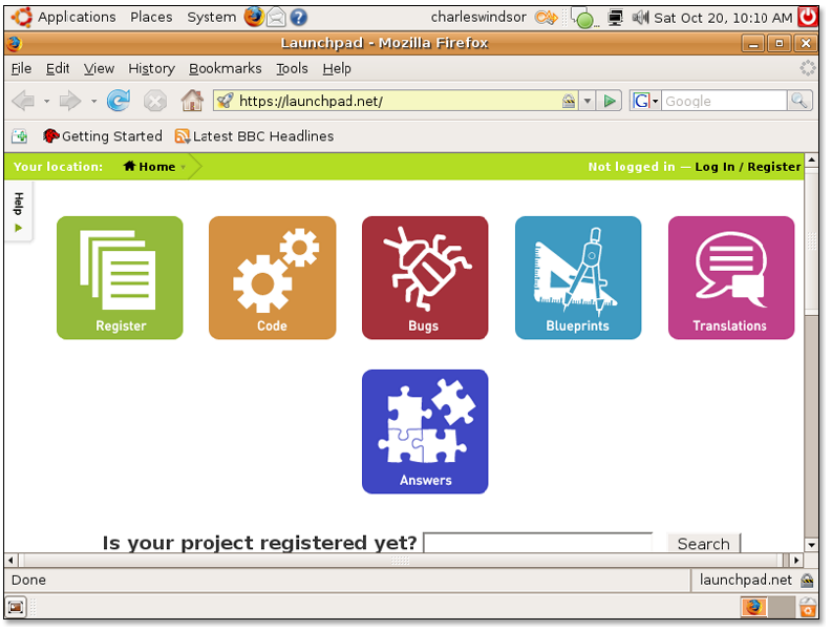


Figure 9.22: The Launchpad Page

Information stored on Launchpad can be retrieved anonymously. To submit information on Launchpad, you need to first create an account on Launchpad. You can create a Launchpad account by clicking the **Register** link at the top-right corner of the home page and filling the required details under the **Not registered yet?** section. Click **Register** to complete the registration process.

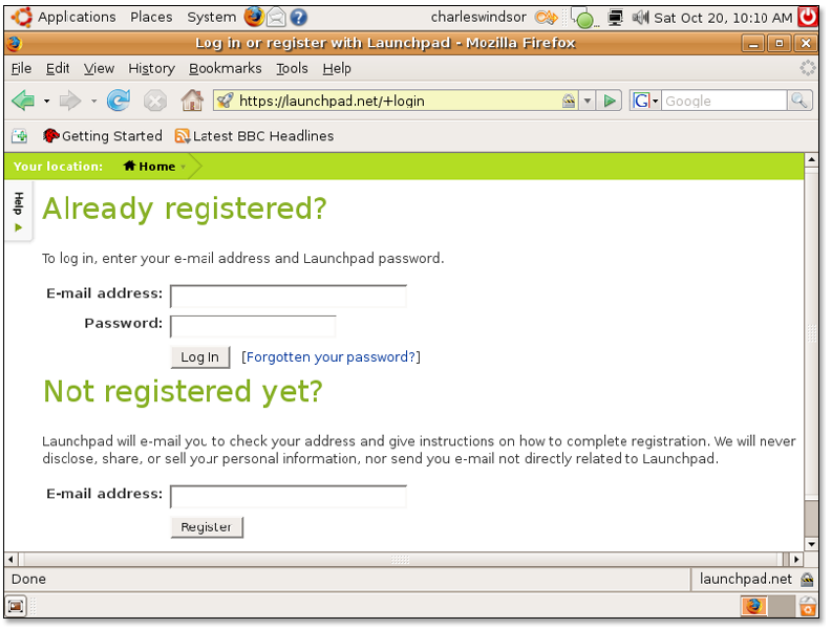


Figure 9.23: Registration Page

After you register, you can log on again and return to the home page to search the required information. You can do this by either asking a fresh question or searching the relevant information within the existing answers on the Launchpad site.

9.5.1 Launchpad Technical Answers

To search for an answer in the existing questions, click the **Answers** icon on the right. This displays the **Questions and answers** page. To obtain information about a specific project, such as Ubuntu, you can select the project name from the **Most active projects** list. This displays the **Question for Ubuntu** page on Launchpad.

Nice to Know
Many applications on Ubuntu provide the **Get Help Online** menu entry in their Help menu. This can be used as a shortcut to visit the Technical Answers section in Launchpad.

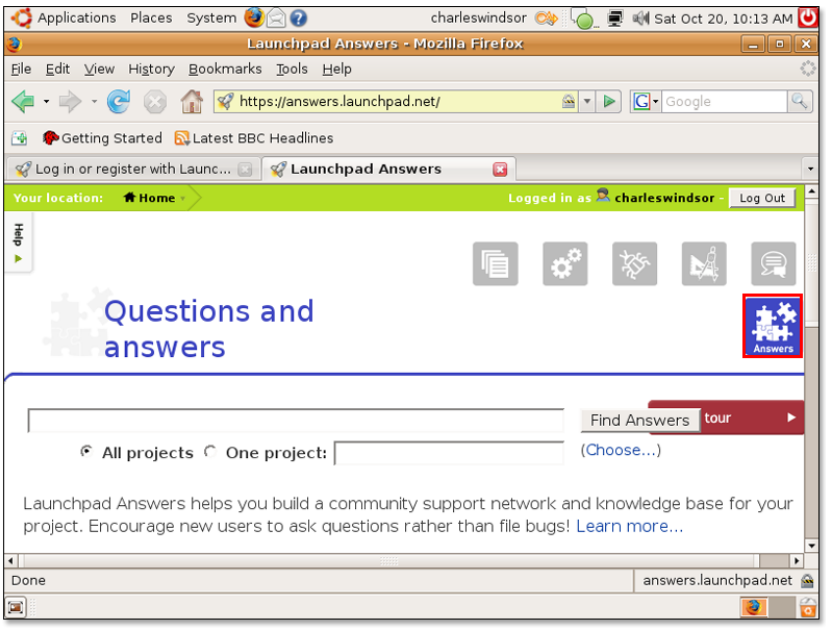


Figure 9.24: Questions and Answers Page

On this page, all answers specific to the Ubuntu project are listed under various categories. You can type your question in the **Search** field to search for an answer in the existing questions. Alternatively, you can click the **Ask a question** button to display the **Ask a question** page.

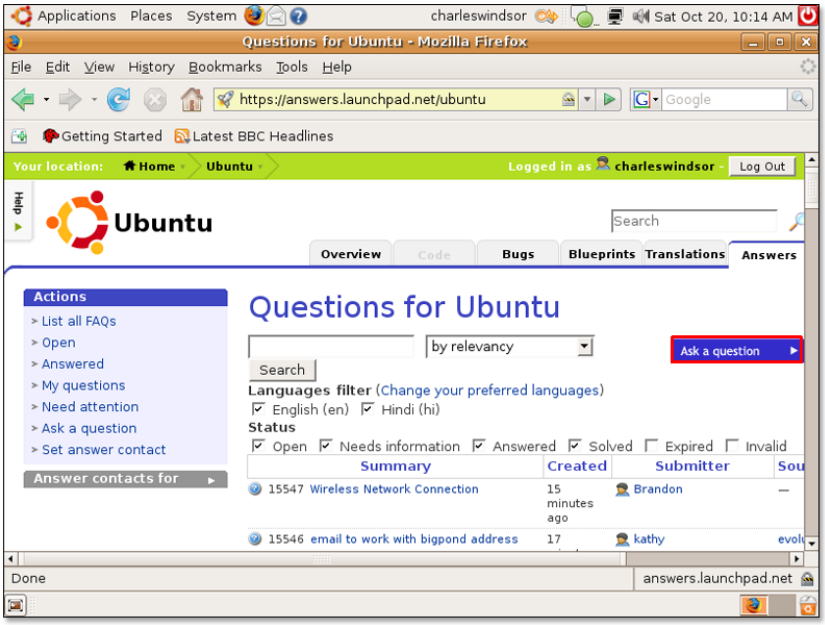


Figure 9.25: Questions for Ubuntu Page

You can ask a question by selecting your preferred language and then typing the summary of your question in the **Summary** field. Clicking **Continue** displays a list of questions that may be similar to what you asked.

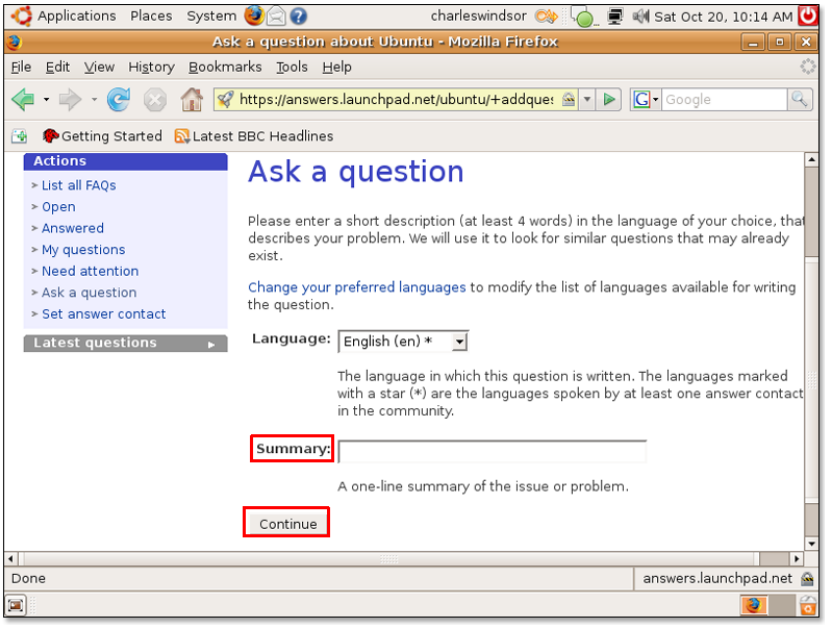


Figure 9.26: Ask a Question Page

If you still do not find the required answer, go ahead and type the description of the problem in the **Description** field. You can then click **Add** to add the question to the main Launchpad database.

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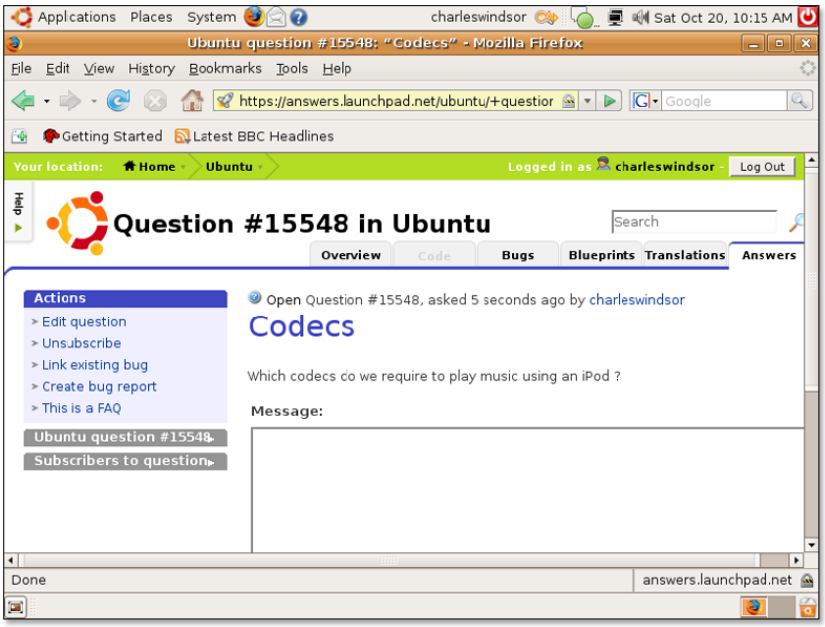


Figure 9.27: Question Page

When your question is answered, you will receive an e-mail notification, stating that your question has been replied to.

9.5.2 Launchpad Bug Tracker: Malone

Malone is a Web-based, collaborative, bug-tracking tool available with Launchpad. It provides you with a location to report any bugs that you find in Ubuntu and its various applications. It also enables you to track the bugs during their life, right until they have been resolved.

If you find any problems in Ubuntu and its related applications, you can report it on Launchpad by clicking the **Bugs** icon on home page. This displays the **Bug tracking** page of the Launchpad Web site.

The **Bug tracking** page displays all the recently reported and recently fixed bugs. Before reporting a new bug on Launchpad, you must run a search in the existing bug reports to ensure that this bug has not been reported already.

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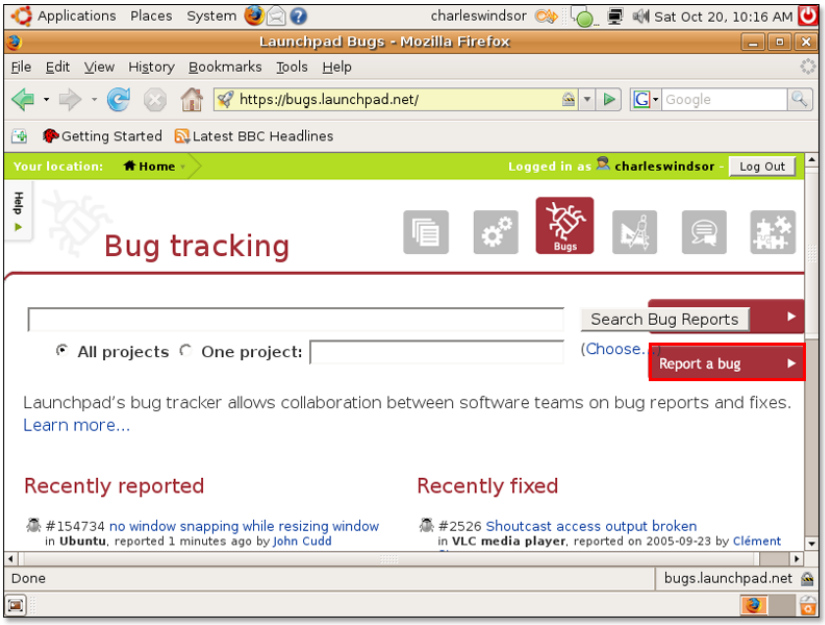


Figure 9.28: The Bug Tracking Page

You can report a fresh bug on the **Report a bug** page, which can be displayed by clicking the **Report a bug** button on the **Bug tracking** page.

Type a small description of the bug in the **Summary** field, and click **Continue** to report the bug.

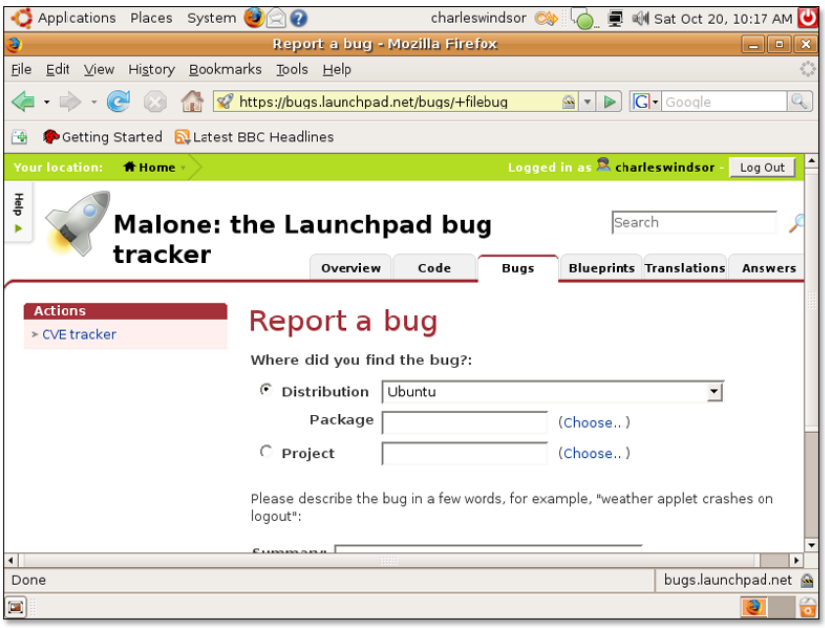


Figure 9.29: Report a Bug Page

When you click the **Continue** button, the bug tracker displays a list containing similar bugs reported earlier on Launchpad. If you do not find your bug listed here, you can still report the bug as a fresh bug by clicking the **No, I'd like to report a new bug** radio button at the bottom of this page. This displays a new section at the bottom of the page.

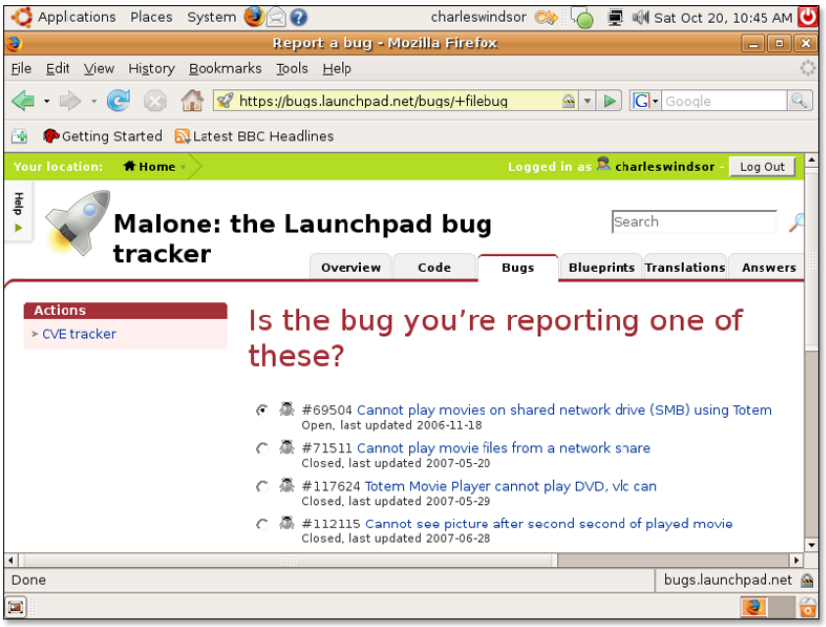


Figure 9.30: Look for the Reported Bug

You are then required to provide further detailed information about the bug, such as the steps to reproduce the bug and version information. After providing the required details, you can finally submit the bug report by clicking the **Submit Bug Report** button.

Note:
Visit Malone at https://launchpad.net/malone.

9.5.3 Shipit

Shipit is an application you can use to request the delivery of Ubuntu CDs. Although Ubuntu can be freely downloaded from the Internet, you can also request a free-of-charge mail delivery of the Ubuntu CD. This is especially useful if you have slow Internet connection, as downloading the OS can take a while. Delivery may take up to 10 weeks.

The following screenshot displays the Shipit site:

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Figure 9.31: The Shipit Page

Note:
Visit Shipit at http://Shipit.ubuntu.com.

9.6 The Fridge

The Fridge is an information hub for the Ubuntu community, bringing together news, grassroots marketing, advocacy, team collaboration and great original content. Just like the family fridge at home, this is where the Ubuntu family can exhibit its best work for everyone to see, along with the requisite jokes, reminders, invitations, news clippings and photos.

Note:
Visit The Fridge at http://fridge.ubuntu.com/.

The following is a screenshot of The Fridge home page:

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Figure 9.32: The Fridge

9.7 Paid For Commercial Services

Canonical provides professional support across the globe. You can purchase this support by contacting the Global Support Services team on the Ubuntu Web site at http://www.ubuntu.com/support/paid. Professional support services can also be obtained through the network of companies and partners listed in the Canonical Marketplace.

9.7.1 Professional Support Services from Canonical

Canonical Global Support Services are deployed to enable 24x7 assistance to customers. The Global Support Services team utilises its vast experience and knowledge base to identify the challenges that customers may face when installing and maintaining new platforms and applications. From optimising your small office set-up to providing guidance on very large deployments, the Global Support Services team is always ready to help you get the most out of Ubuntu.

Support is provided for desktops, servers and thin client servers, and clusters. The following screenshot shows the various types of support services offered:

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Figure 9.33: The Various Type of Support Page

To purchase commercial support, click the **contact us** link available at the bottom of the **Canonical Global Support Services** page. This takes you to the **About us** page. You can fill the form provided on this page to request more information about Canonical Global Support Services. Alternatively, you may click the **Purchase Support** button present in the left **Navigation** pane. If you are a company employee, ask your I.S. team for details of your support options as this will vary from company to company.



Figure 9.34: About Us Page

After you purchase the support, you will receive a confirmation e-mail message containing your support ID number. You will also receive a phone call welcoming you to the service.

9.7.2 The Canonical Marketplace

The Canonical Marketplace lists a number of companies and partners located in various regions of the world which provide local support for desktops and servers running Ubuntu.

The following screenshot displays the **Marketplace** page on the Ubuntu Web site:

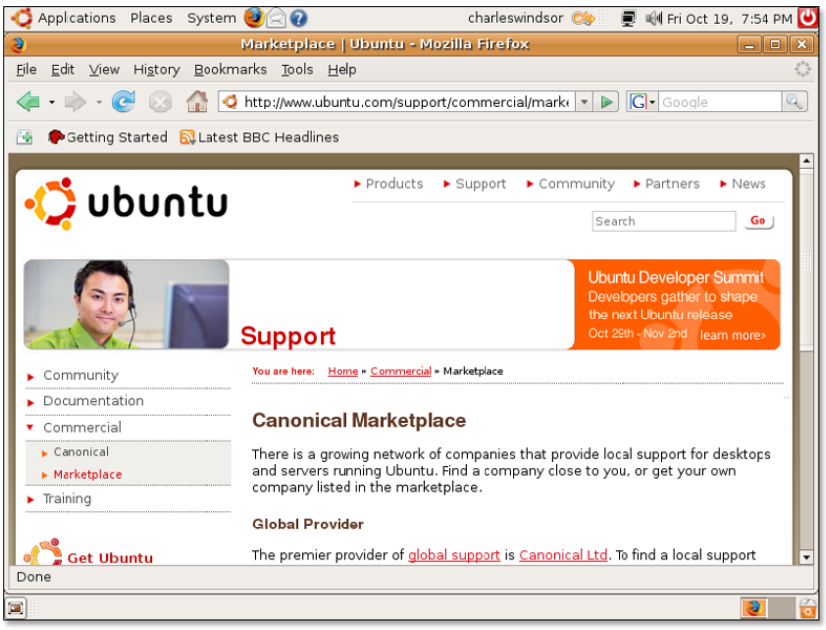


Figure 9.35: The Canonical Marketplace

Note:
To find support and solutions from local providers, visit http://www.ubuntu.com/support/commercial/marketplace.

Selecting your region from the list provided will lead you to a comprehensive list of all the Local Support Service providers in that region. The following screenshot displays a list of all the Local Support Services providers existing in Africa:

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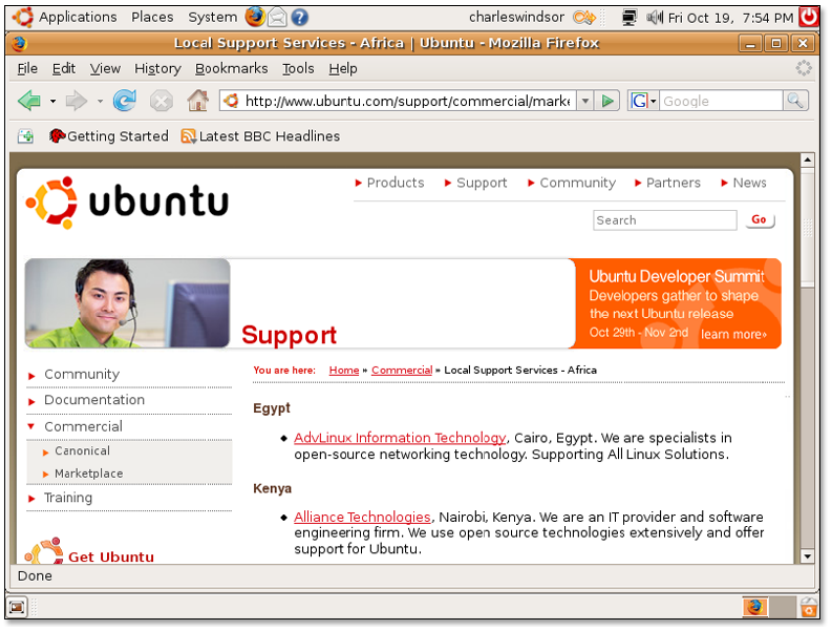


Figure 9.36: Local Support Services Page

Note:
If your company is providing Ubuntu-related services then you too have the option of being listed in the Canonical Marketplace as a Local Services Provider. To do this simply click the **send us your information** link at the bottom of the **Marketplace** page.

9.8 Lesson Summary

In this lesson, you learned:

- The various sources where you can find both free and paid for support on Ubuntu - system and online documentation, commercial support, community support, Launchpad and The Fridge.
- System and Online documentation provide the primary source of help and contains both official and community documentation.
- The Ubuntu community also provides vital support through mailing lists, Web forums, IRC channels, LoCo teams and the Ubuntu Team Wiki.
- You can use Launchpad to perform tasks such as searching Ubuntu related information, tracking bugs in Ubuntu and placing orders for Ubuntu CDs.
- The Fridge is an information hub for the Ubuntu community, bringing together news, grassroots marketing, advocacy, team collaboration and great original content.
- Canonical provides professional support across the globe, which you can purchase by contacting the Global Support Services team.
- Professional support services can also be obtained through the companies and partners listed in the Canonical Marketplace.

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9.9 Review Exercise

Question: Name the major sources of help and support for Ubuntu.

Answer: The major sources of help and support for Ubuntu are system and online documentation, commercial support, community support, Launchpad and the Fridge.

Question: What types of documentation is available on the documentation site of Ubuntu?

Answer: Four types of documentations are available on the Ubuntu documentation site. These are the Ubuntu official documentation, community documentation, common questions and Ubuntu screencasts.

Question: What are the options for obtaining commercial support for Ubuntu?

Answer: The options for obtaining commercial support are either by getting the support directly from Canonical through their Global Support Services team or through the network of companies and partners that are listed in the Canonical Marketplace.

Question: What are the different platforms through which the Ubuntu community extends its help and support?

Answer: The different platforms through which the Ubuntu community extends its help and support are:

- Mailing lists
- Web forums
- IRC channels
- LoCo teams
- The Ubuntu wiki

Question: What are IRC channels?

Answer: IRC channels are a form of real-time Internet chat that allows users to talk directly to one another.

Question: What help and support do the LoCo teams provide to Ubuntu users?

Answer: The LoCo teams are primarily involved in providing free local support, such as one-on-one troubleshooting, group sessions and presentations about Ubuntu. Simultaneously, these teams are actively engaged in providing non-English support to the Ubuntu users.

Question: What is Launchpad?

Answer: Launchpad is a Web-based suite that helps people develop free and open source software. It is a collaborative system developed by Canonical and is primarily used to track many aspects of open source development.

Question: What is the name of the bug-tracking tool available with Launchpad?

Answer: Malone is the bug-tracking tool available with Launchpad.

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Chapter 10

Partitioning and Booting

Note:
Partitioning and Booting is an additional section and not an integral part of the desktop course. Many users, especially corporate desktop users who have system administrators to set up their computers for them will find this section irrelevant. Home users, or advanced Ubuntu users may find this extremely useful.

Objectives In this lesson, you will learn:

- The benefits of partitioning
- How to create partitions
- How to configure start-up options

10.1 What is Partitioning

Analogy Time Simply broken down, a new hard disk is similar to the foundations of a house - it needs some structure and walls before you can start putting things (like furniture) into it. The partition is the first level of foundation on the disk. Once the disk is logically carved up into partitions, it can be thought of as a house with rooms. Each partition (room) is of a specific size which could potentially be resized again after you move it, but would cause some disruption as objects get moved to make room. Once a partition (room) is created it can then be formatted using the filesystem of your choice. Once the filesystem has been laid down, it's possible to start populating the partition with data in the form of files and folders (furniture).

So, a partition is a logical chunk of space allocated out of the entire disk. Depending on how a system is configured at installation time, there may be one or more partitions on a disk. In some instances, it is also possible to modify the layout, number and size of partitions, but this is often considered an expert's function.

Many Microsoft Windows users will have just one large partition - often known as "C: drive", however it is also common for Microsoft Windows users to have multiple partitions which are labelled with successive alphabetic characters (D:, E: and so on).

Similarly, with Ubuntu it's possible to install the system in exactly one partition on the disk, or spread data and applications over multiple partitions.

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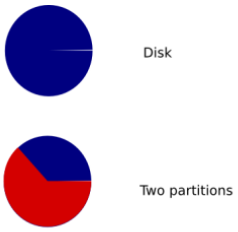


Figure 10.1: Partitioning

There are valid arguments for both scenarios. Having one single partition with all applications, libraries and data will result in a simple to manage system. It also provides flexibility as installing applications or adding data will use space from a common "pool".

Note:
If you accept all the defaults when installing Ubuntu, you will end up with a system comprising of two logical partitions on the disk. One contains all files, the other is known as "swap" which can be thought of as an extension to your computer memory.

Alternatively, it is possible to create multiple partitions of differing sizes into which different types of applications, libraries and data can be placed. This is often used in a multi-user or server environment where user data is kept separate from system programmes, log files and configuration files. A significant benefit to this can be seen when there is a problem on the system and log files start to grow. The log files (in one partition) will not consume all available disk space in this scenario because they will be confined to their own (small) partition of the physical disk.

Which ever partitioning scheme has been chosen, this is not set in stone. It is possible to use a partition editing utility to resize partitions (subject to sufficient free space in each partition), however this is quite an advanced topic.

Note:
Whilst it is possible to change the disk partitioning layout after the system has been installed, it is important to make backups before making any changes to the partitions.

About filesystems Partitioning a disk is only the beginning. Once the disk has been logically divided up, those partitions need to be formatted so that the operating system can place files on the disk in a structured manner. There are many different filesystem types, each with their own advantages. With Microsoft Windows the two main filesystems are FAT (File Allocation Table) and NTFS (New Technology File System). With Ubuntu there are many options including ext2, ext3, reiserfs, xfs and many others. The Ubuntu installer chooses ext3 by default, but of course it is possible to override this.

Nice to Know:
ext3 is a great general purpose journalling filesystem. It handles most tasks well however, xfs is sometimes chosen instead on media-centre systems as it performs better when handling very large files - such as music and video files.

Mount points A mount point is a place in the directory hierarchy where a filesystem could be presented. There is no real Microsoft Windows equivalent to this. With Microsoft Windows the partitions C:, D: and so on, are seen as entirely separate entities so the operating system, applications and data is often referred to by a user as being "on the C: drive" or "in a folder on the D: drive".

Nice to Know:
"Mount" is the term used when referring to a filesystem being made available for access. CD and DVDs are usually automatically mounted when they are inserted. The same goes for USB connected devices such as memory sticks and hard disks

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On Ubuntu, files and folders reside within a partition as they do with Microsoft Windows. However the partition is not normally referenced directly by the user. The user would typically say that files are "in my home directory" (when referring to /home/<username>), or "in the root directory" (when referring to /) without specifying which partition on the disk those directories reside in.

Under most standard installations of Ubuntu there will be only one partition where all files and folders reside. However if a user plugs in an external USB-connected memory stick or USB hard disk, Ubuntu will mount the partition(s) on that device under mount point(s) within the directory tree. For example a USB attached memory stick or hard disk will usually appear under /media/disk (unless the device has partitions which are labelled, in which case they will appear under /media/<labelname>)

Further considerations As previously mentioned, resizing partitions is not a trivial task. Under most circumstances it requires that all filesystems involved are unmounted, this means they must not be in use. Typically then to resize partitions the system should be booted to an unused filesystem - such as a bootable Live CD. Considerable thought should therefor be given before partitioning a disk with regards to the number and sizes of partitions to be created to prevent later unnecessary resizing.



Caution:
You may run out of hard drive space in your home partition due to the sub-division of the drive into fixed-size partitions. This may occur even if the other partitions have plenty of usable space. Good and logical partitioning requires you to predict how much space each partition needs.

For new users, home users and other single-user set-ups, a single root (/) partition with a swap partition would be the easiest and the most convenient to create and use. However, for multi-user systems or computers with lots of disk space, it is best to have the /home, /tmp, /usr and /var directories as individual partitions separate from the root (/) partition.

Before partitioning your hard drive, you should consider the following:

- root: Also called the slash directory, it is the highest directory of the directory tree. When creating the root partition, you need to ensure that the root should contain the /etc, /bin, /sbin, /lib and /dev directories, otherwise you will not be able to boot-up the system. You also need to ensure that the root partition is allocated at least 150-250 MB of disk space.
- /home: This directory contains all user-specific files and data. On a multi-user system, every user will store personal data in a sub-directory of this directory. The size of this directory would depend on the number of users using the system and the files they store in this directory. Ideally, you should plan the disk space for this partition based on your planned usage. In general, about 100-MB disk space can be allocated for each user. However, you may need to reserve a lot more space if you are planning to save a lot of multi-media files in your home directory.

Nice to Know:
It is good practice to have /home on a separate partition because it allows for a smoother transition from one distribution to another.

- /var: This directory contains variable data, such as news chapters, e-mails, Web sites, databases and the packaging system cache. The size of this directory also depends on system usage. Most probably, the size of this directory would be dictated by your usage of the Ubuntu package management utilities. If you plan to install all the packages that Ubuntu offers, you need to allocate 2 to 3 GB of space for the /var directory. However, if you want to save hard disk space and do not plan any major software updates, you can get by with as little as 30- or 40-MB disk space for the /var directory.
- /tmp: This directory contains temporary data created by programmes. Some applications, including archive manipulators, CD/DVD authoring tools and multi-media software also use this directory to temporarily store image files. You need to plan space allocation for this directory based on your usage of these applications. for this directory.
- /usr: This directory contains all user programmes (binaries), their documentation and supporting libraries. This directory tends to use the maximum space on the hard disk. Therefore, you should provide at least 500-MB disk space for this directory. But, you need to increase this space depending on the number and types of software packages you plan to install. Based on your planned usage and the available disk space, you may allocate 1.5 to 6 GB of disk space for this directory.

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Nice to Know:
The /usr partition is sometimes referred to as User System Resources and not user as was originally intended.

10.2 Creating a Partition

As mentioned earlier, multiple partitions are very useful especially in cases where a partition is corrupted, as it enables you to boot into GNU/Linux to fix the system, without having to reinstall the system. To do this, a root partition is required. This partition should contain the essential components of the system.

Caution:
The hard disk drive that you are formatting should not contain any data. If you have already formatted the drive and it contains data, skip the partitioning step and move to the next step - mounting.

If the hard disk drive that you want to format is blank and unformatted, you can use either of the following tools to partition it:

- Partition Editor (GParted): GParted is useful for creating space for new operating systems, re-organising disk usage, copying data residing on hard disks and mirroring one partition with another (disk imaging).
- Command Line: The command line is faster and more powerful than GParted. When navigating through the file system, you can use the command line to jump from one directory to another in a split second. Use the command-line interface if you are comfortable using the Terminal.

If you want to create a partition using GParted, you need to first install GParted by using **Add/Remove Applications** or **Synaptic Package Manager**.

10.2.1 Installing GParted by Using Synaptic Package Manager

1. On the **System** menu, point to **Administration** and then click **Synaptic Package Manager**. The **Synaptic Package Manager** window opens.

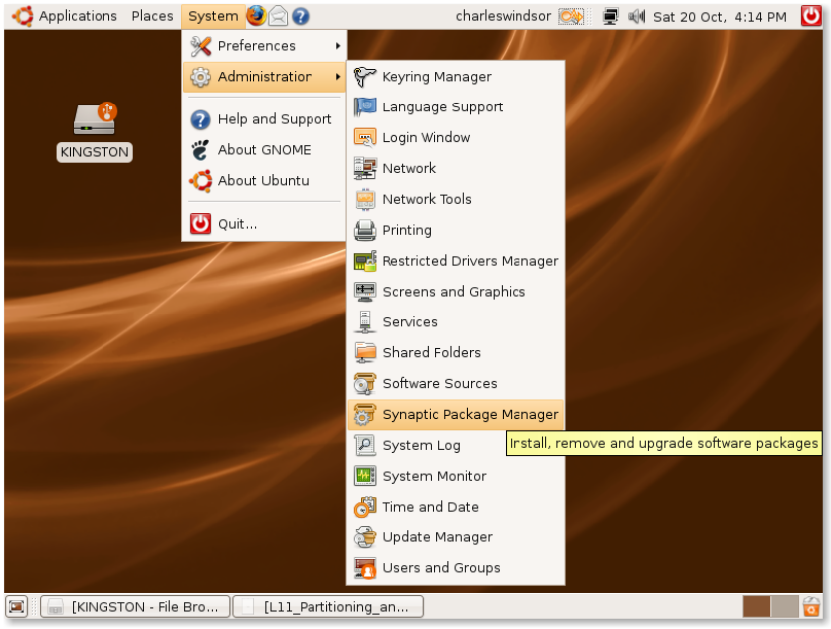


Figure 10.2: Synaptic Package Manager Location

2. When the **Synaptic Package Manager** window opens for the first time, it displays a list of all the software packages available in the Ubuntu software repositories. The left pane lists the various software categories. You can select a specific category to view the available software packages listed in that category. Alternatively, you can use the **Search** functionality provided in the **Synaptic Package Manager** to locate specific software in the list.

   Click the **Search** button to search the package you want to install. The **Find** dialogue box appears.

   In the **Search** field of the **Find** dialogue box, type the name of the package, **Partition Editor**, and click the **Search** button. The package, gparted, is now displayed in the right pane of the **Synaptic Package Manager** window.

   Right-click the package name to select an action that you want to perform on it. Notice that various options are available to perform a number of actions on the selected package. If the selected package is not installed currently, you can mark it for installation. If the selected package is already marked for installation, you can unmark it to clear the selection. Similarly, if the package is already installed, you may select **Upgrade** to upgrade the package and **Mark for Removal** or **Mark for Complete Removal** to delete the package from your computer.

   To install the package, select the **Mark for Installation** check box.

   The gparted package is now selected for installation. To continue with the installation, click **Apply**. This displays the **Summary** dialogue box.

   The **Summary** dialogue box prompts you to perform a final check before implementing the marked changes. Click the **Apply** button to apply the marked changes. The **Downloading package files** window opens.

   Wait for all the required files to download. After all the required files in the package are downloaded, the **Changes applied** dialogue box appears.

   The **Changes applied** dialogue box notifies you that all the requested changes have been applied. Click **Close** to exit the dialogue box.

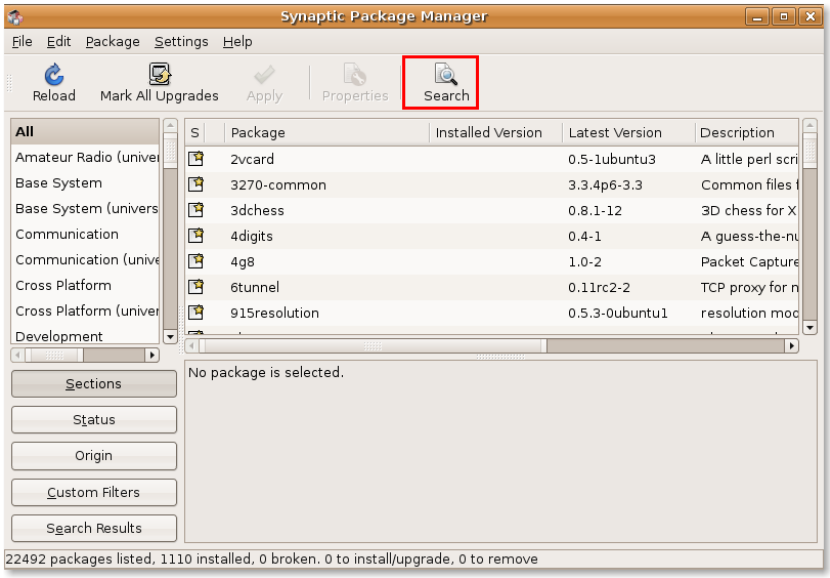


Figure 10.3: Synaptic Package Manager

3. In the **Search** field of the **Find** dialogue box, type the name of the package, **Partition Editor**, and click the **Search** button. The package, gparted, is now displayed in the right pane of the **Synaptic Package Manager** window.

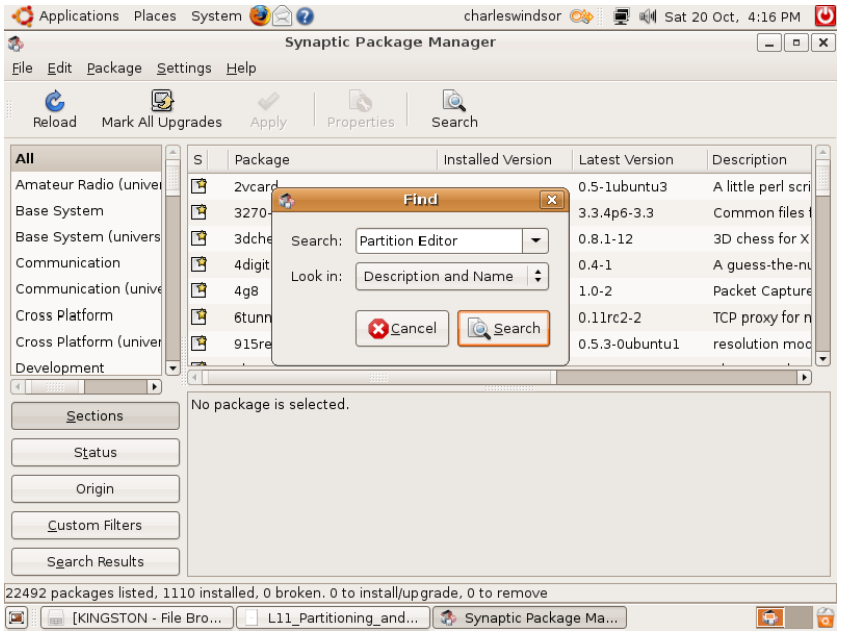


Figure 10.4: Finding a Package in Synaptic

4. Right-click the package name to select an action that you want to perform on it. Notice that various options are available to perform a number of actions on the selected package. If the selected package is not installed currently, you can mark it for installation. If the selected package is already marked for installation, you can unmark it to clear the selection. Similarly, if the package is already installed, you may select **Upgrade** to upgrade the package and **Mark for Removal** or **Mark for Complete Removal** to delete the package from your computer.

   To install the package, select the **Mark for Installation** check box.

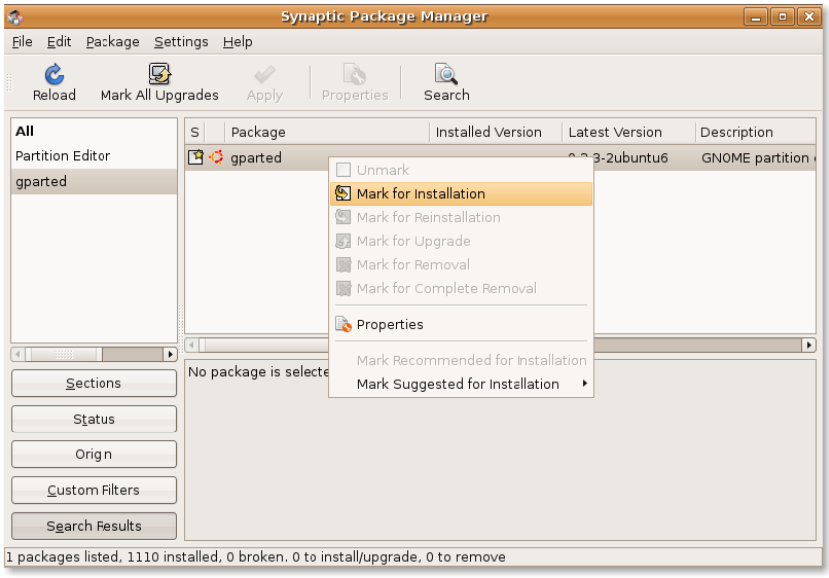


Figure 10.5: Marking a Package for installation

5. The gparted package is now selected for installation. To continue with the installation, click **Apply**. This displays the **Summary** dialogue box.

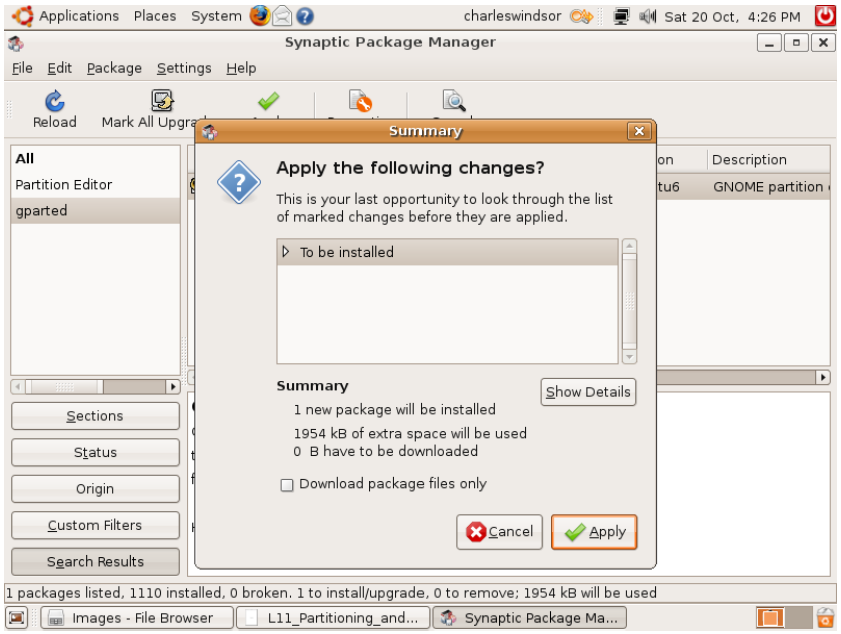


Figure 10.6: Summary Dialog Box

6. The **Summary** dialogue box prompts you to perform a final check before implementing the marked changes. Click the **Apply** button to apply the marked changes. The **Downloading package files** window opens.

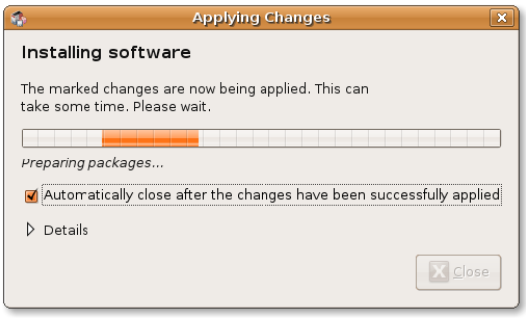


Figure 10.7: Applying Changes Box

7. Wait for all the required files to download. After all the required files in the package are downloaded, the **Changes applied** dialogue box appears.



Figure 10.8: Changes Applied Box

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8. The **Changes applied** dialogue box notifies you that all the requested changes have been applied. Click **Close** to exit the dialogue box.

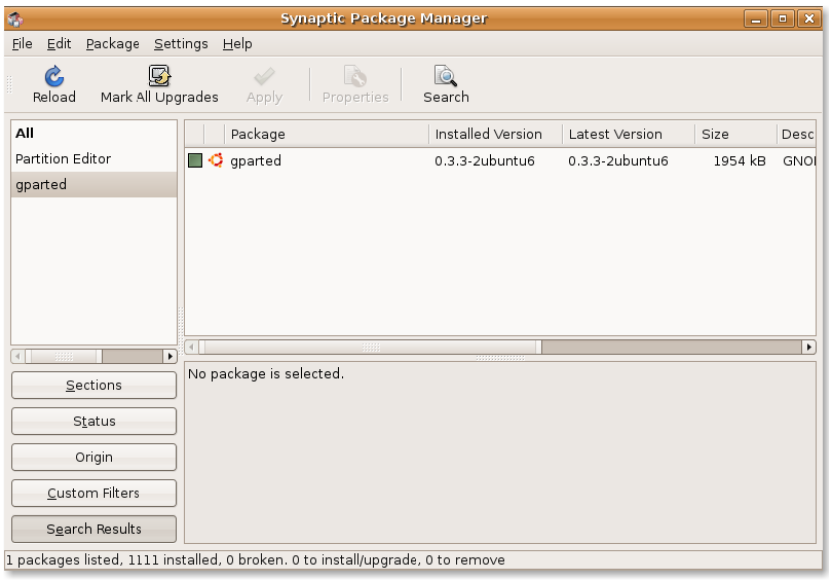


Figure 10.9: Synaptic Package Manager after Installation

9. The partition editor is installed on your computer. You can now partition the hard disk drive.



Figure 10.10: Opening Partition Editor

10.2.2 Partitioning Using Gparted

1. On the **System** menu, point to **Administration** and then click **Partition Editor**. The **GParted** window opens.

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Nice to Know:
GParted is also available from the Live CD.

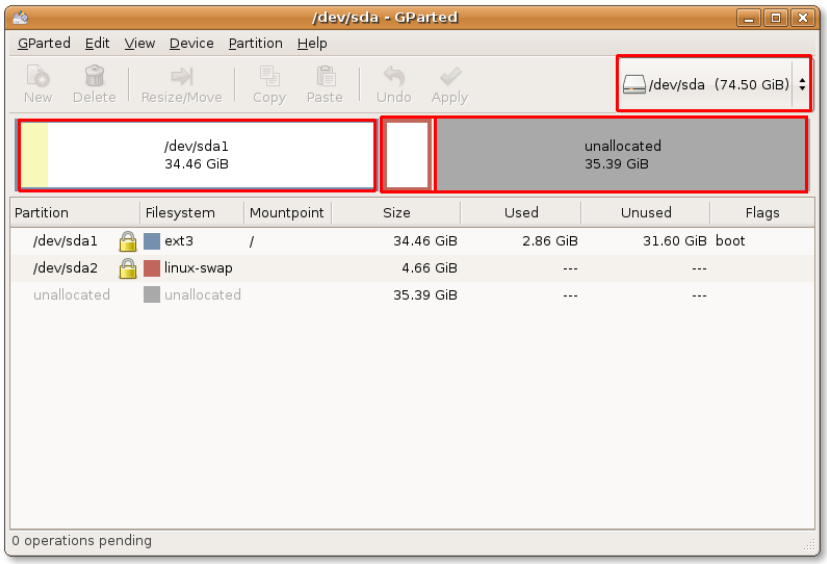


Figure 10.11: GParted Window

2. In the top-right corner of the **GParted** window is the drive drop-down box. You can use this box to select the hard drive that you need to partition by specifying the logical name you noted earlier. The Gparted window refreshes and shows you a representation of the selected drive.

   If the existing partitions on the drive have not yet been used, a white bar would run across the window. However, if the existing partitions contain some data, the data will be represented by a pale yellow area.

   Instructor Notes:
   Explain how to read the specifications of the current partitions and file systems.

   You can either resize an existing partition or create a new partition in the unallocated space of the hard drive. Before resizing an existing partition, you must make sure that you unmount it by right-clicking the partition and then selecting **Unmount**. Remember that you cannot resize a partition to be smaller than the yellow area, which represents the data on the partition.

   To create a new partition in the unallocated drive space, right-click the area and select **New** on the short-cut menu. The **Create new Partition** dialogue box appears.

   The **Create new Partition** dialogue box enables you to select specifications for the new partition. Apart from defining the size of the new partition, you can also select the partition type, whether primary or logical, for the new partition. In addition, you can even define the file system to be used on the new partition. By default, Ubuntu uses the ext3 partitions. However, if you want the new drive to be readable by both Microsoft Windows and Ubuntu without installing anything extra, you can format it as Fat 32.

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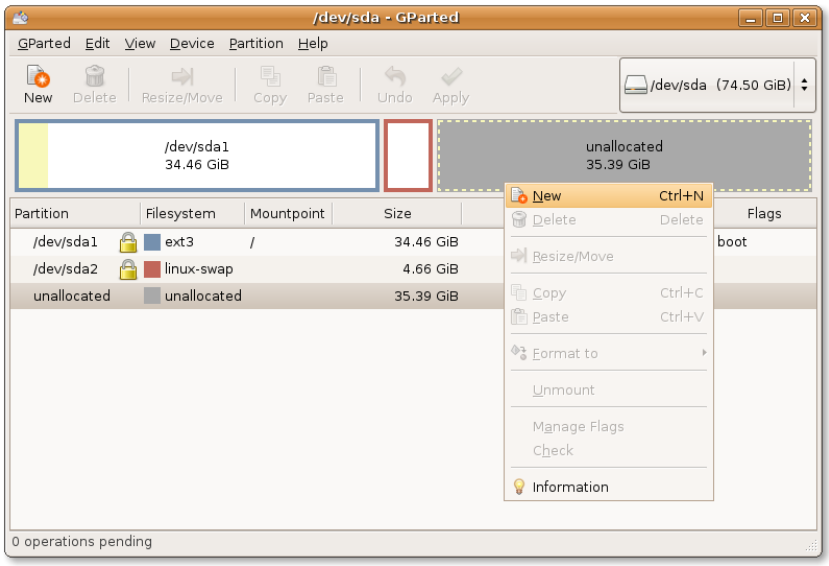


Figure 10.12: Creating a New Partition

3. You can either resize an existing partition or create a new partition in the unallocated space of the hard drive. Before resizing an existing partition, you must make sure that you unmount it by right-clicking the partition and then selecting **Unmount**. Remember that you cannot resize a partition to be smaller than the yellow area, which represents the data on the partition.

   To create a new partition in the unallocated drive space, right-click the area and select **New** on the short-cut menu. The **Create new Partition** dialogue box appears.

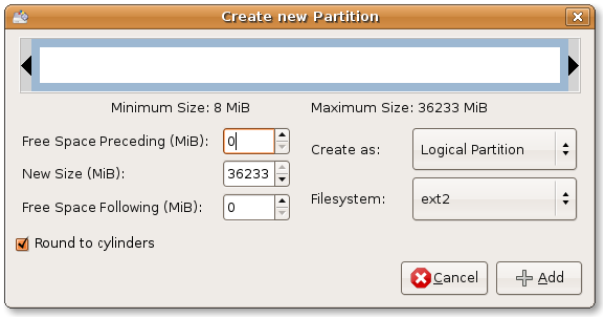


Figure 10.13: Create New Partition Box

4. The **Create new Partition** dialogue box allows you to select specifications for the new partition. Apart from defining the size of the new partition, you can also select the partition type, whether primary or logical, for the new partition. In addition, you can even define the file system to be used on the new partition. By default, Ubuntu uses the ext3 partitions. However, if you want the new drive to be readable by both Microsoft Windows and Ubuntu without installing anything extra, you can format it as Fat 32.

Note:
If you are creating a partition on a new hard drive, select Primary Partition. An SCSI or S-ATA hard disk can have a maximum of 4 primary partitions and 11 logical partitions while an integrated development environment (IDE) hard drive can have up to 63 partitions overall. The primary partition used to house the logical partitions is called an extended partition. Unlike primary partitions, logical partitions must be contiguous: the blocks in the partition are following each other without any gap.

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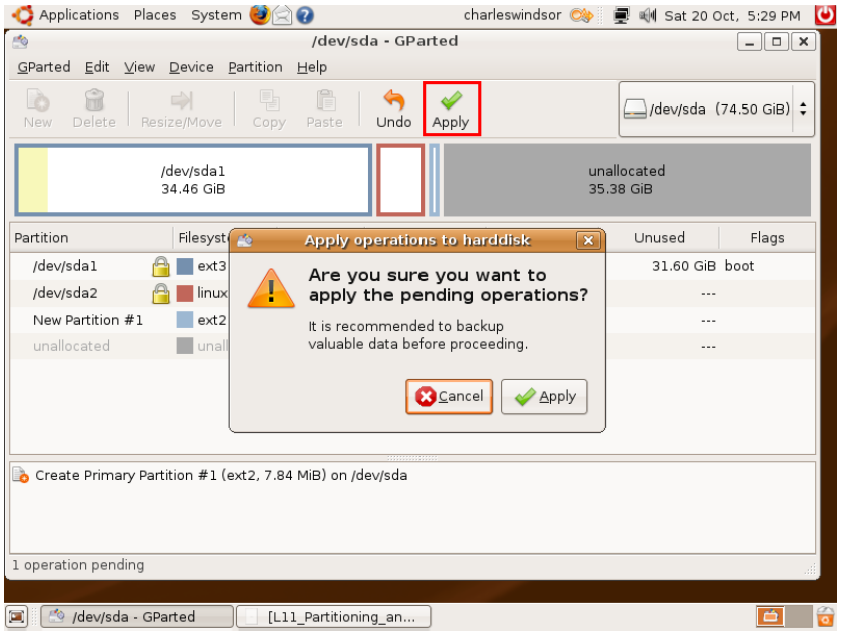


Figure 10.14: Confirmation Box

5. In the **New Size (MiB)** field, specify the size of the partition by using the up or down arrow key. You can also define the size by dragging the black bold arrows on the top white bar.
6. Select Primary, Logical or Extended partition from the **Create as** drop-down list.
7. Next, specify the file system by selecting from the **Filesystem** drop-down list.
8. Click the **Add** button to complete the partition. The white bar updates to show a new partition on the disk.
9. You can create multiple partitions at this stage by following the above-mentioned procedure and then clicking **Apply** to add them to the hard drive. The **Apply operations to hard disk** dialogue box appears.

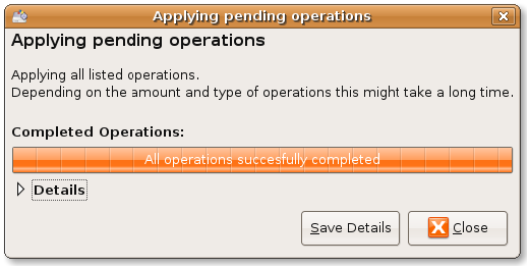


Figure 10.15: Applying Pending Operations Box

10. The **Apply operations to hard disk** dialogue box recommends that you back up data before performing the changes and seeks your final confirmation before applying the changes to the hard disk. Click the **Apply** button to partition and format the hard disk according to your specifications.

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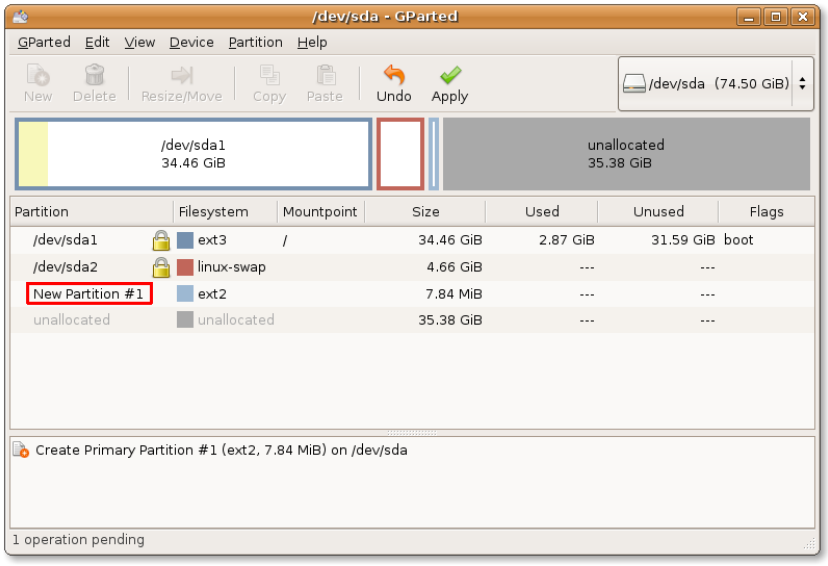


Figure 10.16: GParted with New Partition

11. The system starts applying the changes to the hard disk. The duration of the operation will depend on the size of the new partition. You can click the **Details** button to view more information about where and how changes are being made, whilst the operation is running.

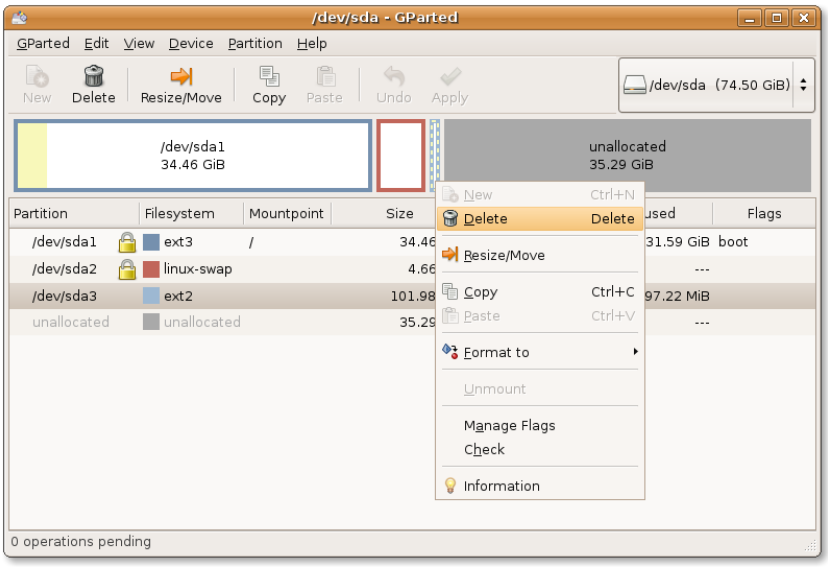


Figure 10.17: Deleting a Partition

12. Once you receive a message that all the specified operations have been successfully completed, you can safely close the window by clicking the **Close** button. However, if something goes wrong and the process does not complete successfully, you can save the process output for future reference by clicking the **Save Details** button.

13. The newly created partition is now visible in the **GParted** window. You will also notice that your system automounts the newly created partition.

    Mounting refers to the process of attaching the newly created partition or drive to an existing directory to make it accessible. The directory where the new partition is attached is called the mount point. After the partition is mounted, you can access

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the files on that partition by accessing the mount point for the new partition. Early Linux distributions did not allow the auto-mounting of new partitions or drives. However, from Ubuntu 7.04, you can easily access the new partitions by auto-mounting the partitions. When you create a new partition, the new partition opens as a separate window and the partition appears as a disk icon on the desktop.

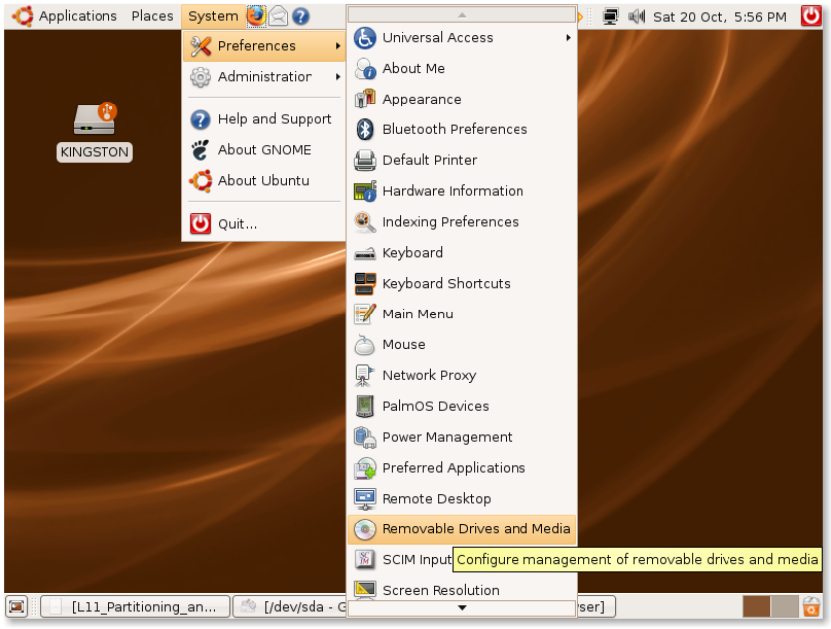


Figure 10.18: Removable Drives and Media Preferences Dialogue Box

14. When you no longer want to access the new partitions, you can unmount them by right-clicking the **disk** icon on the desktop and selecting the **Unmount Volume** option from the short-cut menu.

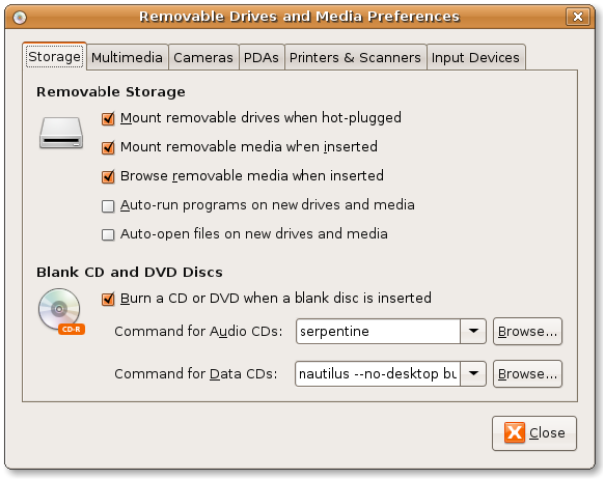


Figure 10.19: RC.Local File

15. If you want to stop Ubuntu from auto-mounting all the partitions when you boot into your operating system, you can do so by changing the default configuration settings. To access the configuration settings for the partitions, on the System menu, point to **Preferences** and click **Removable Drives and Media**. The **Removable Drives and Media Preferences** dialogue box opens.

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16. To prevent Ubuntu from auto-mounting all the drives, clear the first three check boxes on the **Removable Drives and Media Preferences** dialogue box and click **Close**.
17. After making the required changes in the **Removable Drives and Media Preferences** dialogue box, you will notice that Ubuntu does not auto-mount all the partitions and drives at boot-up.

10.3 Boot-up Options

Booting up is a process through which the operating system is loaded into the computer's main memory or random access memory (RAM). The boot-up process starts when you turn on your computer. During this process, the BIOS takes control of your computer and decides where to look for software on the computer and in which order.Your computer's BIOS settings determine whether your computer will first check the hard disk or a floppy disc, CD, DVD or flash memory to start the booting-up process. If you have multiple operating systems installed on your computer, the BIOS configuration determines which operating system will be loaded first at boot-up.

Only after all system files have been loaded into the main memory, is the operating system given control of the computer. The operating system performs the requested initial commands and then waits for the first interactive user input.

However, as a superuser or user with administrative privileges, it is possible for you to change the boot-up configuration to define the computer's boot order, change the default operating system to boot-up or make a system command run automatically at boot-up.

One way to change or check your BIOS setting is to restart your computer, and press a key to enter the setup function before it starts to load any operating system. Generally, you can do this by pressing F1, F2, ESC or DELETE. Once you are inside the BIOS setup, you can make the desired changes by following the instructions for using the setup. However, you need to be very cautious when making any changes in the BIOS settings because a wrong setting can prevent your computer from booting-up properly.

You can also perform these configuration changes by using a command line on your computer's terminal.

10.3.1 Running a System Command Automatically at Start-Up

At times, you may wish to add a custom command for the start-up process so that your computer executes this command every time it boots up.

1. On the Terminal, type the following command to open the rc.local file:

```
$ sudo nano
          /etc/rc.local
```

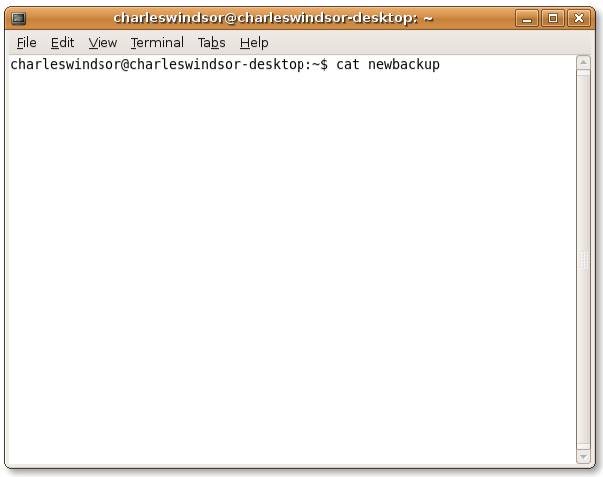


Figure 10.20: Terminal Window

The rc.local file contains a script that is executed after all the other initial scripts. You can insert your own initialisation scripts in this file if you want some services to be executed automatically during the start-up process.

2. The rc.local file opens in the Terminal window. Type the command that you want to run at system start-up before the line, exit 0.

```
$ date >
          /home/oem/newbackup
```

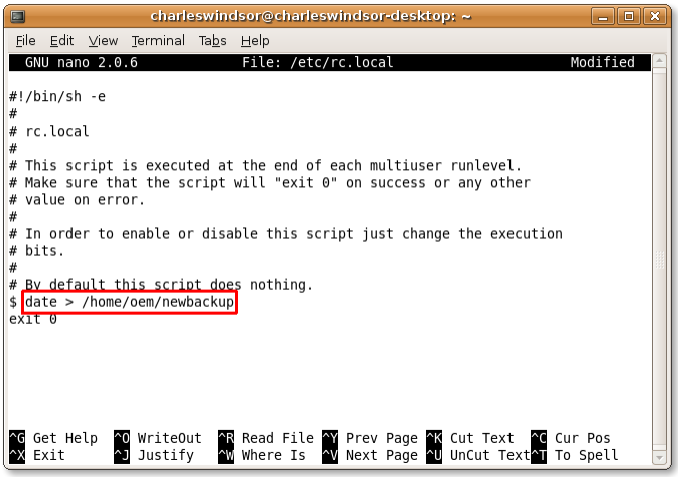


Figure 10.21: Making Settings for rc.local File

3. After you enter the command you want executed at system start-up, press CTRL+X to save and exit the edited file.

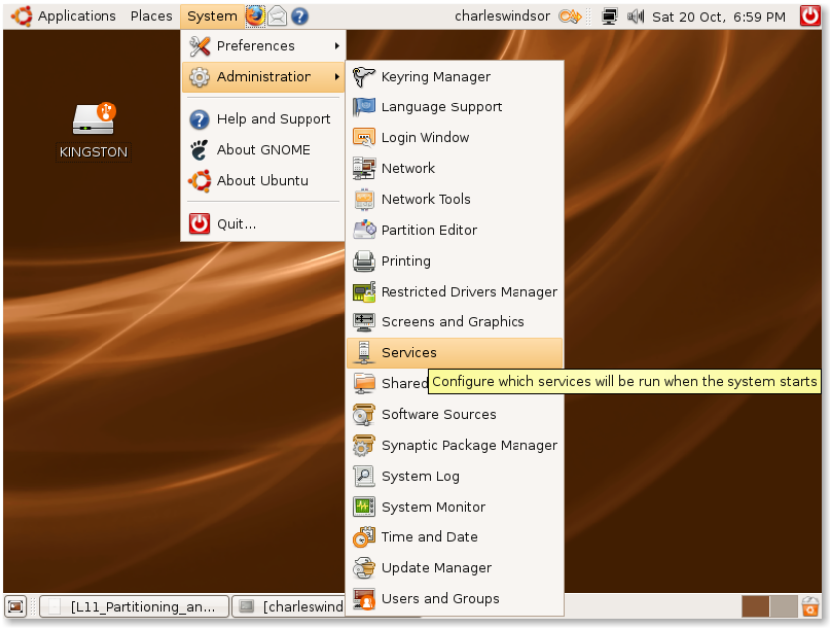


Figure 10.22: Services Window

4. When you reboot the system, the rc.local file executes. If you want to display the output of the above command, type the following command in the Terminal:

```
$ cat newbackup
```

The following image shows the output of the above command:

10.3.2 Changing the Default Operating System at Boot

When multiple operating systems are installed on a computer, this is referred to as a multi-boot configuration. Typically, the operating system that is listed on top in the configuration file is loaded on the computer. To choose the operating system that starts when you turn on your computer, edit the grub configuration file.

1. Back up the configuration file, and open it in a text editor, as follows:

```
$ sudo cp
          /boot/grub/menu.lst /boot/grub/menu.lst_backup $ sudo
          gedit /boot/grub/menu.lst
```

2. Find the line written below to change the default sequence:

```
... default 0 ...
```

Replace this line with the following line:

```
default X
```

Replace X with a number based on the order in which your operating systems appear in the configuration file. You should start counting from 0. For example, if you wish the default operating system to be the first in the list, replace X with 0; and if you wish the default operating system to be the second in the list, replace X with 1.

3. Point to saved and save default to reboot the last OS chosen.

10.3.3 Configuring Start-Up Services

When Ubuntu starts up, many services are started for your convenience. Some services are mandatory for Ubuntu to work properly on your computer. Others are services that you'll probably never need, either because you just do not want them (for example, ntpdate, which sets your system time from a time server) or you simply don't have the device (for example, the HP printing and scanning system, which is of no use if you don't own an HP device).

Although these services are harmless, they increase your computer's start-up time. By de-activating some of these services, you should get a slightly faster start-up time.



Caution:
Read the service information before you disable any service because disabling some services may stop your system from booting-up or running properly.

To configure the start-up services, you need to have administrative privileges. Then, perform the following steps:

1. On the **System** menu, point to **Administration** and then click **Services**.
2. Type your administrative password. The **Services settings** window opens.

3. Select the services you want running by selecting or clearing the respective check boxes and click **OK**.



Figure 10.23: Services Settings Window

Instructor Notes:
If you want greater control over the boot-up services, install Boot-up Manager (bum). You can install bum from the Universe repository. You need to click the **System** menu, point to **Administration** and click **Boot-up Manager**.

10.4 Lesson Summary

In this lesson, you learned that:

- Partitioning your hard disk is similar to splitting rooms with walls in a house.
- You can run Ubuntu on a single or multiple partitions or drives.
- Before partitioning the hard drive, you should make sure that there is no data on the hard drive. If the hard drive on which you are creating a partition contains data and you wish to preserve it, it will be safer to back up the data before proceeding.
- You can create a partition by using both the partition editor and the command-line interface.
- It is possible for you to change the boot-up configuration to define the computer's boot order, change the default operating system to boot or make a system command run automatically at boot-up.
- To run a set of commands each time the system boots up, you need to include the commands in the /etc/rc.local file so that the computer executes them automatically at every boot-up.
- You can change the default operating system at boot by making changes in the configuration file.
- You must read the service information before disabling any service because disabling some services may stop your system from booting-up or running properly.

10.5 Review Exercise

Question: What are the advantages of partitioning?

Answer: The following are the advantages of partitioning:

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- Minimises data loss
- Enhances security
- Enhances performance

Question: Why do you need to use the sudo command?

Answer: In Unix-based operating systems, you need to use the sudo command to run programmes that require administrative privileges.

Question: Which of these file systems does Ubuntu use by default?

- Fat 32
- NTFS
- Ext3

Answer: b) ext2

Question: If you want to run a system command automatically at start-up, where should you add the command?

Answer: The command needs to be added to the /etc/rc.local file.

Question: Is it possible to disable all the start-up services? Why?

Answer: No, it is not possible to disable all start-up services because disabling some services will stop your system from booting-up or running properly.

10.6 Lab Exercise

Exercise 1 As a previous Microsoft Windows user, you want to have a dual-boot configuration on your computer and create a separate partition to run Microsoft Windows on it. To perform this task, you need to create a 5-GB primary partition and format it with a Microsoft Windows-compatible file system.

1. On the **System** menu, point to **Administration** and then click **Partition Editor**.
2. In the drive drop-down box, select the hard drive you need to partition by specifying its logical name. The window refreshes and shows you a representation of the drive.
3. Right-click the white bar and click **New** to create a new partition. The **Create new Partition** dialogue box appears, in which you choose the specifications of the new partition.
4. In the **New Size** dialogue box, select the size of the new partition.
5. In the **Create as** box, select **Primary Partition**.
6. Next, specify the file system. Select ntfs.
7. Click **Add** to compute the partition. The graphical display updates to show a new partition on the disk.
8. If you are sure about the specification of the new partition, click **Apply**. The disk will be partitioned and formatted.

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