

SmartLearn™

Microsoft
Windows xp
Professional

**STUDENT TRAINING
MANUAL**

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1: Microsoft Windows XP

Chapter Objectives

After this lesson, you will be able to:

- Identify the role of Windows XP
- Identify the different versions of Windows XP
- Identify the key differences between the Windows XP versions
- Identify the key features of Windows XP Professional

1.1: Introduction to Windows XP

1.1.1: General

Windows XP is the most advanced desktop Operating System (O/S) ever released by Microsoft. It is an NT based operating system that fully utilises the stability and security of the previous NT based systems, whilst incorporating new features designed to provide improved usability for non technical users.

It is designed to replace the DOS based operating systems completely by providing compatibility for applications written for those operating systems. Users can now use applications designed only for Windows 9x (95,98 or ME) on their XP machine completely seamlessly.

It is important to emphasise that Windows XP is a **desktop** only O/S, there is no server version, but it will quite happily work with all NT based servers as many key architectural features are shared, such as integrated NTFS security.

1.1.2: Versions

There are two main versions of Windows XP, **Home** and **Professional**. They are fundamentally the same O/S; however XP Home has some key features disabled, notably:

- Remote Desktop
- Off-line folders
- Support for more than one CPU
- File encryption
- Access control
- Group Policy
- RIS
- Roaming User Profiles

- Multi-Lingual Features
- Support for up to 10 concurrent connections
- Membership to a domain

The implications of having these key features disabled will become clear throughout the course.

There are also two further versions designed for specific purposes.

Windows XP Tablet PC Edition is designed specifically to work on special laptop computers called Tablet PCs.

Windows XP Media Centre Edition is designed to manage and organise music, video and picture files for a user to use on a PC in their lounge. A special remote control is used and output is usually displayed on a standard TV screen.

1.1.3: CPU Compatibility

Windows XP currently ships in two CPU versions. There is a 32 bit version that supports the majority of modern CPUs, and the majority of users requirements. There is also a 64 bit version that is designed to use the new **Itanium** or **Athlon** 64 bit CPUs. 64 bit represents a phenomenal improvement in performance; however this will only truly be realised when application developers fully utilise this additional processing power. At present Windows XP 64 bit is primarily aimed at users who operate software in the following fields:

- Mechanical design and analysis
- Computer Aided Engineering (CAD)
- Digital content creation including 3D animation
- Digital video editing and visual effects
- Scientific and high performance computing e.g. seismic analysis and advanced simulations

The 64 bit version of XP does not support certain elements that are supported in the 32 bit version. Notably, these include;

- DOS and 16-bit subsystems
- Windows Product Activation
- Remote Desktop
- Infrared Support
- Native support for CD burning
- Internet Connection Firewall
- Internet Connection Sharing

NB: These notes will focus on the **Windows XP Professional 32 bit version**, as this is the most common version of XP in business use today. If you choose to complete the tasks using a different version of Windows XP then please note that your system may behave differently. This is especially important for Windows XP Home edition users.

1.2: Key Windows XP Features

1.2.1: Overview

Windows XP provides many updates and improvements over previous operating systems. The notes below are a brief introduction to the most relevant. All will be covered in much more detail throughout the course.

1.2.2: NT Mandatory Log on

Windows XP provides a secure mandatory log on, meaning that every user must supply a username and password. The user is then given an ID card known as a Security Access Token (SAT) for accessing resources on the computer.

This functionality is provided by the presence of a Security Accounts Manager database (SAM) to authenticate log ons.

1.2.3: Welcome Screen

Windows XP also introduces the Welcome Screen. Primarily focused on the home market, the Welcome Screen can be shown prior to log on listing all user names with an associated picture for their account.

1.2.4: Updated User Interface

Windows XP demonstrates the first major overhaul of the user interface since Windows 95 introduced the taskbar. Microsoft have adjusted the design of the Start menu and simplified many of the configuration aspects of the PC. Many wizards are provided to complete common system tasks, again focused on simplified usability. This new interface can be switched off if required.

1.2.5: Active Directory Support

AD was introduced with Windows 2000 and provides a method of organising resources in your network. Active Directory is not covered on this course, but be aware that Windows XP **supports** Active Directory, although it cannot be a Domain Controller; the server system that **controls** Active Directory.

1.2.6: Access Control

The advanced features of NTFS security allow a Windows XP machine to secure file and folder access.

1.2.7: Multiple File System Support

Windows XP supports the following file systems:

- FAT16
- FAT32
- NTFS (v4)
- NTFS (v5)

1.2.8: Disk Quotas (NTFS Only)

Windows XP supports the use of Disk quotas to specify a certain allocation of hard drive space to a user.

1.2.9: Encryption File System (EFS) (NTFS Only)

Windows XP supports the use of EFS to encrypt locally stored data.

1.2.10: File and Folder Compression (NTFS Only)

Windows XP supports the ability to compress files and folders to save disk space.

1.2.11: Plug and Play Compatibility

Windows XP is a Plug and Play O/S, meaning that it has the capability to automatically recognise a device that has been connected to the PC and install the correct drivers for that device.

1.2.12: USB Support

Windows XP supports the use of USB to 'hot swap' devices on your PC.

1.2.13: Personal Web Services

Users of Windows XP can easily publish documents to the Internet.

1.2.14: Microsoft Management Console

Since its introduction with Windows 2000, all NT based O/S have supported the use of the Microsoft Management Console (MMC) to assist in managing a computer by providing a common interface for tools and utilities. XP includes this functionality.

1.2.15: Automatic Updates

Windows XP informs the user of required updates and patches related specifically to the computer and the software installed on it, by automatically connecting to the Microsoft update website periodically.

1.2.16: Fast User Switching

Windows XP is the first O/S to introduce the concept of Fast User Switching. As the name implies, this allows a user to quickly switch to another user, notably without having to log off their account. This effectively means that 2 users are currently logged on, although only one can use the desktop at any one time.

1.2.17: CD-R and CD-RW Native Support

Windows XP can copy folders and files to a CD-R or CD-RW without a requirement for additional software (needs a CD-R or CD-RW drive).

1.2.18: Internet Access

Microsoft's most advanced Internet browser, Internet Explorer version 6.0 is included free with Windows XP, although this can be removed if required.

1.2.19: Instant Messaging

Windows XP includes Instant Messaging. This allows you to communicate with other users over the Internet using messages or real-time audio and video.

1.2.20: Firewall

Windows XP includes an Internet Connection Firewall (ICF) to protect the system from intrusions.

1.2.21: Remote Desktop / Remote Desktop Connection

Windows XP includes Remote Desktop, to allow others to use and control your computer remotely and Remote Desktop Connection to enable you to connect to any other computer running Terminal Services.

1.2.22: Personalised Menus

The menus in Windows XP are designed to automatically adjust depending on which programs and features you use. Those that are used infrequently are hidden. This allows for a much more organised system.

1.2.23: Task Scheduler

Windows XP Task Scheduler allows you to schedule certain tasks to occur at a certain time.

1.2.24: Improved Power Management Features

Windows XP includes the ability to manage its power usage more efficiently. This is primarily used for improving battery life on a laptop computer.

1.2.25: Hibernation

Windows XP has the ability to hibernate. This allows a user to shut down their system whilst leaving all applications open. When the system boots again, all the users applications are still open.

1.2.26: Off-Line Folders

Windows XP includes the ability to use Off-Line folders to allow a user access to files stored on file servers whilst off-line.

1.2.27: Internet Printing Protocol

Windows XP uses Internet Printing Protocol (IPP) to control printers using the web browser.

1.2.28: Windows Installer Service

Windows XP uses Windows Installer Service for distribution of applications. The setup files have a .MSI extension.

1.2.29: Back-Up

Windows XP includes an improved backup tool which also allows you to create an Automated System Recovery (ASR) disk. This allows you to recover your system in the event of a complete system failure.

1.2.30: Defrag Utility

XP includes a Disk Defrag utility that allows you to defragment a hard disk drive.

1.2.31: IPSec

XP includes support for IPSec which is a method of securing IP communications over a network.

1.2.32: ClearType Support

Windows XP supports ClearType, which is a text display method optimised for LCD screens.

1.2.33: Fax Support

Windows XP supports the ability to send Faxes via a Fax Modem Board.

1.2.34: Additional Language Support

Since Windows 2000, the following languages have been added:

- Galician
- Gujarati
- Kannada
- Kyrqyz
- Mongolian (Cyrillic)
- Punjabi
- Divehi
- Syriac
- Telugu

1.2.35: System Restore

Windows XP supports system restore points which are created periodically to allow you to go back to a previous system state in the event of a system problem.

2: Installing Windows XP Professional

Chapter Objectives

After this lesson, you will be able to:

- Identify the pre-installation decisions for Windows XP
- Identify the various ways that an installation can be controlled
- Install Windows XP Professional from a CD-ROM, network or hard drive
- Upgrade earlier Windows client operating systems to Windows XP Professional
- Identify common log files created during installation

2.1: Pre Installation

2.1.1: Overview

There are various steps that must be completed and considerations that must be taken into account before you can start to install Windows XP. Listed below are the most common pre-installation notes.

2.1.2: Minimum Hardware Requirements - Windows XP (32 Bit)

To install the **32 Bit** version of Windows XP Professional, you must meet the following minimum hardware requirements:

- 233 MHz Pentium based processor, or equivalent
- 64 MB RAM minimum (128 MB recommended)
- 1.5 GB hard drive space (approximately 2 GB needed for installation and auto-updates over the Internet)
- Network adapter card, if installing over a network
- VGA display or higher
- 12x CD-ROM drive (unless installing over a network)
- Floppy disk drive, if installing using the 6 setup disks
- Keyboard and mouse

2.1.3: Minimum Hardware Requirements - Windows XP (64 Bit)

To install the **64 Bit** version of Windows XP Professional, you must meet the following minimum hardware requirements:

- 733 MHz Itanium based processor
- 1 GB RAM minimum (up-to a maximum of 16 GB)
- 1.5 GB hard drive space (approximately 2 GB needed for installation and auto-updates over the Internet)
- Network adapter card, if installing over a network
- VGA display or higher
- 12x CD-ROM drive (unless installing over a network)
- Floppy disk drive, if installing using the 6 setup disks
- Keyboard and mouse

2.1.4: Hardware Compatibility

During installation, the setup wizard will automatically check the compatibility of the hardware in the system before installing XP Professional. You can however check hardware compatibility on the Microsoft web site prior to running the set up program.

www.microsoft.com/hcl

2.1.5: Partitioning the Drive

You can install XP Professional onto an existing partition or onto a new partition created during the setup process. The partition may be a primary partition or a logical drive created inside an extended partition.

Partitions in Windows XP Professional have different rules to those created in a DOS based O/S. Notably:

- You can now have up to four primary partitions, or three primary partitions and one extended partition.
- A partition formatted with FAT16 can be 4GB.

This will be covered in more detail later in the course.

2.1.6: Choosing the Correct Installation Program

When installing Windows XP Professional, you must use one of two setup programs:

WINNT.EXE is used in the following circumstances:

- When you already have an existing 16-bit operating system installed on your computer. e.g. **MS-DOS**, or **Windows 3.x**.
- For a clean installation i.e. where no previous operating system exists at all.
- When booting from a floppy disk with CD-ROM support (e.g. Startup disk).

WINNT32.EXE is used in the following circumstances:

- When you have a 32-bit operating system already installed e.g. if the system already uses Windows 95, 98, ME, NT, 2000, or even another version of XP and you are upgrading, or doing another install of Windows XP Professional.

WINNT.exe and WINNT32.exe have numerous switches that can be used to control the installation process. The table below highlights these switches.

WINNT.EXE	
/s:sourcepath	Specifies the source location of the Windows XP files. The location must be a full path of the form x:\[path] or \\server\share\[path].
/t:tempdrive	Directs Setup to place temporary files on the specified drive and to install Windows XP on that drive. If you do not specify a location, Setup attempts to locate a drive for you.
/u:answer file	Performs an unattended setup using an answer file. The answer file provides answers to some or all of the prompts that the end user normally responds to during setup. If you use /u, you must also use /s.
/udf:ID [,UDB_file]	Indicates an identifier (ID) that Setup uses to specify how a Uniqueness Database (UDB) file modifies an answer file (see /u). The UDB overrides values in the answer file and the identifier determines which values in the UDB file are used. If no UDB_file is specified, Setup prompts you to insert a disk that contains the \$Unique\$.udb file.
/r:folder	Specifies an optional folder to be installed. The folder remains after Setup finishes.
/rx:folder	Specifies an optional folder to be copied. The folder is deleted after Setup finishes.
/e:command	Specifies a command to be carried out just before the final phase of Setup.
/a	Enables accessibility options.
/?	Displays help at the command prompt.

WINNT32.EXE	
/checkupgradeonly	Checks your computer for upgrade compatibility with Windows XP. If you use this option with /unattend, no user input is required. Otherwise, the results are displayed on the screen, and you can save them under the file name you specify. The default file name is Upgrade.txt in the systemroot folder.
/cmd:command_line	Instructs Setup to carry out a specific command before the final phase of setup. This would occur after your computer has restarted and after Setup has collected the necessary configuration information, but before setup is complete.
/cmdcons	Installs the Recovery Console as a startup option on a functioning x86-based computer. The Recovery Console is a command-line interface from which you can perform tasks such as starting and stopping services and accessing the local drive (including drives formatted with NTFS). You can only use the /cmdcons option after normal setup is finished.
/copydir:{i386 ia64} folder_name	Creates an additional folder within the folder in which the files are installed. Folder_name refers to a folder that you have created to hold modifications just for your site. For example, for x86-based computers, you could create a folder called Private_drivers within the i386 source folder for your installation, and place driver files in the folder. Then you could type /copydir:i386\Private_drivers to have Setup copy that folder to your newly installed computer, making the new folder location systemroot\Private_drivers. You can use /copydir to create as many additional folders as you want.
/copysource:folder_name	Creates a temporary additional folder within the folder in which the files are installed. Folder_name refers to a folder that you have created to hold modifications just for your site. For example, you could create a folder called Private_drivers within the source folder for your installation, and place driver files in the folder. Then you could type /copysource:Private_drivers to have Setup copy that folder to your newly installed computer and use its files during Setup, making the temporary folder location systemroot\Private_drivers. You can use /copysource to create as many additional folders as you want. Unlike the folders /copydir creates, /copysource folders are deleted after Setup completes.