Unit 29

Installing and Upgrading Software

Level 3

Installation & Upgrade Procedures

Last Session

- Assignment 2

Todays Session

- Installation

- Configuration

- Upgrade

- Testing

Installation & Upgrade Procedures

The installation process involves completing a series of tasks to fully deploy a software application on a computer system.

The tasks include agreeing to software licences, creating files and registry data and creating links and shortcuts

Software Installation and Maintenance is dependent upon both the Active Directory and Group Policy.

Administrators who are responsible for Software Installation and Maintenance should be familiar with both of these technologies.

Alternatively you can install and upgrade software on an individual basis.

There are 2 main types of Installation & Upgrade
1. Physical
2. Network

Types of Installation

Silent Installation:

Installation that does not show messages during its installation on console. All messages of installation are normally saved in a log file in case of silent install.

Attended Installation:

This is the most common form of installation in which involvement of user is necessary to give its input/selection of choice. Tasks that user performs in an attended installation:

1. Accepting end-user license agreement that is in short called EULA
2. Selecting directory place to install
3. Entering password if software is asking for it example when we install mysql, during its installation configuration it asks for the password
4. User also helps in mitigating certain error like memory is not enough then installer asks for a new place for its installation. If installer is downloading its packages from internet during its installation and LAN is disconnected then it also gives error message "Check you internet connection".

Unattended installation:

User involvement is not needed in the installation of product and sometimes if user intervention is involved then whole installation is done through answer file in which user mentions all the parameters that are needed for installation. Installation of xp operation system is example of this.

Types of Installation

Headless installation/Network Installation:

In this kind of installation, Monitor or console is not needed and installation is made on targeted computers that are connected with a machine on network and in this user involvement is not needed at targeted computers for installation of product on each system.

This kind of installation takes place in big organisations where product is to be installed on thousands of system all together.

Clean Installation:

This is the installation where old version of product is not installed on system and product is being installed for the first time. Installation of OS is example of clean installation

Automated Installation :

In this administrator schedules the installation of product on certain prerequisite conditions.

Networked Installation

- In the table you can see the effects of network installation on an organisation.

- The table shows how software can be published, assigned to users or machines.

	Publish to Users	Assign to Users	Assign to Computers
After the administrator deploys the software, it is available for installation:	If an application is deployed in a GPO that is already applied to the user from a previous logon, it is available for installation in the current logon session (from the Add/Remove Programs Control Panel). If the application is deployed in a new GPO that is not already associated with the user, then it is available at the next logon.	If an application is deployed in a GPO that is already applied to the user from a previous logon, it is available for installation in the current logon session (from the Add/Remove Programs Control Panel). If the application is deployed in a new GPO that is not already associated with the user, then it is available at the next logon.	The next time the computer starts (reboot).
Typically, users install the software from:	The Add/Remove Programs in Control Panel.	Start menu shortcut. Desktop shortcut. Add/Remove Programs in Control Panel.	The software is already installed.
If the software is not installed and the user opens a file associated with the software, will the application install?	Yes.	Yes.	The software is already installed.
Can the users remove the software using the Add/Remove Programs in Control Panel?	Yes. Users can re-install the application from the Add/Remove Programs in Control Panel.	Yes. The software will be re-advertised immediately. This means that the shortcuts will be present in the users' desktops and they can re-install the application by clicking on a shortcut, for example.	No. Only the local administrator can remove the software. A user can run a repair on the software.
Supported installation file types:	Windows Installer packages (.msi files), and ZAP files.	Windows Installer packages (.msi files)	Windows Installer packages (.msi files)

Physical Installation

- Physical is exactly what it sounds like.
- The engineer must visit every single machine and install or upgrade the program manually (physically).

Task

Research both Physical and Network installations produce a table to compare the benefits and drawbacks of both processes.

Summarise the table and explain which system would best fit a full office 2013 installation on 20 class room workstations.

Configuration

- Once an installation is complete you will need to configure your new software to ensure that it fully meets the needs of the organisation and integrates with the business's other systems.

- Some common configuration tasks that you might complete on newly installed anti virus software include.

  - How often and when the automatic scan will run
  - How often will the anti virus definitions be upgraded
  - Whether incoming and outgoing emails will be scanned
  - Whether to ignore some errors and warnings
  - The size of the quarantine zone will be
  - What happens to a contained virus.

Configuration

- In individual software applications most of the configuration can be completed in an options section within the application itself.

- However, in an application such as a windows operating system there will be various aspect to configure after the initial installation.

    - Users
    - Access rights
    - Permissions

Task

- Download and install Ccleaner

- Go to the options menu by clicking the options button

- Configure the application from this menu so that it will run Ccleaner when the computer starts, automatically check for updates and close the program after cleaning.

- Investigate the other configuration options available for Ccleaner

Testing

- Installation testing is performed to ensure that all necessary components are installed properly and working as per the requirements of the software, post installation.

- Installation process may include partial, full or upgrade install.

- This is very important activity in the life cycle of software because installation is the first interaction of user with software and if user experience is satisfactory, then success of software and company go hand in hand.

- A successful installation will make end users happy and gives a company an inner appeal to refer your services to other people.

- However failure may jeopardise both the system and the user, sometimes this may cause instability in a system and inject many files that may affect the function of other installed software.

Testing

There are many types of testing procedures,
- Unit Testing
- Integration Testing
- Functional Testing
- System Testing
- Stress Testing
- Performance Testing
- Usability Testing
- Acceptance Testing
- Regression Testing
- Beta Testing

Testing

Unit Testing

- Unit testing is the testing of an individual unit or group of related units. It falls under the class of white box testing. It is often done by the programmer to test that the unit he/she has implemented is producing expected output against given input.

Integration Testing

- Integration testing is testing in which a group of components are combined to produce output. Also, the interaction between software and hardware is tested in integration testing if software and hardware components have any relation. It may fall under both white box testing and black box testing.

Functional Testing

- Functional testing is the testing to ensure that the specified functionality required in the system requirements works. It falls under the class of black box testing.

Testing

System Testing

- System testing is the testing to ensure that by putting the software in different environments (e.g., Operating Systems) it still works. System testing is done with full system implementation and environment. It falls under the class of black box testing.

Stress Testing

- Stress testing is the testing to evaluate how system behaves under unfavourable conditions. Testing is conducted at beyond limits of the specifications. It falls under the class of black box testing.

Performance Testing

- Performance testing is the testing to assess the speed and effectiveness of the system and to make sure it is generating results within a specified time as in performance requirements. It falls under the class of black box testing.

Usability Testing

- Usability testing is performed to the perspective of the client, to evaluate how the GUI is user-friendly? How easily can the client learn? After learning how to use, how proficiently can the client perform? How pleasing is it to use its design? This falls under the class of black box testing.

Testing

Acceptance Testing

- Acceptance testing is often done by the customer to ensure that the delivered product meets the requirements and works as the customer expected. It falls under the class of black box testing.

Regression Testing

- Regression testing is the testing after modification of a system, component, or a group of related units to ensure that the modification is working correctly and is not damaging or imposing other modules to produce unexpected results. It falls under the class of black box testing.

Beta Testing

- Beta testing is the testing which is done by end users, a team outside development, or publicly releasing full pre-version of the product which is known as beta version. The aim of beta testing is to cover unexpected errors. It falls under the class of black box testing.

Conclusion

- Name 2 ways to install or upgrade software.

- Give an example of configuration when installing software.

- Give an example of why you might test after a change to a piece of software.