Module 2 {Installation and Maintenance of Hardware and Its components}

Topic: User Management

• Assignment Level Basic

1. What is user management?

User management is a system to handle activities related to individuals' access to devices, software, and services. It focuses on managing permissions for access and actions as well as monitoring usage. Functions of user management include: Providing users with authenticated access.

UMS manages the Data Platform applications and provides authentication for their users when needed.

Administrators can add, edit, or delete Data Platform applications in the User Management Server. We can have single or multiple Data Platform applications to work with the User Management Server.

User Access Management (UAM), also known as identity and access management (IAM), is the administration of giving individual users within a system access to the tools they need at the right time. For businesses, this usually includes access to external applications, permissions, and security requirements.

Management of users that were given access to the database is the sole responsibility of the user or users with the administrator role. The administrator has the responsibility to manage how other users in your organization access your database

The User Management Module enables managing the scope of access to the application and the content visible to dedicated users.

2. Why is user management needed ?

User Management process provides a smooth and effortless experience for both individuals and organizations to oversee their accounts and obtain access to various IT resources such as devices, applications, systems, networks, SaaS services, and more.

User management offers a solution that helps IT keep control of users' activities and bolster other security measures to protect files, applications, systems, and devices on-premises and in the cloud from unauthorized access by internal and external users.

Managing your IT system security requires a detailed understanding of the users involved and their levels of access to resources. User account management is all about managing which users can access specific folders and files, which requires providing specific access credentials to users who need who privileged access .

• Assignment level intermediate:

1. Where can we access the user management ?

User management (UM) is defined as the effective management of users and their accounts, giving them access to various IT resources like devices, applications, systems, networks, SaaS services, storage systems, and more.

Managing access privileges & security policies through IAM, guarantees lowering or eliminating the overall configuration time for implementing security measures. Also, it ensures that the users have the right access privileges needed for their job.

Access management is about authorization. Its goal is to ensure that a particular user can only access the resources or data they're authorized to access. So, while one user may have permissions only to view a file, another may have permissions to both view and modify it.

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1. What are the features of user management ?

User management describes the ability for someone, usually an IT professional, to manage employees' digital identities, including keeping them up to date and provisioning, monitoring, changing, and revoking their access to different resources

Modern user management services provide end-to-end management of user accounts, including user registration, login and authentication, single sign-on (SSO), and permissions management. User management functions include: Preventing unauthorized access to infrastructure, applications, and data.

User management is a critical aspect of maintaining a secure

and organized system for any organization that deals with user

data. There are several key elements that make up user

management, including user authentication, authorization, and

access control .

• Assignment level Advance:

1.Do a practical to create a user from user management

Yes , we are complete done a practical to create a user from user management .

**Creating New Users**

1. Click on the Settings button to open up the settings panel.
2. Click on Users.
3. Select the By Users view and then - Create New User.
4. Fill in the user details - ...
5. Set the Email notification options - ...
6. Connect users to projects and assign Roles - ...
7. Click Save Changes.

2.Do a practical to change the password of the administrator from the user management tool.

Yes , we are complete a practical to change the password of the administrator from the user management tool .

**How to Reset Administrator Password**

1. Open the Windows Start menu. ...
2. Then select Settings. ...
3. Then click on Accounts.
4. Next, click on Your info. ...
5. Click on Manage my Microsoft Account. ...
6. Then click More actions. ...
7. Next, click Edit profile from the drop-down menu.
8. Then click change your password.

The passwd command changes passwords for user accounts. A normal user may only change the password for their own account, while the superuser may change the password for any account. passwd also changes the account or associated password validity period.

Topic: File and Folder Permission

• Assignment Level Basic:

1. What is file folder permission ?

File Permissions. File permissions control what user is permitted to perform which actions on a file. File permissions form a crucial part of a resistance strategy. On public systems, only part of the system is public. The system files, at least, need to be protected from wanton modification by attackers.

Files and directories can have three types of permissions: read, write, and execute: Someone with read permission may read the contents of a file, or list the contents of a directory.

When you set permissions, you specify what users are allowed to do within that folder, such as save and delete files or create a new folder. You are not limited to choosing one of the standard permissions settings (Full Control, Modify, Read & Execute, List Folder Contents, Read, or Write).

This file permissions allows users to edit the contents of the file. For obvious reasons we might want some users to only have read permissions. They can view the file, but they cannot change its content. This can prevent accidental changes to files, or even malicious behavior.

1. What is the use of file and folder permission?

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NTFS permissions are used to manage access to the files and folders that are stored in NTFS file systems. Besides Full Control, Change, and Read that can be set for groups or individually, NTFS offer a few more permission options: Full control: Allows users to read, write, change, and delete files and subfolders.

While share permissions only offer three options (Full Access, Modify and Read), NTFS permissions give you more granular control over how a user can interact with a file or folder. The level of access you define is written into the object's access control list and checked against the SID of the user or group.

• Assignment level Intermediate:

1. write down the steps to give a folder read only permission.

**How to make a folder read - only**

1. Open the folder's property menu. ...
2. Select read-only. ...
3. Copy as path. ...
4. Open your command prompt. ...
5. Change folder attributes via command line. ...
6. Remember your settings. ...
7. Communicate with other users. ...
8. Don't change system folders or files.
9. Write a step to give a file only admin permission .

**Setting Permissions**

1. Access the Properties dialog box.
2. Select the Security tab. ...
3. Click Edit.
4. In the Group or user name section, select the user(s) you wish to set permissions for.
5. In the Permissions section, use the checkboxes to select the appropriate permission level.
6. Click Apply.
7. Click Okay.

• Assignment level Advance:

1. Do a practical to give the folder permission of read only in network.

Yes we are complete done a practical to give the folder permission of read only in network .

**How to make a folder read-only**

1. Open the folder's property menu. ...
2. Select read-only. ...
3. Copy as path. ...
4. Open your command prompt. ...
5. Change folder attributes via command line. ...
6. Remember your settings. ...
7. Communicate with other users. ...
8. Don't change system folders or files

3-Do a practical to change the ownership of the folder and the sub folders in it..

Yes we are complete done a pratctical to change the ownership of the folder and the sub folders in it .

If it's a folder, you'll also see an option under the owner named "Replace owner on subcontainers and objects." Make sure that's selected and then click "OK." And back on the "Security" tab of the file's Properties window, click the "OK" button. You should now have full ownership of and access to your file or folder.

**How to take ownership of a file folder**

1. Sign in to your administrator account. ...
2. Navigate to the security option of the file or folder. ...
3. Locate the file or folder owner. ...
4. Find your account. ...
5. Navigate to the "Advanced Permissions" menu. ...
6. Select your account. ...
7. Choose permissions. ...
8. Verify your permissions.

You can use the chown command in Linux to change the ownership of the file(s) and directories. It's quite simple to use. The problem arrives when you change the ownership of a directory, its content remains unchanged .

**Change Ownership of Files and Folders**

1. Step 1: Right-click on the folder and hit Properties.
2. Step 2: Go to the Security tab and click on Advanced, located at the bottom-right corner of your screen.
3. Step 3.1: Click on Change.
4. Step 3.2: Click on Advanced.
5. Step 4: Click on Find Now.

Topic: Install OS

• Assignment Level Basic

1. What is OS?

An operating system (OS) is the program that, after being initially loaded into the computer by a boot program, manages all of the other application programs in a computer. The application programs make use of the operating system by making requests for services through a defined application program interface ([API](https://www.techtarget.com/searchapparchitecture/definition/application-program-interface-API)). In addition, users can interact directly with the operating system through a user interface, such as a command-line interface (CLI) or a graphical UI (GUI).

An operating system brings powerful benefits to computer software and software development. Without an operating system, every application would need to include its own UI, as well as the comprehensive code needed to handle all low-level functionality of the underlying computer, such as disk storage, network interfaces and so on. Considering the vast array of underlying hardware available, this would vastly bloat the size of every application and make software development impractical.

Instead, many common tasks, such as sending a network packet or displaying text on a standard output device, such as a display, can be offloaded to system software that serves as an intermediary between the applications and the hardware. The system software provides a consistent and repeatable way for applications to interact with the hardware without the applications needing to know any details about the hardware.

As long as each application accesses the same resources and services in the same way, that system software -- the operating system -- can service almost any number of applications. This vastly reduces the amount of time and coding required to develop and debug an application, while ensuring that users can control, configure and manage the system hardware through a common and well-understood interface .

Once installed, the operating system relies on a vast library of device drivers to tailor OS services to the specific hardware environment. Thus, every application may make a common call to a storage device, but the OS receives that call and uses the corresponding driver to translate the call into actions (commands) needed for the underlying hardware on that specific computer. Today, the operating system provides a comprehensive platform that identifies, configures and manages a range of hardware, including processors; memory devices and memory management; chipsets; storage; networking; port communication, such as Video Graphics Array (VGA), High-Definition Multimedia Interface (HDMI) and Universal Serial Bus (USB); and subsystem interfaces, such as Peripheral Component Interconnect Express (PCIe).

**2. What are the types of OS?**

An Operating System performs all the basic tasks like managing files, processes, and memory. Thus operating system acts as the manager of all the resources, i.e. resource manager. Thus, the operating system becomes an interface between the user and the machine. It is one of the most required software that is present in the device.

Operating System is a type of software that works as an interface between the system program and the hardware. There are several types of Operating Systems in which many of which are mentioned below. Let’s have a look at them.

Types of Operating Systems

There are several types of Operating Systems which are mentioned below.

1 - Batch Operating System

2 - Multi-Programming System

3 - Multi-Processing System

4 - Multi-Tasking Operating System

5 - Time-Sharing Operating System

6 - Distributed Operating System

7 - Network Operating System

8 - Real-Time Operating System

** Assignment Level Intermediate**

**1. Do a practical to create bootable pendrive for kali Linux**

Yes , we are complete done a practical to create bootable pendrive for kali linux .

To create a bootable kali linux usb drive , you need to

1 - Download the Kali Linux ISO file from <https://www.kali.org/downloads/>

2 - Plug your USB drive into a USB port of your computer and note the drive letter or name.

3 - Download and launch a USB creator tool such as YUMI or Etcher.

4 - Select the Kali Linux ISO file and the USB drive as the source and target respectively.

5 - Click on create or flash to start the process**.**

**2. Do a practical to create a bootable pendrive for windows 7**

Yes , we are complete done a practical to crteate a bootable pendrive for windows 7 .

1 - Download Windows USB/DVD Download Tool or PowerISO and install it on your computer.

2 - Insert the USB drive you intend to boot from and the Windows 7 installation DVD.

3 - Run the Windows USB/DVD Download Tool or PowerISO and choose the USB drive and the Windows 7 ISO file.

4 - Click the option to create a bootable USB drive and wait for the process to complete.

5 - In the command prompt, type d:/boot/bootsect.exe /nt60 e: (assuming D: is your DVD drive and E: is your USB drive) to make your USB drive bootable.

1. **Do pendrive for creating a pendrive for mac os Mojave with unibeast .**

Yes , we are complete done a practical for creating a pendrive for mac os Mojave with unibeast .

**Create macOS bootable USB installation media**

1. Download and install TransMac on Windows 10. ...
2. Connect the USB flash drive. ...
3. Right-click the TransMac app and select the Run as administrator option.
4. Click the Run button. ...
5. Right-click the USB flash drive and select the “Format Disk for Mac” option from the left pane.

• Assignment level Advance:

1. **Do a practical to install Kali Linux .**

Yes , we are complete done a practical to install kali linux .

How to Install Kali Linux on Your Computer – Step by Step

1. Step 1: Download the iso file. ...
2. Step 2: Create a bootable drive. ...
3. Step 3: Access the Kali Installer Menu. ...
4. Step 4: Begin the installation. ...
5. Step 5: Set up the storage. ...
6. Step 5: Chose software and a desktop look. ...
7. Step 6: Install the GRUB bootloader.
8. Do a practical to install windows 10

Yes , we are complete done a practical to install window 10 .

**How to install Windows 10: Full installation**

1. Check your device meets the Windows 10 system requirements. ...
2. Create USB installation media. ...
3. Run the installer tool. ...
4. Use your installation media. ...
5. Change your computer's boot order. ...
6. Restart your device. ...
7. Complete the installation.
8. Do a practical to install Mac os X

Yes , we are complete done a practical to install mac os x .

Restart your Mac. Choose Apple menu > Shut Down, press and hold the power button until “Loading startup options” appears, select Options, click Continue, then follow the onscreen instructions. In the Recovery app window, select Reinstall for your macOS release, click Continue, then follow the onscreen instructions.

macOS is exclusive to Apple but that does not mean you can not install it on your Windows PC. There are ways to do so but be ready to dedicate some time and effort. However, if you want to install macOS on Windows PC, you must keep in mind that Apple's license forbids it from being used anywhere else than mac.

**Topic: Clean Install**

**• Assignment Level Basic**

**1. What is clean install?**

In a clean install of an OS, the hard disk is formatted and completely erased. In a clean install of an application, the older version is uninstalled first. Installing an OS on a new computer or installing an application for the first time is automatically a clean install. Contrast with "in-place upgrade."

A clean install is an installation of an operating

system on a computer where the hard drive is

formatted and completely erased. With a clean install,

you can start over with a new Windows OS.

In  summary, Windows 10 Reset is more likely to be a basic troubleshooting method, while a Clean Install is an advanced solution for more complex problems. If you don't know which method to apply, first have a try on Windows Reset, if it doesn't help, fully backup your computer data, and then perform a Clean Install.

• Assignment Level Intermediate

* 1. What is the process for clean install?

**Clean install Windows 10 from Reset this PC (cloud)**

1. Open Settings.
2. Click on Update & Security.
3. Click on Recovery.
4. Under the “Reset this PC” section, click the Get started button.
5. Click the “Remove everything” option.
6. Click the “Cloud Download” option.
7. (Optional) Click the Change settings option.

**Doing a Clean Installation of Windows 10**

1. Insert the Windows 10 install media (DVD or flash drive). ...
2. Confirm your language preferences and click Next.
3. Click Install Now.
4. Click Accept License Terms and then click Next.
5. Click Custom: Install Windows Only (Advanced) .

2. what are the benefits of clean install ?

A clean install enables users to regain control over the system by eliminating programs and files that have not been used for a long time, if ever. It paves the way for a fresh start with a clean Windows registry and a decluttered system that includes only has the apps the user needs.

Clean installation of Windows is a process of installing a new copy of Windows on a computer. This process erases all the data on the hard drive and installs a fresh copy of Windows. The benefits of a clean installation over upgrading Windows include:

* Improved performance: A clean installation of Windows can help improve the performance of your computer as it eliminates any unnecessary files and programs that may be causing issues.
* Better security: A clean installation of Windows can help improve the security of your computer as it eliminates any vulnerabilities that may have been present in the previous version of Windows.
* Fewer compatibility issues: A clean installation of Windows can help reduce the number of compatibility issues that may occur when upgrading to a new version of Windows.
* Easier troubleshooting: A clean installation of Windows can make troubleshooting issues easier as it eliminates any potential conflicts that may have been present in the previous version of Windows.
* Customization: A clean installation of Windows can allow you to customize your computer to your specific needs by choosing which programs to install and which settings to use.

Please note that a clean installation of Windows will erase all the data on the hard drive, so it is important to back up any important files before proceeding. Additionally, you should check that your computer meets the minimum system requirements for the version of Windows that you plan to install.

• Assignment level Advance:

1. Do a clean installation of windows XP ?

Yes , we are doing a clean installation of windows xp ?

1. Step 1 - Format USB stick. ...
2. Step 2 - Extract Windows XP ISO. ...
3. Step 3 - Download and extract WinSetupFromUSB. ...
4. Step 4 - Prepare USB install media. ...
5. Step 5 - Verify files. ...
6. Step 6 - Boot from USB stick, install Windows XP. ...
7. Step 7 - Prepare disks, copy install files. ...
8. Step 8 - Configure Windows XP.
9. Do a clean installation of windows 8

Yes , we are doing a clean installation of window 8

A clean install is an installation of an operating system on a computer where the hard drive is formatted and completely erased. With a clean install, you can start over with a new Windows OS.

**Windows 8 installation steps**

1. Step 1: Preparation for installation. ...
2. Step 2: Create a bootable flash. ...
3. Step 3: Start Windows 8/8.1 installation steps. ...
4. Step 4: Select language, time, and keyboard setting. ...
5. Step 5: Windows 8 installation. ...
6. Step 6: Enter the product key to activate windows. ...
7. Step 7: Accept the license terms.