**• What is user management?**

* User menagment ek procces che je user account nu creation, update, ane access control manage kare che, security ane compliance ne dhyan ma rakhine.

**• Where can we access the user management?**

* User mangment access platform par aadharit hoy che

**Operating system :**

* **Windows :** Control Panel -> User Accounts
* **macOS :** System Setting -> User & Groups
* **linux :** Command line (useradd, usermod, password

**• Why is user management needed?**

* User management system mate khubaj upayogi che.

1. Security & access control
2. Role – based access & permissons
3. Compliance & auditability
4. Efficiency & automation
5. User exeprience &productivity
6. Centralized management
7. Reducing insider threats

**• Do a practical to create a user from user management.**

* **Windows ma user account**  
  Jare aapde koi data ya personal use mate account banavie chhe, to tene **user account** kahvama aave chhe.

**User na prakar:**

1. **Administrator User**: A user ne full access aapto hoy chhe system na badha settings ane files par. A user software install kari shake chhe, system settings change kari shake chhe, ane biji user accounts manage kari shake chhe.
2. **Local User**: A local user account specific computer sathe j judai chhe. A user ne limited access malhe chhe ane system-wide settings badalva mate permission nathi.
3. **Guest User**: Guest user account limited access aapvu hoy chhe. A temporary users mate hoy chhe, je permanent data ya full privileges na jarur pade.

**Windows ma user create karva:**

1. Settings par jav.
2. Accounts select karo.
3. Other Users par click karo.
4. Add Account option par click kari ne navi user account banavi sakay chhe.

**• Do a practical to change the password of the administrator from the user mangement.**

**Windows ma steps:**

1. Control Panel kholvo.
2. User Accounts par click karo.
3. Manage another account par click karo.
4. Administrator account ne select karo.
5. Change the password par click karo.

**• What is file folder permission? ---sharing and ntfs What is the use of file and folder permission?**

* **File ane Folder Permissions**  
  File ane folder permissions te control kare chhe ke kono file ane directories ne access, modify, ke manage kari shake chhe system par. A permissions data ne unauthorized access ke modification thi secure karva mate madad kare chhe.

**File ane Folder Permissions na prakar:**

1. **NTFS Permissions (New Technology File System)**
2. **Sharing Permissions**

**File ane Folder Permissions na upyog:**

1. **Security**:  
   File ane folder permissions sensitive files ni unauthorized access ne rokta hoy chhe, je thi file ane data secure rahe chhe.
2. **Data Integrity**:  
   Aapne ensure karvu chhe ke matra authorized users ja important files ne modify kari shake chhe, je thi data ni accuracy ane reliability banay rahe.
3. **User Management**:  
   Permissions thi system administrators ne control malay chhe ke different users ya groups file ane folders par shu kari shake chhe (jivti ke dekhva, edit karva, delete karva).
4. **Network Sharing**:  
   Network environment ma permissions thi shared folders na access ne restrict kari sakay chhe, je thi keval right users ya groups ne access male.
5. **Compliance**:  
   A permissions organizations ne data security regulations (jaise GDPR, HIPAA) na palan karva ma madad kare chhe, ane sensitive information ne monitor karva mate madad kare chhe.

### • Write down the steps to give a folder read only permission. ****Steps to Give Read-Only Permission (Sharing Permissions)****

* **1. Folder Properties kholvi:** • Folder par right-click karo → **Properties → Sharing** tab par click karo.

**2. Folder Share karvo:** • **Advanced Sharing…** par click karo → "Share this folder" ne check karo → **Permissions** par click karo.

**3. Read-Only Permission set karvi:** • Ek user ya group select karo. • **Allow** ne check karo for **Read** ane baki badhi options ne uncheck karo. • **Apply → OK** par click karo.

**4. Confirm ane Close karvi:** • Badha windows par **OK** par click karo, changes apply karva mate.

**• Write a step to give a file only admin permission.**

**File ne matra Admin Permission aapva na steps (NTFS Permissions):**

* File par right-click karo → Properties select karo.
* Security tab par jav → Edit… par click karo.
* Administrators chhodi ne badhi existing users/groups ne remove karo:
  + Ek user/group select karo ane Remove par click karo (except Administrators).
* Administrators ne Full Control aapva ensure karo:
  + Administrators select karo ane Allow ne check karo for Full Control.
* Apply → OK par click karo changes save karva mate.

**• Do a practical to change the ownership of the folder and the sub folders in it.**

* **Folder ane tena Subfolders ni Ownership Change karva na steps:**

1. Folder par right-click karo → Properties select karo.
2. Security tab par jav → Advanced par click karo.
3. Owner section ma Change par click karo.
4. Navo owner select karo:
   * Advanced… par click karo → Find Now par click karo → User/group select karo → OK par click karo.
5. "Replace owner on subcontainers and objects" ne check karo.
6. Apply → OK par click karo changes save karva mate.
7. (Optional) Full Control grant karo:
   * Security tab ma → Edit par click karo → Navo owner select karo → Full Control ne check karo → Apply → OK.

**• What is OS?**

* **Operating System (OS)** ek mukhya software chhe je computer par chale chhe. Te ek manager ni tarah kaam kare chhe, je computer na hardware (CPU, memory, storage, vagere) ane software (apps, programs) ne ek saath kaam karva mate madad kare chhe.

**• What are the types of OS?**

* **windows :-**

1)windows 7

2)windows 8/8.1

3)windows 10

4)windows 11

* **linux :-**

1) ubuntu

2) redhut

3) kali linux

4)parrot

**• Do a practical to create bootable pen drive for kali Linux and install os.**

**Kali Linux OS ne Pandrive par Bootable banavva ni steps:**

1. **Kali Linux ISO download karo**:  
   Kali Linux ni official website thi ISO file download karo.
2. **Bootable USB banavo**:
   * **Windows**: Rufus use karo → USB select karo → ISO choose karo → Start par click karo.
   * **Mac/Linux**: BalenaEtcher use karo → ISO select karo → USB choose karo → Flash par click karo.
3. **USB thi Boot karo**:
   * USB insert karo → PC restart karo → BIOS enter karo (F2, F12, DEL, ya ESC key dabavo) → USB ne Boot Priority set karo → Save & Exit karo.

**Kali Linux Install karo:**

1. Graphical Install choose karo.
2. Language, Location, ane Keyboard select karo.
3. Hostname & User Credentials set karo.
4. Partitioning Method choose karo (full install mate Use Entire Disk select karo).
5. Confirm & Start Installation par click karo.
6. GRUB Bootloader install karo.

**Installation complete karvo:**

1. USB remove karo → System restart karo → Kali Linux ma login karo.

**• Do a practical to create a bootable pen drive for windows 10 and install os.**

* **Bootable pendrive rufus :-**

Step-1 :- download windows 10 os file

Step-2 :- download rufus

Step-3 :- start rufus

Step-4 :- select your windows 10 os file and start

**Windows 10 Installation Steps:**

1. Windows 10 Bootable Pen Drive ne apda PC ma insert karo.
2. F2 press karo (BIOS/UEFI settings enter karva mate).
3. Boot Priority select karo (Priority badalvo).
4. Boot Option 1 (Sandisk) select karo.
5. Save karva mate F10 press karo.
6. Language select karo ane Next par click karo.
7. Install Now par click karo.
8. Pro 64-bit select karo ane Enter press karo.
9. License Agreement accept karo ane Next par click karo.
10. Upgrade/Custom option ma thi Custom select karo.
11. Drive select karo ane Delete karo (Clean installation).
12. User create karo, Region select karo ane installation complete thase.
13. Turn Off karva baad, Location, Find my device, ane Advertising ID settings set kari sako chho.

**• What is clean install?**

* **Clean Install** ek process chhe je ma operating system (OS) ne completely navi rite install kariye chhe, purani system, applications, ane files ne erase kari ne. Aa process thi aapne ek fresh start male chhe, jema purani installation ni koi leftover data ya software issues nathi.

**• What is upgrade installation?**

* **Upgrade Installation** ek process chhe, jema operating system (OS) ni navi version install kariye chhe bina purana files, applications, ane settings ne delete kariye. Aa process thi users ne newer OS version par upgrade karva ni suvidha male chhe, ane te loko ni data ane software intact rahe chhe.

**• Do a practical to upgrade from windows 8 to windows 10.**

* **Windows 10 OS Installation Steps:**
* **Windows 10 OS file download karo**
* **Bootable OS file create karo**
* **System restart karo**
* **F2 press karo**
* **Boot Option select karo**
* **Aapnu OS select karo.**
* **Start karo**
* **Windows 10 installation setup karo**

**• What is partitioning?**

* Partitioning ek prakriya chhe jema ek physical hard drive athva SSD ne kai logical sections (partitions) ma vibhajit kariye chhe, jethi data ne safaltapoorvak organize kari sakai. Pratyek partition ek alag storage unit tarike kaam kare chhe, je thi users ne files manage karva, vibhinn operating systems install karva, athva system performance ne sudharva ma madad male chhe.

**• What is partition?**

* Partition ek hard drive (HDD) athva solid-state drive (SSD) no ek hissa chhe je ek independent storage unit tarike kaam kare chhe. Pratyek partition ne operating system alag disk tarike treat kare chhe, je thi users ne data organize karva, vibhinn operating systems install karva, ane data management ne sudharva ma madad male chhe.

**• What is format?**

* Formatting ek prakriya chhe je storage device (HDD, SSD, USB, SD card) ne upyog mate tayar karva ma madad kare chhe. Aa prakriya ma badha data ne erase kari ne ek file system setup kariye chhe, jethi operating system sahi rite data ne read ane write kari sake.

**• Format a partition using cmd.**

Step\_1 :- open CMD ( right click and run as a administrator)

Step\_2 :- type disk:part\_ 🡪 list disk 🡪 select disk(number)🡪 clean\_

🡪 creat partation primary 🡪 format fs=NTFS quick.

**• List out the administrative tools.**

1. **Computer Management (compmgmt.msc)**  
Centralized tool chhe jethi system management kari sakai chhe (Task Scheduler, Event Viewer, Disk Management aadi shamil chhe).

2. **Task Scheduler (taskschd.msc)**  
Kaam automate kare chhe jemke scripts chalavvu, programs start karvu, ke scheduled samay par notifications aapvu.

3. **Event Viewer (eventvwr.msc)**  
System logs, errors, ane warnings ne monitor kare chhe, jethi issues troubleshoot kari sakai.

4. **Disk Management (diskmgmt.msc)**  
Hard drives, partitions, ane storage devices ne manage kare chhe, tatha format pan kare chhe.

5. **Services (services.msc)**  
System services ne control kare chhe (start, stop, disable essential background services).

6. **Local Security Policy (secpol.msc)**  
Security settings, password policies, ane user access rules configure kare chhe (Windows Home editions ma available nathi).

7. **Performance Monitor (perfmon.msc)**  
System performance ane resource usage (CPU, RAM, disk, network) ne analyze kare chhe.

8. **Group Policy Editor (gpedit.msc)**  
Advanced system settings, user permissions, ane security policies manage kare chhe (sirf Pro & Enterprise editions ma available chhe).

9. **System Configuration (msconfig)**  
Boot options, startup programs, ane system services configure kare chhe.

10. **Registry Editor (regedit)**  
Windows registry settings ne edit kare chhe (advanced troubleshooting ane customization mate).

11. **Windows Firewall with Advanced Security (wf.msc)**  
Firewall rules ane network security settings manage kare chhe.

12. **Resource Monitor (resmon)**  
Real-time ma system resource usage monitor kare chhe.

13. **Defragment and Optimize Drives (dfrgui)**  
HDDs ne optimize ane defragment kare chhe, je thi performance sudhare.

14. **Component Services (dcomcnfg)**  
COM+ applications ane services configure ane manage kare chhe.

15. **Windows Memory Diagnostic (mdsched.exe)**  
RAM issues ane memory-related problems check kare chhe.

**• What is disk management tools.**

* Disk management tools ek prakriya chhe je storage devices jemke hard drives (HDDs), solid-state drives (SSDs), USB drives, ane SD cards ne manage, organize, ane optimize karva mate upyog thay chhe. Aa tools disk-related issues ne troubleshoot karva, partitions banavva, resize karva, format karva, ane organize karva ma madad kare chhe.

**• List out the operations we can do with disk management tool.**

* Create a New Partition
* Delete a Partition
* Format a Partition
* Resize a Partition (Extend/Shrink)
* Change Drive Letter and Paths
* Mark Partition as Active
* Convert MBR to GPT (or vice versa)
* Initialize a New Disk
* Create a Virtual Hard Disk (VHD)
* Attach/Detach a VHD
* Check Disk Properties
* Defragment and Optimize Drives
* Change File System Format
* Set Partition as Primary or Logical
* Assign or Remove a Drive Letter
* View Disk Health and Status

**• What is Device Management?**

* Device Management ek prakriya chhe je computer system sathe connected hardware devices ne manage karva ma madad kare chhe. Aa ma devices jeva ke printers, keyboards, storage drives, network adapters, ane anya peripherals ne monitor, configure, update, ane troubleshoot karva no samavish kare chhe.

**• Do a practical to delete a driver from the device management tool.**

1. Device Manager kholu (Win + X → Device Manager athva Win + R → devmgmt.msc type karo → Enter press karo).

2. Sahi category ma device ne locate karo.

3. Device par right-click karo ane "Uninstall device" select karo.

4. Option "Delete the driver software for this device" check karo (jo available hoy to).

5. Confirm karva mate "Uninstall" par click karo.

6. Computer ne restart karo.

**• What is windows features?**

* Windows Features ek built-in tool chhe je users ne Windows ma optional system components ne enable athva disable karva ni suvidha aape chhe. Aa features ma kai services, legacy components, ane advanced functionalities shamil chhe je default roope enable nathi karti.

**• Do a practical to install dotnet framework 3.5 with Windows feature.**

Step-1. Open Control Panel.

Step-2. Click Turn Windows features on or off (left panel).

Step-3. Check .NET Framework 3.5 (includes .NET 2.0 and 3.0).

Step-4. Click OK and wait for Windows to apply changes.

Step-5. If prompted, select Download files from Windows Update.

Step-6. Wait for the installation to complete.

Step-7. Restart your computer.

**• Do a practical to disable internet explorer in windows feature.**

1. Control Panel kholu.

2. Left panel ma "Turn Windows features on or off" par click karo.

3. List ma Internet Explorer 11 ne locate karo.

4. Internet Explorer 11 ni pasandagi na box ne uncheck karo

5. Changes apply karva mate OK par click karo.

6. Confirmation mate prompt aave to Yes par click karo.

7. Process complete karva mate computer ne restart karo.

**• What is backup and restore?**

* Backup and Restore ek Windows feature chhe je users ne important files, folders, athva pura system ni copies banavva ni suvidha aape chhe, jethi data loss thi bachav karvama madad male. Aa feature system failure, accidental deletion, athva corruption ni sthitima backed-up data restore karva ni suvidha pan aape chhe.

**• What are the tools of backup?**

* 1**. File History** – Personal files ne backup kare chhe ane purvani versions restore karva ni suvidha aape chhe.

2. **Backup and Restore (Windows 7)** – File backups ane system images create kare chhe.

3. **System Restore** – Windows ne purvani working state ma restore kare chhe.

4. **System Image Backup** – Operating system ane files no full image banave chhe.

5. **OneDrive Backup** – Cloud-based backup je files ane folders ne backup kare chhe.

6. **Windows Server Backup** – Windows Server editions mate backup tool chhe.

7. **Third-Party Backup Software** – Acronis, EaseUS, Macrium Reflect, ane AOMEI Backupper jemke advanced backup tools.

8. **Command-Line Backup Tools** – wbadmin (Windows Backup command-line tool) ane robocopy (file ane folder backup).

9. **Cloud Backup Services** – Google Drive, Dropbox, ane anya cloud storage solutions jo online backup mate upyog thai.

10. **External Drive Backups** – USB drives athva external hard disks no upyog manual athva scheduled backup mate.

**• Do a practical to restore from restore point.**

* **Windows ne Restore Point thi Restore karva na Steps:**
* **System Restore kholva**
  + Windows + S dabavo, ane "Create a restore point" type karo, pachhi result ma thi option open karo.
  + System Properties window ma, System Protection tab par jau.
  + System Restore... par click karo.
* **Restore Point chuno**
  + System Restore window ma Next par click karo.
  + Restore points ni list dekha se, ane koi ek restore point chuno je date na hisabe aapne problem aavva pahela nu hoy.
  + Next par click karo ane pachhi Finish par click kari confirm karo.
* **Restoration ne wait karo**
  + Tamaro system restart thase ane restoration process suru thase.
  + A process thodi vaar lage, tene complete thava apu, pan interrupt karva nahi.
* **System Restoration verify karo**
  + System restart thava pachi, tamaru account login karo.
  + Check karo ke je problem aavi hati, te solve thayi gayi chhe ke nahi.

**• How to protect system from malfunctioning due to electrical fluctuation?  
 What is os base firewall? And configure inbound and outbound rule.**

* **System ne Electrical Fluctuation thi Bachavva**

Electrical fluctuations na karane system ma malfunctions na thava mate, aa steps follow karo:

1. **UPS (Uninterruptible Power Supply) no upyog karo**:
   * UPS, bijli cut thava par backup power aapti chhe, je system ne shutdown thava thi bachave chhe.
2. **Surge Protector install karo**:
   * Surge protector voltage spikes, lightning, power surges, vagere thi system ne surakshit rakhe chhe, je sensitive components ne damage karva thi bachave chhe.
3. **Voltage Stabilizer no upyog karo**:
   * Voltage stabilizer stable voltage supply maintain kare chhe, jethi under-voltage athva over-voltage thi system ne nuksan na thay.
4. **Proper Grounding confirm karo**:
   * Sahi grounding thi electrical surges ne system na internal components thi door rakhi, excess power ne safe tarikay divert kari ne bachavva madad kare chhe.
5. **Power Supply Unit (PSU) ne regularly check karo**:
   * Faulty PSU power supply fluctuations kari sake chhe, te karan system ma instability aavi sake chhe. PSU ne sahi rakhva ma rakho.
6. **Power Strips ne overload na karo**:
   * Ek power strip par vadhu devices connect karva thi instability, overheating, ane damage thavi sakti chhe.
7. **PC mate dedicated circuit no upyog karo**:
   * Aapne computer mate dedicated circuit use karvi joiye, jethi biji appliances thi interference na thaye.

**OS-Based Firewall**

**OS-based firewall** ek security system chhe, je operating system ma built-in hoy chhe ane incoming ane outgoing network traffic ne monitor kare chhe. Aa firewall predefined security rules par aadhar rakhe chhe ane unauthorized access athva malicious data ne system ma aavva jaavva thi roke chhe. Aapne network threats ane attacks thi bachavva mate OS-based firewall mahatvapurna role nibhave chhe.

**steps:-**

1. **Open Windows Firewall:**
   * Press **Windows + R**, type **"wf.msc"**, and press **Enter**.
2. **Create an Inbound Rule:**
   * Click **Inbound Rules** → **New Rule**.
   * Select **Program, Port, Predefined, or Custom** as per requirement.
   * Choose **Allow or Block the connection**.
   * Specify the rule’s conditions and click **Finish**.
3. **Create an Outbound Rule:**
   * Click **Outbound Rules** → **New Rule**.
   * Follow the same steps as inbound rules to control outgoing traffic.

**• Do a practical to block internet with firewall.**

* **Steps to Block Internet Access Using Windows Firewall**

1. **Open Windows Firewall:**
   * Press Windows + R, type "wf.msc", and press Enter.
2. **Create a New Outbound Rule:**
   * Click **"**Outbound Rules" → New Rule…
   * Select "Program" and click Next.
3. **Select the Program to Block:**
   * Choose "This program path" and browse to the application (.exe) file.
   * Click Next.
4. **Block the Connection:**
   * Select **"**Block the connection" and click Next.
   * Apply the rule to Domain, Private, and Public networks.
   * Click Next.
5. **Name and Finish:**
   * Give the rule a name (e.g., "Block Internet for App").
   * Click Finish.
6. **Verify:**
   * Open the application and check if internet access is blocked.
7. **To Unblock:**
   * Open Windows Firewall → Outbound Rules.
   * Find the rule, right-click it, and select Disable or Delete.