Windows and Linux System Admin Interview Questions - L1 & L2

Role of a System Administrator

A System Administrator installs, configures, and maintains IT systems. Responsibilities include user management, monitoring, updates, backups, and security enforcement.

Difference between Windows and Linux OS

Windows: GUI-based, proprietary, NTFS, uses Active Directory.
Linux: CLI-heavy, open-source, ext4/xfs, uses PAM and LDAP.

What is Active Directory?

A directory service from Microsoft that manages users, computers, and policies in a Windows domain.

What is Group Policy?

Group Policy controls settings for users and computers in a domain. Used to enforce security, scripts, and configuration.

FSMO Roles

Roles include Schema Master, Domain Naming Master, RID Master, PDC Emulator, and Infrastructure Master.

Tools for Monitoring in Windows

Event Viewer, Task Manager, PerfMon, PowerShell, SolarWinds.

Backup in Windows

Using Windows Server Backup, PowerShell, or third-party tools like Veeam.

Process vs Thread

Process: independent execution with memory space. Thread: lightweight, shares memory within a process.

Linux Resource Usage Commands

top, htop, vmstat, free, df, du, iostat, ps aux.

LVM

Logical Volume Manager allows dynamic resizing, snapshots, and better volume management.

Checking Linux Logs

Logs stored in /var/log. Use tail, less, or journalctl to view them.

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Managing Services in Linux

Using systemctl: systemctl start/stop/status servicename.

Securing Linux Server

Disable root login, firewall, SSH key auth, fail2ban, updates.

Troubleshooting Slow System

Check CPU, memory, disk I/O using top, free, iostat, df.

Scripting Languages

Linux: Bash, Python. Windows: PowerShell, Batch scripting.

Disk Usage Script (Linux)

```
#!/bin/bash
THRESHOLD=80
df -h | awk 'NR>1 {print $5 " " $1}' | while read output; do
  usep=$(echo $output | awk '{print $1}' | sed 's/%//')
  partition=$(echo $output | awk '{print $2}')
  if [ $usep -ge $THRESHOLD ]; then
    echo "Warning: Disk usage of $partition is above $THRESHOLD%"
  fi
done
```

Scenario: System Outage

Example: Resolved kernel panic by booting into recovery mode, analyzing logs, rolling back update, and blocking future update until fixed.