SAP Basis – Kernel Upgrade Interview Questions & Answers (2–3 Years Experience)

Q: What is a Kernel in SAP?

A: The SAP Kernel is the core component containing executables that enable SAP applications to run. It includes programs like disp+work, tp, R3trans, SAPstartsrv, and others.

Q: Why is a Kernel Upgrade performed?

A: To fix bugs, improve performance, support new OS/DB versions, and enhance security or stability.

Q: How do you check the current Kernel version?

A: In SAP GUI: System → Status → Component Info → Kernel Info. At OS level: run 'disp+work -version'.

Q: What are the main kernel files?

A: disp+work, msg_server, tp, R3trans, SAPstartsrv, saprouter, and icman.

Q: Types of Kernel upgrades?

A: Normal Kernel Upgrade (same release, higher patch) and Kernel Release Upgrade (new release, e.g., 749 → 753).

Q: Difference between disp+work and msg_server?

A: disp+work manages work processes; msg_server handles communication between instances and load balancing.

Q: How do you prepare for a kernel upgrade?

A: Identify system type, download kernel, backup /usr/sap//SYS/exe/run, stop SAP, replace files, start SAP, and verify versions.

Q: Precautions before kernel upgrade?

A: Ensure no users logged in, backup kernel & profiles, check SAPCAR compatibility, match TP/R3trans versions, verify ownerships.

Q: What is SAPEXE and SAPEXEDB?

A: SAPEXE contains SAP kernel executables; SAPEXEDB contains DB-specific executables.

Q: Steps to perform Kernel Upgrade (ABAP system)

A: Stop SAP (stopsap r3), backup kernel, extract SAPEXE.SAR and SAPEXEDB.SAR, replace files, start SAP, verify with disp+work -version.

Q: How to handle shared library errors after upgrade?

A: Run 'ldd disp+work' to find missing libs; reinstall OS packages or fix LD_LIBRARY_PATH.

Q: Role of SAPCAR in kernel upgrade?

A: SAPCAR extracts .SAR files: e.g., 'SAPCAR -xvf SAPEXE.SAR'.

Q: How to upgrade kernel in distributed environment?

A: Upgrade CI first, then copy executables to all App Servers, and verify versions.

Q: SAP not starting after kernel upgrade – what to do?

A: Check logs dev_disp, dev_w0, dev_ms; verify SAPEXE/SAPEXEDB match system; fix ownership; revert backup if needed.

Q: How to verify kernel upgrade success?

A: Check via System → Status or 'disp+work -version'; confirm tp and R3trans show new versions.

Q: Common kernel upgrade errors and fixes?

A: disp+work cannot start – permission issue; tp mismatch – wrong SAPEXEDB; revert kernel backup if version mismatch.

Q: Difference between Database Kernel and SAP Kernel?

A: SAP Kernel = SAP executables; DB Kernel = Database engine executables.

Q: Kernel upgrade for HANA system?

A: Stop SAP, replace SAPEXE/SAPEXEDB, update HDBCLIENT, start SAP, verify with disp+work -version.

Q: Verify R3trans and tp after kernel upgrade?

A: Run 'R3trans -d' and 'tp testconnect '; both should return RC=0000.

Q: Impact of kernel upgrade on users?

A: System downtime during upgrade; post-upgrade improved stability and bug fixes.