

WEB SERVER VS APPLICATION SERVER

1. What is a Web Server?

A Web Server (like Apache or Nginx) is responsible for serving static content (HTML, CSS, JS, images). It handles HTTP requests but does not run business logic.

2. What is an Application Server?

An Application Server (like Tomcat, JBoss, WebSphere) executes dynamic code such as Java Servlets, JSP, and application logic.

3. Can Tomcat act as both?

Yes. Tomcat has a built-in HTTP connector and can serve static + dynamic content, but usually Nginx/Apache is placed in front for performance and security.

4. Why do we use Nginx/Apache in front of Tomcat?

For reverse proxy, load balancing, caching, SSL termination, compression, and static file delivery.

5. Which one handles dynamic content?

Application Server.

6. Does Nginx support load balancing?

Yes.

7. What is Reverse Proxy?

A reverse proxy forwards client requests to backend servers.

8. What is Static vs Dynamic content?

Static content does not change; dynamic content is generated by server code.

9. Why use Web Server if Tomcat can serve HTTP?

Performance, security, caching, SSL handling.

10. Default Ports?

Apache: 80

Nginx: 80

Tomcat: 8080

TOMCAT DEPLOYMENT AND CONFIGURATION

11. Where to deploy WAR in Tomcat?

/opt/tomcat/webapps/

12. What is webapps/ directory?

Default deployment directory for applications.

13. What is server.xml used for?

Main Tomcat configuration including connectors and ports.

14. What is context.xml used for?

Application-specific settings, DB connections.

15. How to change Tomcat port?

Edit server.xml and modify .

16. What is a Connector?

Defines the protocol and port Tomcat listens on.

17. What is Catalina?

Tomcat's internal servlet container engine.

18. What is catalina.out?

Main log for Tomcat service runtime.

19. What is tomcat-users.xml?

Stores roles and user access for /manager and /host-manager.

20. How to enable /manager console?

Add user role admin-gui or manager-gui in tomcat-users.xml.

21. HTTP status when Tomcat UP but App DOWN?

404 Not Found.

22. Graceful restart command for Tomcat:

`./shutdown.sh && ./startup.sh`

23. Command to check Tomcat running:

`ps -ef | grep tomcat`

24. What is a Servlet Container?

Component that runs Servlets and JSP.

25. Difference: Tomcat vs JBoss?

Tomcat = Servlet container; JBoss/WildFly = Full Java EE server.

26. Deploy without downtime?

Use Nginx load balancer + multiple Tomcat nodes.

27. Increase heap memory?

Edit CATALINA_OPTS or JAVA_OPTS.

28. What is web.xml?

Application deployment descriptor.

29. What is a context path?

URL path mapping of the application.

FOLDER STRUCTURE

30. Where are access logs?

logs/localhost_access_log.*

31. Application logs?

Inside application folder or logs directory.

32. conf/ directory?

Configuration files.

33. lib/ directory?

JAR dependencies.

34. logs/ directory?

Runtime logs.

35. temp/ directory?

Temporary files.

36. work/ directory?

Compiled JSPs.

37. Configure DB connection?

Edit context.xml to include Resource tag.

NGINX & APACHE

38. Check Nginx running:

systemctl status nginx

39. Nginx config location:

/etc/nginx/nginx.conf

40. Reload Nginx without downtime:

nginx -s reload

41. Reverse Proxy configuration:

proxy_pass http://localhost:8080;

42. sites-enabled and sites-available?

sites-available stores configs; sites-enabled holds activated configs.

43. LoadModule in Apache?

Used to enable modules.

44. Enable SSL?

Configure ssl_certificate and ssl_certificate_key in Nginx/Apache.

LOAD BALANCING

45. Sticky session?

Same client always connects to same server.

46. Session replication?

Data shared among nodes.

47. What if one node fails?

Load balancer redirects to healthy nodes.

48. Why use load balancer?

Scalability and high availability.

49. Horizontal vs Vertical scaling?

Horizontal: Add servers. Vertical: Increase resources.

50. Health Check?

Load balancer periodically checks server status.

SERVICES & PROCESS MGMT

51. systemctl vs startup.sh?

systemctl used when Tomcat installed as service.

52. Start Tomcat on boot?

systemctl enable tomcat

53. Why non-root user?

Security.

54. Kill stuck Tomcat?

kill -9

NETWORK & TROUBLESHOOTING

55. Port already in use?

`netstat -tulnp | grep`

56. Check open ports?

`ss -tulnp`

57. Security groups?

Allow inbound ports for external access.

58. Works locally but not browser?

Firewall or SG issue.

59. Tomcat UP but page not loading?

Check firewall, logs, context path.

60. WAR deployed but 404?

Check folder extracted, logs for errors.