Websphere Interview Questions & Answers

**1) Explain what is Web-Sphere?**

Web-sphere is a tool based on Java and developed by IBM, to manage and create websites.  Web-sphere is often used to build interactive web-oriented applications that support business functions required for e-commerce, it integrates all the data across different operating system and applications.

**2) Mention what are the important component of Web-Sphere?**

Important components of Web-Sphere are

* **WebSphere Application Server or WAS** : It connects the website users with Java servlets
* **Data**–**Server:** For data persistence
* **Web**–**server**: It provides the service of HTTP

**3) Mention some of the features available in Web-sphere?**

Some of the features available in Web-sphere includes

* It supports the servlet/JSP container functionality that runs on top of HTTP
* It supports HTTP servers as IBM HTTP server, Netscape iPlanet server, and MS IIS
* It supports Java Server Pages, HTML pages, Servlets and XML
* It supports EJB component model and Workload Management.

**4) Mention how does a WebSphere or any Application server clustering work?**

A WebSphere’s web server plugin component routes requests to WebSphere cluster web containers.   If there is a communication failure with a particular cluster member, it will mark that member down and start routing all requests to the remaining cluster member till the original is available.

**5) Mention what type of files are required to deploy an application into Websphere?**

WAR or EAR files are required to deploy an application into Web-sphere.

**6) Mention what is asymmetric clustering in Web-sphere?**

In asymmetric clustering, the partition can be defined dynamically and runs on a single cluster at a time. The task which is particular to an appropriate cluster can be routed to that cluster.  Usually, clustering is used by banks.

**7) Explain what is node, node agent and node groups?**

* **Node:** It is a logical grouping of server processes maintained by WebSphere and that share common configuration and operational control
* **Nodeagent:** Each node has a nodeagent that works along with the deployment manager to manage administration processes. It acts as a mediator between the node and deployment manager
* **Node Group:** A node group is a grouping of nodes within a cell that have same capabilities

**8) Explain what is a cell in WebSphere?**

A cell is referred as a grouping of nodes into a single administrative domain. A cell can have multiple nodes which are all managed from a single point.

**9) Mention what are the default ports you use to use WebSphere Application Sphere?**

The default ports you use are HTTP: 9080 and HTTP: 9443

**10) Mention when does WebSphere Application server contact the registry for user information?**

Web-sphere application server contact the registry for user when users

* Checks the users password
* Maps certificate information to a userid
* Converts userid to registry uniqueid
* Obtains group information

**11) Explain what is WebSphere is MQ?**

WebSphere MQ is an application program that allows you to communicate with each other using messages and queues.  This form of communication is referred as commercial messaging.  There are two methods for application to communicate, Request/Response and Fire & Forget.

**12) Explain what is QueueManager in IBM Websphere MQ?**

QueueManager is the important component of WebSphere MQ.  It is accountable for storing and routing messages to other queue manager within MQ, and it also communicate with the outside world.

**13) Explain what is SSLPEER in IBM Websphere MQ?**

SSLPEER is a string usually distinguished name of MQ client, which links to QueueManager securely using QueueManager.  This is a mechanism used to identify client.

**14) Explain what is extended deployment in WebSphere?**

The extended deployment in WebSphere leverages enhanced qualities of service with features optimizing IT resources. It spans three areas

* WebSphere Virtual Enterprise
* WebSphere eXtreme Scale
* Compute Grid

**15) Explain what is WebSphere edge server?**

The WebSphere edge server is used to enhance the performance of web based systems.  It can be used as a proxy server.  There are basically four components in the web sphere they are caching proxy, content distribution, network dispatcher and application server at the edge.

**16) Explain how caching proxy of WebSphere on the edge server is done?**

A caching proxy can be configured in forward direction or as a proxy. When user requests the content, it is cached by the edge before sending or following to the query.  Page fragments arising from Servlets or JSP are cached by Edge, and the Caching process becomes Slow.  Performance and scalability can be optimized by edge.

**17) Mention what functionality does caching proxy server provides?**

Caching server provides functionality like

* Reverse proxy and content based routing
* Integration with servlet caching and dynamic content caching

**18) Mention what are the Websphere MQ programming APIs?**

Websphere MQ programming APIs include

* AMI (Application Messaging Interface)
* JMS (Java Message Service)
* MQI (Message Queue Interface)

**19) Mention which resource can enhance EARs support apart from shared libraries and data sources?**

Class loader policy, JAAS authentication aliases and virtual host information can enhance EARs support apart from EARs support and shared libraries.

**20) Mention how many ways you can deploy the application in WebSphere?**

In Websphere application can be deployed in three ways

* Copy files directly to deploy application folder in websphere
* Use websphere specific ant tasks create automated scripts for deploying application
* Via administration console

**21) Mention what Sync function does in Websphere?**

WAS (WebServer Application Server) stores all the configuration in one central location referred as “Master Repository”. The sync ensures the configuration in both local and master repositories are same and in sync.

**22) Explain what is a connecting pool?**

Connecting pool is a cache of database connections maintained so that connection can be re-used when future requests to the database are required. If all the connections are occupied, a new connection is created and is added to the pool.

**23) Mention what is the difference between Websphere and Weblogic?**

Websphere is focused more on connectivity, integration, and web services.  It has better performance, rich implementation of J2EE, more extensive integration and transaction management compare to Weblogic.

Weblogic has default transaction attributes as supports, while websphere does not have such type of the default transaction attribute.

**IBM Websphere Interview questions**

**Explain About Web Sphere?**

The word web sphere popularly refers to IBM middleware technology products. Web sphere is known for its turn key operation in e business applications. It has run time components and tools which can help in creating applications which run on WAS. WAS refers to web sphere application server.

**Explain About Web Sphere Commerce?**

IBM web sphere commerce has a single platform which offers complete ecommerce solutions to developers. It can be very productive if you are planning to do business with consumers, business and indirectly through channel partners. This can be used to perform business with consumers, business and channel partners altogether.

**Detail About The Architecture Of Web Sphere?**

Web Sphere is built on three main components they are  
• Database  
• J2EE application server  
• A web server  
The databases which it supports are  
• DB2  
• Oracle  
• Cloudscape  
Application server is IBMWAS and the supported web servers are  
• IBM server  
• Microsoft IIS  
• Sun web server.

**State Some Of The Features Present In Web Sphere?**

Some of the features which are present in web sphere are: -  
• Order management  
• Web sphere commerce accelerator  
• Analytical and business intelligence  
• Open standards such as Java, EJB, etc  
• Web sphere commerce payments and customer care, etc.

**Explain About Ibm Web Sphere Edge Server?**

Web sphere edge server is used to improve the performance of web based systems. It can be used as forward or proxy server. Basically four components are present in the web sphere they are Network dispatcher, Caching proxy, Content distribution and application service at the edge.

**Explain About Extended Deployment?**

Web sphere application server extended deployment increases the functionality of the server in two main areas they are manageability and performance. Dynamic virtualization between servers is possible with the help of XD. A stand alone distributed cache was added to it under the performance header, it is known as Object Grid.

**Explain About The Security Features Present In Was?**

Security model for web sphere is primarily based on JAVA EE security model. It also depends upon the operating system. User authentication and authorization mechanisms are also provided in WAS. Light weight third party authentication mechanism is the main security feature present in WAS.

**Explain About Asymmetric Clustering?**

Asymmetric clustering applications are primarily used in electronic trading systems employed in banks. Some of the features are, partitions can be declared during run time and are usually run on a single cluster at a time. Work specific to a particular can be routed to that cluster.

**Explain The Various Administrator Benefits Using Web Sphere?**

Web sphere almost reduces the work of server administrator as he can manage load on servers efficiently without any hassles. It also gives him flexibility to divide the load and applications among different server farms. He can also predict about the incoming load on servers. Email alerts, restart options, memory leak detection, etc.

**Explain About Caching Proxy Of Ibm Web Sphere Edge Sphere?**

A caching proxy can be configured in forward direction or as a proxy. Content requested by the user is cached by edge before sending or adhering to the query. Page fragments arising from JSP or servlets are cached by Edge and the caching process is slow. Performance and scalability of J2EE applications can be increased by edge.

**Explain About The Network Deployment Feature Present In Was?**

Managing singletons will be a thing of the past and it also provides hot recovery of singletons which makes you forget about your GC collected singletons. Transaction logs can stored on a shared file system. For clustering run time operations deployment manager`s role was eliminated. J2EE failover support and cell configuration support is also present.

**Explain About Ibm Web Sphere Integration Developer?**

Web sphere integration developer provides an IDE to build applications based on service oriented architecture. Web sphere process server and web sphere ESB were built with WID. WID was built with RAD Eclipse based technology.

**Explain About Compute Grid?**

Compute grid is also known as Web sphere batch. Web sphere extended deployment offers a Java batch processing system called as Compute Grid. This forms an additional feature to Web sphere network environment. Various features are provided which help a developer to create, manage and execute batch jobs. Job scheduler, xJCL, batch container and batch programming controller.

**Explain About Web Sphere Mq Real Time Transport?**

This feature is very useful in instant messaging across different clients through intranet and internet. This supports high volume and high performance across different clients. It uses the concept of light weight transport which is again based on IP rather than the queue process.

**Explain About Web Sphere Mq Jms Provider?**

Web sphere MQ and Web Sphere Business integration manager Broker are very useful in providing Java messaging services to wide range of clients (publisher –subscribe, point to point). Java classes are chiefly responsible for translating the API calls to API`s defined by web sphere. It is very useful to have knowledge of Web sphere MQ for proper configuration.

**Explain The Attribute Channel In Web Sphere Mq?**

CHANNEL specifies the name of the server connection channel. Generally this is Web Sphere MQ network abstraction. The default standard used by CHANNEL is SVRCONN which is the server connection channel. This server is generally used to communicate to the queue manager by the client.

**Is The Naming Of Connection Factory Independent Of The Name Specified By Jms Client?**

Yes, the naming of connection factory is independent of the name specified by JMS client. This is made possible by WAS (Web sphere application server) with its resource references. It isolates the application from object names. This feature is important because it gives us the flexibility to change the administered object without changing the JMS client code.

**What About Master Repository?**

deployment manager contains the MASTER configuration and application files. All updates to the configuration files should go through the deployment manager.

**Tell Me Ihs Executable Files, Means Bin Directory Files?**

Apache, ApacheMonitor, htpasswd, htdigest, htdbm, ldapstash, httpd.exe

**Why Given The Httpd.conf File To Installation Of Plug-in?**

Identify the web server (port, virtual hosts) to configure the web server definition.

**How To Configure Remote System Httpd.conf File?**

select web server machine (remote).

**Several Types Of Log Files In The Appserver?**

system out, system err, trace, native out , native err, activity.

**Websphere Packages?**

express, base, network deployment.

**What Is The Profile?**

profiles are a set of files that represent a websphere application server configuration.

**What Is The Trace?**

A trace is an informational record that is intended for service engineers or developers to use. As such, a trace record might be considerably more complex, verbose and detailed than a message entry.

**What Is Heap Memory?**

Objects storage space for objects references created at run time in a jvm is heap memory.

**Out Of Memory Exception Is There, How To Handle That Exception?**

To increase heap memory size.

**What About Ihs?**

IHS (IBM HTTP Server) is one of the web servers. It serves the static content only and it takes up only http requests.

**What About Plug-in?**

plug-in is one of the modules it is interface between application server and web server, the plug-in process receives the request from the client first. If the request is for dynamic content, the plug-in diverts the request to the websphere application server. If the request is for static content, the plug-in forwards it to the Http server.

**What Is The Global Security?**

It provides the authentication and authorization for websphere application server domain (administration client or console).

**How To Configure The Global Security?**

open console and then select security option in the right side menu, and then select localOs registry in the user registry, then enter the username, passwords. And again select global security then ltpa option then provide the password, then save the configuration. And restart the deployment server and then relogin the console.

**What Is Ssl?**

ssl is a protocol for providing encrypted data communications between two processes.

**What Is Pmi? How To Configure Pmi?**

monitoring and tuning–>PMI–>select any process (server1, nodeagent, dmgr) and then enable PMI–>then apply and then save. Select performance viewer–>current activity and then select enabled process and click the start monitoring button after that process select.

**What Is The Unix Command Of All Display Server Processes?**

ps –ef| grep java

**What Is Node?**

logical group of servers.

**How To Start The Server?**

startserver.sh server1.

**How You Get Nodeagent?what You Have To Install To Get Nodeagent?**

Custom Profile.

**How To Add The Node?**

addnode.sh 8879

**What Is The Application Server?**

The application server provides a runtime environment in which to deploy, manage, and run j2ee applications.

**What Is The Node?**

A node corresponds to a physical computer system with a distinct IP host address.The node name is usually the same as the host name for the computer.

**How Many Types Of Profiles Are In Nd Product?**

1.deployment manager profiles 2.application server profiles 3.custom profile.

**What Is Diffrence B/w Dmgr And Other Profiles?**

***dmgr app custom:***

* 1. its used for administration
  2. admin console is there
  3. plain node purpose of remaining profiles
  4. initially one app server there
  5. empty node
  6. it supports the distributed
  7. work independently environment.
  8. Put applications
  9. it is not included app server
  10. admin console is there
  11. work independently
  12. do not put applications.

* **Diff B/w 5.0 And 6.0?**

Web Sphere Studio 3.5, comes up with Visual Age for Java. WSAD 5.0 supports J2EE 1.3 java specifications. RAD 6.0 supports J2EE 1.4 and integrated with Eclipse 3.0, UML Visual Editor, Tomcat Jakarta, Ant scripting, EJB universal test client and SOA tools.

* **What Is The Difference Between Web Server And Application Server?**
  1. Webserver serves pages for viewing in web browser, application server provides exposes businness logic for client applications through various protocols
  2. Webserver exclusively handles http requests.application server serves bussiness logic to application programs through any number of protocols.
  3. Webserver delegation model is fairly simple,when the request comes into the webserver,it simply passes the request to the program best able to handle it(Server side program). It may not support transactions and database connection pooling.
  4. Application server is more capable of dynamic behaviour than webserver. We can also configure application server to work as a webserver.Simply applic! ation server is a superset of webserver.
* **Diff B/w Weblogic And Websphere?**

Both BEA Weblogic and IBM’s WebSphere provide J2EE based application servers which are competitors. WebSphere leverages more on connectivity issues with MQ and legacy systems with strong dominance in J2EE.

* **Some Problem Is There In Web Server, So This Information Which Log File Contain?**

http.log, plugin.log

* **What Is Jdbc?**

jdbc is a low level pure java api used to execute sql statements.

* **What Is Datasource?**

A data source is associated with a jdbc provider that supplies the specific jdbc driver implementation class.

* **What Is Diff B/w Type4 And Type2?**

type4  
1. It is pure java oriented  
2.require client side software   
type2  
1.it is not a pure java oriented driver   
2.no need any client software.

* **Some Application Not Accessing, So What Is The Problem? This Information Which Log File Contains?**

systemout, systemerr

* **In Type3 Client Software Which Machine You Have Install?**

server side machine

* **Two Databases There (oracle And Db2),so I Want 3 Datasources For Oracle And 2 Data Sources For Db2 So Create 3 Datasource Names For Oracle And 2datasourcename For Db2 Is Possible Or Not?**

possible

* **What Is Jndi?**

we can register resources in the application server’s java naming and directory interface (jndi) namespace. Client applications can then obtain the references to these resource objects in their programs.

* **Why Use The Boostrap Port Number?**

client applications use the bootstrap port to access websphere’s built-in object request broker (orb) to use enterprise java beans in applications installed on the application server. The java naming and directory interface service provider url used by the client application needs to reference the bootstrap port to obtain an initial context for looking up ejb’s it wants to use. (For communicate two servers)

* **What Are The Appserver Components?**

admin server, web container, ejb container,j2c service, naming server, messaging engine, security server.

* **Ldap Port Number?**

389 or 636

* **Packages Of Websphere?**

express, base, network deployment

* **What Is Webcontainer?**

The web container provides a runtime environment for servlets, jsp’s, javabeans, and static content.

* **How To Find Out Free Diskspace From Command Prompt?**

du -sk (kb) du -sm (mb)

* **How To Find Out Certain Server Configuration Details Like Port No, Server Name, Node Name, Pid?**

through admin console.

* **Configure The Plug-in Through Admin Console Is Possible Or Not?**

possible

* **Where To Set The Path?**

environments–>websphere variables

* **Application Installed But Not Working. What Are Troubleshooting Steps?**

see jvm & application are up, check plugin-cfg.xml file for the root context used by the web application if it does not exist generate plugin and restart web server.

* **Applications Installed Fine, Also Generated Plugin, But Application Still Not Working, In This Case Which Log To See?**

plugin.log

* **Default Admin Port?**

9060, ssl 9043

* **Default Bootstrap Port?**

2809

* **How To Hit Application Without Hitting The Web Server?**

webcontainer port on application server.

* **In How Many Ways You Can Perform Administration?**

console,,,JMX

* **No Of Ways Of Doing Deployments?**

Admin console…..jython (jacl) scripts.

* **What Is Celldiscoveryaddress?**

Node uses this port to talk to DMGR.

* **What Is Nodediscoveryaddress?**

DMGR uses this port to talk to node

* **How Websphere Discovers A Change In Jsp And Compiles It?**

There is an algorithm that websphere uses to find the timestamp of .jsp and .class files. It checks that timestamp of .class file is always later than its corresponding .jsp file.

* **How Do You Specify A Jar File To Be Used By The Application, Consider That You Have Many Jar Files In Your System?**

classloader

* **What Is A Managed Node?**

Node with NodeAgent.

* **What Is A Managed Webserver?**

Remote webserver access through local (dmgr/cell).

**1. What is Ripplestart?**

Ripplestart is to restart the WAS cluster. It first stops the JVM and then starts it. By doing ripplestart you ensure only one JVM is down at one time hence no downtime to the applications.

**Ex:** you have 5 JVMs in a cluster and when you do ripplestart it will stop JVM1 and start JVM1 before stopping other JVM in a cluster.

**2. What would you do when JVM is consuming 100% CPU & Memory on a server?**

First of all, identify which JVM is having high utilization. [Take a thread dump](https://geekflare.com/generate-and-analyse-websphere-thread-dump/) of identified JVM for investigation and restart the JVM as a workaround to cool down the CPU/Memory.

**3. What is node sync?**

IBM WAS stores the entire configuration in a central repository called “Master repository” and every node will have the local repository. When you make any changes to the node through DMGR, you must sync it so configuration is pushed to respective node’s server.

Sync always happens from master to local repository so it’s one-way communication.

**4. Can application run without any issue if DMGR is down?**

Yes, DMGR down doesn’t impact existing running application. However, if you need to make any changes or deployment through DMGR then that would be impacted.

**5. How to deploy an application in WebSphere?**

There are three possible ways to deploy.

1. Hot deployment – copy the application file into the application directory. This is good for the non-production environment and not recommended for production.
2. DMGR – You can deploy an application through DMGR by going to Applications >> New application
3. Scripts – You can develop wsadmin scripts or ant tasks for an application deployment.

**6. Why does JVM come up automatically though I stop/kill the process manually?**

There could be two things.

**Automatic restart** is enabled for the JVM which is default settings and available under JVM>>Monitoring policy.

If above is not the case then, there might be a script in cron, which checks for the process, and [if not found then start it](https://geekflare.com/auto-restart-services-when-down/).

**7. What file types you can deploy into WebSphere?**

You can deploy WAR, EAR, JAR or SAR module through DMGR console or scriptings.

**8. What is a virtual host?**

[Virtual host](https://geekflare.com/websphere-virtual-host-configuration-guide/) contains multiple URLs (IP or FQDN based) on a single application and configuration is done through WAS administrative console. In order to allow an application to be accessible on particular URL, you must have this URL in a virtual host and associated with the application.

**9. How would you deal with slow application complaint from clients?**

Slowness could cause due to various reasons and it’s [essential to identify](https://geekflare.com/troubleshooting-web-application-issues/) if it’s from WebSphere or some other components. In order to isolate, you can check the following.

* Is this slowness for all the users?
* Is entire application slow or just particular functionality?
* How about accessing JVM URL (bypassing Web server) directly?

If the slowness is found in JVM then you can take the dump and check the logs to find out the cause. It would be worth checking if there were any release and slowness is just after that.

**10. How to take WAS configuration backup without stopping the DMGR?**

Go to DMGR profile and bin folder

Execute **./backupConfig.sh -nostop** to take a backup

**11. What’s the default WAS port?**

The default port for HTTP is 9080 and HTTPS 9443. Checkout [default port page](https://geekflare.com/default-port-numbers/) for more.

**12. What are the WebSphere editions available?**

* WAS – Network Deployment
* WAS – Developers
* WAS – z/OS
* WAS – Hypervisor
* WAS – Express
* WAS – Base
* WAS – Liberty core

**13. How to generate and propagate the plugin?**

* Login into WAS Administrative console
* Go to Servers >> Web Servers
* Select the server and click on “Generate” & “Propagate” button.

**14. What are the common issues you have experienced?**

You should always be honest about your expertise, however, to give you an idea:

* Virtual host not defined
* Logs not moving
* Internal Server Error
* OutOfMemory exception
* Slowness
* JVM not starting
* High CPU/Memory/Disk utilization

**15. How to check the installed WAS version?**

* Go to profile and bin folder
* Execute **./versionInfo.sh**

**16. How do you know if your JVM is up or not?**

There are multiple ways to confirm this.

* Do you have any monitoring tool if so check if there is any alert or current status
* Login to server and grep for the JVM by **ps -ef | grep jvmname**
* Check if you can access the JVM URL
* Check if you can telnet JVM URL and port
* Check if JVM port is listening on the server
* Use serverStatus.sh –all command to see what are running

Choose whatever is easy to you.

**17. Tell me some of the log files generated by WebSphere?**

* SystemOut.log
* SystemError.log
* native\_stdout.log
* native\_stderr.log

**18. How to generate thread dump?**

There are three possible ways to generate thread dump.

1. Through DMGR console: Go to Troubleshooting >> Select the JVM and click on Java core
2. Kill -3 PID of JVM
3. Using wsadmin.sh as [explained here](https://geekflare.com/generate-and-analyse-websphere-thread-dump/)

**19. What’s difference between vertical and horizontal cluster?**

The vertical cluster has its member on same node or server where horizontal is across multiple nodes and servers in a cell.

**20. What is garbage collection?**

Garbage collection is a memory management process which automatically free the objects that are no longer in use by the program.

**21. How do you disable security in WebSphere?**

You can [disable security](https://geekflare.com/disable-websphere-security/) by executing “securityoff” through wsadmin.sh. DMGR must be restarted after switching off the security.

**22. How to enable verbose garbage collection?**

Verbose GC is not enabled by default and if you need you can do it by;

* Servers >> Server Type >> WebSphere Application Server
* Select the JVM >> Process definition under “Java and process management”
* Click java virtual machine under “additional properties” and tick the checkbox for “**verbose garbage collection**”

**23. How to make WebSphere auto-start when server reboot?**

WebSphere automatically generates startup script in /etc/init.d which will ensure it starts when reboot.

However, if for some reason script doesn’t exist then you can create one and put under /etc/init.d and enable it as below.

chkconfig -- add WebSphere #script file name

chkconfig WebSphere on

Refer my detailed guide on [how to auto-start services on boot](https://geekflare.com/how-to-auto-start-services-on-boot-in-linux/).

**24. How to increase heap size of JVM?**

* Login to Administrative Console
* Go to servers >> Server types >> WebSphere application server
* Select the JVM >> Process definition >> java virtual machine

You can enter initial and maximum heap size here.

**25. Can you Sync the node when nodeagent is down?**

Absolutely, nodeagent must be in stopped for sync to work.

**26. What’s command to stop and start DMGR, Nodeagent & JVM?**

**To stop**

* JVM – stopServer.sh JVMNAME
* Nodeagent – stopNode.sh
* DMGR – stopManager.sh

**To start**

* JVM – startServer.sh JVMNAME
* Nodeagent – startNode.sh
* DMGR – startManager.sh

**27. What’s new in WAS 8.5.5?**

On high level:

* Java SE 7 support
* HPEL logging
* Inbuilt health management
* Liberty profile
* Intelligent routing
* Dynamic clustering
* JDBC 4.1 clustering
* Web 2.0 support

You may also refer the [detailed information here](https://geekflare.com/whats-new-in-websphere-8-5-5/).

**28. What does it mean by node federation?**

Federation in WebSphere means adding a node to the Cell. This is done by addNode.sh command and this may take few minutes based on the node size.

**29. What is FFDC?**

FFDC (First failure data capture) capture event and error during WebSphere runtime. FFDC data can be very helpful to analyze the issue and this is often asked by IBM support if we contact them for any issues.

**30. Can you decode WebSphere keystore XOR?**

Yes, you can through online tool – <http://strelitzia.net/wasXORdecoder/wasXORdecoder.html>

**31. Which scripting language is the default in WebSphere? JACL or Jython?**

JACL is the default scripting language in WebSphere.

**32. How can you apply fix pack in WebSphere 8.5.x?**

IBM IM can be used to apply the fix. Refer [how to apply fix pack guide](https://geekflare.com/websphere-fix-pack-upgrade/) for detailed instruction.

**33. What are the environments you support?**

Be honest and explain the environments you support. You may be supporting the following.

* Development
* CIT
* SIT
* UAT
* DEMO
* Pre-production
* Production
* Staging
* QA

**34. Where is your web server hosted?**

Again explain about your supported application architecture. However, in a typical production environment for the Internet-facing applications, Web servers would be in DMZ zone and application server in a core network.

This means you must have necessary ports allowed in the firewall between web servers to an application server.

**35. What is session affinity?**

Session affinity in another word is persistence session. Having session affinity allow a request to bind with single JVM. It means the returning request will always be routed to same JVM.

**36. Can you deploy more than one application in single JVM?**

Yes, multiple applications deployment is possible on single JVM as long as context root for each application is unique.

**37. Which database do you use with Websphere?**

Tell them what you use. Most of the organization use Oracle database but WebSphere support the following database as well.

* DB2
* Oracle Database
* Microsoft SQL Server
* Sybase

**38. How do you connect Web Server to WAS?**

There are two ways to connect to WAS.

1. Using plugin – this is the recommended method to install WAS plugin on a web server.
2. Using ProxyPass – if you are using Apache and don’t want to use the plugin then you can connect to WAS JVM by ProxyPass directive.

**39. Do I need Web Server in front of WAS?**

It’s recommended to have supported web server in front of WAS for better security, performance & maintenance.

**40. What is a Cell?**

A cell is a logical group of nodes, which can have one or more nodes; clusters and all are administered from a single administrative console.

**41. What is default session timeout for an administrative console?**

30 minutes

**42. What is a fix pack?**

A fix pack is a collection of patches provided by IBM. It may contain bug fixes, security patches & performance improvements.

**43. What is the registry or repository supported in WebSphere?**

* Federated repository
* Local operating system
* Standalone LDAP registry
* Standalone custom registry

**44. What is shared libraries?**

Creating a shared library is recommended to reduce the duplicate library files. The single shared library can bed used by multiple applications within a cell.

**45. What is context root?**

A context root for each application should be unique within the cell. It’s defined n deployment descriptor and used to access the application.

**For ex:** if application A has context root called “retail” then application will be accessible from http://servername:port/retail

**46. What is WAS plugin configuration file name?**

WebSphere plugin configuration name is **plugin-cfg.xml**

**47. How to change WebContainer thread pool size?**

WebContainer thread pool can be changed by going inside **JVM >> Thread pools >> WebContainer**

**48. Can you change the context root for deployed application?**

Yes, it’s doable. To do this through the administrative console, go inside the application and click “Context root for web modules” to change the context root.

JVM must be restarted after the change.

**49. Which script to change the Java SDK used by profile?**

managesdk.sh script is available in bin folder which will help to change the SDK.

**50. What is PMT?**

PMT (profile management tool) is GUI to create and manage the WebSphere profiles.

**1. What is websphere?**

The moment you ask this question, the first question that comes to mind is WebSphere applicaiton server. In reality, WebSphere is the name of a product family. IBM has many more products under the brand name WebSphere. WebSphere Application Server , WebSphere MQ, WebSphere Message broker, WebSphere business modeler, WebSphere process Server, WebSphere business monitor, WebSphere integration developer, WebSphere partner gateway are some of the products under this brand name.

**2. Whats is a profile in websphere Application Server?**

When you install WebSphere application server, executable files and configurations files are seperated. This allows you install the product once and create multiple sets of configurations which uses the same underlying core executables of the websphere application server installation. These are the profiles in websphere application server. As you know, there are many types of profiles and you can create multiple profiles.

**3. What does nodeagent do in websphere Application Server?**

We will have one nodeagnet per one node. The node agent acts as an mediator between the Deployment manmager and the node.

**4. What is Sync in websphere Application Server?**

WebSphere application server stores all the configuration data in one central location knows as 'Master repository'. And every node/server will have the local configuration repository. The sycn process make sure that the configuration in both local and master repositories are same and in-sync. The sync is a one dimentional process means, it will sync the configurations only from Master repository ==> local repository.

**5. What is websphere plug-in for web server and where do i need to install the plug-in?**

It is common practise to have web and app servers on different machines. WebSphere provides a plug-in which enables web server to talk to application server, this is known as web server plug-in. Web server plug-in will have a configuration file named plugin-config.xml which will have referenes to all the servers, clusters, applications, virtual hosts of the websphere application server. You can generate this configuration file from administration console, servers -->web servers. Select a web server and click generate plugin configuration file and then propagate the plugin. This plug-in needs to be installed on the web server machine

**6. I don't have WebSphere installed on my web server how do i add to the websphere administration console ?**

If you like to add your web server to that WebSphere administration console, you can do that by creating a unmanaged node and then add from servers-->web servers

**7. Do i need a web server if i have a websphere application server?**

Web Server and WebSphere application server provide two different functionalities. WebSphere application server do has an inbuilt web server functionality but it is recomended to use a seperate web server for many reasons. Some of them are: 1. By seperating web and application server activities, your application serving environment is more secure. 2. Using the webserver you can loadbalance the requests between multiple application servers.

**8. How do edit/modify the property/configuration files?**

It is recomended to modify all the configurations using the administration console. When you need to make any configuration changes, you need do the apply changes and sync them. Any changes you do at local repository level are discarded upon the next restart of that server because the sync is always from DMGR to local repository and changes are not saved to master repository. For example, if you edit a configuration file of server1 and restart it... the changes are lost. When the server starts it syncs the configuration from master repository.

**9. What happens if my DMGR is not running?**

DMGR is the single point of failure in WebSphere network deployment model. Even if DMGR is down, rest of the server will contine to run and serve the applications. However, anychanges you make in this situation are not saved to master configuration repository.

**10. I installed a new application, what do i need to do before i can access it from the web server URL?**

When you install a new application or update an application, your web server need to be aware of the changes. Which means you need to update the web server plug-in configuration file. So after a successful installation of an application with mapping to web server, you need to regenerate the plug-in configuration file and propagate it to web server.

**11. what is a connecting pool ?**  
a connection pool is a cache of database connections maintained so that the connections can be reused when future requests to the database are required. Connection pools are used to enhance the performance of executing commands on a database. In connection pooling, after a connection is created, it is placed in the pool and it is used over again so that a new connection does not have to be established. If all the connections are being used, a new connection is made and is added to the pool. Connection pooling also cuts down on the amount of time a user must wait to establish a connection to the database.  
  
**12. What is virtual host in websphere application server?**  
Virutal host is a configuration not a physical one.  A configuration that lets a single machine resemble multiple host machines. Each virtual host has a logical name and a list of one or more DNS host aliases by which it is known.  By deafult, we wull have a default\_house and admin\_host virtual hosts defined in websphere application server.   
  
**13. how do i connect my application to talk to a database?**  
To achive this , you need to create a JDBC provider and datasource. The JDBC provider object encapsulates the specific JDBC driver implementation class for access to the specific vendor database of your environment. The data source object supplies your application with connections for accessing the database. The best way to learn more about this task is, login to administration console -->guided activities --> connecting to a database.   
  
**14. How can i make sure that my servers are available while restarting a cluster?**  
Use the option ripplestart ... It first stops and then restarts each member of the cluster.  
  
**15. I've made some changes to my applicaiton's web.xml , how and where should i update this file?**  
You can do this from the administration console. Go to enterprise applications -->select your application and click update. on the next panel, you'll have option to update the entire application, a single module or even a single file or multiple files.   
Select the single file option and specify the file's path you like to update . Specify a relative path to the file that starts from the root of the war/ear file. So it looks something like this : app1.war/WEB-INF/web.xml   
  
**16. How do i minimize the downtime while i'm updating the applications ?**  
Use rollout update option. This option sequentially updates an application on multiple cluster members across a cluster. After you update an application's files or configuration, click Rollout Update to install the application's updated files or configuration on all cluster members of a cluster on which the application is installed.  
Rollout update will save the application configurations then stops the cluster members on a node then syncs the configuration and stat the clusters members on that node. Then it proceeds to the next node and does the same steps.   
  
**17. We are getting a 'class not found' and developers like to know, if that class is being loaded or not. how can i assist them troubleshoot the issue?**  
WebSphere administration console has an utility using which you can see what classes are loaded at what scope for an application. Go to Troubleshooting -->class loader viewer and select the module.   
  
**18. We have some issue with our application server and we tried killing it using kill-9 command, the process disappeared for few seconds but it is back again. We did not start the server but it started. What would be the reason?**  
Servers > Application Servers > server\_name. Then, under Server Infrastructure, click Java and Process Management > Process Definition > process > Monitoring Policy. Here we have an option Automatic Restart, this Specifies whether the process should restart automatically if it fails. On distributed systems, the default is to restart the process automatically.  
  
**19. Is there a way i can start my server along with nodeagent ?**  
Servers > Application Servers > server\_name. Then, under Server Infrastructure, click Java and Process Management > Process Definition > process > Monitoring Policy. Here we have an option Node Restart State which specifies the desired behavior of the servers after the node completely shuts down and restarts.   
    STOPPED - node agent does not start the server.  
    RUNNING - the node agent always starts the server.  
    PREVIOUS - the node agent starts the server only if the server was running when the node agent

**Q. When you use migration wizard (PMT) for WebSphere Application Server 8, do you expect to have all profile services up and running again?**  
No, migration wizard only provides minimal function and it does not enable any services by default.

**Q. In a scenario where an administrator needs to migrate the entire application server profiles from v6.1 to v8 using Profile Management Tool (PMT) and he wants to keep all windows services created for these profiles, how to make sure that thesewindows services are kept after migration process?**  
Administrator must create the new profile with a services enabled before starting the wizard, and then point to that profile during the migration wizard.

**Q. Assume that you installed WAS 6 after WAS 8 on your server, is it then possible tomigrate WAS 6 nodes to WAS 8?**  
No, it will not work as WAS 8 should be installed after those earlier versions.

**Q. What are the new capabilities in IBM Installation Manager V8?**  
Here is a list of new capabilities:  
a) Asingle installation technology for installing and uninstalling product  
b) Updating and rolling back fixpacks and iFixes  
c) Installing and uninstalling feature packs  
d) GUIinterface to perform individual operations; response files can be recorded either from the GUI or created by specifying the appropriate XML file for silent installation purposes  
e) Silent mode support for invoking multiple operations.

**Q. Can you check on installed servers in “.nifregistry” file after installing WAS 8?**  
No, WAS 8 is no longer using this registry file.

**Q. Is it possible to install WebSphere Application Server v5 over system i remotely?**  
No, you can’t as there is no GUI interface for version 5.

**Q. What may cause installation of WebSphere Application Server over system i to bestopped suddenly with no log file creation?**  
Undefined host name for your system i box

**Q. What may cause problem in profile creation?**  
Including special characters in your local host name may cause problem in profile creation.

**Q. How can you administer your application server?**  
Application server can be administered using admin console and wsadmin.

**Q. Can you federate a profile using manageprofiles command facility?**  
No, you can’t but you can delete a profile by manageprofiles command facility.

**Q. Will there be any problem in installing the application server on a target platform where it has been done before?**  
Yes, it will cause an unattended installation of the application server.

**Q. Can you enable SSO for application server over system i?**  
Yes, you can, during profile creation wizard.

**Q. Can you federate a node on system i box into dmgr over Windows/Linuxplatform?**  
Yes, you can, as long as system i box can be accessed through network.

**Q. Can you use IIM for installing application server 8 over system i?**  
No, you can’t. You have to install it using QShell command line.

**Q. Can you take a copy of SystemOut.log files over system i while it is running?**  
No, you can’t as this file is locked by application server process.

**Q. Is there any other way to administer your application server over system i rather than its admin console?**  
Yes, you can administer it using HTTPAdmin console.

**Q. How can an administrator make sure that application mapping between web server and application server was successful?**  
It can be verified by viewing plug-in config file and making sure that the URI element under URIGroup has a name attribute which is equal to the context root of that application.

**Q. What is the best way to avoid port conflict when adding a member to a cluster?**  
Port conflict can be avoided by selecting option of generating unique HTTP ports.

**Q. Specify three ways to federate a node to a cell.**  
It can be done using admin console, addnode command and using profile management tool (PMT).

**Q. How can an administrator make sure that every HTTP session is replicated to all members in the cluster?**  
An administrator can make sure that every HTTP session is replicated to all members in the clusterby setting the number of replicas to the entire domain in the replication domain settings for the cluster.

**Q. What an administrator should do in order to administer an apache web server on a remote machine using dmgr?**  
He should configure web server definition and configure a managed node on the remote host.

**Q. Can you install fix packs using Centralized Installation Manager (CIM)?**  
Yes, but administrator must download the update installer for the appropriate platform into CIM repository.

**Q. How to manage multiple stand-alone application servers on different hosts?**  
Multiple stand alone application servers can be managed by using a job manager through administrator agents.

**Q. How can you describe the relationship between a flexible management topology and the network deployment cell?**  
Flexible management topology can be an alternative to the network deployment cell.

**Q. How to remove the application-scoped resources from an enhanced EAR file?**  
Application scoped resources can be removed from an enhanced EAR file by removing META—INF/ibmconfig directory.

**Q. Is it possible to manage SIBus using fine-grained administrative security?**  
No, SIBus messaging engine cannot be managed by fine-grained administration.

**Q. How to protect servlets in Java EE applications?**  
Servlets can be protected by method permissions

**Q. In order to modify the configuration of an enterprise application, through which components can the system admin make modification using wsadmin?**  
Job manager or deployment manager

**Q. Where can administrator find binding information for an application?**  
The administrator can find the binding information in the deployment descriptor.

**Q. State the three ways to enable verbose GC.**  
a) wsadmin script,  
b) -verbose:gc commandline attribute and  
c) -Xoptionsfile command line option

**Q. What is the required configuration information to connect JMS destination to SIBus?**  
JMS provider type, bus name and the bus destination

**Q. A scenario of a network deployment cell has one cluster and an application uses JMS client required to be deployed to the cluster, what are the required steps to befollowed by administrator to make clients able to consume messages?**  
The cluster must be added as a member to the Service Integration Bus (SIBus).

**Q. When does administrator need to create a JDBC provider?**  
If the administrator is implementing an application which requires a connection to the databasethen he needs to create a JDBC provider.

**Q. How can administrator assign Java EE 5 security permissions to actual users in WebSphere Application Server?**  
The administrator can assign security permissions to actual users by mapping application roles to users or groups in the WebSphere user registry.

**Q. WebSphere Business Integration Modeler Entry Edition v5.1 and WebSphere Business Integration Modeler Advanced Edition V5.1  
What is the difference between WebSphere Business Integration Modeler Entry Edition V5.1 and WebSphere Business Integration Modeler Advanced Edition V5.1?**  
WebSphere Business Integration Entry Edition Version 5.1 is a low cost option for business users who are looking for a simple and easy-to-use tool to model, document, and print their business processes.

WebSphere Business Integration Advanced Edition Version 5.1 provides all the capabilities of the Entry Edition. In addition, it enables business users to perform complex simulations on their process models based on “what if” scenarios and then analyze and generate reports from the simulation results to identify problem areas in the processes, such as bottlenecks. The Advanced Edition also provides a “jump-start” to application development by enabling more technically focused users, such as IT architects, to export the models to BPEL, UML, or FDL models, for further refinement.

The following table summarizes the key functional differences between the Entry and Advanced Editions:

**Feature                          Modeler Entry Edition               Modeler Advanced Edition**

Modeling Profiles             Basic, Intermediate            Advanced Basic, Intermediate, Advanced

**1. Explain deployment descriptors?**

Deployment descriptors are associated with almost all the modules as well as applications. The deployment descriptors can be seen in the form of XML documents and they are capable of describing the contents that are part of directory or the jar file. J2EE specifications usually define the standard as well as the deployment descriptors which are portable for J2EE applications and modules.

**2. What is web.xml ?**

Web.xml is an XML document that is mainly for application purpose and it helps in listing out the J2EE components and configuration that of your application in J2EE modules format.

**3. What is the name of default JVM that is made used for WebLogic?**

The sun hotspot JDK default is made used for development, JRockit is the one used for production of WebLogic 11g as well as 12c. Operating system is another factor that helps in choosing the certified JDK JVM.

**4. Explain the methods for providing user credentials for starting the server?**

At the time of the creation of domain, the wizard for setting configuration asks for the details like user name, password etc. from the user who is logging in for the first time as an administrator. If the domain is created in development mode, the configuration wizard saves the encrypted password as well as the username inside an identity file. This file is available for reference during the time of booting so that in the absence of this file, system can prompt the user for the purpose of entering credentials. A new boot – identity file can be created if you want to change the use credentials or else if you are having the requirement of creating domain in the production mode.

**5. Is there any possibility for starting managed server during the absence of administrator server?**

The usual process is that in case of any difficulty for the manager server to get connected to any administration server at the time of start up, there is an option for the managed server to retrieve the configuration related to it from the configuration files as well as other files involved.  The information thus retrieved cannot be altered and it is possible only when the administration server is really available. When the administration server is unavailable, then the managed server enters into its independence mode for carrying out its operations.

**6. Explain WebLogic server.**

This is a kind of server that supports various services as well as infrastructure that are related with JEE applications. WebLogic server is capable of deploying components as well as applications through WSDL, UDDI and SOAP. This server gets configured as a web server by making use of HTTP listener for supporting the HTTP. Web servers like that of Apache, Netscape and Microsoft are utilized.  The configuration of a web server allows WebLogic is capable of providing services to dynamic and static requests that are usually generated by servlets, HTML and JSP.

**7. What are the capabilities of WebLogic server?**

There are various capabilities associated with WebLogic server and they are

* Changes in dynamic configuration.
* Production application redeployment
* Rolling upgrades.

**8. Explain about the function associated with T3 in WebLogic server ?**

T3 provides enhancements support for the messages of WebLogic server. The enhancements comprise of the object replacement, the working of the seblogic server – clusters and also HTTP. T3 also performs serialization of java object and also predation of RMI. T3 can be considered as a superset associated with java object. T3 is mandated between WebLogic servers, programmatic clients and cluster associated with WebLogic server. The protocols HTTP and IIOP are made used for enabling communication between WebLogic server and processes.

**9. Explain the use of HTTP ?**

HTTP is the protocol that is made used for the purpose of enabling communication between the WebLogic server and processes.

**10. Explain the functionality of IIOP ?**

IIOP is a kind of protocol helpful in enabling the communication between WebLogic server and object request broker.

**11. How do stubs function inside WebLogic server cluster at the time of failure?**

Stubs perform the process of removing the failed instance from the list whenever there is a failure. The stub usually makes use of DNS for finding the running server and also for obtaining the list of the instances that are currently available with the application. List of the instances available with the server inside cluster gets periodically refreshment and allows in acquiring advantages associated with new servers. The advantages are gained as the server gets added to the cluster.

**12. How can default JVM be changed to other?**

For changing the JVM can be done by following the steps below.

* You should first set the JAVA\_HOME in the start script of the server.
* Change the config.xml of domain for using the JRockit javac.exe
* Remove any kind of switches specific to Sun JVM from start scripts of server.

**13. How clients handle the DNS – requests to the failed servers?**

Bandwidth gets wasted in the case of continues DNS requests to that of unavailable machine at the time of server failure. This problem usually occurs during the time of startup associated with the application that of client side. The servers that are unavailable are removed by searching DNS entries provided by WebLogic server. This removal prevents the clients from accessing failed servers. A third party load – balancers are made used for avoiding the unnecessary DNS requests. Some of the third party load – balancers are BigIP, resonate, local director and Alteon. The main function of these third party loads – balancers is to mask multiple addresses of DNS in to a single one.

**14. Explain the functionality of T3 associated with WebLogic server?**

T3 is capable of providing framework or overall structure for the messages that are capable of supporting the enhancements. The enhancements comprises of product tunneling, working in the context associated with clusters of WebLogic server and also in object replacement.

**15. How can classpath be set?**

Classpath can be set by making use of the following script WL\_HOME\server\bin\setWLSEnv.cmd (in case of windows).

**16. Explain the functioning of Stub?**

Stub is usually expected by the people who connect to the WebLogic server cluster. The stub has the list that consists of the available instances of server that perform host implementations associated with object. The stub also has the functionality of balancing the load by distributing load amongst the host servers.

**17.  What are the steps for the creation of Pooling within Tomcat server?**

* The first step involved in this process of creating pooling is to download 3 jar files which are the commons-dbcp-1.2 jar, commons-pool-1.3.jar and commons-collections-3.1 jar.
* The next step is to make an entry inside server.xml of tomcat factory.

**18. How can you differentiate server crash and server hang?**

With a server crash, there is no existence for the Java process and if it is a server hang, then the Java process stops responding.

**19. What are the causes for server crash?**

The major reasons for the occurrence of server crash are the native IO, JVM, supported configuration, JDBC driver issues and SSL native libraries.

**20. How can you solve the issue of server crash?**

A crash associated with JVM is capable of generating hs\_err\_pid file. You need to refer this file for finding out the root cause for such a crash. In the case of native IO being the origin of thread, you need to disable it. If the origin of the problem is from the driver, need to contact the driver team.

**21. How can Server Hang be solved?**

Java WebLogic.Admin PING needs to be checked for finding whether you get a normal and positive response. You can find out the root cause for hanging from this file. You just need to rectify the errors that are identified from this file.

**22. Explain the reasons for server hang?**

The major reasons that lead to the server hang are memory leak, deadlock, and long time for returning.

**23. Define memory leak ?**

Memory leak is the condition that arises when the objects get retained in the heap even after they have no use.

**24. What causes the condition OUT OF MEMORY?**

There are various reasons that can lead to this condition and they are

* Insufficient size of the heap compared to the extra load.
* Placing of the objects takes longer period of time like that of HTTP sessions.
* Occurrence of memory leak inside the application code.
* The prevention of occurrence of full GC because of JVM bug.

**25. How can the OUT OF MEMORY be solved?**

There is a possibility for collecting the memory data after enabling GC – verbose. If the condition has aroused because of HTTP session, then it will be automatically solved when the session gets time out. You should also verify the code associated with the handling of jdbc connectivity. You should also optimize the size of the heap by considering the load.  
**26. When can high usage of CPU occur?**

This is the condition that usually occurs when a single thread or process makes use of a larger portion of the CPU in an unexpected manner.

**27. How can the issue associated with high CPU usage be solved?**

In windows platform the issue of CPU high usage can easily be solved by making use of pslist and also with the process explorer to observe the function performed by the thread or the process.

**28. Explain the term clustering?**

Clustering is the process of grouping the servers together for accomplishing high percentage of scalability and availability.

**29. What is the purpose of clustering?**

The major goal of performing the process of clustering is to make high scalability as well as availability of the servers possible. This process also helps in balancing the load in a proper manner and also accomplishes failover.

**30. How can cluster communication occur?**

The communication through cluster is made possible by the multicast IP as well as port by the process of sending periodic messages which are normally called as heartbeat messages.

**31. What are the various types of WebLogic installations?**

The WebLogic installation usually occurs in three different modes which are:

* Graphical mode
* Console mode
* Silent mode.

**32. What is Graphic mode?**

It is a kind of installation type that makes use of interactive GUI.

**33. What is console mode?**

This is a kind of installation type that follows interactive text based method.

**34. What is silent mode?**

This is a method of installation that is non-interactive and is usually based on the .xml properties – file.

**35. What is Unicast?**

Unicast is the method used in the clustering technique where there are cluster master and each server should ping to this cluster master for informing that the server is alive.

**36. What is Multicast?**

It is a kind of clustering system where there is no cluster master and each and every server needs to ping each other for informing their existence. Multicasting has many messages to be sent in the form of ping as each server needs to inform all others about its existence. This condition creates much complexity associated with the method compared to unicast.

**37. What is a stage deployment?**

Stage deployment is a kind of process in which the admin gets a physical copy which is distributed to the other instances.

**38. What is non-stage deployment?**

There is no copy in the administrator but each and every server needs to contact the source directly for getting the item to be deployed.

**39. How can port number be checked?**

Port number can be checked by using netstat-na|grep connected.

**40. How to find out the listening ports?**

Listening ports can be found out by using netstat-na|grep listen.

**41. How to check the version of Java?**

Version of java can be checked by using [roo@h1vm/]#java-version.

**42. How is it informed when the server is added to the cluster?**

The availability of the new server in the cluster is broadcasted by the WebLogic server – cluster.

**43. How many WebLogic servers can be held inside a multi-processor machine?**

There is no limitation for the number of servers.

**44. What is application tuning?**

This process involves ejb pool – size cache and jsp recompilation.

**45. What is OS tuning?**

This is the process of setting up TCP/IP parameters.

**46. What is Core Server tuning?**

This is the process involving the tuning of work manager, chuck size, performance packs, chunk pool size and connection backlog buffering.

**47. What is JVM tuning?**

This process involves monitoring of the garbage collection and the tuning of gc strategy.

**48. What is a Machine?**

Machine is the logical representation that of the physical machine.

**49. What is Node Manager?**

Node manager is a service from Java that is capable of running separate process other than that of WebLogic server.

**50. What is a domain?**

Domain can be defined as the group which comprises of various WebLogic – server resources.

**1. How do you differentiate between a server hang and server crash issue?**  
When a Server crahes, the JAVA process no longer exists. When the Server is hung, it stops responding.  
We can use the weblogic.ADMIN utilty to ping the server. In case of a hang situation we can take multiple thread dumps and analyze the cause of hang.

**2. What can be the various reasons for a server crash?**

a) Native IO  
b) SSL Native Libraries  
c) JVM  
d) Supported Configuration  
e) JDBC Driver issue

**3. How do you troubleshoot a crash?**

JVM crash generates a hs\_err\_pid file. We need to look into the stack trace of the hs\_err\_pid file .  
If the thread is from a native io, we need to disable native io.  
if the stack trace is from the driver, we need to get in touch with the drive team.  
Quite possibly its a problem with driver. Changing the type of driver can be a workaround.  
If the thread shows it coming from an optimzed code, we can turn of optimization.  
If the stack is from native calls of application, its a bug with the application and it has to b modified.

**4. Ho do you troubleshoot Server Hang?**

We can use java weblogic.Admin PING to check if we get a normal response.  
We need to take multiple thread dumps with kill -3 pid on unix and CTLR Break on Windows.  
Analyze the thread dump to find the root cause.

**5. What can be the reasons of Server hang?**

Memory leak, databse query taking a long time to return, Deadlock.

**6. What is memory leak?**

Memory leak is when objects are not romved from the heap even when they are not required.

**7. What are the various causes for OUT OF MEMORY?**

a) Insufficient heap size, not able to match the extra load.  
b) Objects licing too long, like HTTP Sessions.  
c) Memory leak in application code.  
d) Full GC not happening due to JVM Bug.

**8. How to troubleshoot and overcome such issues?**

Gather memory data by enabling GC verbose.  
If its due to Http Session, timing out http session after certain interval might help.  
Look into the code for jdbc connection handling.  
Optimizing the heap size according to the load.

**9. When does High CPU Usage occur?**

It occurs when one process or one thread utilizes unexpectedly high proportion of CPU.

**10. How to troubleshoot it?**

In Solaris environment, we need to take pstack and prstack and see what the threads are doing.  
In Windows we need to use pslist and process explorer.

**11. What is Clustering and what is achieved through it?**

Clustering is the grouping together of servers for the purpose of high availability and scalability.  
Load balancing and Failover is achieved.

**12. How does Cluster Communication Happen?**

Members of the Cluster communicate over the Cluster Multicast IP and Port by sending periodic heart beat messages.

**13. What is the difference between the Sun JVM and BEA JRockit JVM?**

The most well know JVM is the implementation from Sun. The Sun JVM is called HotSpot. The Sun JVM is shipped in the Java Developer’s Kit (JDK) and Java Runtime Environment (JRE) from Sun.

The BEA JRockit JVM from BEA systems is optimized for reliability and performance for server side applications. To achieve this, BEA JRockit JVM uses technologies such as code generation, hot spot detection, code optimization, advanced garbage collection algorithms and tight operating system integration.

**14. TUning JVM Parameters.**

If you have a single processor, single thread machine then you should use the serial collector (default for some configurations, can be enabled explicitly for with -XX:+UseSerialGC). For multiprocessor machines where your workload is basically CPU bound, use the parallel collector. This is enabled by default if you use the -server flag, or you can enable it explicitly with -XX:+UseParallelGC. If you’d rather keep the GC pauses shorter at the expense of using more total CPU time for GC, and you have more than one CPU, you can use the concurrent collector (-XX:+UseConcMarkSweepGC). Note that the concurrent collector tends to require more RAM allocated to the JVM than the serial or parallel collectors for a given workload because some memory fragmentation can occur.

**15. How do you do performance tuning of WLS?**

It can be categorized in 4 parts.  
a. Application Tuning.  
jsp precompilation, ejb pool size cache..

b. OS Tuning

Setting tcp ip parameter.  
tcp\_time\_wait\_interval  
tcp\_conn\_req\_max\_q

c. Core Server Tuning.

tune workmanager, tune chuck size and chunck pool size, using performance packs, conenction backlog buffering.

d. JVM Tuning  
tuning gc strategy, monitoring garbage collection..

**16. What is the difference between Development mode and Production mode of Weblogic Server?**

Development Mode:

1. The default JDK for development domain is Sun Hotspot.  
2. You can use the demo certificates for SSL.  
3. Auto deployment(to admin server only) is enabled.  
4. Server instances rotate their log files on start-up.

5. Admin Server uses an automatically created boot.properties during start-up.

6. The default maximum capacity for JDBC Datasource is 15.  
7. The debugFlag which is used to start the WebLogic Workshop Debugger is enabled.  
8. In Development Mode any configuration change being done by a user doesn’t need him to take a Lock and Edit session.  
9. Availability of web service test client.  
10. Nodemanger username and password: Default Admin credentials.  
11. Availability of Classloader Analysis Tool: Yes.  
12. Default start parameters when using Sun JDK and the default startWebLogic script : java -client -Xms256m -Xmx512m -XX:CompileThreshold=8000 -XX:PermSize=128m -XX:MaxPermSize=256m.

Production Mode:

1. The default JDK for production domain is JRockit.  
2. If you use the demo certificates for SSL a warning is displayed.  
3. Auto deployment(to admin server only) is disabled.  
4. Server instances rotate their log files when it reaches 5MB.  
5. Admin Server prompts for username and password during start-up.  
6. The default maximum capacity for JDBC Datasource is 25.  
7. The debugFlag which is used to start the WebLogic Workshop Debugger is disabled.  
8. In Production Mode the user needs to procure a Lock and Edit session before trying to make any configurational changes.  
9. No Availability of web service test client.  
10. Nodemanger username and password: Randomly generated  
11. Availability of Classloader Analysis Tool: No.  
12. Default start parameters when using Sun JDK and the default startWebLogic script : java -server -Xms256m -Xmx512m -XX:MaxPermSize=256m.

Ref :- http://impradeep.com/difference-between-production-and-development-mode-in-weblogic/

**17. What is HTTP tunneling? How can we configure it on Weblogic?**

HTTP tunneling provides a way to simulate a stateful socket connection between WebLogic Server and a Java client when your only option is to use the HTTP protocol. It is generally used to tunnel through an HTTP port in a security firewall. HTTP is a stateless protocol, but WebLogic Server provides tunneling functionality to make the connection appear to be a regular T3Connection.  
Steps to configure Http tunneling.

Login into the Admin Console, click on the server on which you want to enable he Http Tunneling feature  
Click on the Protocols tab ? General ? check the “Enable Tunneling” check box.

Now you can communicate with the JVMs (Server Instances) using protocols other than t3

**18. What is the difference between T3 and HTTP protocol?**

WebLogic uses the T3 protocols for internal and external connections to the servers. The T3 protocol often is used in WebLogic’s implementation of RMI. Proprietary of WebLogic Server.

Http protocols are used primarily for HTTP communication between the browser and the web server. Standard follows the W3C (World Wide Web Consortium).

**-----> When we got any issue in WAS we have to trouble shoot that issue**  
 **-----> Suppose Page Cannot be Displayed  HTTP 404 we have to solve this issue.**  
 **-----> First we have to check the browser of our HTTP URL whether it is giving correct URL or not from the address bar.**  
  
**-----> If it is correct URL then we have to check the LOGS**  
  
**1) JVM LOGS , (System.Out System.err)**  
 **2) PROCESS LOGS (NATIVE LOGS) (stdout, stderr) (native\_stdout , native\_stderr)**  
 **3) IBM service log (activitylog)**  
 **4) Http Server plugin (http\_plugin.log)**  
  
**----->  First try to hit the web server if that is good then hit the application server directly if both of them work then there is an issue with plugin.sometimes the web server will be in hung state kill the web server processes which can be found**

**-----> After all checking this things we have to logout from our application and we have to stop the server and then starts the server.**

#### Troubleshooting Out of Memory errors in WebSphere :

**Effects of running Out  of Memory**

**----> The garbage collection (GC) process struggles to free memory. GC is running all the time**

**----->  The long and continuous GC cycles cause high CPU in the application server**

**----->  The Application server is not able to process request as fast as they come in. This creates queuing in the Web and Application Servers.**

**---->  The JVM eventually stops responding and crashes. Requests are failed over to the next server.**

**When an Out of Memory occurs, three primary pieces of evidence are left at the scene.**

**----> Verbose garbage collection log (How it happened)**

**----->  Heapdump (What was in memory when it happened)**

**---->  Javacore (What was running when it  happened).**

**Tools use to analyse the three evidence**

**---->  Garbage collection log - The IBM Support Assistance (ISA) provides the Garbage Collection and Memory Visualizer Tool to open the verboseGC log file**  
 **----> Java heapdump  (heapdump.phd)  - Use Memory Analyzer Tool (MAT) in IBM Support  Assistant (ISA)**  
 **-----> Javacore - IBM Thread and Monitor Dump Analyzer for Java**

**Categorization Out of Memory problems**

**----> Java heap exhaustion - The JVM cannot allocate an object because it is out of memory and no more memory could be made available by the garbage collector.**  
 **-----> Large object allocation - The application requesting a very large object  which Java cannot accommodate in the heap.**  
 **-----> Native memory allocation failure  - The memory space for the operating system process that correspond to Java has two main areas**

**-----> The Java Heap which contains the instances of Java objects and is maintained by Garbage Collection**

**----->  The Native Heap which contains - Compiled JIT code, Malloc allocation by application JNI code, Threads to map to Java threads and    Native DB2 or MQ libraries**

**-----> These two areas compete for the same process space - Making the Java heap too large could leave too little native memory. If you see  malloc errors in the native\_stderr.log you are running into a native OOM problem.**

**Common scenarios that could  lead to OOM**

**1. Typically, heap exhaustion is caused by  
               - Large categories and lack of pagination or filtering (“show all”)  
               - Improperly sized cache (in-memory cache is too large)  
               - Unbounded search  
               - Scheduler processing a large job  
               - Processing large backend messages  
               - Improperly sized Java heap (too small)  
2. Typically, OOM due to a large object allocation is caused by  
               - A 3rd-party catalog integration returning all products at once  
               - Inbound web service receiving large messages  
3. Typically, a native memory error is caused by  
              - Improperly sized Java heap ( too big )**

**HEAP DUMP AND THREAD DUMP ISSUES:**

**----->  When we trigger a thread dump on an application server, all Active thread information will be dump into file which is normally known as Thread Dump.**  
 **-----> In this Dump file , we can get information about thread like Active thread,hung ,**  
**thread, Dead lock, runnable and inactive thread info.**  
  
**COMMAND TO GENERATE THREAD DUMP:**  
 **KILL -3 PID\_OF\_SERVER.**  
 **----> When our application server reports the thread Hung Conditions in SystemOut.log file then we generate thread dump to analyze the reason behind thread Hungs.**  
 **-----> We are generally having thread Hung situation when any threads coming to system being responded.**  
 **-----> When Web Sphere Application Server detects that a thread has been active longer than the time define by the thread monitors and write the error code below in SystemOut.log file.**  
 **Heap Dump  :**  
 **----->  Heap Dump is a text file which keeps records of all  objects in the Java Heap.**  
 **-----> It contains the information like size and address of all objects , as well as addresses of all the objects references.**  
  
**-----> Before generating the Heap Dump we need to enable the Garbage Collection to get only live objects information in Dump.**  
 **-----> By default when ever we get OutOfMemoryException occurs Web Sphere Application Server create Heap Dump in profiles home directory.**  
 **-----> Heap Dump is nothing but snap shot of our JVM'S memory.**  
 **-----> Here we can have all active Java objects and their activities which object doing what and how much memory it is occupying.**  **GENERATING HEAP DUMPS MANUALLY  :**  
 **--->   When generating multiple heap dumps manually for memory leak analysis, make sure that significant objects are leaked in between the two heap dumps. This approach enables problem determination tools to identify the source of the memory leak.  
  
-----> On a Java virtual machines (JVM) in WebSphere Application Server, you cannot enable automated heap dump generation. You might want to designate certain times to take heap dumps because of the overhead involved. On JVM in WebSphere Application Server, you can manually produce heap dumps by using the generateHeapDump operation on WebSphere Application Server managed beans (MBeans) that are special Java beans.**  
 **Procedure  :**  
  
 **STEP  1  :  Invoke the generateHeapDump operation on a JVM MBean, for example,**  
  
**STEP 2  :  <wsadmin> set objectName [$AdminControl queryNames**  
**WebSphere:type=JVM,process=<serverName>,node=<nodeName>, \*]**  
 **STEP 3 :<wsadmin> $ AdminControl invoke $objectName generateHeapDump**

## How to look for CPU heap issues for WAS ?

**A)  ----> (start the wsadmin console... you'll be prompted for login/pwd credentials...)**

**cd \ProgramFiles\IBM\WebSphere\AppServer\bin  
wsadmin  
  
(setup for the DUMPS... specifying application server to dump...)  
wsadmin> set jvm [$AdminControl completeObjectName type=JVM,process=server1,\*]  
  
(when ready to dump... execute the following to get a javacore file...)  
wsadmin> $AdminControl invoke $jvm dumpThreads  
  
                  OR  
  
(when ready to dump... execute the following to get a heapdump file...)  
wsadmin> $AdminControl invoke $jvm generateHeapDump  
  
javacore/heapdump file will be in the following directory:  
\ProgramFiles\IBM\WebSphere\AppServer\profiles\ST\_Advanced\_Profile**

**----> Where to look for errors : (SystemOut, SystemErr, ffdc)**  
 **----> Logging/tracing usually found in /WebSphere/AppServer/profiles/*profile\_name*/logs/**  
 **---->  Server logs:**  
 **1)  Look in system error logs, found in /WebSphere/AppServer/profiles/*profile\_name*/logs/server1/SystemErr.log**

**2) Look in system out logs, found in /WebSphere/AppServer/profiles/*profile\_name*/logs/server1/SystemOut.log**

**----->  ffdc logs:**  
 **Look in ffdc logs, found in /WebSphere/AppServer/profiles/*profile\_name*/logs/ffdc**

**1)            Explain about web sphere?**

The word web sphere popularly refers to IBM middleware technology products. Web sphere is known for its turn key operation in e business applications. It has run time components and tools which can help in creating applications which run on WAS. WAS refers to web sphere application server.

**2)            Explain about web sphere commerce?**

IBM web sphere commerce has a single platform which offers complete ecommerce solutions to developers. It can be very productive if you are planning to do business with consumers, business and indirectly through channel partners. This can be used to perform business with consumers, business and channel partners altogether.

**3)            Detail about the architecture of web sphere?**

Web Sphere is built on three main components they are

•             Database

•             J2EE application server

•             A web server

The databases which it supports are

•             DB2

•             Oracle

•             Cloudscape

Application server is IBMWAS and the supported web servers are

•             IBM server

•             Microsoft IIS

•             Sun web server

**4)            State some of the features present in web sphere?**

Some of the features which are present in web sphere are: –

•             Order management

•             Web sphere commerce accelerator

•             Analytical and business intelligence

•             Open standards such as Java, EJB, etc

•             Web sphere commerce payments and customer care, etc

**5)            Explain about IBM Web Sphere edge server?**

Web sphere edge server is used to improve the performance of web based systems. It can be used as forward or proxy server. Basically four components are present in the web sphere they are Network dispatcher, Caching proxy, Content distribution and application service at the edge.

**6)            Explain about extended deployment?**

Web sphere application server extended deployment increases the functionality of the server in two main areas they are manageability and performance. Dynamic virtualization between servers is possible with the help of XD. A stand alone distributed cache was added to it under the performance header, it is known as Object Grid.

**7)            Explain about the security features present in WAS?**

Security model for web sphere is primarily based on JAVA EE security model. It also depends upon the operating system. User authentication and authorization mechanisms are also provided in WAS. Light weight third party authentication mechanism is the main security feature present in WAS.

**8)            Explain about asymmetric clustering?**

Asymmetric clustering applications are primarily used in electronic trading systems employed in banks. Some of the features are, partitions can be declared during run time and are usually run on a single cluster at a time. Work specific to a particular can be routed to that cluster.

**9)            Explain the various Administrator benefits using Web sphere?**

Web sphere almost reduces the work of server administrator as he can manage load on servers efficiently without any hassles. It also gives him flexibility to divide the load and applications among different server farms. He can also predict about the incoming load on servers. Email alerts, restart options, memory leak detection, etc.

**10)          Explain about caching proxy of IBM Web sphere Edge sphere?**

A caching proxy can be configured in forward direction or as a proxy. Content requested by the user is cached by edge before sending or adhering to the query. Page fragments arising from JSP or servlets are cached by Edge and the caching process is slow. Performance and scalability of J2EE applications can be increased by edge.

**11)          Explain about the network deployment feature present in WAS?**

Managing singletons will be a thing of the past and it also provides hot recovery of singletons which makes you forget about your GC collected singletons. Transaction logs can stored on a shared file system. For clustering run time operations deployment manager`s role was eliminated. J2EE failover support and cell configuration support is also present.

**12)          Explain about IBM web sphere integration developer?**

Web sphere integration developer provides an IDE to build applications based on service oriented architecture. Web sphere process server and web sphere ESB were built with WID. WID was built with RAD Eclipse based technology.

**13)          Explain about compute Grid?**

Compute grid is also known as Web sphere batch. Web sphere extended deployment offers a Java batch processing system called as Compute Grid. This forms an additional feature to Web sphere network environment. Various features are provided which help a developer to create, manage and execute batch jobs. Job scheduler, xJCL, batch container and batch programming controller.

**14)          Explain about web sphere MQ Real time transport?**

This feature is very useful in instant messaging across different clients through intranet and internet. This supports high volume and high performance across different clients. It uses the concept of light weight transport which is again based on IP rather than the queue process.

**15)          Explain about Web sphere MQ JMS Provider?**

Web sphere MQ and Web Sphere Business integration manager Broker are very useful in providing Java messaging services to wide range of clients (publisher –subscribe, point to point). Java classes are chiefly responsible for translating the API calls to API`s defined by web sphere. It is very useful to have knowledge of Web sphere MQ for proper configuration.

**16)          Explain the attribute CHANNEL in web sphere MQ?**

CHANNEL specifies the name of the server connection channel. Generally this is Web Sphere MQ network abstraction. The default standard used by CHANNEL is SVRCONN which is the server connection channel. This server is generally used to communicate to the queue manager by the client.

**17)          Is the naming of connection factory independent of the name specified by JMS client?**

Yes, the naming of connection factory is independent of the name specified by JMS client. This is made possible by WAS (Web sphere application server) with its resource references. It isolates the application from object names. This feature is important because it gives us the flexibility to change the administered object without changing the JMS client code.

**18)     What is the difference between Web Server and Application Server ?**

Webserver:

A Web server handles the HTTP protocol. When the Web server receives an HTTP request, it responds with an HTTP response, such as sending back an HTML page. To process a request, a Web server may respond with a static HTML page or image, send a redirect, or delegate the dynamic response generation to some other program such as CGI scripts, JSPs (JavaServer Pages), servlets, ASPs (Active Server Pages), server-side JavaScripts, or some other server-side technology. Whatever their purpose, such server-side programs generate a response, most often in HTML, for viewing in a Web browser.

Application Server:

As for the application server, according to our definition, an application server exposes business logic to client applications through various protocols, possibly including HTTP. While a Web server mainly deals with sending HTML for display in a Web browser, an application server provides access to business logic for use by client application programs. The application program can use this logic just as it would call a method on an object

**19) What is JDBC ?**

JDBC technology is an API (included in both J2SE and J2EE releases) that provides cross-DBMS connectivity to a wide range of SQL databases and access to other tabular data sources, such as spreadsheets or flat files. With a JDBC technology-enabled driver, you can connect all corporate data even in a heterogeneous environment

**20) What is EJB ?**

Enterprise JavaBeans (EJB) technology is the server-side component architecture for the Java 2 Platform, Enterprise Edition (J2EE) platform. EJB technology enables rapid and simplified development of distributed, transactional, secure and portable applications based on Java technology.

**21) What are the different application servers and Web Servers supporting J2EE technology’s ?**

JBoss Is an Application Server that supports J2EE

IBM Websphere and BEA WebLogic servers are a combination of Application Server, Web Server & container

Jakarta Tomcat is a Servlet container and a Web server.

Apache Sever is a Web server

**22.  What is the WebSphere Application Server Console and what is it’s role? What is the default URL** **and port for accessing it?**

The administrative console is a browser-based interface that allows you to configure application server settings, deploy and manage applications, and perform additional tasks that are not included in the HTTP Server Administration interface. It used to be a Java application, however to be firewall safe it was made into a web-based application.

It runs on the default install port 9060 e.g http:\\hostname:9060\ibm\console, however this can be changed by editing virtual\_hosts names. also when during installation ie GUI or response-file install you can set the ports that will be used.

**23. What Development Environment(s) are available to develop applications for WebSphere?**

IBM provides several industrial strength development environments based on Eclipse development framework the current IDE is Rational Developer for Websphere. Applications can also be developed with the Websphere Application Server Toolkit and third party tools like Jbuilder, and Eclipse/ANT etc.

**24. In WebSphere how would you provide the ability for an Web application (JSP) to be able to provide authentication for both a local user and LDAP.**

Using the Administration Console:

Turn on Administrative security.

Federate a local repository and an LDAP repository together.

Restart server.

Ensure Web application has a web.xml file to be able assign LDAP groups to roles.

**25. What version of Websphere software is required to install WebSphere clustering? How would you** **configure Websphere for clustering: list basic steps?**

WebSphere Application Server Network Deployment is the software required to install a WebSphere cluster.

Install base with Deployment Manager

Create profiles for Deployment Manager and each node in the cell using with the Profile Management Tool ensuring the nodes are federated.

Use the Deployment Manager’s Administration Console to create the cluster and set cluster settings as appropriate.

Create Windows Services or Start up scripts for Deployment Manager, Node manager and Severs to ensure restart when OS is rebooted.

**26.  How would you ensure that a Websphere Application server or Websphere Application Server Node is started when the OS being windows 2000/2003 is re-booted?**

Use the command WASService to register the Websphere Application Server or Websphere Application node as a Windows service.

**27. What language is the default scripting language for Websphere and which language is the preferred scripting language? What Websphere tool can be used to run scripts and where is it located?**

JACL is the default scripting language for WAS, Both JACL and Jython can be used.

Jython is the preferred scripting language as JACL is now deprecated.

WSAdmin tool located in the <installroot>\bin directory

**28. What type of files are required to deploy an application into Websphere. How can they be installed?**

WAR or EAR files.

Can be installed using Administration Console or scripts.

**29. How would use ensure WebSphere server logs are created on a different drive than the installation root?**

Change the WebSphere server’s server variables using the Administrative Console or use scripts.

**Web Sphere Application Server 6.1**

**Questions and Answers**

**QUESTION 1**

A cluster member has suddenly crashed. The administrator is concerned about aborted transactions holding locks in the database. What can an administrator do to release the locks?

1. Unmount the shared file system such as Network Attached Storage (NAS) where the transaction log is stored
2. Restart the deployment manager and node agents who manage the transaction log
3. Verify another running cluster member has access to the transaction log
4. Reconnect the database where the transaction log is stored

**Answer:  C**

**QUESTION 2**

What functionality does the Caching Proxy server provide?

1. Reverse proxy and content-based routing
2. Dynamic content caching and integration with servlet caching
3. File serving enabler
4. HTTP compression
5. Integration with Dynacache and third party object caches

**Answer: A,B**

**QUESTION 3**

What is needed to load balance the HTTP traffic across a cluster of Web servers?

1. Configure a proxy server such as Tivoli Access Manager (TAM)
2. Enable server affinity for each HTTP server in the cluster
3. Implement the caching proxy server component of the WebSphere Edge
4. Use an IP sprayer from the load balancing component of the WebSphere Edge Components

**Answer:  D**

**QUESTION 4**

What does a WebSphere application server provide to support the installation and deployment of JSR 168 compliant portlets?

1. An embedded portlet container
2. A scaled-down version of the WebSphere Portal Server
3. Several J2EE applications that render and aggregate portlets in a browser
4. An embedded version of WebSphere Portal Express

**Answer:  A**

**QUESTION 5**

Which two components provide workload management capabilities?

1. Node agent
2. Web server plug-in
3. Caching proxy
4. Deployment manager
5. Load balancer

**Answer: B,E**

**QUESTION 6**

Which services are implemented by the WebSphere application server?

1. Security, JMS messaging, Naming and HTTP Plug-in
2. The user registry, Naming and HTTP Plug-in
3. HTTP Load Balancing services, JMS messaging and Data Replication Service (DRS)
4. Security, Naming, Transaction and Dynamic Cache

**Answer: D**

**QUESTION 7**

Session Initiation Protocol (SIP) servlets are packaged in which type of archive file?

1. SAR
2. WAR
3. JAR
4. EJB-JAR
5. SIP-JAR

**Answer: A**

**QUESTION 8**

In a WebSphere cell configuration, which component is a single point of failure?

1. Deployment manager
2. Web container
3. EJB container
4. HTTP server

**Answer: A**

**QUESTION 9**

Which approach should be recommended when designing a production topology for WebSphere application servers providing high availability and failover capabilities?

1. Create a design using multiple machines that handles the full production load, enabling the use of

Application server clustering to provide failover capabilities

1. Utilize load balancers between the Web servers and the application servers to provide failover support at the application server tier
2. Place the Authentication servers outside of the intrusion firewall with the Web servers, since the Web servers will need to access them
3. Use the largest processor engines and least number of physical machines for the application server tier, to minimize the software licensing costs

**Answers: A**

**QUESTION 10**

If an administrator configures session management for an application server to user SSL ID tracking, which two other session tracking mechanisms should also be enabled?

1. Cookies
2. URL Rewriting
3. Security Integration
4. Serial Access
5. Java2 Security

**Answer: A, B**

**QUESTION 11**

An application server is using data source connections being managed thru connection pooling.How ever, the server is logging database errors resulting from lack of connections. In this context, what applies to tuning database connections?

1. Data sources are abstracted from the JDBC drivers to permit database upgrades without impacting the application logic. The administrator should decrease the connection timeout value.
2. The connection pool is managed by the application server container, so in addition to increasing the connection setting, additional connections allowed must be configured on the database.
3. The data sources are released at the end of the commit phase when using Type 4 JDBC drivers. New  connections will be created upon the next database access.
4. It is necessary to tune the applications before tuning WebSphere application server. Connections not returned to the pool are often caused by programs not closing connections properly.

**Answer: D**

**QUESTION 12**

Which set of parameters can a system administrator adjust to directly improve performance for the EJB container?

1. Transaction lifetime and client inactivity timeout
2. Cache size and cache cleanup interval
3. Data source connection pool and server JVM size
4. Session timeout and HTTP session object size

**Answer: B**

**QUESTION 13**

When altering the level of logging information, which level provides more detailed logging information than the default (info) level ?

1. Fatal
2. Warning
3. Severe
4. Config

**Answer: D**

**QUESTION 14**

A J2EE application needs to be configured as follows:

The EJB module and the utility JAR in the application must be loaded by the same Class loader. Web module WAR1 and the EJB module must use the same Class loader and Webmodule WAR2 must have its own Class loader.

What is the correct Web module Class loader configuration for this application?

1. WAR1 – Module, WAR2 – Module
2. WAR1 – Module, WAR2 – Application
3. WAR1 – Application, WAR2 – Application
4. WAR1 – Application, WAR2 – Module

**Answer: D**

**QUESTION 15**

Which Web module parameter adjustments would result in improved response time for  Web clients ?

1. Disable load on startup
2. Enable pre-compile JSP option
3. Set the distributable flag
4. Set the reload interval to 20 seconds or less

**Answer: B**

**QUESTION 16**

Which Web server plug-in setting is NOT configurable using the administrative console?

1. Load balancing option
2. Retry interval
3. Refresh configuration interval
4. Minimum number of connections

**Answer: D**

**QUESTION 17**

An application has 15 concurrent users and a connection pool size of 10. Each user users 3 prepared statements. For this application, what is the recommended prepared statement cache size?

1. 10
2. 15
3. 30
4. 45

**Answer: C**

**QUESTION 18**

What is the correct syntax when running the backup configuration of administrative server files when WebSphere Security is enabled?

1. backupConfig  WebSphereConfig user <name> -password <password>
2. backupConfig  WebSphereConfig backup.zip nohalt user <name> -password <password>
3. backupConfig  WebSphereConfig –cell user <name> -password <password>
4. backupConfig  WebSphereConfig profilename=AppSrv01 user <name> -password <password>

**Answer: A**

**QUESTION 19**

When the application server is experiencing normal to heavy usage, which statement most accurately describes optimal pool usage?

1. The pools will all show similar numerical values, indicating balanced workload is occurring throughout the application server.
2. Pools used by the application should be released and rebuilt in conjunction with JVM garbage collection cycles ensuring that no state connections persist.
3. The performance Management Interface (PMI) must be explicitly enabled on the application server to be monitored, since it requires CPU resources on the server being monitored.
4. Pools used by the application should be nearly fully utilized, indicating that resources are being efficiently used.

**Answer: D**

**QUESTION 20**

When configuring a J2C connection factory, which setting can be configured using the administrative console ?

1. Container-managed authentication alias
2. Component-managed authentication alias
3. Authentication preference
4. Mapping configuration alias

**Answer: B**

**QUESTION 21**

What is the correct command to save configuration changes in a Jython script file?

1. AdminConfig.save()
2. $AdminConfig save
3. AdminTask.save()
4. $AdminTask.save
5. The WebSphere scripting tool does not a periodic save based on a property in its configuration.

**Answer: A**

**QUESTION 22**

Which additional deployment descriptor information can a WebSphere application have beyond the J2EE requirements ?

1. IBM Bindings associate local names to deployment platform specific resources
2. IBM Extensions support additional options
3. For EJB modules, a set of files map Entity Enterprise JavaBeans to a specific data store “schema”
4. Web Service Interoperability mapping files
5. Jython deployment scripts
6. Cloudspace DDL files

**Answer: A, B, C**

**QUESTION 23**

What is the name of the WebSphere scripting tool?

1. wasadmin
2. wsadmin
3. ws\_ant
4. wsdeploy

**Answer: B**

**QUESTION 24**

When is J2EE mapping of security roles to users and groups allowed?

1. During application development with Rational Application Developer (RAD) or with Application Server Toolkit (AST)
2. During an application installation
3. After an application is installed
4. During application runtime
5. During the creation of an application profile
6. When configuring the user registry

**Answer: A, B, C**

**QUESTION 25**

In a federated namespace, what are the primary uses of cell and node persistent partitions?

1. For the storage of topological data in the XML repository
2. For the storage of configuration buildings, such as CORBA and indirect name lookups
3. For binding the server root of the server, such as EJB homes and resource artifacts
4. For reading configuration data from the file system, such as EJB deployment descriptors, and registering the necessary objects

**Answer: B**

**QUESTION 26**

An administrator needs to enable support for a number of applications that use message-driven bean (MDBs). Some of the beans use point-to-point messaging and other beans use publishsubscribe messaging. The administrator will typically need to perform which two sets of tasks?

1. Configure the default JMS provider and the necessary destinations (queues and topics)
2. Deploy the MDBs to the message engine and select the SOAP over JMS protocol
3. Configure queue managers using the WebSphere MQ JMS provider
4. Configure a service integration bus and add the appropriate bus member
5. Deploy the MDBs to JCA container and select bean managed persistence

**Answer: A, D**

**QUESTION 27**

A DB2 data source is used across different applications. The application is installed in multiple machines for horizontal scaling, but the database driver location differs from machine to machine. When using WebSphere variables, what is the most maintainable way to define the scope for this data source?

1. JDBC provider-cell scope data source- node scope
2. JDBC provider-cell scope data source- cell scope
3. JDBC provider-node scope data source- cell scope
4. JDBC provider-node scope data source- node scope

**Answer: B**

**QUESTION 28**

In addition to data sources and Shared Libraries, which resources can enhanced EARs support?

1. JAAS Authentication Aliases, Class loader policy and Virtual host information
2. JAAS Authentication Aliases, Class loader policy and Virtual host information and JVM command line parameters
3. JAAS Authentication Aliases, Virtual host information and JVM command line parameters
4. JAAS Authentication Aliases, Class loader policy and JVM command line parameters
5. Class loader policy, Virtual host information and JVM command line parameters

**Answer: A**

**QUESTION 29**

When installing WebSphere Application Server v6.1 along with IBM HTTP Server and related plug-ins, an administrator notices the following message in the <plugins\_root>/logs/install/log.txt  Plugin.Install, com.ibm.ws.install.ni.ismp.actions

ISMPComponentizedFileRepositoryDeployAction, err, Component not found: prereq.jdk

Which two additional entries should the administrator verify?

1. The JAVA\_HOME system environment variable
2. The CLASSPATH system environment variable
3. The JAVA\_INSTALL\_PATH value in log.txt
4. The CURRENT\_WORKING\_DIRECTORY value in log.txt
5. The PLUGIN\_JDK\_ROOT value in log.txt

**Answer: C, D**

**QUESTION 30**

To create a customized installation package (CIP), which file must be created first so that the installation factory can use it to generate the CIP?

1. An Ant file
2. A response file
3. A build definition file
4. A ifcli file

**Answer: C**

**QUESTION 31**

A system administrator is planning to do a silent install using a customized response file. The system

Administrator does not want to install the samples that come with the product.

Which option in the response file should the administrator update to NOT include the samples with the

Installation?

1. Install Type
2. custom
3. feature
4. PROF\_Action

**Answer: C**

**QUESTION 32**

A system administrator has just completed installing the core binary files of WebSphere Application Server Network Deployment. The system administrator wants to create a deployment manager profile with a Federated Node. What is the easiest method to accomplish this?

1. Create a Cell profile using the Profile Management Tool
2. Create a deployment manager profile using the Profile Management Tool
3. Create deployment manager and custom profiles using the manageprofiles command
4. Create deployment manager and custom profiles using the Profile Management Tool

**Answer: A**

**QUESTION 33**

If a Web Server is located in the intranet, behind the DMZ (Demilitarized Zone), which configuration option is the easiest to maintain and operate?

1. Web server in an unmanaged node
2. Web server in a stand-alone profile
3. Web server in a  managed node
4. Web server in the deployment manager profile

**Answer: C**

**QUESTION 34**

When creating a profile, which statement is NOT true?

1. Administrative security must be enabled.
2. There is an option to make a profile the default profile.
3. Typical profile creation uses default configuration settings.
4. A Web server definition can be created in the profile.

**Answer: A**

**QUESTION 35**

After installation and application server profile creation, which servlet is useful for validating system configuration?

1. HitCount
2. HelloHTML
3. WSSamples
4. Snoop

**Answer: D**

**QUESTION 36**

How can an administrator view the contents of the activity.log file in the profile root directory?

1. Run the waslogbr script from the command line and use the Log Analyzer
2. Open the file using the IBM Support Assistant (ISA) and use the Thread Analyzer tool
3. Use the Profiling and Logging perspective in the Application Server Toolkit (AST)
4. Open the file using any text editor

**Answer: C**

**QUESTION 37**

Which statement is true about WebSphere JVM logs?

1. The number of historical JVM log files is fixed at 3; this value will reset on each server restart.
2. The JVM logs are self-managing and can roll over based on time or file size.
3. The JVM logs should be moved from the default location to make them easier to access from the command line.
4. The JVM logs are, by default, kept outside the Application server filesystem directory tree to prevent them from being overwritten when applying fixpacks.

**Answer: B**

**QUESTION 38**

From which root can the JNDI dumpNameSpace utility be used to examine the contents of the namespace when JNDI errors are occurring?

1. Node, which contains all JNDI references used within the cells defined scope
2. Server, which contains the objects that are accessible by remote processes
3. Local, which contains objects that are available by local processes only
4. Java, which contains naming information unique to the specific server application

**Answer: B**

**QUESTION 39**

While monitoring a server, an administrator notices that the server is being restarted by its node agent approximately every 60 minutes. The administrator suspects that the server is crashing for memory related reasons. How can the administrator troubleshoot possible causes for the server crashing?

1. Look for heap dumps in the servers root profile directory and examine them with a Heap Analyzer tool
2. Start the server using the trace option and examine the startServer.log file using the Application Server Toolkit (AST)
3. Stop the server using the trace option and examine the stopServer.log file using the AST
4. Set the environment variable IBM\_HEAPDUMP equal to true for the servers node agent and examine any node agent heap dumps

**Answer: A**

**QUESTION 40**

To enable tracing on a WebSphere component, such as the naming service or the rsadapter using a servers Diagnostic Trace Service, which set of tasks should an administrator perform?

1. Use  the Application Server Toolkit (AST) to improve the activity.log file and edit this file to specify a trace string for the component, then export the activity.log file to the node agents configuration directory
2. Use the Administrative console to direct the trace output to memory buffer, select a trace output format, select a component to trace and set the log detail level to either fine**,** finer, or finest
3. Edit the wsadmin.properties file to specify a trace string for the component and accept all of the default tracing properties then perform a full-resynchronize of the node agent
4. From the administrative console select Tracing, select a node agent, select Process Logs, select a trace output format, select a component to trace and set the Log  Details Levels to detail

**Answer: B**

**QUESTION 41**

Which statement describes the WebSphere v6.1 FFDC feature?

1. FFDC does not affect performance of the WebSphere application server.
2. FFDC logs are mainly intended for application development teams.
3. The application server needs to be restarted after enabling FFDC.
4. FFDC information is stored in an optimized relational database.

**Answer: A**

**QUESTION 42**

An administrator should use the IMB Support Assistant (ISA) to perform which tasks?

1. Submit a Problem Management Report (PMR) electronically to IBM Support and check the PMRs status
2. Analyze a service log file against a symptom database and submit the results to IBM support
3. Assemble and package enterprise applications into EAR files and submit to IBM Support for profiling
4. Create a log of the activity for several components of an application server and submit the log to IBM support

**Answer: A**

**QUESTION 43**

An administrator creates a horizontal cluster and deploys an application that uses HTTP session objects. How should the administrator configure support for session object persistence?

1. Configure memory-to-memory persistence in the Web server plug-in  properties
2. Configure HTTP session memory-to-memory replication when creating the cluster
3. For each cluster member, configure memory-to-memory replication for the Web container session management
4. Configure memory-to-memory persistence in the HTTP servers httpd**.**conf file
5. Enable session affinity in the Web server plug-in properties

**Answer: B, C**

**QUESTION 44**

A system administrator has enabled dynamic caching across a cluster of servers and configured a replication domain for the cluster. Which configuration mode should the system administrator enable for memory to memory session partitioning to ensure each object is replicated to every consumer of the replication domain?

1. Single replica
2. Full Group replica
3. Specific number of replicas
4. Entire domain

**Answer: B**

**QUESTION 45**

A system administrator is federating a node using the addNode command.

The addNode command CANNOT perform**,** by default**,** which step?

1. Create entries in the master repository for the federated node
2. Include applications in the cell
3. Update the node’s wsadmin.properties file to reflect the new cell environment settings
4. Create a definition for the node agent

**Answer: B**

**QUESTION 46**

If the Web server is not an IBM HTTP Server and is defined to managed node, which two actions can be taken from the administrative console?

1. Check the status of the Web server
2. Enable dynamic trace on the server
3. Generate a plug-in configuration file for that Web server and propagate the plug-in configuration file after it is generated
4. Start the server
5. Stop the server

**Answer: A, C**

**QUESTION 47**

For performance reasons, a J2EE application maintains HTTP session information in memory (not persisted). The information in the session can be recreated based on the contents of various cookies. Recreating this data from the cookies would incur performance penalties.

Which mechanism minimizes the need to recreate session data?

1. Memory-to-memory replication in Server mode
2. Memory-to-memory replication in Both client and server mode
3. Session affinity in Web server plug-in
4. Database persistence

**Answer: C**

**QUESTION 48**

When adding a new member to a cluster, why might it be necessary for an administrator to select the option for generating unique HTTP ports?

1. To avoid port conflicts with other servers on the same node
2. To ensure that cluster members on different nodes have unique ports
3. To prevent other applications from using these ports
4. To enable encryption over the secure HTTP ports

**Answer: A**

**QUESTION 49**

Mapping J2EE security roles to users is a function of**:**

1. Installing an application
2. Defining the JDBC connections to the backend databases.
3. Defining the security configuration on the Web server.
4. Regenerating the Web server plug-in file.

**Answer: A**

**QUESTION 50**

A company needs to merge several user repositories so that users from each repository can authenticate to the WebSphere cell. The existing repositories are contained in different relational databases and LDAP directories. How can an administrator most easily leverage the existing repositories to configure a single user repository that contains all of the users?

1. Implement a federated user repository using the Virtual Member Manager (VMM)
2. Use Tivoli Access Manager (TAM) to create a single virtual repository
3. Create a custom user registry and import the user data from the repositories
4. Creating a single LADP directory that contains each of the repositories as sub-trees

**Answer: A**

**QUESTIN 51**

What is the minimum administrative role that is required for an enterprise application to be started through the console?

1. Operator
2. Administrator
3. Configurator
4. Monitor

**Answer: A**

**QUESTION 52**

The application server is architected to use an existing user registry that stores administrative users and application users. What is needed to setup this architecture?

1. Configure the JNDI path to the security database
2. Configure the connection to the existing user registry
3. Retrieve a list of nodes and node agents contained within the cell
4. Generate Web services binding for the existing user registry

**Answer: B**

**QUESTION 53**

Which two tasks can be performed using the IBM Key Management Utility (IKeyman) for managing SSL for IBM HTTP Server?

1. Install GSKit
2. Create a key database file
3. Create self-signed certificate
4. Edit httpd**.**conf to use a certificate
5. Sign certificates on certificate authority’s (CA) behalf

**Answer: B, C**

**QUESTION 54**

The Virtual Member Manager (VMM) in WebSphere is NOT able to federate which repository/registry?

1. The file-based repository that is built into the system
2. One or more external LDAP repositories
3. A JDBC accessible database repository
4. Local operating system registry

**Answer: D**

**QUESTION 55**

Which statement most accurately defines the location of where the WebSphere security service runs?

1. The security service runs on the LDAP server and is accessed through the application server node agent
2. The security service runs in the federated nodes of the cell
3. The security service runs on the deployment manager
4. The security service runs locally in each of the WebSphere processes (deployment manager, node agent and application server.)

**Answer: D**

**QUESTION 56**

When implementing WebSphere security, which statement is true about authentication and authorization credentials?

1. Authentication takes place utilizing a user registry, however authorization is done based on properties defined within the .ear file
2. Both authentication and authorization require lookups to the security service LDAP database.
3. WebSphere security processes run on a centralized security service LDAP database to facilitate single sign on administration of both authentication and authorization credentials.
4. Authorization must occur before authentication to ensure the proper J2EE Security roles are utilized for the LDAP lookup.

**Answer: A**

**QUESTION 57**

Which three steps are automatically performed to enable SSL between the HTTP plug-in and WebSphere application server?

1. Creation of keyrings and keys for the plug-in
2. Creation of keyrings and keys for the application server
3. Procurement of a certificate from a certificate authority (CA) for the plug-in
4. Procurement of a certificate from a certificate authority (CA) for the application server
5. Establishment of a trust relationship between the plug-in and the application server
6. Importing the application server’s certificate to the trust file

**Answer: A, B, E**

**QUESTION 58**

Assume that a federated repository is configured from three existing repositories: A, B and C, A user tries to log in but is denied access. What is a possible reason for the login failure?

1. The users ID does not exists in all three repositories
2. One or more of the three repositories is not accessible
3. The users ID is contained in repository A, which is a file-based repository
4. The users LDAP Distinguished Name (DN) is not the same across all repositories.

**Answer B**

**QUESTION 59**

What is the minimum administrative role required for Java 2 security to be enabled through the administrative console?

1. Administrator
2. Configurator
3. Operator
4. Security

**Answer: A**

**QUESTION 60**

What are three goals of the Virtual Member Manager (VMM)?

1. Provide a repository that can span multiple WebSphere cells
2. Provide a repository-independent programming interface
3. Support various pluggable repositories
4. Provide the ability for users to achieve a single view of their own multiple repositories in a federated model
5. Provide a cache or repository information

**Answer: B, C, D**

**QUESTION 61**

Which statement is NOT true about Application Server Toolkit (AST)?

1. It has a similar look and feel to the IBM Rational family of products and is based on Eclipse.
2. It has a complete development environment for enterprise applications including EJBs.
3. It is supported on Windows, Linux and AIX.
4. It has Jython editor and source debugger.
5. It can run wsadmin scripts inside AST.

**Answer: C**

**QUESTION 62**

The WebSphere scripting tool supports which two scripting languages?

1. BSF
2. Jython
3. Perl
4. Ant
5. Jacl

**Answer: B, E**

**QUESTION 63**

A system administrator needs to create a data source and make it available on multiple nodes using different directory structures. Which two actions should the system administrator take to do this?

1. Define the JDBC provider at the cell scope
2. Define the JDBC provider at the node scope
3. Define the JDBC provider at the server scope
4. Create the data source that uses this JDBC provider at the cell scope
5. Create the data source that uses this JDBC provider at the node scope
6. Create the data source that uses this JDBC provider at the server scope

**Answer: A, D**

**QUESTION 64**

An application uses a JMS queue for point-to-point messaging. As part of the queue configuration, an administrator is able to specify which two sets of properties?

1. Scope**,** activation specification and connection factory
2. Scope, JMS provider and JNDI name
3. J2C authentication data, connection timeout and reap time
4. Bus name, delivery mode and priority
5. Class path, topic name and JMS name

**Answer: B, D**

**QUESTION 65**

A customer has a WebSphere Application Server v4 client and wishes to look up and access objects in WebSphere Application Server V6.1 without requiring changes to the client. What must the customer do to enable WebSphere Application Server V6.1 objects to be accessible through the legacy name space?

1. Configure a leaf binding
2. Create a corbaname binding
3. Use a compound name
4. Create a configured name binding

**Answer: D**

**QUESTION 66**

Which are the three possible components of Web modules?

1. Servlets
2. JSPs
3. SIP servlet files
4. MDB files
5. HTMLs
6. Session and entity beans
7. RAR files

**Answer: A, B, E**

**QUESTION 67**

Which three statements are true about J2EE security roles?

1. Authorization is performed using the J2EE security roles.
2. Security roles are applied to the Web and EJB application components.
3. Security roles provide an access control mechanism to manage the applications access to system level resources.
4. Binding of the users and groups to the J2EE security roles is usually done at the application install time.
5. Authentication is performed using the J2EE security roles.
6. Security roles can be modified dynamically at runtime.

**Answer: A, B, D**

**QUESTION 68**

What is the default connection pool that the WebSphere scripting tool uses?

1. SOAP
2. RMI
3. SOAP is tried first then RMI is tried second
4. NONE
5. TCP

**Answer: A**

**QUESTION 69**

An administrator need to configure a data source for use by a Servlet 2**.**2 based Web application. Which data source type must the administrator define?

1. WebSphere Application Server V6 data source
2. WebSphere Application Server V4 data source
3. JDBC Type 4 data source
4. JDBC Type 2 data source

**Answer: B**

**­QUESTION 70**

The Profile Management Tool allows you to enable WebSphere administrative security**.** Which user registry is used for this default security?

1. Local operating system
2. Standalone custom registry
3. Standalone LDAP registry
4. Federated Repositories

**Answer: D**

**QUESTION 71**

An installation and profile creation was just completed**.** Which tool can be used to check installation files, report differences and create an inventory of configured files?

1. Collector tool
2. Installation verification tool (IVT)
3. Installver tool
4. Administrative console

**Answer: C**

**QUESTION 72**

Which file can a system administrator consult prior to starting an installation to determine which components are already installed on the machine?

1. vpd.properties
2. prereqChecker.xml
3. log.txt
4. profileregistry.xml

**Answer: A**

**QUESTION 73**

After creating a profile, a system administrator discovers there are port conflicts**.** Which action should the system administrator take to fix the port conflicts in the existing profile?

1. Re-create the profile entering different ports
2. Update the portdef**.**props file
3. Run the updatePorts**.**ant script
4. Edit the server.xml file

**Answer: C**

**QUESTION 74**

What does the Installation Factory use to create a customized installation package (CIP)?

1. A build definition that defines how to customize WebSphere application server
2. A CIP  containing a customized WebSphere application server
3. A customized response file containing the definition of the installation package
4. The ifgui command to build a silent response file

**Answer: A**

**QUESTION 75**

A system administrator needs to create an application server profile that does NOT contain the administrative console**.** Which action should the system administrator take while using the Profile Management Tool to create the profile?

1. Select the typical installation which does not install the administrative console to the server
2. Select the advanced operation which has an option to install the administrative console to the server
3. After the profile creation, uninstall the administrative console application
4. Delete the application from the installed directory

**Answer: B**

**QUESTION 76**

When attempting to install WebSphere Application Server v6**.**1 using the silent install**,** the installation fails early in the process and no log files appear to be created in the logs directory**.** Which two steps can the administrator perform to troubleshoot the issue?

1. Restart the installation after an OS restart
2. Restart the installation with the –log parameter
3. Look for the log files in the system temporary area
4. Run the installation verification test (IVT)
5. Start over by creating a new responsefile**.**txt using the responsefile**.**base**.**txt

**Answer: B, C**

**QUESTION 77**

When accessing the application server process logs, STDOUT and STDERR, on a federated node, in which default file system path will they be found?

1. <profile\_root>/<profile\_name>/logs/<server\_name>/native\_stderr.log and <profile\_root>/<profile\_name>/logs/<server\_name>/native\_stdout.log
2. <was\_root>/logs/<server\_name>/native\_stderr.log and <was\_root>/logs/native\_stdout.log
3. <nd\_root>/logs/stderr.log and <nd\_root>/logs/stdout.log
4. <was\_root>/logs/stderr.log and <was\_root>/logs/stdout.log

**Answer: A**

**QUESTION 78**

An administrator is analyzing an activity**.**log file from a profile by using the Application Server Toolkit (AST) Profiling and Logging perspective**.** There are hundreds of log records**.**

Most of the records are informational messages**.** How can the administrator view only the records whose severity is at the Warning and Error level?

1. The activity**.**log file must be filtered using the Log Analyzer before it is improved into AST
2. Create two filters**,** one showing only Errors and one showing only Warnings**.** Export each and merge them into a single new activity log.
3. When the activity**.**log file is imported into AST**,** use the filter option to exclude the informational message
4. Update the filter so that it shows only Error and Warning log records.

**Answer: D**

**QUESTION 79**

After hearing from clients that they are having problems logging into an application, an administrator enables tracing on WebSphere security components using the following log trace string**:**

com**.**ibm**.**ws**.**security**.**\*=detail and restarts the server

When the administrator examines the trace log, there are no events recorded for any security components.

What must be the administrator do to ensure that the trace information is written to the trace log?

1. Modify the server.xml file to enable tracing and restart the server
2. Configure the trace output format with the advanced setting
3. Set the Log Detail Levels to one of the following**:** fine**,** finer**,** finest
4. Update the Log Detail Levels for the servers node agent

**Answer: C**

**QUESTION 80**

Under which circumstance should the WebSphere administrator use the dumpNameSpace utility?

1. When the application server will not start because the JNDI namespace tables have become corrupted
2. When applications  are experiencing a problem accessing a specific WebSphere data source
3. Before regenerating the plug-in for the Web server
4. To clear the namespace prior to installing or redeploying an application

**Answer: B**

**QUESTION 81**

An administrator is monitoring a servers JVM Runtime by using the administrative consoles Tivoli Performances Viewer**.** It appears that garbage collection is running frequently and taking a relatively long time to complete**.** Which action should the administrator take to gather more information on the garbage collection process for this server?

1. Edit the servers sas**.**server**.**props file and set com**.**ws**.**jvmgc equal to verbose
2. Use the administrative console to enable Verbose garbage collection for the server
3. Enable tracing on the server with the following trace string: com**.**ibm**.**ws**.**jvm**.**\*=finest
4. Use wsadmin to generate a heap dump and analyze the dump with the Application Server Toolkit (AST)

**Answer: B**

**QUESTION 82**

To conserve disk space**,** an administrator would like to roll the FFDC log files every three days**.** Without interfering with normal application server operation, how can this be accomplished?

1. By writing a logRoller script and executing it every three days**.**
2. By running a system job that cleans the files as needed
3. By configuring the ExceptionFileMaximumAge property in ffdcRun**.**properties
4. By configuring the TimesToDump property in ffdcStop**.**properties

**Answer: C**

**QUESTION 83**

In order to gather all of the necessary data required by IBM Support to troubleshoot a database connection pooling problem**,** an administrator should perform which task(s)?

1. Run the collector command**,** use the problemType option to specify database connection pooling and submit the resulting JAR file to IBM Support
2. Use the Service component of the IBM Support Assistant (ISA) to gather data for the database connection pooling problem type
3. Reproduce the problem**,** create a JAR  file including the System**.**log and native\_stdout**.**log files then submit the JAR file to IBM Support
4. Reproduce the problem**,** use the Tivoli Performance Viewer to log the JDBC connection pool activity then submit the log file to IBM Support

**Answer: B**

**QUESTION 84**

What is the advantage of implementinga multi-tiered environments across multiple machines?

1. It can more closely align with a customer**’**s business functions (i**.**e**.** distribution**,** ordering**,** and inventory management**.**)
2. The tiers allow you to tune individual products
3. It is the separation of tiers that allows operating system tuning parameters to be used based on the machine’s function
4. Separation reduces maintenance complexities since components are highly available in a distributed configuration

**Answer: C**

**QUESTION 85**

A WAR file containing several JSR 168 compliant portlets has been successfully installed in an application server**.** If portlet serving has been enabled, how can the portlets be accessed with a browser?

1. Request the PortletServingServlet servlet and then submit the name of the portlet
2. Request the portlets index**.**jsp and then submit the context root and portlet name
3. Request the wpsServlet servlet and then select the portlet from a portal menu
4. Request the portlet directly using a URL that includes the name of the portlet

**Answer: D**

**QUESTION 86**

When an application server cluster is added to a Service Integration Bus as a cluster bus member**,** the messaging engine defined will be highly available**.** The messaging engine becomes active on**:**

1. all the servers within the cluster
2. each node agent
3. only one server within the cluster
4. the deployment manager

**Answer: C**

**QUESTION 87**

Which statement is NOT true about the Session Initiation Protocol (SIP) container?

1. The servlet container provides the network services over which requests and responses are received and sent**.**
2. A SIP servlet container manages the network listener points on which it listens for incoming SIP traffic**.**
3. The SIP servlet container can employ a SIP proxy server to route, load balance, and improve response times between SIP requests and back-end SIP container resources**.**
4. The SIP servlet container can directly interact with other SIP servlet container in the cell to co-ordinate SIP servlet requests**.**
5. The SIP servlet container decides which appliations to invoke and in what order**.** The container also contains and manages servlets through their life cycle**.**

**Answer: D**

**QUESTION 88**

Which statement describes the relationship between WebSphere MQ and WebSphere default messaging as a JMS provider?

1. Default messaging relies on WebSphere MQ as the JMS Provider
2. Default messaging is a version of WebSphere MQ.
3. WebSphere MQ and default messaging are separate and do not share any modules or configuration data
4. WebSphere MQ and default messaging must share the same Cloudscape database**.**

**Answer: C**

**QUESTION 89**

Which statement is true for a managed application server process to startup?

1. A node agent and deployment manager must be running before starting a managed server.
2. Starting a managed server is not dependent on the presence of a running deployment manager.
3. The node agent should not be started before any managed servers on that node.
4. The deployment manager needs to be started before the managed server.

**Answer: B**

**QUESTION 90**

In a cell configuration, which protocol is used for sending requests between application servers?

1. HTTP
2. HTTPS
3. IIOP
4. OSE

**Answer: C**

**QUESTION 91**

What are the three possible modes that the replication service instance can be set up to run in?

1. Server mode
2. Client mode
3. Both mode
4. Publish/Subscribe mode
5. Event Listener mode
6. Broadcast mode

**Answer: A, B, C**

**QUESTION 92**

What has to be configured to implement memory-to-memory HTTP Session persistence?

1. EJB session beans and EJB Container
2. The HTTP Plug-in and embedded HTTP Server
3. The JMS Server and Queue Manager
4. The Data Replication Service (DRS) and Web container

**Answer: D**

**QUESTION 93**

An administrator is configuring JDBC database connections**.** Where is the file system path to the DB2 or Oracle driver **.**zip files specified?

1. Within the **.**ear file of the deployed application
2. Within the connection pool parameters for the cell
3. On the connection manager J2C configuration panel
4. From the Environment -> WebSphere Variables panel of the Administration Console

**Answer: D**

**QUESTION 94**

While an administrator is using the Tivoli Performance Viewer to analyze a performance problem with a production application server**,** the administrator notes that the database connection pools have a much lower percentage of utilization than the other pools. Which statement explains this observation?

1. The database server is constrained, causing calls to the database to consume more resources than are available for processing
2. This condition indicates there is a bottleneck in one of the processes upstream in the pipeline of process flows within the application server.
3. The connection pools have not been defined to account for parallel application server calls to the database, causing this particular server to show low utilization
4. The Tivoli Performance Viewer percentages are only useful for performing performance analysis on a server that is executing in a controlled load test scenario**.**

**Answer: B**

**QUESTION 95**

A J2EE application needs to be configured as follows**:**

The EJB module and the utility JAR in the application must be loaded by the same Class loader.

Each Web module must have its own unique Class loader.

What is the correct application server and Web module Class loader configuration for this application?

1. Isolation policy -> Single**,** Class loader policy -> Application
2. Isolation policy -> Single**,** Class loader policy ->Module
3. Isolation policy -> Multiple**,** Class loader policy -> Module
4. Isolation policy -> Multiple**,** Class loader policy -> Application

**Answer: C**

**QUESTION 96**

Which statement most accurately describes the effect of increasing the JVM maximum heap size?

1. No measurable performance change will result from increasing the heap size
2. A larger heap size will cause the server to take longer to start
3. More objects will be created and the time required to garbage collect will decrease.
4. The time between garbage collections will increase, but the garbage collection will take longer.

**Answer: D**

**QUESTION 97**

For security reasons, an administrator would like to ensure that HTML resources are isolated between Web modules running on a server. Which setting should the administrator configure?

1. Class loader configuration
2. Virtual host configuration
3. HTTPS ports configuration
4. Admin console configuration

**Answer: B**

**QUESTION 98**

In order to generate a plug-in configuration file on which all applications in the cell are mapped**,** which action must a system administrator take?

1. Run the GenPluginCfg command on each server
2. Run the GenPluginCfg command on the deployment manager
3. Select the Automatically Generate Plug-in  option in the administrative console
4. Select the Generate Plug-in option in the Web server**’**s page in the administrative console

**Answer: B**

**QUESTION 99**

When using the Tivoli Performance Viewer, the WebSphere administrator notes that the Summary and Detailed reports display in tabular format, however the graphics do not display. What must the administrator do to correct the problem?

1. The graphics display only if there is sufficient variance in the data being collected. The application server monitored is not under load condition, therefore the default reports are the preferred display mechanism and no action is required.
2. The Performance Monitoring Interface and the Performance Advisor must both be enabled from the Administrative Console accessed through the Deployment Manager in order for the Performance Advisor graphics to display.
3. The administrator must override the default scale set in the default report since it is set too high to cause the graphics to be generated
4. The Scalable Vector Graphics (SVG) plug-in for Adobe must be downloaded and installed on the administrators browser since this is required for the graphics display.

**Answer: D**

**QUESTION 100**

According to the Upstream Queuing model for performance tuning, what reflects the correct application of recommended settings for maximum concurrent clients?

1. Web server=75**,** Web container=75**,** Datasource=25
2. Web server=75**,** Web container=50**,** Datasource=25
3. Web server=50**,** Web container=50**,** Datasource=50
4. Web server=25**,** Web container=50**,** Datasource=75

**Answer: B**

**QUESTION 101**

A critical error is occuring on a production node causing the JVM logs to rapidly fill up**.** Which resolution should the WebSphere administrator take as the first step for troubleshooting?

1. The logs are self-managing and can roll over based on time ro file size, so simply opening the logs with a text editor will ensure that new log files are created.
2. Removing the application server from the network, either administratively or physically, is necessary to stop the JVM processing.
3. Stopping the JVM process from the command line, removing the application administratively thru the console and restarting the JVM will allow processing to continue on other applications.
4. The administrator should remove the failing application server from user requests, thereby stabilizing the application server so that troubleshooting can begin.

**Answer: D**

**QUESTION 102**

When configuring session management for a Web container, which property represents the number of cached sessions?

1. Session Expiry value
2. Maximum in-memory session count
3. L2 Cache Integration count
4. Maximum wait on serial access

**Answer: B**

**QUESTION 103**

An administrator has a cluster of two members and needs to ensure that roughly twice as many client requests are routed to cluster member A**.** than are routed to cluster member B**.** How should the administrator configure this type of load distribution?

1. Create two entries for member A in the HTTP plug-in configuration
2. Double the OS priority for member As JVM process
3. Assign to member A**,** a weight two times as large as member Bs weight
4. Double the minimum size of member As Web container thread pool

**Answer: C**

**QUESTION 104**

What is the default behavior of federating a node using the addNode command?

1. Starts the node agent and application server processes
2. Includes applications and buses
3. Starts the deployment manager and the node agent
4. Does NOT include applications and buses

**Answer: D**

**QUESTION 105**

It has been decided to use database session persistence for a particular J2EE application. Which two steps must be performed to implement this feature?

1. Configure the JDBC provider and data source
2. Select a multi row schema
3. Create session database
4. Configure row size to match session size
5. Create session database tables

**Answer: A, C**

**QUESTION 106**

If an IBM HTTP Server is defined**,** the IHS Administration is installed and the IBM HTTP Server is defined to an unmanaged node**,** which two can be done?

1. Display the IBM HTTP Server Error log (error**.**log) and Access log (access**.**log) files as well as display and edit the IBM HTTP Server configuration file (httpd**.**conf)
2. Start and stop the server and propagate the plug-in configuration file after it is generated
3. Update the server with new fixpacks
4. Enable dynamic trace
5. Flush its local cache

**Answer: A, B**

**QUESTION 107**

In order to create a new WebSphere cell and implement a horizontal scaling topology**,** an administrator needs to perform which task(s)?

1. Federate nodes and create multiple clusters
2. Load balance multiple HTTP servers using Edge Components
3. Deploy multiple database servers using a high availability software product
4. Federate nodes and create cluster members across multiple machines

**Answer: D**

**QUESTION 108**

What is the default configuration setting for the Data Replication Service (DRS)?

1. Single replica
2. Full group replica
3. Specify number of replicas
4. Entire domain

**Answer: A**

**1. What about master repository?**

Ans: deployment manager contains the MASTER configuration and application files. All updates to the configuration files should go through the deployment manager.

**2. Tell me IHS executable files, means bin directory files?**

Ans: Apache, ApacheMonitor, htpasswd, htdigest, htdbm, ldapstash, httpd.exe

**3. Why given the httpd.conf file to installation of plug-in?**

Ans: identify the web server (port, virtual hosts) to configure the web server definition

**4. How to configure remote system httpd.conf file?**

Ans: select web server machine (remote)

**5. Several types of log files in the appserver?**

Ans: system out, system err, trace, native out , native err, activity.

**6. websphere packages?**

Ans: express, base, network deployment

**7. What is the profile?**

Ans: profiles are a set of files that represent a websphere application server configuration.

**8. What is the trace?**

Ans: A trace is an informational record that is intended for service engineers or developers to use. As such, a trace record might be considerably more complex, verbose and detailed than a message entry.

**9. What is heap memory?**

Ans: Objects storage space for objects references created at run time in a jvm is heap memory.

**10. Out of memory exception is there, how to handle that exception?**

Ans: To incrise heap memory size

**11. What about IHS?**

Ans: IHS (IBM HTTP Server) is one of the web servers. It serves the static content only and it takes up only http requests.

**12. What about plug-in?**

Ans: plug-in is one of the modules it is interface between application server and web server, the plug-in process receives the request from the client first. If the request is for dynamic content, the plug-in diverts the request to the websphere application server. If the request is for static content, the plug-in forwards it to the Http server.

**13. What is the global security?**

Ans: it provides the authentication and authorization for websphere application server domain (administration client or console).

**14. How to configure the global security?**

Ans: open console and then select security option in the right side menu, and then select localOs registry in the user registry, then enter the username, passwords. And again select global security then ltpa option then provide the password, then save the configuration. And restart the deployment server and then relogin the console.

**15. What is SSL?**

Ans: ssl is a protocol for providing encrypted data communications between two processes.

**16. What is PMI? How to configure PMI?**

Ans: monitoring and tuning–>PMI–>select any process (server1, nodeagent, dmgr) and then enable PMI–>then apply and then save. Select performance viewer–>current activity and then select enabled process and click the start monitoring button after that process select.

**17. What is the UNIX command of all display server processes?**

Ans: ps –ef| grep java

**18. What is node?**

Ans: logical group of servers.

**19. How to start the server?**

Ans: startserver.sh server1

**20. How you get nodeagent……what you have to install to get nodeagent?**

Ans: Custom Profile

**21. How to add the node?**

Ans: addnode.sh 8879

**22. What is the application server?**

Ans: The application server provides a runtime environment in which to deploy, manage, and run j2ee applications.

**23. What is the node?**

Ans: A node corresponds to a physical computer system with a distinct IP host address.The node name is usually the same as the host name for the computer.

**24. What is the node?**

Ans: A node corresponds to a physical computer system with a distinct IP host address. The node name is usually the same as the host name for the computer.

**25. How many types of profiles are in nd product?**

Ans: 1.deployment manager profiles 2.application server profiles 3.custom profile

**26. What is diffrence b/w dmgr and other profiles?**

Ans: dmgr app custom

1.its used for administration 1.admin console is there 1.plain node purpose of remaining profiles 2.initially one app server there 2.empty node 2.it supports the distributed 3.work independently environment. 4. Put applications 3.it is not included app server 4.admin console is there 5.work independently 6.do not put applications

**27. Diff b/w 5.0 and 6.0?**

Ans: Web Sphere Studio 3.5, comes up with Visual Age for Java. WSAD 5.0 supports J2EE 1.3 java specifications. RAD 6.0 supports J2EE 1.4 and integrated with Eclipse 3.0, UML Visual Editor, Tomcat Jakarta, Ant scripting, EJB universal test client and SOA tools.

**28. What is the difference between web server and application server?**

Ans: Application Server: takes care of Security, Transaction, Multithreading, Resource pooling, load balancing, clustering, performance, highly availability, scalability, etc. Exposes business logic to client applications through various protocols, possibly including HTTP. Supports deployment of .war and .ear files Application server = web server + EJB container.

**29. Diff b/w weblogic and websphere?**

Ans: Both BEA Weblogic and IBM’s WebSphere provide J2EE based application servers which are competitors. WebSphere leverages more on connectivity issues with MQ and legacy systems with strong dominance in J2EE.

**30. Some problem is there in web server, so this information which log file contain?**

Ans: http.log, plugin.log

**31. What is jdbc?**

Ans: jdbc is a low level pure java api used to execute sql statements.

**32. What is datasource?**

Ans: A data source is associated with a jdbc provider that supplies the specific jdbc driver implementation class

**33. What is diff b/w type4 and type2?**

Ans: type4 type2

1. It is pure java oriented           1.it is not a pure java oriented driver

2.require client side software         2.no need any client software

**34. Some application not accessing, so what is the problem? This information which log file contains?**

Ans: systemout, systemerr

**35. In type3 client software which machine you have install?**

Ans: server side machine

**36. two databases there (oracle and db2),so I want 3 datasources for oracle and 2 data sources for db2** **so create 3 datasource names for oracle and 2datasourcename for db2 is possible or not?**

Ans: possible

**37. What is jndi?**

Ans: we can register resources in the application server’s java naming and directory interface (jndi) namespace. Client applications can then obtain the references to these resource objects in their programs.

**38. Why use the boostrap port number?**

Ans: client applications use the bootstrap port to access websphere’s built-in object request broker (orb) to use enterprise java beans in applications installed on the application server. The java naming and directory interface service provider url used by the client application needs to reference the bootstrap port to obtain an initial context for looking up ejb’s it wants to use. (For communicate two servers)

**39. What are the appserver components?**

Ans: admin server, web container, ejb container,j2c service, naming server, messaging engine, security server.

**40. LDAP port number?**

Ans: 389 or 636

**41. How to start the server?**

Ans: startserver.sh server1

**42. Packages of websphere?**

Ans: express, base, network deployment

**43. What is webcontainer?**

Ans: The web container provides a runtime environment for servlets, jsp’s, javabeans, and static content.

**44. How to find out free diskspace from command prompt?**

Ans: du -sk (kb) du -sm (mb)

**45. How to find out certain server configuration details like port no, server name, node name, pid?**

Ans: through admin console.

**46. Configure the plug-in through admin console is possible or not?**

Ans: possible

**47. Where to set the path?**

Ans: environments–>websphere variables

**48. How many types of installations?**

**49. Application installed but not working. What are troubleshooting steps?**

Ans: see jvm & application are up, check plugin-cfg.xml file for the root context used by the web application if it does not exist generate plugin and restart web server.

**50. Applications installed fine, also generated plugin, but application still not working, in this case which** **log to see?**

Ans: plugin.log

**51. Default admin port?**

Ans: 9060, ssl 9043

**52. Default bootstrap port?**

Ans: 2809

**53. How to hit application without hitting the web server?**

Ans: webcontainer port on application server

**54. In how many ways you can perform administration?**

Ans: console,,,JMX

**55. No of ways of doing deployments?**

Ans: Admin console…..jython (jacl) scripts

**56. What is CellDiscoveryAddress**

Ans: Node uses this port to talk to DMGR

**57. What is NodeDiscoveryAddress**

Ans: DMGR uses this port to talk to node

**58. How websphere discovers a change in JSP and compiles it?**

Ans: There is an algorithm that websphere uses to find the timestamp of .jsp and .class files. It checks that timestamp of .class file is always later than its corresponding .jsp file.

**59. What is classloader?**

Ans: The Java Classloader is a part of the Java Runtime Environment that dynamically loads Java classes into the Java Virtual Machine

**60. how do you specify a jar file to be used by the application, consider that you have many jar files in** **your system?**

Ans: classloader

**61. What is a managed node?**

Ans: Node with NodeAgent

**62. What is a managed webserver?**

Ans: Remote webserver access through local (dmgr/cell)

1) What is the default user registry, if you enable Global Security at the time of installation  
Its federated repositories…. actually it is a file

2) Which commands require username/password , if you enable admin security  
all stop\* , syncNode, addNode(?)

3) When can you enable global security?  
– while installing  
– After installation also

4) Does enabling admin security needs j2ee security to be enabled?  
No

5) Does enabling admin security enables j2ee security?  
yes

6) What is the most important step to do, if you change your user repository.  
recycle all the JVMs. otherwise the key tokens will not be updated for the new repo

7) who can change admin security settings?  
Adminstrator

8. what is the tool supplied by IBM for SSL management in Websphere  
ikeyman

9) How do you change the cell wide SSL?

<http://www-01.ibm.com/support/docview.wss?rs=180&uid=swg21154255>

10) how do you replace the default plugin-key.kdb file with new kdb file?

11) can we use diffrent SSL for nodes and plugin ?  
Yes

1.WHAT IS TRACING?  
Tracing is when you go through an entire program and record the value of variables and the output. You trace a program when you want to find out what actually went wrong

2.WHERE TO GIVE APPLICATION PRIORITY WHILE STARTING SERVER?  
it will be under Enterprise applications ->app name -> startup behaviour ->Startup order   in the admin console

3.HOW TO MOVE CODE DEV ENVIRONMENT TO TESTING ENVIRONMENT?  
I’m sure what they mean by code here. I think, incase of applications, export them from in DEC and deploy in TEST.

4.WHAT IS SSL?WHEN IT ENCRYPT & DECRYPT THE DATA?  
SSL are digital signed certificates. user for meesage/communication integrity and confidentiality.  Generally encrypt at Sender side and decrypt at receiver side

5.WHAT IS INCIDENT MANAGEMENT?  
It is part of ITIL process….. simple explanation is, when there is a problem in ur WAS environment, which procedure do you follow.

6.WHEN APPLICATION IS DOWN WHAT U WILL DO?  
First look at the logs for errors. If you find the error, save the logs and start ur application. Then start trouble shoot.  
If no error found, run a trace and look for FFDC etc..

7.I HAVE 16GB RAM,WHAT IS THE MINIMUM & MAXIMUM HEAPSIZE ?  
No relation. Heap settings should be made depends on application

8.HOW TO OPEN ADMIN CONSOLE IN AIX/UNIX & WHAT IS THE DEFAULT FILE SYSTEM OF AIX?  
admin console can be viewed from remote machine which has a browser, if not behind firewall.

9.WHAT IS FILE DESCRIPTORS IN AIX?  
A file descriptor is a handle created by a process when a file is opened. There is a limit to the amount of file descriptors per process.If the file descriptor limit is exceeded for a process, you may see the following errors:”Too Many Open Files”

10.HOW TO RESOLVE PORT CONFLICTS IN PRODUCTION ENVIRONMENT?  
check why there is port conflict  
run updateports script in WAS

what is cluster

how do you create a cluster  
go to servers -> clusters-> new ->give cluster\_name->define first member->define other members->finish

how do you add a new cluster member  
go to servers -> clusters->cluster\_name ->cluster members ->new ->give name/node/others->apply->ok->save

one of the cluster member (jvm) is having issues. To troubleshoot the issue, you decided to take it out of the cluster. How do you do that?  
Make its runtime weight to 0

In a complex environment, there are 10 machines. Machine A is having 8GB RAM and machine B having 2GB of RAM. The administrator decided to send twice as many request as machineB to machineA. How can he achive it?  
give machineA twice the weight as machineB

After making some changes on a cluster, it is required to recycle/restart all the cluster JVMs. The lead admin told you to make sure that there should not be any downtime during this recycle. Which option do you use to achieve it?  
Ripplestart

A large application which has 5web modules has been deployed on to a cluster. After some months, the developer asked you to update on of the 5web modules. How do you do it?  
Rollout

what is a backup cluster

can you change the cluster name, once it was created  
No