

## **IBM WEBSHERE APPLICATION SERVER NETWORK DEPLOYMENT V7.0, CORE ADMINISTRATION COURSE CONTENT**

### ❖ **SECTION 1 - ARCHITECTURE (13%):**

- A. Illustrate the relationships between IBM WebSphere Application Server, Network Deployment, V7.0 and the application components (e.g., browser, HTTP server, proxy server, plug-in, firewall, database servers, WebSphere MQ, load balancing, ip spraying, and Tivoli Performance Viewer.)
- B. Apply design considerations of IBM WebSphere Application Server, V7.0 when installing an enterprise environment (e.g., LDAP, database servers, WebSphere messaging, etc.)
- C. Relate the various components of the IBM WebSphere Application Server Network Deployment V7.0 runtime architecture.
- D. Illustrate workload management and failover strategies using IBM WebSphere Application Server Network Deployment V7.0.
- E. Describe WebSphere dynamic caching features.
- F. Compare the Network Deployment (ND) cell model with the flexible management model.

### ❖ **SECTION 2 - INSTALLATION/CONFIGURATION OF WEBSHERE APPLICATION SERVER (9%):**

- A. Identify installation options and determine the desired configuration (e.g., silent install, etc.)
- B. Install WebSphere Application Server Network Deployment V7.0 and verify the installation (e.g., Installation Verification Tool (IVT), default application (i.e., snoop and/or hitcount.))
- C. Create profiles.
- D. Troubleshoot the installation (e.g., identify and analyze log files.)
- E. Utilize installation factory and Centralized Installation Manager (CIM).

### ❖ **SECTION 3 - APPLICATION ASSEMBLY/DEPLOYMENT AND CELL CONFIGURATION/RESOURCE ALLOCATION (21%):**

- A. Describe the name service management of WebSphere Application Server Network Deployment V7.0 (JNDI).
- B. Package Java enterprise applications, including enhanced ear files using the Rational Assembly and Deployment Tool.
- C. Define and map security roles (e.g., Java enterprise security).
- D. Configure application resources (e.g., JCA resource adapters, connection factories, resource scoping, MDB activation specification, JDBC providers, data sources)
- E. Configure WebSphere messaging (e.g., SIBus bus members and destinations).
- F. Automate deployment tasks with scripting.
- G. Manage the plug-in configuration file (e.g., regenerate, edit, propagate, etc.).
- H. Configure class loader parameters.

### ❖ **SECTION 4 - WEBSHERE APPLICATION SERVER SECURITY (16%):**

- A. Implement security policies (e.g., authentication and authorization (using different security registries), global security, etc.) \$Protect WebSphere Application Server Network Deployment V7.0 resources (e.g., Java 2 security, Java EE security roles).
- B. Configure SIBus security.
- C. Define and implement administrative security roles.
- D. Configure SSL clients and servers.
- E. Implement federated repositories.
- F. Configure WebSphere Application Server Network Deployment V7.0 with multiple security domains.
- G. Configure auditing.

### ❖ **SECTION 5 – WORKLOAD MANAGEMENT, SCALABILITY, HIGH AVAILABILITY FAILOVER (14%):**

- A. Federate nodes (including custom profiles).
- B. Create clusters and cluster members.

- C. Configure session management (memory-to-memory, database persistence).
- D. Create and configure Data Replication Service (DRS) replication domains.
- E. Manage Web servers in a managed and unmanaged node.
- F. Manage WebSphere messaging in a clustered environment.
- G. Configure workload management via the web server plug-in

❖ **SECTION 6 - MAINTENANCE, PERFORMANCE MONITORING AND TUNING (14%):**

- A. Manage application configurations (e.g., application bindings, HTTP session tuning, etc.).
- B. Perform WebSphere Application Server Network Deployment V7.0 backup, restore and configuration tasks.
- C. Tune performance of WebSphere Application Server Network Deployment V7.0 (e.g., JDBC data source, configure caching, queuing and thread pooling parameters, tune JVM heap size, etc.).
- D. Use Tivoli Performance Viewer (TPV) / Request Metrics to gather information about resources and analyze results.
- E. Develop and implement a maintenance application strategy using Update Installer and/or Centralized Installation Manager (CIM) (e.g., FixPacks, cumulative fixes and interim fixes.)

❖ **SECTION 7 - PROBLEM DETERMINATION**

- A. Configure, review and analyze logs (e.g., Web server, IBM WebSphere Application Server Network Deployment V7.0, first failure data capture (FFDC)).
- B. Use trace facility (e.g., enabling, selecting components, and log configuration).
- C. Analyze the content of the JNDI namespace using dumpNameSpace.
- D. Perform JVM troubleshooting tasks (e.g., thread dump, JVM core dump, and heap dump, verbose Garbage Collection (GC) ).
- E. Have insight to IBM Support Assistant.