Self-test Java EE Architecture

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INTRODUCTION SELF-TEST JAVA EE ARCHITECTURE

The following questionnaire might help to check your personal knowledge of the various topics discussed in the Java EE architecture course.

In this Java EE test, 20 questions are asked. For most questions, *there is only one answer possible*. If multiple answers are possible, it will be clearly indicated. The question is answered correctly, if and only if all correct answers are given.

There are no real trick questions (at least not intentional) but read question and answer attentively.

You must take into account that this test will take you about 15 minutes.

You can find the right answers and guidelines for the evaluation at the end of this document.

Note:

The questions are based on the Java EE 8 specification.

QUESTIONS SELF-TEST JAVA EE ARCHITECTURE

1. Java EE, the Java Enterprise Edition, is

   O (a) an improved version of the Java Standard Edition for business professionals

   O (b) a development environment, designed for creating enterprise applications

   O (c) a platform for enterprise class level, distributed applications

   O (d) a replacement of the Java Virtual Machine for running internet applications

2. **Container services** are configured via

   O (a) special configuration methods in Java Access Beans

   O (b) deployment descriptors and/or annotations

   O (c) resource property files

   O (d) application server administration configuration

3. Which of the following is NOT true

   O (a) Java EE applications are based on 4 phases: development, assembly, deployment, administration

   O (b) Java EE applications are autonomic self-managing, self-healing, self-protecting enterprise applications

   O (c) Java EE applications are split up in multiple tiers: client tier, web tier, EJB tier and integration tier

   O (d) Java EE applications are typically a combination of application clients, web components and business components

4. Which elements are not part of the Java EE specification (2 answers)

   [_] [a] Java FX

   [_] [b] Java Mail

   [_] [c] portlets

   [_] [d] Unified Expression Language

5. Which of the following descriptions of a Java EE web application are correct (2 correct answers)

[_] [a]   A Java EE web application may contain servlets and facelets

[_] [b]   A Java EE web application may contain servlets and EJBs

[_] [c]   A Java EE web application may contain JavaServer Pages and Message Driven Beans

[_] [d]   A Java EE web application must contain Java Server Faces and web services

6. JavaServer Faces

O (a)   are a replacement of JavaServer Pages

O (b)   are used as a facade for servlets and JavaServer Pages

O (c)   is an MVC based web framework

O (d)   is the new name of the Struts framework

7. Enterprise Java Beans (2 correct answers)

[_] [a]   may be deployed in a Java EE web container

[_] [b]   implement server side business components

[_] [c]   are used as a replacement of a relational database

[_] [d]   are necessary for the integration with enterprise services

8. RESTful web services

O (a)   are reached via the HTTP standard interfaces GET, PUT, POST and DELETE

O (b)   keep their status information, after service execution, in the service context

O (c)   are always based on standard XML

O (d)   are absolutely secured, if you use HTTPS

9. Java EE profiles

O (a)   are used for static monitoring of applications

O (b)   control directly the execution of Enterprise Java Beans

O (c)   are configurations of the Java EE platform, targeted at a specific class of applications

O (d)   provide additional security features for Java EE applications

10. The best way to access a database from a standard Java EE application is

   O (a)   based on a dynamic lookup of a datasource via JPA (Java Persistence Architecture)

   O (b)   using a JDBC DriverManager to optimize the connection to the database

   O (c)   working with static SQL statements via SQLJ

   O (d)   developing a customised persistency framework, based on JDBC type 1 drivers

11. Which quote illustrates best the support of web services in Java EE:

   O (a)   Java EE application servers contain a specific web services container to interact with other web services

   O (b)   Java EE provides the required APIs and tools in order to quickly and effectively design, develop, test and deploy web services

   O (c)   The web services support is part of the Java SE, and as such is available in Java EE too.

   O (d)   The Java EE server provides special deployment descriptors for web services

12. The use of a relational database in a Java EE environment is supported best by

   O (a)   Bean Managed Persistent Enterprise Entity Beans

   O (b)   POJO Entities with annotations and controlled by an implementation of the Java Persistence Architecture

   O (c)   Container Managed transactional beans with direct JDBC access

   O (d)   POJO beans and the specification of SQL in the EJB deployment descriptor

13. The **EJB specification** architecture defines (2 correct answers)

   [_] [a]   Client side security and encryption

   [_] [b]   Distributed object components

   [_] [c]   Relational database components

   [_] [d]   Transactional components

14. What type of enterprise bean is best used to embody **shared application information/state**, e.g. the number of actual concurrent users of the application?

   O (a)   stateful session bean

   O (b)   message driven bean

   O (c)   singleton session bean

   O (d)   entity bean

15. A Java EE Enterprise Application Archive (EAR) contains typically

O (a) client modules, web modules, EJB modules and resource adapters

O (b) EJB modules and the associated deployment descriptors

O (c) web modules and the associated deployment descriptors

O (d) all the deployment descriptors for the enterprise modules

16. The Java Connector Architecture (JCA)

O (a) defines the rules for exchanging messages between Java EE containers

O (b) is based on the JDBC protocol for exchanging data

O (c) specifies standard connectivity to EIS systems

O (d) provides services for load balancing and data synchronisation

17. What is NOT a characteristic of Contexts and Dependency Injection (CDI)?

O (a) loosely coupled components

O (b) type safe injection

O (c) container controlled security

O (d) life cycle management

18. Which quote about Java EE transaction management is NOT correct

O (a) Java EE transaction management supports distributed transactions with 2-phase commit

O (b) Java EE transaction management supports the RESTful web services - transaction specification

O (c) Java EE transaction management supports the flat transaction model

O (d) Java EE transaction management implies by default auto commit

19. Security in Java EE (2 correct answers)

[_] [a] is provided by the Java EE containers

[_] [b] requires the Java Authentication and Authorisation Service (JAAS) on the web tier

[_] [c] is implemented as single sign-on feature, relying on an LDAP server

[_] [d] is based on realms, users, groups and roles

20. Which pattern is NOT defined as a Java EE pattern (or Java EE blueprint)

O (a) Business Delegate

O (b) Proxy

O (c) Service to Worker

O (d) Service facade

EVALUATION.

Here are the correct answers to all questions:

1. c
2. b
3. b
4. a c
5. a b
6. c
7. a b
8. a
9. c
10. a
11. b
12. b
13. b d
14. c
15. a
16. c
17. c
18. b
19. a d
20. b

Give yourself 1 point for each correctly answered question (for questions with multiple solutions, this means that **every** correct answer should have been indicated).

If your score is more than 80%, than this course is probably not useful for you any more.

When you have a score between 50% and 80%, you already know some of the concepts, but you will still learn a lot in the Java EE Architecture course.

When your score is less than 50%, we strongly suggest you to follow the Java EE Architecture course.