Java Server Technologies and Servlet

1 – Debugging in Eclipse

1. Which mode allows us to run program interactively while watching source code and variables during execution?

a) safe mode

b) debug mode

c) successfully run mode

d) exception mode

Answer: b

Explanation: Debug mode allows us to run program interactively while watching source code and variables during execution.

2. How can we move from one desired step to another step?

a) breakpoints

b) System.out.println

c) logger.log

d) logger.error

Answer: a

Explanation: Breakpoints are inserted in code. We can move from one point to another in the execution of a program.

3. Which part stores the program arguments and startup parameters?

a) debug configuration

b) run configuration

c) launch configuration

d) project configuration

Answer: c

Explanation: Launch configuration stores the startup class, program arguments and vm arguments.

4. How to deep dive into the execution of a method from a method call?

a) F3

b) F5

c) F7

d) F8

Answer: b

Explanation: F5 executes currently selected line and goes to the next line in the program. If the selected line is a method call, debugger steps into the associated code.

5. Which key helps to step out of the caller of currently executed method?

a) F3

b) F5

c) F7

d) F8

Answer: c

Explanation: F7 steps out to the caller of the currently executed method. This finishes the execution of the current method and returns to the caller of this method.

6. Which view allows us to delete and deactivate breakpoints and watchpoints?

a) breakpoint view

b) variable view

c) debug view

d) logger view

Answer: a

Explanation: The Breakpoints view allows us to delete and deactivate breakpoints and watchpoints. We can also modify their properties.

7. What is debugging an application which runs on another java virtual machine on another machine?

a) virtual debugging

b) remote debugging

c) machine debugging

d) compiling debugging

Answer: b

Explanation: Remote debugging allows us to debug applications which run on another Java virtual machine or even on another machine. We need to set certain flags while starting the application.

8. What happens when the value of variable change?

a) changed value pop on the screen

b) variable changes are printed in logs

c) dump of variable changes are printed on the screen on end of execution

d) variable tab shows variables highlighted when values change

Answer: d

Explanation: When a variable value changes, the value in variable tab is highlighted yellow in eclipse.

9. Which perspective is used to run a program in debug view?

a) java perspective

b) eclipse perspective

c) debug perspective

d) jdbc perspective

Answer: c

Explanation: We can switch from one perspective to another. Debug perspective shows us the breakpoints, variables, etc.

10. How does eclipse provide the capability for debugging browser actions?

a) internal web browser

b) chrome web browser

c) firefox web browser

d) internet explorer browser

Answer: a

Explanation: Eclipse provides internal web browser to debug browser actions.

2 – Web application

1. Servlet are used to program which component in a web application?

a) client

b) server

c) tomcat

d) applet

Answer: b

Explanation: A servlet class extends the capabilities of servers that host applications which are accessed by way of a request-response programming model.

2. Which component can be used for sending messages from one application to another?

a) server

b) client

c) mq

d) webapp

Answer: c

Explanation: Messaging is a method of communication between software components or applications. MQ can be used for passing message from sender to receiver.

3. How are java web applications packaged?

a) jar

b) war

c) zip

d) both jar and war

Answer: d

Explanation: war are deployed on apache servers or tomcat servers. With Spring boot and few other technologies tomcat is brought on the machine by deploying jar.

4. How can we connect to database in a web application?

a) oracle sql developer

b) toad

c) JDBC template

d) mysql

Answer: c

Explanation: JDBC template can be used to connect to database and fire queries against it.

5. How can we take input text from user in HTML page?

a) input tag

b) inoutBufferedReader tag

c) meta tag

d) scanner tag

Answer: a

Explanation: HTML provides various user input options like input, radio, text, etc.

6. Which of the below is not a javascript framework for UI?

a) Vaadin

b) AngularJS

c) KendoUI

d) Springcore

Answer: d

Explanation: Springcore is not a javascript framework. It is a comprehensive programming and configuration model for enterprise applications based on java.

7. Which of the below can be used to debug front end of a web application?

a) Junit

b) Fitnesse

c) Firebug

d) Mockito

Answer: c

Explanation: Firebug integrates with firefox and enables to edit, debug and monitor CSS, HTML and javascript of any web page.

8. What type of protocol is HTTP?

a) stateless

b) stateful

c) transfer protocol

d) information protocol

Answer: a

Explanation: HTTP is a stateless protocol. It works on request and response mechanism and each request is an independent transaction.

9. What does MIME stand for?

a) Multipurpose Internet Messaging Extension

b) Multipurpose Internet Mail Extension

c) Multipurpose Internet Media Extension

d) Multipurpose Internet Mass Extension

Answer: b

Explanation: MIME is an acronym for Multi-purpose Internet Mail Extensions. It is used for classifying file types over the Internet. It contains type/subtype e.g. application/msword.

10. What is the storage capacity of single cookie?

a) 2048 MB

b) 2048 bytes

c) 4095 bytes

d) 4095 MB

Answer: c

Explanation: Storage capacity of cookies is 4095 bytes/cookie.

3 – Client and Server

1. How does applet and servlet communicate?

a) HTTP

b) HTTPS

c) FTP

d) HTTP Tunneling

Answer: d

Explanation: Applet and Servlet communicate through HTTP Tunneling.

2. In CGI, process starts with each request and will initiate OS level process.

a) True

b) False

Answer: a

Explanation: A new process is started with each client request and that corresponds to initiate a heavy OS level process for each client request.

3. Which class provides system independent server side implementation?

a) Socket

b) ServerSocket

c) Server

d) ServerReader

Answer: b

Explanation: ServerSocket is a java.net class which provides system independent implementation of server side socket connection.

4. What happens if ServerSocket is not able to listen on the specified port?

a) The system exits gracefully with appropriate message

b) The system will wait till port is free

c) IOException is thrown when opening the socket

d) PortOccupiedException is thrown

Answer: c

Explanation: public ServerSocket() creates an unbound server socket. It throws IOException if specified port is busy when opening the socket.

5. What does bind() method of ServerSocket offer?

a) binds the serversocket to a specific address (IP Address and port)

b) binds the server and client browser

c) binds the server socket to the JVM

d) binds the port to the JVM

Answer: a

Explanation: bind() binds the server socket to a specific address (IP Address and port). If address is null, the system will pick an ephemeral port and valid local address to bind socket.

6. Which of the below are common network protocols?

a) TCP

b) UDP

c) TCP and UDP

d) CNP

Answer: c

Explanation: Transmission Control Protocol(TCP) and User Datagram Protocol(UDP) are the two common network protocol. TCP/IP allows reliable communication between two applications. UDP is connection less protocol.

7. Which class represents an Internet Protocol address?

a) InetAddress

b) Address

c) IP Address

d) TCP Address

Answer: a

Explanation: InetAddress represents an Internet Protocol address. It provides static methods like getByAddress(), getByName() and other instance methods like getHostName(), getHostAddress(), getLocalHost().

8. What does local IP address start with?

a) 10.X.X.X

b) 172.X.X.X

c) 192.168.X.X

d) 10.X.X.X, 172.X.X.X, or 192.168.X.X

Answer: d

Explanation: Local IP addresses look like 10.X.X.X, 172.X.X.X, or 192.168.X.X.

9. What happens if IP Address of host cannot be determined?

a) The system exit with no message

b) UnknownHostException is thrown

c) IOException is thrown

d) Temporary IP Address is assigned

Answer: b

Explanation: UnknownHostException is thrown when IP Address of host cannot be determined. It is an extension of IOException.

10. What is the java method for ping?

a) hostReachable()

b) ping()

c) isReachable()

d) portBusy()

Answer: c

Explanation: inet.isReachable(5000) is a way to ping a server in java.

4 – Java Servlet

1. How constructor can be used for a servlet?

a) Initialization

b) Constructor function

c) Initialization and Constructor function

d) Setup() method

Answer: c

Explanation: We cannot declare constructors for interface in Java. This means we cannot enforce this requirement to any class which implements Servlet interface.

Also, Servlet requires ServletConfig object for initialization which is created by container.

2. Can servlet class declare constructor with ServletConfig object as an argument?

a) True

b) False

Answer: b

Explanation: ServletConfig object is created after the constructor is called and before init() is called. So, servlet init parameters cannot be accessed in the constructor.

3. What is the difference between servlets and applets?

i. Servlets execute on Server; Applets execute on browser

ii. Servlets have no GUI; Applet has GUI

iii. Servlets creates static web pages; Applets creates dynamic web pages

iv. Servlets can handle only a single request; Applet can handle multiple requests

a) i, ii, iii are correct

b) i, ii are correct

c) i, iii are correct

d) i, ii, iii, iv are correct

Answer: b

Explanation: Servlets execute on Server and doesn’t have GUI. Applets execute on browser and has GUI.

4. Which of the following code is used to get an attribute in a HTTP Session object in servlets?

a) session.getAttribute(String name)

b) session.alterAttribute(String name)

c) session.updateAttribute(String name)

d) session.setAttribute(String name)

Answer: a

Explanation: session has various methods for use.

5. Which method is used to get three-letter abbreviation for locale’s country in servlets?

a) Request.getISO3Country()

b) Locale.getISO3Country()

c) Response.getISO3Country()

d) Local.retrieveISO3Country()

Answer: a

Explanation: Each country is usually denoted by a 3 digit code.ISO3 is the 3 digit country code.

6. Which of the following code retrieves the body of the request as binary data?

a) DataInputStream data = new InputStream()

b) DataInputStream data = response.getInputStream()

c) DataInputStream data = request.getInputStream()

d) DataInputStream data = request.fetchInputStream()

Answer: c

Explanation: InputStream is an abstract class. getInputStream() retrieves the request in binary data.

7. When destroy() method of a filter is called?

a) The destroy() method is called only once at the end of the life cycle of a filter

b) The destroy() method is called after the filter has executed doFilter method

c) The destroy() method is called only once at the begining of the life cycle of a filter

d) The destroyer() method is called after the filter has executed

Answer: a

Explanation: destroy() is an end of life cycle method so it is called at the end of life cycle.

8. Which of the following is true about servlets?

a) Servlets execute within the address space of web server

b) Servlets are platform-independent because they are written in java

c) Servlets can use the full functionality of the Java class libraries

d) Servlets execute within the address space of web server, platform independent and uses the functionality of java class libraries

Answer: d

Explanation: Servlets execute within the address space of a web server. Since it is written in java it is platform independent. The full functionality is available through libraries.

9. How is the dynamic interception of requests and responses to transform the information done?

a) servlet container

b) servlet config

c) servlet context

d) servlet filter

Answer: d

Explanation: Servlet has various components like container, config, context, filter. Servlet filter provides the dynamic interception of requests and responses to transform the information.

10. Which are the session tracking techniques?

i. URL rewriting

ii. Using session object

iii.Using response object

iv. Using hidden fields

v. Using cookies

vi. Using servlet object

a) i, ii, iii, vi

b) i, ii, iv, v

c) i, vi, iii, v

d) i, ii, iii, v

Answer: b

Explanation: URL rewriting, using session object, using cookies, using hidden fields are session tracking techniques.