**Short Assignment/In-Class Activity #1 – Tools Install & Intro to Java EE**

**Short Assignment 1a: Tools Installation & Validation**

Objective:

Demonstrate the ability to install and validate Enterprise Java development environment.

Activity Directions:

1. Follow the instructions in the ‘Tools Install Guide’ located in the course materials.
2. Build the Hello World Servlet example provided as part of the IDE.
3. Validate that the Servlet application can be deployed to the JBoss EAP server.
4. Validate that the Servlet application is functional.
5. Change the String returned from the HelloService.java file and validate that Hot Deployment functions properly, the application is automatically deployed to the JBoss EAP server when code change are made, and that the server does not require a restart when code changes are made.

Deliverables and Submission:

1. Screen shot of the Hello World Servlet application running in the IDE internal browser with the screen shot including the browser address bar.
2. Screen shot of the Console tab output of the Hello World Servlet application running showing deployment before and after code changes have been made to the HelloService.java file.
3. Upload all screenshots to LoudCloud.

This assignment uses a rubric. Please refer to the rubric prior to beginning the assignment to become familiar with the expectations for successful completion.

**Short Assignment 1b: Understanding Enterprise Java Technologies**

Objective:

Research Enterprise Java Technologies and document how these technologies are used to build layered and scalable enterprise applications.  
  
Activity Directions:

Using the reading from this week’s Topic and other Internet resources research what an N-Layer architecture is in the context of building Enterprise Java applications. Using your research findings, draw a logical N-Layer (not N-Tier) conceptual drawing that represents a modern Enterprise Java application. For each Layer in your drawing map the common technologies, standards, and frameworks defined in the Enterprise Java Standard Edition 7. Also, briefly go thru the syllabus for this class and outline what technologies, standards, and frameworks will be covered in this class and what Layer of your conceptual drawing these map to. Finally, provide a 200-300 word write up that provides the advantages of properly supporting designed N-Layer architecture.

Deliverables and Submission:

1. A Research report containing the following:
   * Cover sheet with name of class, assignment, date, and your name.
   * N-Layer architecture drawing (with technology mapping).
   * 200-300 word outline of N-Layer architecture advantages.
2. Upload research report to LoudCloud.

This assignment uses a rubric. Please refer to the rubric prior to beginning the assignment to become familiar with the expectations for successful completion.

Developer Notes & Best Practices:

* When designing an Enterprise Java web application always adhere to a Layered Architecture.
* When designing an Enterprise Java web application always adhere to common design patterns, such as MVC, DTO, DAO, DI, Façade, and Singleton.
* When designing an Enterprise Java web application leverage the services provided by the Application Server or Software Stack/Platform.
* When designing an Enterprise Java web application always use Dependency Injection and only declare non concrete implementations (i.e. Interfaces) of classes.
* When building an Enterprise Java web application always use a Dependency Management system, such as Maven or Gradle.