**Guice Assignment**

**Due Wednesday March 5th at 11:59 pm**

In this assignment you will use Google Guice to wire up some services used by a “web application”. This is NOT a real web application, it is just a conceptual application to help you understand the usage of Dependency Injection.

The services and their dependencies are as follows:

* **WebApplication** uses a **WebServer** to run its application logic.
* **WebServer** depends on a **Frontend**, a **Middleware** and a **Persistence** services (already wired up using Guice as example). There are a couple of implementations for each of these services.
* **Frontend** depends on an **Authentication** service. There are a couple of implementations for this service.
* **Persistence** depends on a **FileSystem** and a **Connection** service. There are a couple of implementations for each of these services.

You need to add the Guice jars from the “lib” directory in the project to the project’s class path. (Hint: make sure to use “Add Jars” instead of “Add External Jars”)

**Task 1 (15 points):** You will use **Constructor Injection** to wire up these services as described above for each of the implementations. For each service, in the **run()** method you will invoke all of the dependent services if there are any (similar to **WebServer**).

**Task 2 (15 points):** You will create a module in **edu.umd.fcmd.guice.application** named **StandardModule** that will bind:

* FrontendHTML
* MiddlewareTomcat
* PersistenceMySQL
* AuthenticationSSL
* FileSystemNTFS
* ConnectionPooled

We will create other modules to test the correctness of your Dependency Injection setup. (Note: no logging in this module)

**Task 3 (20 points):** You will create another module in **edu.umd.fcmd.guice.application** named **LoggedModule** that will bind:

* FrontendGWT
* MiddlewareJBose
* PersistenceOracle
* AuthenticationTSL
* FileSystemNFS
* ConnectionJDBC

In addition, you will use Guice to create a logging interceptor (aspect) in **edu.umd.fcmd.guice.application** named **LoggingInterceptor** that tracks all method calls of subclasses of **Frontend**, **Middleware** and **Persistence**. Bind this LoggingInterceptor in LoggedModule.

**Submission Instructions:**

1. Rename your project (from Eclipse) to **Assignment2\_<YourLastName>**.
2. Create a zip file containing your project directory and named it **Assignment2\_<YourLastName>.zip**.
3. Submit the zip file via Canvas.

**Important:** Start early and ask questions early. For all assignments, your questions will NOT be answered if received after the weekend before they are due.