CS544 Exercises

January – February 2017

Section 1: Environment Setup

Maven:

All of the projects for this class will be based on maven (http://maven.apache.org/). Maven is a utility to organize and build a project (similar to what IDE's do, but without the GUI part).

Maven uses an XML file called pom.xml (Project Object Model), which keeps track of where your source code is, where your class files should go, what jar files (libraries) your project depends on, and even where to download these libraries from.

Most IDE's come with Maven integration. You do not need to download Maven.

```xml
<project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/xsd/maven-4.0.0.xsd">
    <modelVersion>4.0.0</modelVersion>

    <groupId>edu.mum.cs544</groupId>
    <artifactId>exercise02_1</artifactId>
    <version>1.0-SNAPSHOT</version>
    <packaging>jar</packaging>

    <name>exercise02_1</name>
    <url>http://maven.apache.org</url>

    <properties>
        <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
    </properties>

    <dependencies>
        <dependency>
            <groupId>junit</groupId>
            <artifactId>junit</artifactId>
            <version>3.8.1</version>
            <scope>test</scope>
        </dependency>
        <dependency>
            <groupId>org.hibernate</groupId>
            <artifactId>hibernate-core</artifactId>
            <version>4.3.4.Final</version>
        </dependency>
        <dependency>
            <groupId>mysql</groupId>
            <artifactId>mysql-connector-java</artifactId>
            <version>5.1.29</version>
        </dependency>
        <dependency>
            <groupId>log4j</groupId>
            <artifactId>log4j</artifactId>
            <version>1.2.17</version>
        </dependency>
    </dependencies>
</project>
```

Basic project naming, no need to specify directories, uses defaults

Jar files that we need for this project

Provided Software

You can download and install the following from *\\CS5\Public\Courses\CS544\Salek\Software*

1) JDK 8 - (Installer)
2) Spring Tool Suite - (Zipped folder)
3) MySql – (Zipped Installer)

Integrated Development Environment:

I would like to recommend that we all use STS (Spring/Pivotal version of Eclipse) for this course.

MySQL Database:

Many of the exercises in this course (especially in the first week) require a database. We will use MySQL since it is free and relatively widely used in the industry.

Web Server / Apache Tomcat:

We will use Pivotal tc (Tomcat) Server that comes bundled with STS.

HornetQ JMS Server:

We will have a couple of exercises that require a JMS server, for these we will use HornetQ: https://www.jboss.org/hornetq/downloads.html

Source Control Management - GitHub:

I will use GitHub to share code (lab skeletons, examples, etc.) with you. My public GitHub is located at:

https://github.com/psalek/cs544

Remember that you can get an educational GitHub account at: https://education.github.com/

Exercise 01.1 – Environment Setup

Option 1 – Express Route!
1) Download and install the latest version of **JDK** and **MySQL** from
   \\CS5\Public\Courses\CS544\Salek\Software
2) Download the prepared zip file for **STS**:
   \\CS5\Public\Courses\CS544\Salek\Software\
3) Unzip it to C:\Courses\CS544
4) Go to C:\Courses\CS544\STS\3.8.3\sts-3.8.3.RELEASE and run STS.exe
5) Import the source code from GitHub
6) Import the folder as existing Maven projects.

Run Sample App
1) Go to **example00-hibernate-1** and run **Application.java**
2) See if you can run it!!!

Hint: You may need to create a schema in your MySql intance called "cs544" and create a user with full access to that schema. The username/password added to our exercise XML files is:

Username: cs544

Password: 201511