October 24, 2018

Milestone 3

Sequence of major functionality from user interface to persistence

This week we created mockups for our app and connected our front-end to our backend. We at this point can add, edit, and delete a course to/from our database from the jsp page.

Lessons learned

- Servlets
  - Using MLab/MongoDB with servlets
  - Connecting JSP page to servlet
- JSP
- Setting up a local Tomcat server
  - How to set it up in Eclipse as well

Decision log and consequence of the decision

We decided to use Figma to create our mockups. Megan for the most part created the mockups. We have used Figma for other classes to create mockups and we like it because it's collaborative and easy to use.

We greatly considered changing from MLab/MongoDB to JDBC/JPA and SQL because there was so little information on MLab and Java applications and we had some issues getting the the servlets to communicate with MLab. We relied a lot on this tutorial to get us started and it caused us to run into quite a few issues that needed to be resolved as this was done with a local MongoDB rather than with MLab, which needed just a couple of changes and caused some confusion. Overall, we decided to stay with MLab once we figure out more so how it works.

Megan wanted to run Tomcat within Eclipse, so she changed the project structure to make it a Dynamic Web Application so it could be run on the server through Eclipse.

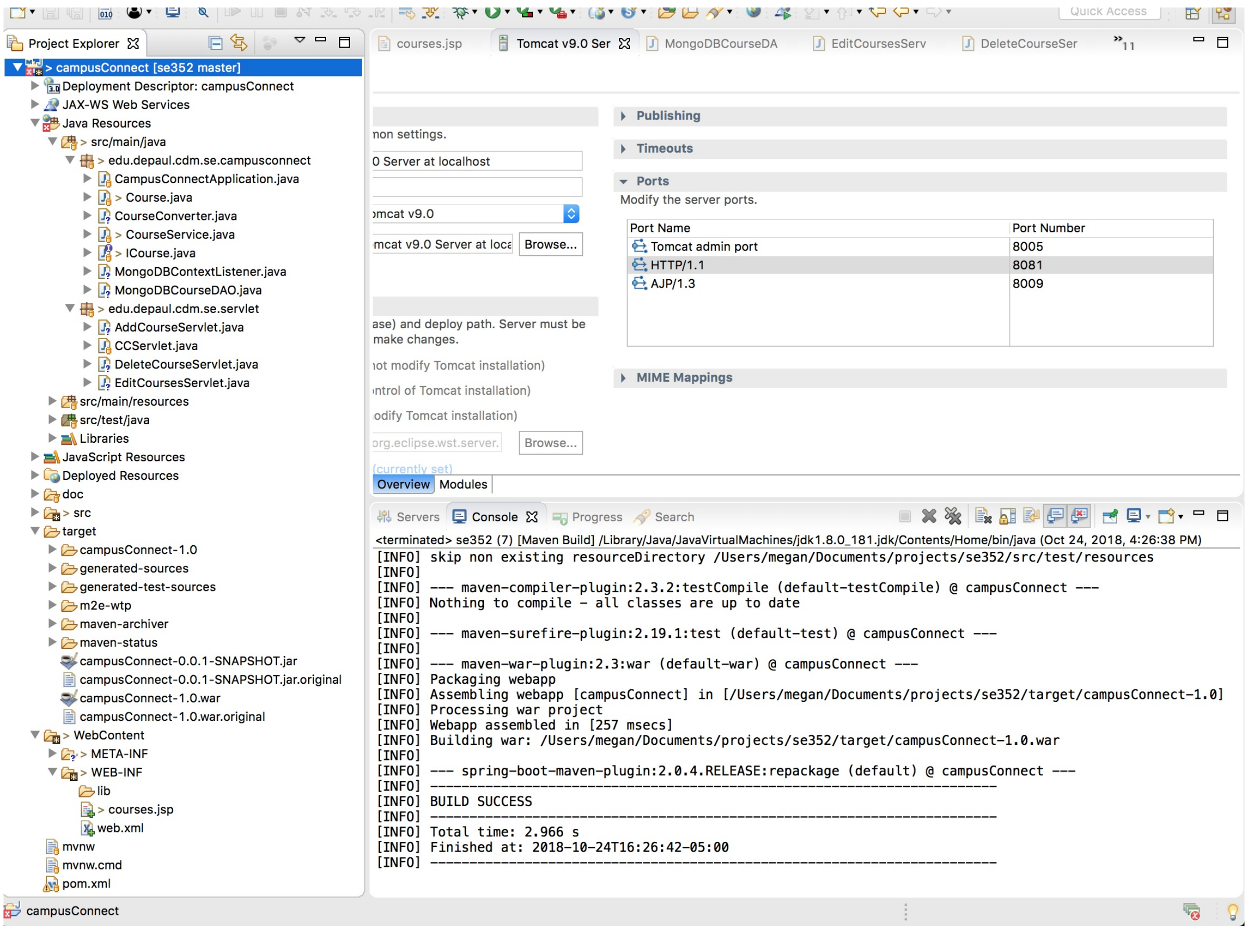
Discussion about the lessons learned

We figured out the servlets finally and how to connect them to MLab. The servlets were pretty easy to connect to the JSP pages with the annotations, and JSP was ok to figure out, we definitely had to do a little research on that one.

We were annoyed by having to continually build and deploy the .war file from Eclipse to the

Tomcat server, so we decided to figure out how to run it through Eclipse. That took a bit of time, configuration, and Stack Overflow searching. It ended up changing our project structure, which took a moment to get used to, but did ultimately make it easier to develop.

JSP is just a learning process. We don't have much more to say on that.



Project Explorer

```
▼ > campusConnect [se352 master]
  ▶ Deployment Descriptor: campusConnect
  ▶ JAX-WS Web Services
  ▼ Java Resources
    ▼ > src/main/java
      ▼ > edu.depaul.cdm.se.campusconnect
        ▶ CampusConnectApplication.java
        ▶ > Course.java
        ▶ CourseConverter.java
        ▶ > CourseService.java
        ▶ > ICourse.java
        ▶ MongoDBContextListener.java
        ▶ MongoDBCourseDAO.java
      ▼ > edu.depaul.cdm.se.servlet
        ▶ AddCourseServlet.java
        ▶ CCServlet.java
        ▶ DeleteCourseServlet.java
        ▶ EditCoursesServlet.java
    ▶ src/main/resources
    ▶ src/test/java
    ▶ Libraries
  ▶ JavaScript Resources
  ▶ Deployed Resources
  ▶ doc
  ▶ > src
  ▼ target
    ▶ campusConnect-1.0
    ▶ generated-sources
    ▶ generated-test-sources
    ▶ m2e-wtp
    ▶ maven-archiver
    ▶ maven-status
      campusConnect-0.0.1-SNAPSHOT.jar
      campusConnect-0.0.1-SNAPSHOT.jar.original
      campusConnect-1.0.war
      campusConnect-1.0.war.original
  ▼ > WebContent
    ▶ > META-INF
    ▼ > WEB-INF
        lib
        > courses.jsp
        web.xml
    mvnw
    mvnw.cmd
    pom.xml
```

courses.jsp | Tomcat v9.0 Ser | MongoDBCourseDA | EditCoursesServ | DeleteCourseSer

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0 Server at localhost
omcat v9.0
mcat v9.0 Server at loca Browse...
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ot modify Tomcat installation)
ntrol of Tomcat installation)
odify Tomcat installation)
org.eclipse.wst.server. Browse...
(currently set)

▸ Publishing
▸ Timeouts
▾ Ports
Modify the server ports.

Port Name	Port Number
Tomcat admin port	8005
HTTP/1.1	8081
AJP/1.3	8009

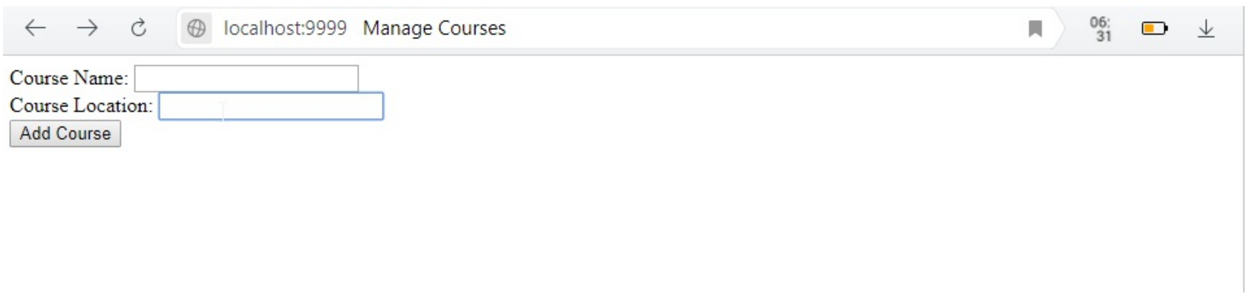
▸ MIME Mappings

Overview | Modules

Servers | Console | Progress | Search

```
<terminated> se352 (7) [Maven Build] /Library/Java/JavaVirtualMachines/jdk1.8.0_181.jdk/Contents/Home/bin/java (Oct 24, 2018, 4:26:38 PM)
[INFO] skip non existing resourceDirectory /Users/megan/Documents/projects/se352/src/test/resources
[INFO]
[INFO] --- maven-compiler-plugin:2.3.2:testCompile (default-testCompile) @ campusConnect ---
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] --- maven-surefire-plugin:2.19.1:test (default-test) @ campusConnect ---
[INFO]
[INFO] --- maven-war-plugin:2.3:war (default-war) @ campusConnect ---
[INFO] Packaging webapp
[INFO] Assembling webapp [campusConnect] in [/Users/megan/Documents/projects/se352/target/campusConnect-1.0]
[INFO] Processing war project
[INFO] Webapp assembled in [257 msecs]
[INFO] Building war: /Users/megan/Documents/projects/se352/target/campusConnect-1.0.war
[INFO]
[INFO] --- spring-boot-maven-plugin:2.0.4.RELEASE:repackage (default) @ campusConnect ---
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time: 2.966 s
[INFO] Finished at: 2018-10-24T16:26:42-05:00
[INFO] ------------------------------------------------------------------------
```

campusConnect



localhost:9999 Manage Courses

Course Name:
Course Location:
Add Course