

SYSC 4806 – Lab 1: Using the Maven Build Tool

We're going to use the IntelliJ IDE this term. Since you already have experience with Eclipse, we expect that you can pick up IntelliJ rather easily, and so we won't provide as much detail as we used to back in SYSC3110. If you get stuck though, our TA(s) is/are here to help!

Our goal in this lab is to create a simple AddressBook application, but this time using Maven. There's [this 5 minute intro to Maven](#) on the Maven web site you may want to check out first.

1. Find and Open IntelliJ. Click "create new project"
2. Make sure your Project SDK is 1.8, or failing that, 1.7. Select "Maven" from the menu on the right. Click "next".
3. Now we're populating the basic elements of a Maven pom.xml file: for GroupId you can use your "company name" (I chose "babaksoft" myself). ArtifactId basically represents the name of your project. Use "AddressBook" here. Click "next".
4. Make sure your project location is somewhere in your M: drive so you can re-use your work in future labs. Then click "finish".
5. You should now see the generated pom.xml file with the information you entered, and on the left pane, you can see the folders and files that were created for you: among others a src/main folder, and a corresponding src/test folder, both empty for now.
6. Now let's see what we can already do with our Maven project. In the View menu, select "Tool Windows -> Maven Projects". In the new pane, you can see all the phases of the lifecycle, ready to be executed. Try executing the "package" phase, by double-clicking on it. Maven should go through all phases up to "package", and so it will compile (well, there's nothing to compile so far), run the tests (nothing here either), and create a jar file for you!

7. Fresh from this success, now create your AddressBook program, like you did back in SYSC3110: AddressBook is a class that has-a list of BuddyInfo objects, which each contain the name and phone number of your buddies:

- Right-click on the java folder in the Project pane, and select "new->class", and go ahead with creating BuddyInfo and AddressBook.
- Now this is the cool part: IntelliJ provides a lot of contextual help. To access it, select the AddressBook class name in the source, and hit alt-enter. It will offer you many options, among which the possibility to create a corresponding test class. Do it! Be careful to select JUnit 3 or 4 as the target.
- Similarly, selecting the class name and clicking ctrl-enter will provide plenty of automatic code generation options. Feel free to use them but always inspect the result to see if it conforms to what you wanted.
- Complete your basic AddressBook application, with a main() method that simply creates an AddressBook object, populates it with a couple of BuddyInfos and prints the content. Provide unit tests for both AddressBook and BuddyInfo. Using Maven, package your deliverable into a JAR.
- Show your work to the TA and put the entire directory in a zip file and submit on CuLearn.