Java/Web Development

Scope

This document lists the tools used for developing web applications in ERL and includes installation instructions. This is the general set:

- Apache Tomcat
- Java
- Java Server Faces 2 (JSF)
    - Prime Faces (on top of JSF)
- Git for code control
- Eclipse IDE
- Apache Maven
- PostgreSQL

Java

We are using the Sun/Oracle version of Java. You will want to get the Java SE JDK. As of today, the version is 8u45.

- Do not get the Java EE version
- Do not get the version bundled with Netbeans
- Do not get the JRE
- The Sun/Oracle website is: http://java.sun.com
- Download most recent version of the SE JDK (example assumes 8u45, 64 bit version).
- You will have the file: jdk-8u45-linux-x64.tar.gz
    1. `cd /opt`
    2. `tar -zxvf PATH/jdk-8u45-linux-x64.tar.gz`
    3. Change your path to include `/opt/jdk.1.8.0_45/bin`
    4. Add an environment variable to point to JAVA_HOME

Git

The git system/application will be included as part of Eclipse.

There is a git configuration file that needs to be updated, even though we will use Eclipse to access Git. The code.imphub.org site certificate is no recognized by the Java from Oracle, and we need to tell git to ignore the certificate issue.

Create the file .gitconfig (note the . in front of gitconfig) in your home folder. The contents should look like this:

```
[user]

 name = Steve Moore

 email = moores@mir.wustl.edu

[http]

    sslVerify = false
```

This should be recognized by git within Eclipse.

Eclipse

- The Eclipse website is: http://www.eclipse.org
- There are different versions of Eclipse:
    - Select the Eclipse IDE for Java EE Developers (Java EE IDE for Web Developers 4.4.1)
    - AKA: Luna 4.4.2
    - Build ID: 20150219-0600

You will need the follow Eclipse add-ons. See Appendix material for installation instructions.

- Eclipse EGit 3.4.2
- Eclipse.org – M2e Maven Integration for Eclipse 1.5.1.* org.eclipse.m2e.feature
- Eclipse.org – M2e-wtp 1.1.0
- APT M2E Connector   0.0.1.3
- m2e connector for build-helper-maven-plugin   0.15.0.201207090124
- m2e connector for jaxws-maven-plugin   0.0.1.201411151653

Apache Tomcat

The link for Tomcat is http://tomcat.apache.org. The current release is 8.0.x. The installation steps below will tell you how to run/test the server.
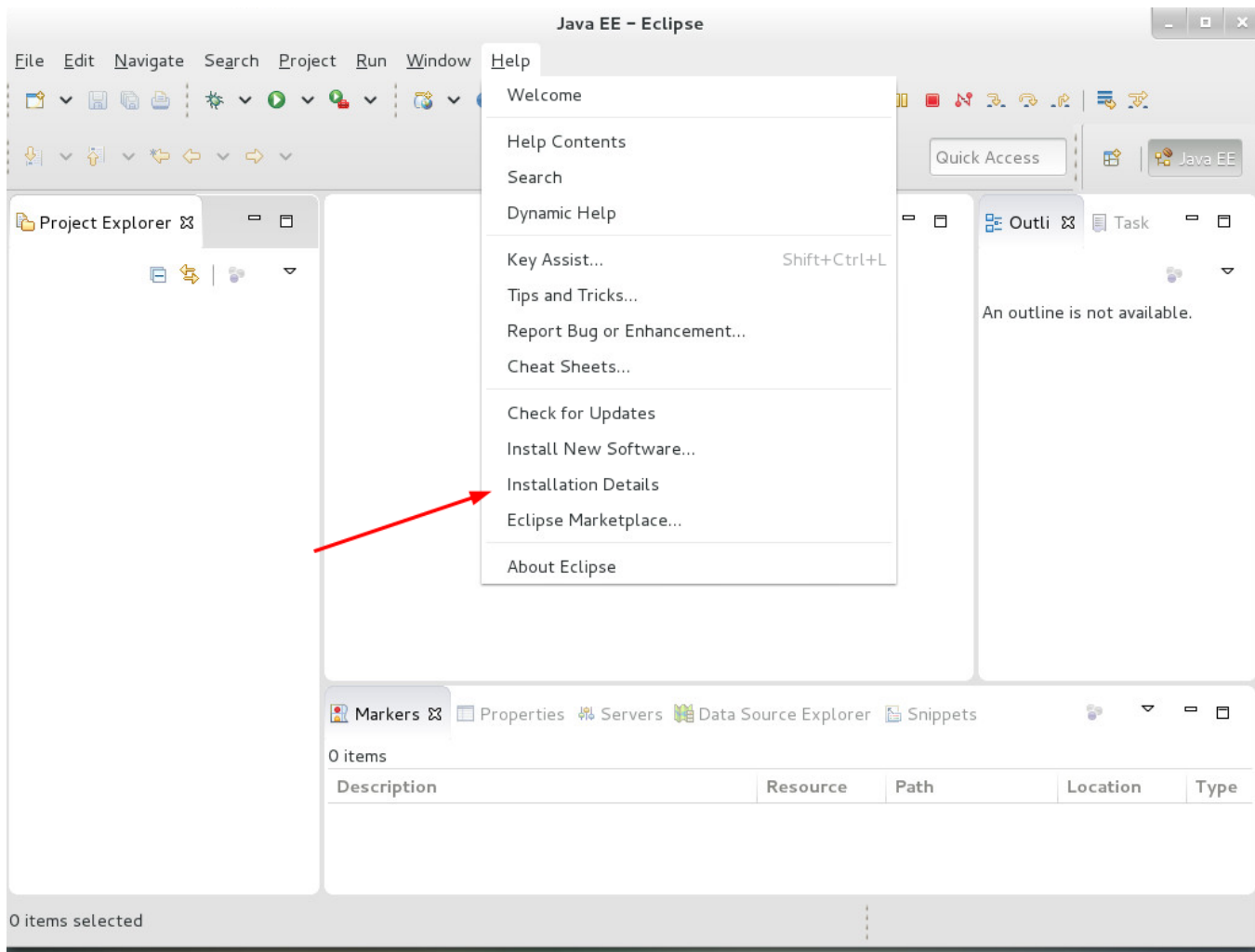
All instructions below assume you are retrieving a binary distribution from the Core section. You do not need the installer from the Deployer, Extras or Embedded section.

1. Download the zip file (normally first in the list of distributions). The web browser will likely unzip the file for you and drop the expanded folder in your Downloads folder.
2. Copy the expanded tomcat folder to a more permanent folder. This can still be somewhere in your home folder or a sub folder.
3. The installation is complete, but these next steps will help you check the installation.
   a. From a terminal window, cd to the tomcat folder you created.
   b. `cd bin`
   c. `chmod +x *.sh`
   d. `./startup.sh`
   e. Use a web browser and connect to http://localhost:8080. You should see a Tomcat welcome page
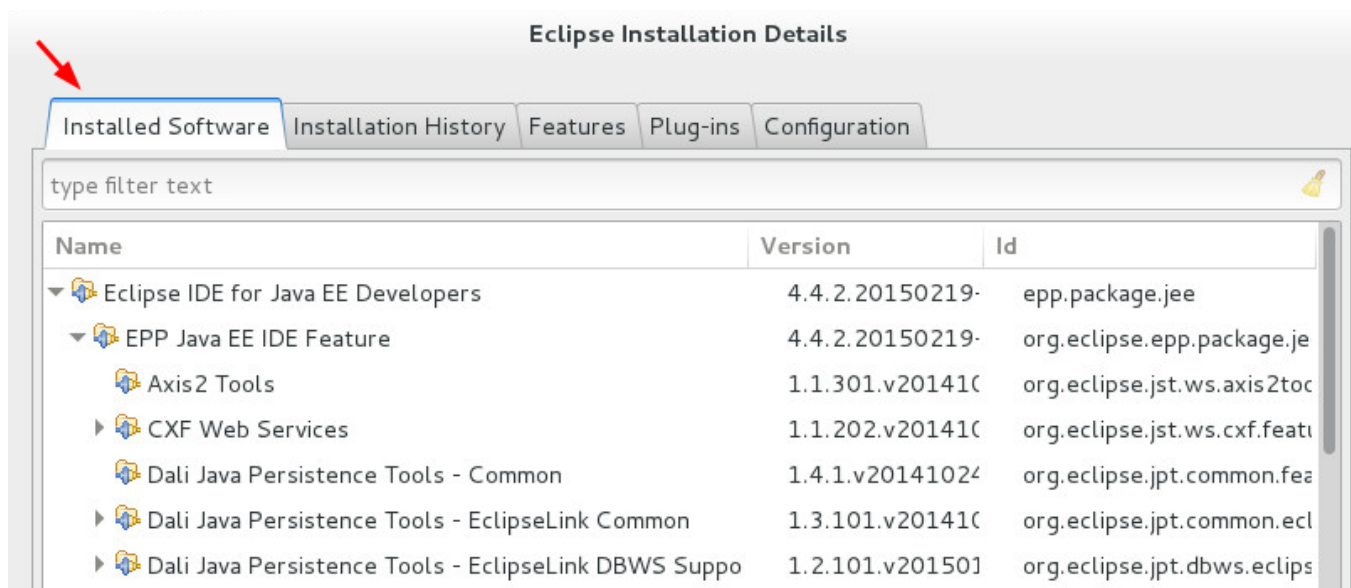   f. `./shutdown.sh`

Appendix Material

Eclipse Add-ons

First check to see if any of these were included in the baseline installation of Eclipse.

Eclipse Installation Details

Eclipse Installed Software

Eclipse EGit 3.4.2

Should be installed as part of base installation

Eclipse Git Team Provider	3.4.2.201412180340-r	org.eclipse.egit.t
Java implementation of Git	3.4.2.201412180340-r	org.eclipse.jgit.f

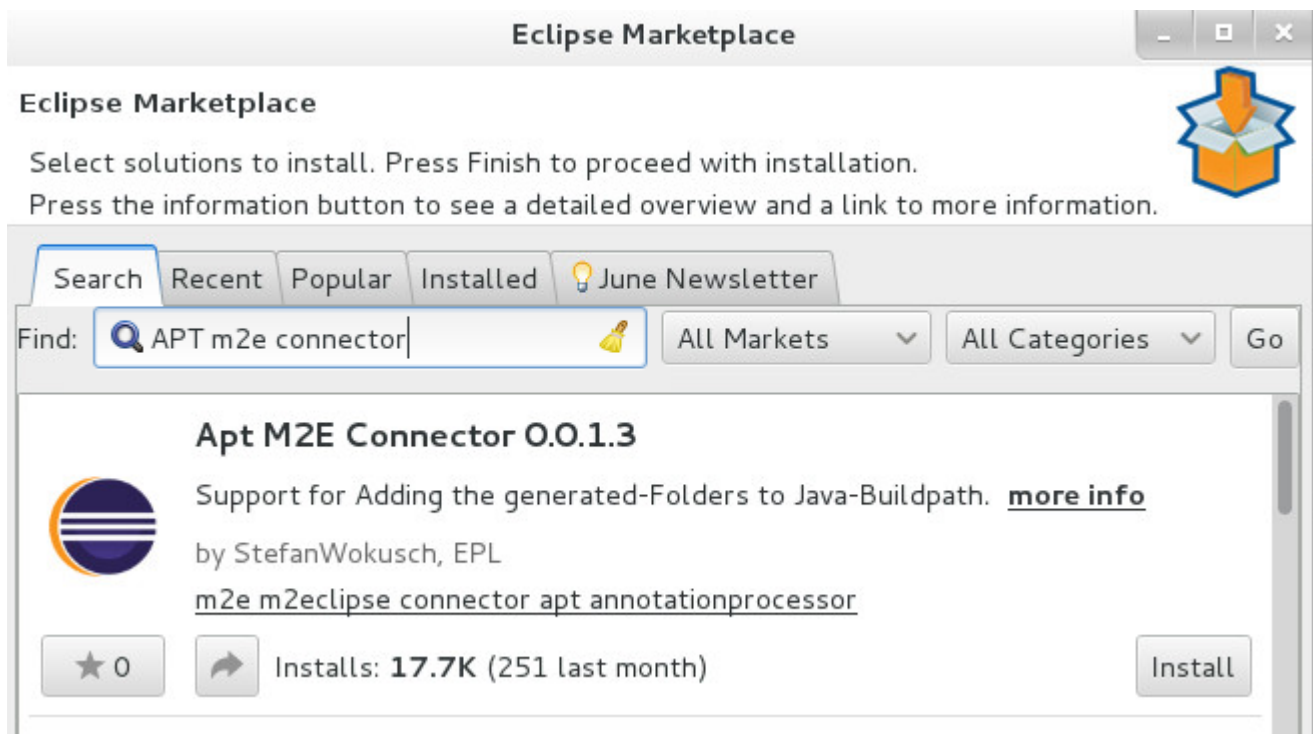**Eclipse.org – M2e Maven Integration for Eclipse 1.5.1.* org.eclipse.m2e.feature** (and)

Eclipse.org – M2e-wtp 1.1.0

Both of these should be installed as part of base installation

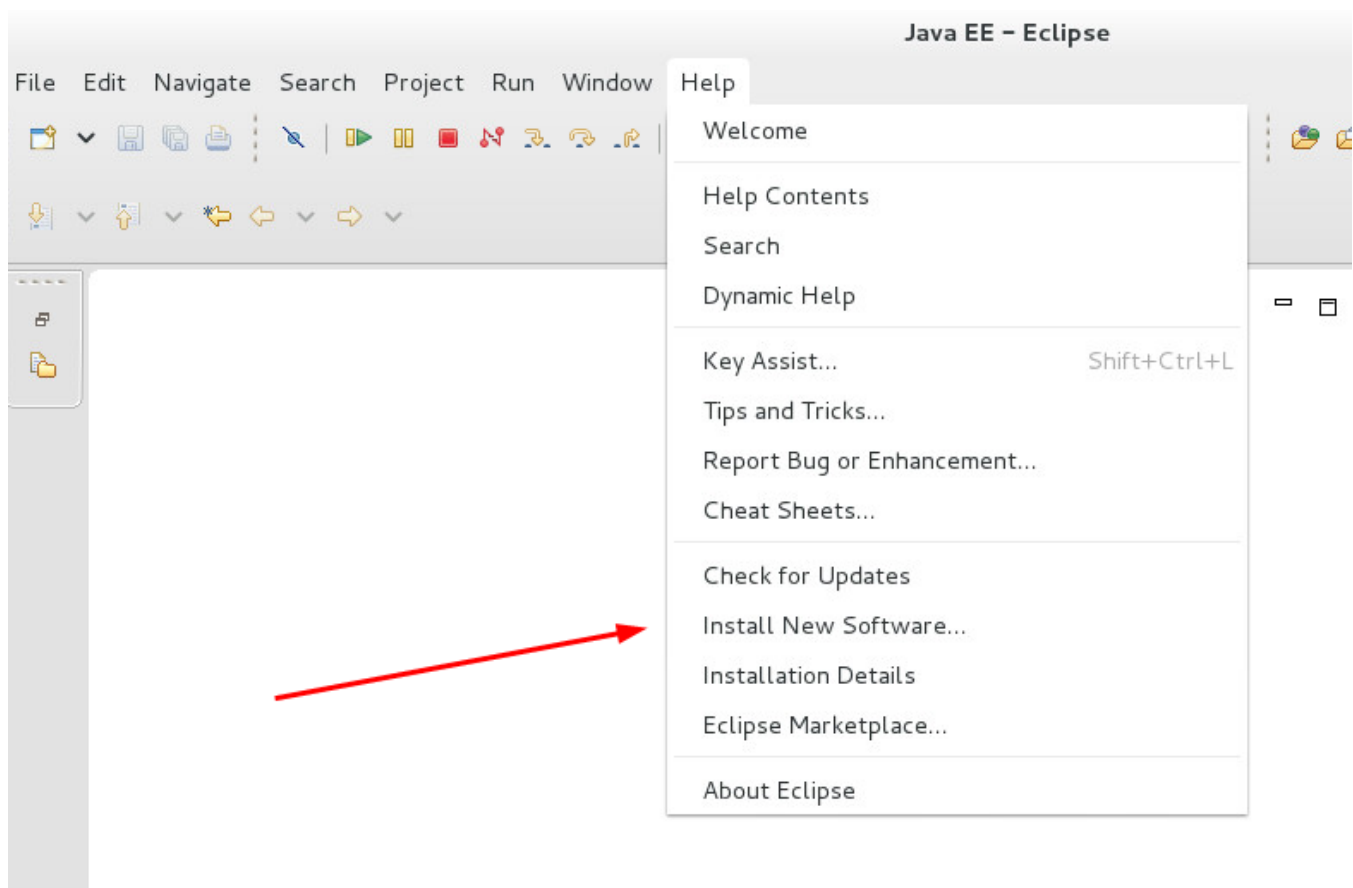|		
m2e-wtp – JSF configurator for WTP (Optional)	1.1.0.20140611-1646	org.eclipse.m2e.
m2e-wtp – Maven Integration for WTP	1.1.0.20140611-1646	org.eclipse.m2e.
Eclipse Faceted Project Framework	3.6.1.v201409111446	org.eclipse.wst.
Eclipse Faceted Project Framework JDT Enablement	3.6.3.v201501141810	org.eclipse.jst.cc
Eclipse Java Development Tools	3.10.1.v20150204-1700	org.eclipse.jdt.fe
Eclipse Java EE Developer Tools	3.6.3.v201501281502	org.eclipse.jst.er
Eclipse Platform	4.4.2.v20150204-1700	org.eclipse.platf
Eclipse RCP	4.4.2.v20150204-1700	org.eclipse.rcp.f
Eclipse Web Developer Tools	3.6.3.v201501312139	org.eclipse.wst.
m2e – Maven Integration for Eclipse (includes Incuba	1.5.1.20150109-1820	org.eclipse.m2e.
m2e connector for mavenarchiver pom properties	0.16.0.201401211452-sig	org.sonatype.m2
Mylyn Context Connector: Eclipse IDE	3.14.2.v20150218-0125	org.eclipse.myly

APT M2E Connector   0.0.1.3

1. Select Help->Eclipse Marketplace...
2. Search for: APT M2E Connector (see screen capture below)
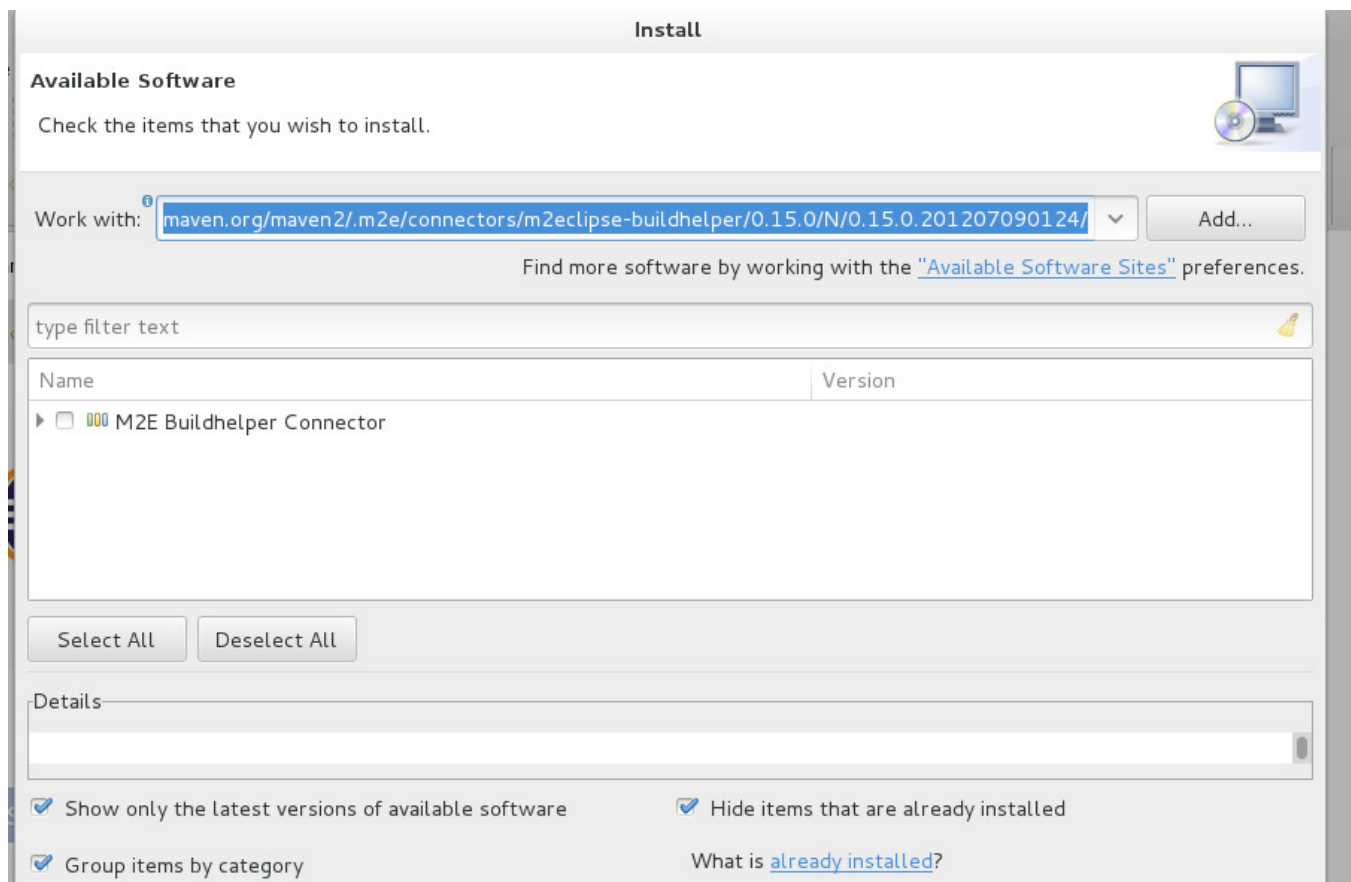3. Install the Apt M2E Connector software

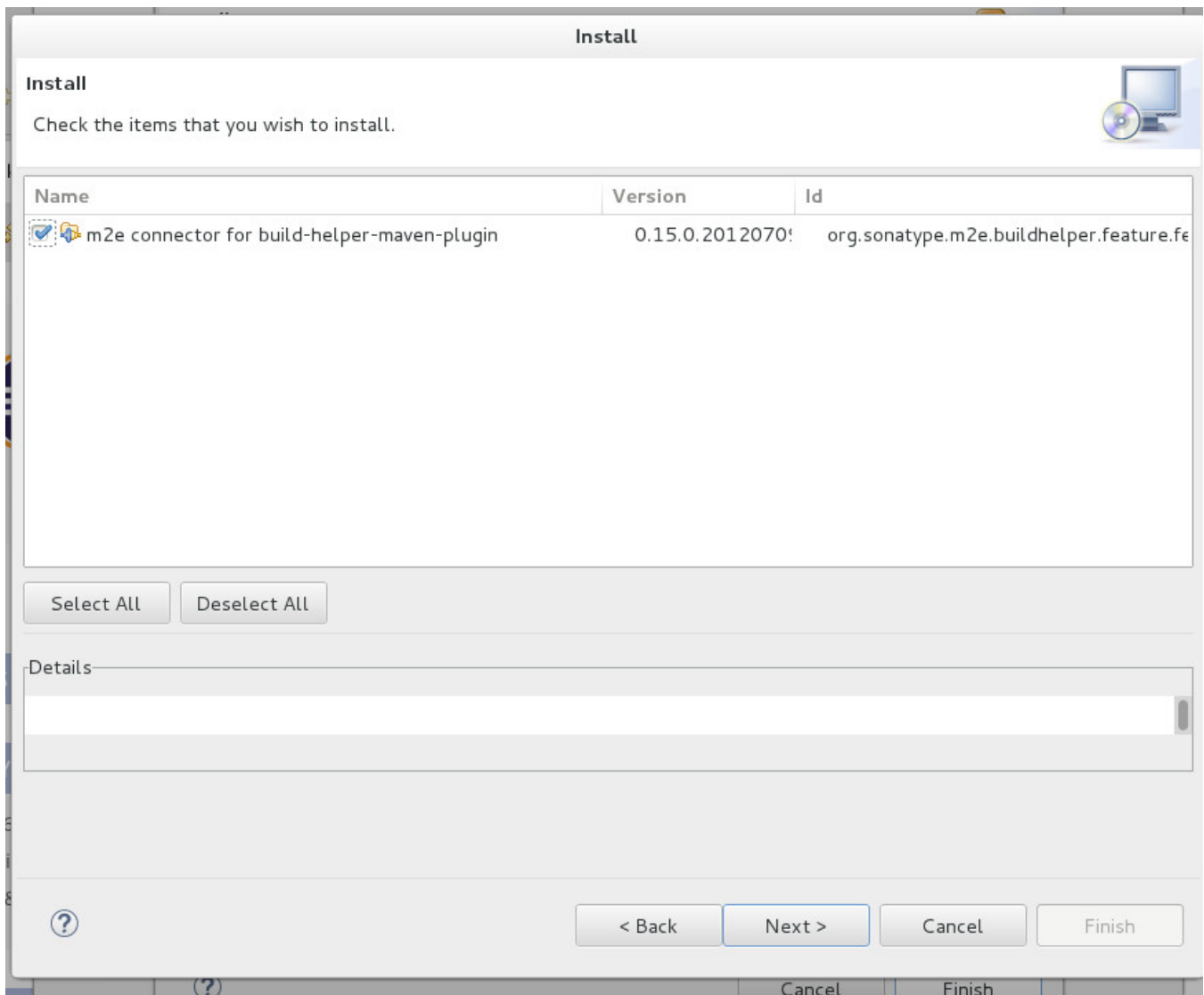**m2e connector for build-helper-maven-plugin   0.15.0.201207090124**

1. Select Help->Install New Software...
2. In the "Work with" element, enter this URL: https://repo1.maven.org/maven2/.m2e/connectors/m2eclipse-buildhelper/0.15.0/N/0.15.0.201207090124/
3. Install the M2E Build Helper software.

Install New Software

Install

Available Software

Check the items that you wish to install.

Work with: `maven.org/maven2/.m2e/connectors/m2eclipse-buildhelper/0.15.0/N/0.15.0.201207090124/` ⌄   Add...

Find more software by working with the "Available Software Sites" preferences.

type filter text   🧹

Name	Version
▸ ☐ ▯▯▯ M2E Buildhelper Connector	

Select All   Deselect All

┌Details──┐
│   │
└──┘

☑ Show only the latest versions of available software   ☑ Hide items that are already installed

☑ Group items by category   What is already installed?

Selecting the Repository for M2E Build Helper

Install m2e Build Helper

m2e connector for jaxws-maven-plugin   0.0.1.201411151653

1. Select Help->Eclipse Marketplace...
2. Search for: "M2E Connector helper maven"
3. This will generate a large number of hits (over 100). Scroll to the bottom of the search result and select "Browse for more solutions". See screen capture below.
4. Scroll down and find "m2e-connector for jaxws-maven-plugin" (screen capture below). Install that software.

Search result for: M2E Connector helper maven

Last Updated on April 21, 2015 by **Stefan Wokusch**

m2e-connector for jaxws-maven-plugin

The connector is designed to execute the wsimport,wsgen,wsimport-test and wsgen-test goals of the jaxws-maven-plugin with m2e.

Build and Deploy, IDE

Last Updated on April 21, 2015 by **Coder Plus**

VPN Software / Linux

Install Cisco Anyconnect vpn

- Surf to msvpn.wusm.wustl.edu
- Log in with MIR\id & pw
- Click OK on the security acknowledgement
- Auto install will not work.
- Click on link to download vpnsetup.sh
- `# chmod +x vpnsetup.sh`
- `# ./vpnsetup.sh` (This adds "Cisco AnyConnect Secure Mobility Client")
- On first run, enter server: msvpn.wusm.wustl.edu
- Log in with MIR\mirlp and MIR desktop password