**Software Pre-requisites**

For the course, the lecturers created a Virtual Machine in advance that has the following software installed.

1. Ubuntu 13.10 Desktop edition 32-bit  
     
   Default userid / password = ox-soa/ox-soa  
   sudo apt-get update  
   sudo apt-get upgrade
2. Install gksudo (for Eclipse)

Sudo apt-get install gksu

1. Java Development Kit JDK 1.7, Oracle Edition  
   sudo apt-get install default-jdk
2. Apache Maven 3.0.4 or later\*

Apache Ant 1.8.4 or later\*  
Curl\*  
  
sudo apt-get install ant maven curl

1. Google Chrome   
   <https://www.google.com/intl/en/chrome/browser/>
2. Google Chrome Advanced REST Client extension  
   <https://chrome.google.com/webstore/detail/advanced-rest-client/hgmloofddffdnphfgcellkdfbfbjeloo>   
   (to be installed from Chrome)
3. SOAPUI 4.6.1 or later  
     
   <http://sourceforge.net/projects/soapui/files/soapui/>
4. Some extra text editors  
   sudo apt-get install cream leafpad
5. ~~Eclipse Juno SR1 IDE for JEE developers (32-bit)\*~~[~~http://www.eclipse.org/downloads/packages/eclipse-ide-java-ee-developers/junosr1~~](http://www.eclipse.org/downloads/packages/eclipse-ide-java-ee-developers/junosr1)  
   Instead WSO2 Dev Studio 3.3.0 Alpha 3  
   <http://builder1.us1.wso2.org/~developerstudio/developer-studio/3.3.0/Alpha3/installed-distributions/>
6. This was un-tarred into the ~/eclipse directory  
     
   Then we did   
   sudo mv eclipse /opt/  
   ln –s /opt/eclipse/eclipse /usr/bin/eclipse

Then created a desktop entry:

sudo gedit /usr/share/applications/eclipse.desktop

[Desktop Entry]

Name=Eclipse

Type=Application

Exec=gksudo /usr/bin/eclipse

Terminal=false

Icon=/opt/eclipse/icon.xpm

Comment=Integrated Development Environment

NoDisplay=false

Categories=Development;IDE

Name[en]=eclipse.desktop

1. Before you import any maven project, you do need to let Eclipse know where your Maven is installed.   
   You can do this manually in Eclipse by adding the M2\_REPO variable, but there is also a command line tool for this:  
   mvn -Declipse.workspace={path to eclipse workspace}   
    eclipse:add-maven-repo
2. Also we need already downloaded the following links into a common downloads folder:  
   Apache Tomcat 8.0.0-RC5\*: <http://tomcat.apache.org/download-80.cgi#8.0.0-RC5>
3. Apache CXF 2.7.0 or higher\*: <http://cxf.apache.org/download.html>
4. The following servers were downloaded and unzipped into the ~/servers/ directory:   
     
   WSO2 ESB 4.8.0\*: <http://wso2.com/products/enterprise-service-bus/> (Download “Binary”)  
   (Actually this is an early build from https://svn.wso2.org/repos/wso2/people/shafreen/20131125/wso2esb-4.8.0.zip)  
   WSO2 Governance Registry 4.6.0 \*: <http://wso2.com/products/governance-registry/> (Download binary)  
   WSO2 API Manager 1.5.0\*: <http://wso2.com/products/api-manager/> (Download Binary)  
   WSO2 Business Activity Monitor 2.4.0\*: <http://wso2.com/products/business-activity-monitor/> (Download Binary)  
   WSO2 Business Process Server 3.0.0 \*: <http://wso2.com/products/business-process-server/> (Download Binary)
5. Unzipped Apache tcpmon into servers and did chmod +x tcpmon.sh
6. Changed the port offsets in the servers as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| Server | Offset | Directory | Admin Port / web |
| Tomcat | NA | ~/servers/tomcat | <http://localhost:8080> |
| App Server | 0 | ~/servers/wso2as-5.2.0 | <https://localhost:9443> |
| Enterprise Service Bus | 1 | ~/servers/wso2esb-4.8.0 | <https://localhost:9444> |
| Governance Registry | 2 | ~/servers/wso2greg-4.6.0 | <https://localhost:9445> |
| Business Process Server | 3 | ~/servers/wso2bps-3.0.0 | <https://localhost:9446> |
| API Manager | 4 | ~/servers/wso2am-1.5.0 | <https://localhost:9447> |
| Business Activity Monitor | 5 | ~/servers/wso2bam-2.4.0 | <https://localhost:9448> |

\* All the items marked \* are Open Source. This entire course can be done using 100% open source.