How to check out the 52N Sensor Observation Service (SOS)

If you have Maven, Tomcat and Eclipse properly installed or if you use another IDE, please skip to step 4.

1. Install Maven

What is Maven?

> Maven is a software project management and comprehension tool. Based on the concept of a project object model (POM), Maven can manage a project's build, reporting and documentation from a central piece of information.
>
> http://maven.apache.org/

For a start with Maven, you can check out the deeper *description on the project's website* at http://maven.apache.org/what-is-maven.html.

You need the executable binaries from the download page, http://maven.apache.org/download.html. There you also find *installation instructions* for your operating system and the system requirements, which basically is a Java 1.4 (or newer) JDK (a JRE is not sufficient).

2. Install Tomcat

What is Tomcat?

> Apache Tomcat is an implementation of the Java Servlet and JavaServer Pages technologies.
>
> http://tomcat.apache.org/

Download Tomcat at http://tomcat.apache.org/download-60.cgi and install it to your System. For help with installing and configuration of the service, see the documentation pages http://tomcat.apache.org/tomcat-6.0-doc/setup.html.

3. Install Eclipse with Plugin

What is Eclipse and why do I need plugins?

> Eclipse is a multi-language software development platform comprising an IDE and a plug-in system to extend it. It is written primarily in Java and is used to develop applications in this language and, by means of the various plug-ins, in other languages as well—C/C++, Cobol, Python, Perl, PHP and more.
>
> http://en.wikipedia.org/wiki/Eclipse_(software)

Download Eclipse (i.e. The Eclipse IDE for Java EE Developers) at http://www.eclipse.org/downloads/D for your operating system and install it.

Install Maven Integration

In Eclipse go the Software Update Tool (Help → Software Updates...) and add the following site within the tab „Available Software“: http://m2eclipse.sonatype.org/update/. Now select the checkboxes for required components of „Maven Integration“ and follow the installation steps.

Install SVN Client
Install a Subversion Client (http://subversion.tigris.org/) to be able to check out the source code from the repository. Subclipse (http://subclipse.tigris.org/) and Subversive (http://www.polarion.org/index.php?page=download&project=subversive) are available as plugins for Eclipse.

Start Eclipse and select a workspace location.

4. Configure Maven

Edit the *settings.xml* from your conf folder located under the Maven install folder. Make the following additions:

Under the `<settings>` tag insert the path to your local repository:

```
<localRepository>
C:\Documents and Settings\<your_login_name>\.m2\repository
</localRepository>
```

Check in your file browser if the path in correct!

Under the `<profiles>` tag insert the following profile:

```
<profile>
      <id>52n-start</id>
      <repositories>
            <repository>
                  <id>n52-releases</id>
                  <name>52n Releases</name>
                  <url>http://52north.org/maven/repo/releases</url>
                  <releases>
                        <enabled>true</enabled>
                  </releases>
                  <snapshots>
                        <enabled>false</enabled>
                  </snapshots>
            </repository>
            <repository>
                  <id>geotools</id>
                  <name>Geotools repository</name>
                  <url>http://maven.geotools.fr/repository</url>
            </repository>
            <repository>
                  <id>Refractions</id>
                  <name>Refractions repository</name>
                  <url>http://lists.refractions.net/m2</url>
            </repository>
            <repository>
                  <id>Apache</id>
                  <name>Apache repository</name>
                  <url>http://repo1.maven.org/maven2</url>
            </repository>
      </repositories>
</profile>
```

And after the <profiles> Section insert the following active profile:

```
<activeProfiles>
      <activeProfile>52n-start</activeProfile>
</activeProfiles>
```

Now you have successfully added basic repositories and profiles to allow Maven to find modules on which the 52N SOS depends.

5. Check out SOS

To check out the SOS Maven Branch as a project from the repository into Eclipse, choose the „Projects from SVN“ wizard from the „New Project“ window (File → New → Project). Add the following repository location:
https://52north.org/svn/swe/ and navigate to */SOS/Service/branches/52n-sos/*.

Follow the steps and use „Check out as a project with the name specified“-option. You can enter your name for the project, e.g. 52n-sos. Finish the wizard.
Now the source code and configuration files are checked out of the server's repository and downloaded to your workspace.

6. Configure Properties

Adjust the *mandatory properties* in the *pom.xml* in the root folder of your project. For more information about the Project Object Model please see http://maven.apache.org/pom.html.

See the *how2install_SOS.pdf* in the newly created project in the folder /doc/ for details on configuration and installation (including the database) of the 52N SOS.

7. Install SOS

Open a command line and go to the project's folder in your workspace and run the following command: „mvn install“. An install with the Eclipse plugin is currently not supported due to problems with modules within the plugin.
This command will download required modules, build the code and deploy it to the tomcat you defined in the properties. Please be patient as some of the tasks, for example the compilation of the xml-beans, take some time on the first run.
After `BUILD SUCCESSFUL`-message, open the url to your web-application in your browser to. You will see the SOS TestClient!

About

On creation of this document the following program versions were used:

- Maven 2.0.9
- Eclipse 3.4.1
- Subversive SVN Connectors 2.0.4
- Tomcat 6.0.18
- Java 1.6.0_11-b03

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Links

More information about the 52N SOS:

- http://52north.org/index.php?option=com_content&view=category&layout=blog&id=26&Itemid=31
- http://52north.org/twiki/bin/view/Sensornet/SensorObservationService

Please report problems in the Bugzilla: https://52north.org/bugzilla/. It might also be interesting for you to follow and post your problems and ideas to the mailing list: https://52north.org/mailman/listinfo/swe.

Contact: The Sensor Web Community leader at 52°North is Simon Jirka (jirka at 52north dot org) .