

SCSCP server installation instructions

1. Install MapleNet 16.
2. Create an admin user having either a “manager” or “MapleNetAdmin” role in the web server. In Tomcat, user information is stored in \$TOMCAT/conf/tomcat-users.xml. Make sure the “roles” attribute in each “user” include “manager” or “MapleNetAdmin” as in the following:

```
<tomcat-users>
<role rolename="manager"/>
<role rolename="MapleNetAdmin"/>
<user username="tomcat" password="Gv71dSYeEu" roles="manager"/>
<user username="scscp" password="yx4mDuX96D" roles="MapleNetAdmin"/>
<user username="root" password="4iqkO0OnnU" roles="manager,MapleNetAdmin"/>
</tomcat-users>
```

3. Make sure the following directories are readable and writable by the users that will run the server:
\$MAPLENET/WEB-INF/scscp
4. Add the following Maple command in \$MAPLENET/WEB-INF/ini/maplenet_init. Replace \$MAPLENET by the location of your MapleNet installation.

```
SCSCP:-Server:-SetBaseDirectory("$MAPLENET/WEB-INF/scscp/");
```

5. Modify the security options of kernel.localhost.program_args in \$MAPLENET/WEB-INF/classes/maplenetserver.properties. Remove the -z option. Append the following secure options to kernel.localhost.program_args.

```
--secure-read="$MAPLE/lib/*","$MAPLE/bin.$ARCH/*","$MAPLENET/WEB-INF/scscp/*"
--secure-write="$MAPLENET/WEB-INF/scscp/scscp-store.mla"
--secure-nowrite=
--secure-noread=
--secure-extcall="$MAPLE/bin.$ARCH/*"
--secure-noextcall
--secure-syscall=disable
--secure-mode=enable
```

Replace \$ARCH by the following strings according to your computer's platforms:

- * 32-bit Linux: "IBM_INTEL_LINUX"
- * 64-bit Linux: "X86_64_LINUX"
- * 32-bit Windows: "win"
- * 64-bit Windows: "X86_64_WINDOWS"
- * Macintosh: "APPLE_UNIVERSAL_OSX"
- * Solaris: "SUN_SPARC_SOLARIS"

Replace \$MAPLENET and \$MAPLE by the location of your MapleNet and Maple installation respectively.

(This step will emulate all default security options as if the -z option was given except the one related to the external call to the sockets library, and also allow the SCSCP server to access its configuration files.)

6. Start the web server.
7. Assuming MapleNet and Tomcat have been installed in localhost at port 8080, access the SCSCP admin page via the following URL:
`http://localhost:8080/maplenet/admin/SCSCPUpdate.jsp`
8. A login dialog should appear. Enter the username and password of an admin user whose role is either “manager” or “MapleNetAdmin”.
9. An SCSCP settings page should be presented.
Click “Active” to enable the web services provided by SCSCP server. Push “Update” so that this change takes effect.
10. Add a few sample services using the Maple package SCSCP[Server].
Enter the following in a Maple session on the machine where the server is installed. Replace \$MAPLENET by the location of the MapleNet installation, and make sure that the directory “\$MAPLENET/WEB-INF/scscp/” exists and you have write permissions.

```
with(SCSCP[Server]):  
SetBaseDirectory("$MAPLENET/WEB-INF/scscp/");  
AddService("scscp_transient_maple", "Differentiate", diff, 2, 2);
```

11. Test if the server is working properly. In a Maple session, query the information about the server and send some queries to the server. Replace “localhost” with the name of the server if you are testing using a computer different from the server.

```
with(SCSCP[Client]):  
GetAllowedHeads("localhost");  
GetServiceDescription("localhost");  
CallService("localhost", "scscp_transient_maple", "Differentiate", [sin(x),x]);  
c:=CallService("localhost", "scscp_transient_maple", "Differentiate", [sin(x),x], 'output='cookie');  
Retrieve("localhost", c);
```