

Optional R server Installation for Apache Tomcat in Linux/Unix/Windows Systems

The installation of R/Bioconductor on the Windows platform is completely automated within the ArrayTrack™ application. R server installation is not needed. However, it may be beneficial to install an R server in order to handle memory-intensive analysis on large datasets.

Recommended hardware configuration:

Memory: 4 or more gigabytes

Operating Systems: 64-Bit Linux/Unix/Windows

Free disk space for Apache Tomcat: At least two gigabytes

Software requirements for R server:

R and Bioconductor (see

http://www.fda.gov/nctr/science/centers/toxicoinformatics/ArrayTrack/documents/R_InstallInstructionsLinuxSys.pdf).

Java servlets container: Apache Tomcat (see documents on <http://tomcat.apache.org/>)

Installation of R server in Linux/Unix Systems:

1. Create a folder “RLink” in \$TOMCAT_HOME/webapps
2. Copy all files/directories in the folder “RLink” on CD to \$TOMCAT_HOME/webapps/RLink/
3. Setup the environment variable \$R_HOME for the tomcat server process. In bash or bourne shell, this is done by executing the following command prior to starting Tomcat.

```
>export R_HOME="..."
```

4. Add \$R_HOME/bin to PATH environment variable for the tomcat server process
5. Make sure that the owner of \$TOMCAT_HOME/webapps/RLink/ is the same user who starts the tomcat service
6. Make sure that the user who starts the tomcat service has the read/write/execution permissions in the path \$R_HOME.
7. Make sure that the user who starts the tomcat service has the read/write/executions permissions in the path \$TOMCAT_HOME/temp/

Installation of R server in Windows Systems:

1. Create a folder “RLink” in \$TOMCAT_HOME/webapps
2. Copy all files in folder RLink on CD to \$TOMCAT_HOME/webapps/RLink/
3. Add \$R_HOME/bin to PATH environment variable

R server connection string: <http://IP:Port/RLink/RLinker>

Testing of R server connection:

1. Enter <http://IP:port/RLink/RLinker> in the address bar of your web browser:
The R server is installed correctly if you can see “Bioconductor link is ready!!!”