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[**SPS installation**](https://bix-lab.ucsd.edu/display/specnets/SPS+docs+-+installation)

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**Installation instructions**

Unzip the Spectral Networks package to a directory **<installation directory>** (any directory of your choice). This directory should then contain the following directories:

* sps/bin – Contains the binary executables
* sps/cgi – Contains CGI scripts used by the program
* sps/Doc – Documentation
* sps/example – Test project

**Web server**

SPS is a command line tool that outputs reports in HTML format. Report pages may accessed using a web browser to render the HTML report files generated. These files should be made available by SPS using a web server such as Apache.

To enable interactivity in protein sequencing reports (see results documentation), there are several **CGI** scripts needed that should be present in the web server's configuration file:

* **<installation directory>/sps/cgi/specplot.cgi**
* **<installation directory>/sps/cgi/contplot.cgi**
* **<installation directory>/sps/cgi/spsReports.cgi**

**Configuration**

The following change should be made in the installed scripts:

* Edit **<installation directory>/sps/cgi/ spsReports.cgi** at line 12. The line should be:
  + **$ENV{'LD\_LIBRARY\_PATH'} = “<installation directory>/sps/bin/libs”;**
* Edit **<installation directory>/sps/cgi/ spsReports.cgi** at line 8. The line should be:
  + **$SPS\_DIR = “<installation directory>/sps/”;**
* Edit **<installation directory>/sps/cgi/ specplot.cgi** at line 32. The line should be:
  + **$ENV{'LD\_LIBRARY\_PATH'} = “<installation directory>/sps/bin/libs”;**
* Edit **<installation directory>/sps/cgi/ specplot.cgi** at line 27. The line should be:
  + **$TMP = “<TMP\_DIRECTORY>”;**where TMP\_DIRECTORY is a directory in the file system where the server process has write permissions
* Edit **<installation directory>/sps/cgi/ specplot.cgi** at line 28. The line should be:
  + **$SPS\_DIR = “<installation directory>/sps/”;**
* Edit **<installation directory>/sps/cgi/ contplot.cgi** at line 32. The line should be:
  + **$ENV{'LD\_LIBRARY\_PATH'} = “<installation directory>/sps/bin/libs”;**
* Edit **<installation directory>/sps/cgi/ contplot.cgi** at line 27. The line should be:
  + **$TMP = “<TMP\_DIRECTORY>”;**where TMP\_DIRECTORY is a directory in the file system where the server process has write permissions
* Edit **<installation directory>/sps/cgi/ contplot.cgi** at line 28. The line should be:
  + **$SPS\_DIR = “<installation directory>/sps/bin/”;**

**Testing the installation**

In order to test the installation, a test project and data are included in the package, in the directory named 'example'. To test the installation, execute the following procedures:

* cd to **<installation directory>/sps/example**
* edit the **sps.params** file.
  + **EXE\_DIR** should point to **<installation directory>/sps/bin** (should be an absolute path).
  + **REPORT\_DIR** defines the output directory for report files, should be in the webserver path, allowing for report pages to be served by the webserver (e.g. Apache).
  + **GRID\_SGE\_EXE\_DIR** should point to where SGE binaries are located (qstat, qsub, etc.).
  + **GRID\_EXE\_DIR** should point to where SPS binaries (the same pointed by **EXE\_DIR**) are *seen* on SGE.
  + **SERVER** should point to the server’s CGI directory. Example:  
    **SERVER=http://myserver.com/cgi-bin/**
* run **../bin/main\_specnets sps.params**
* From a webserver, open '**<URL path in webserver>/index.html**' which is located inside the specified report location directory, considering your webserver path specifications. The report initial page should be displayed.