FAQ: Installing your own program packages on supermuc

Sometimes you want to install your own software packages from the internet by using svn or via an installation script that fetches files via http or ftp. This cannot be done easily due to the restrictions of the supermuc firewall on external connections. We propose the following solutions:

**Copy all needed installation files to supermuc**

The easiest way to install a software package is to copy all needed files into a directory on supermuc, unpack them and run the configure script. Be sure that you have resolved all the dependencies and then you can compile the software and install it in a directory in your home. Most of the time this will include an option like this:

```
$ ./configure --prefix=/home/<group>/<account>/mydir
$ make
$ make install
```

This should do the job in most of the cases.

**Run the installation on the remote visualisation server**

If you need a working outgoing internet connection you can also use the remote visualisation servers for the installation of your software. Log-in to phase1 and then ssh to rvs1.cos.lrz or rvs2.cos.lrz.de. These systems have full internet access and you can download software from the internet. Please be aware that the remote visualisation servers are primarily used for visualisation tasks, so you should not disturb the other users. Therefore do not use up all the cores on the system for compiling (make -j). You can always have a look at the load of the system by using "top" and then adjust the number of cores that you use accordingly. Please treat the other users as you would like to be treated by them.

** Mount a directory of supermuc on your local machine**

Another way is to mirror the directory on the supermuc to your local machine (when you are running SUSE SLES11 or another compatible linux) and install the software on your local machine.

This can be done by creating a directory on supermuc in your HOME directory e.g. $HOME/mydir and a directory at your local machine $HOME/mydir and then mounting it. You need sshfs in order to do the mapping on your local machine.

```
$ sshfs <account>@supzero.lrz.de:/home/<group>/<account>/mydir ./mydir
```

Then install the software on your local machine in the directory $HOME/mydir. It will be automatically mirrored to the supermuc directory and can then be used there.

**Create a tunnel for internet access**

In case the last method fails you can create a tunnel via ssh from your local machine to supermuc and use a proxy at your local machine to re-direct internet connections from supermuc to the internet.

Get a proxy software for http connections (e.g. Tiny HTTP Proxy from http://www.voidtrance.net/2010/01/simple-python-http-proxy/) and unpack it on your local machine.

Then start the local proxy using:

```
$ python TinyHTTPProxy.py -p 1234
```

Then create a tunnel to supermuc via:

```
$ ssh -l <kennung>-R 1234:<your hostname>:1234 login02.sm-gw.lrz.de
```

On supermuc you can set a http_proxy to localhost:1234 and have full access to the http protocol. (e.g. firefox etc)