IUCAA

RTS2: Client Installation

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1   Downloading and Unpacking the Client

Download the 'client_v_1.0.1.tar.gz' and extract it in the <u>home</u> directory. It can be simply extracted using the command:

```
user@host:~$ tar xvzf client\_v\_1.0.1.tar.gz
```

A folder named 'server' would be extracted.

2   Pre-requistes

The client programme has been tested on Ubuntu 14.04LTS and 14.10 both running python2.7. It is recommended to run it on the Python '2.7' version, since rts2 python libraries work only with the '2.7' version.

Most versions of Ubuntu will already have python installed, and the version installed can be checked by:

```
user@host:~$ python --version
```

If this command outputs a later version like '3.x', try the following:

```
user@host:~$ python2.7 --version
```

Most Linux distros would already have Python2.7 pre-installed and shouldn't be much of a problem.

If the output still isn't something like:

```
user@host:~$ Python 2.7.x
```

Download any python version '2.7.x' from:
https://www.python.org/downloads
And follow the generic instructions given here:
https://docs.python.org/2/using/unix.html

2.1 Installing vital Python packages

The RTS2 client uses JSON API to communicate with the server. Using the RTS2 JSON python library requires the following scientific python packages to be installed on your system: NumPy, SciPy, MatPlotlib and iPython.
To install these, run the following command:

```
user@host:~$ sudo apt-get install python-numpy python-scipy
  python-matplotlib ipython
```

2.2 Creating a PythonPath

NOTE: No need to follow this step again if it has been done previously
You'll notice that you cannot simply import the .py files in the server folder into your python interpreter. This is because the file path isn't included in the default python system path.
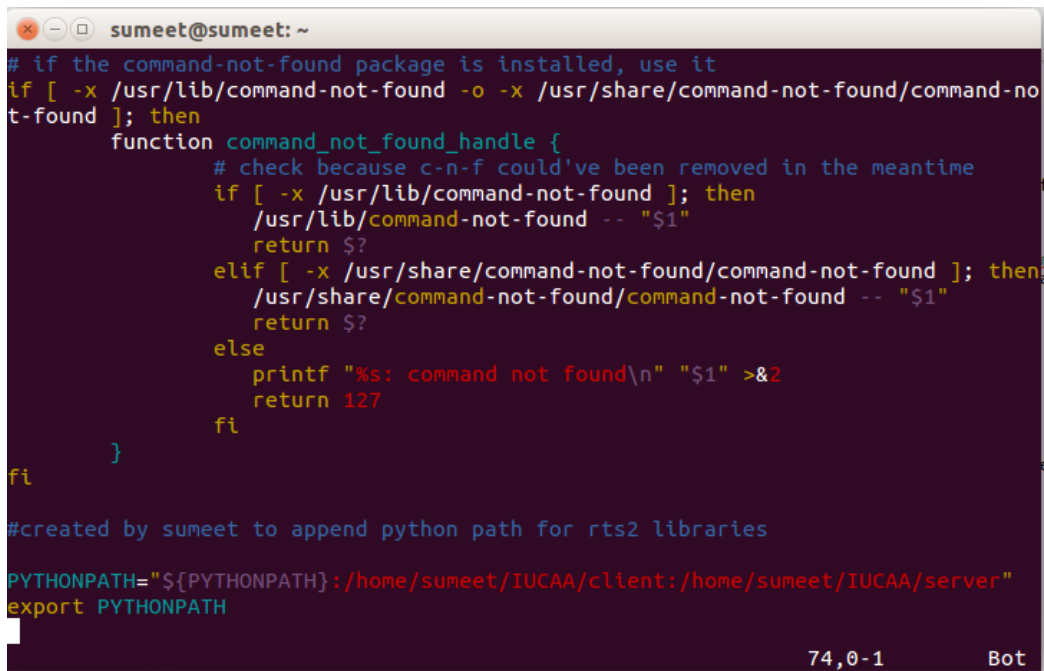To overcome this, follow this little trick. We create a PYTHONPATH in the system's bash/bash.rc file. This is the a the terminal 'reads' as soon as it starts up. Hence the server python filepath will permanently get appended to python, every time you start the terminal.
First, open /etc/bash.bashrc in any text editor.
Type in the following in a new line, at the end of the document:

```
PYTHONPATH="${PYTHONPATH}:/home/username/client:/home/username/
    server"
export PYTHONPATH
```

Again, ensure that the server and client folders are situated in your home directory. Here's a screenshot of the bashrc file for your reference:

```
# if the command-not-found package is installed, use it
if [ -x /usr/lib/command-not-found -o -x /usr/share/command-not-found/command-no
t-found ]; then
        function command_not_found_handle {
                # check because c-n-f could've been removed in the meantime
                if [ -x /usr/lib/command-not-found ]; then
                    /usr/lib/command-not-found -- "$1"
                    return $?
                elif [ -x /usr/share/command-not-found/command-not-found ]; then
                    /usr/share/command-not-found/command-not-found -- "$1"
                    return $?
                else
                    printf "%s: command not found\n" "$1" >&2
                    return 127
                fi
        }
fi

#created by sumeet to append python path for rts2 libraries

PYTHONPATH="${PYTHONPATH}:/home/sumeet/IUCAA/client:/home/sumeet/IUCAA/server"
export PYTHONPATH

                                                     74,0-1          Bot
```

Figure 1: A sample snapshot of .bashrc

3   Updating the Parameters file

There are a total of 4 parameters to be edited in the 'params.py' file to make sure that the client would be functional with the correct parameters.

- The tar_dir and sms_path should be edited to contain the correct paths to the respective folders. If the client code has been extracted to the home folder, then the respective changes should be from

    tar_dir   = '/ home/sujay/IUCAA_Project/client/server_targets/'
    sms_path = '/home/sujay/IUCAA_Project/client/sms_targets'

  To:

    tar_dir   = '/ home/username/client/server_targets/'
    sms_path = '/home/usermane/client/sms_targets'

  Where, username should be replaced by the appropriate username of the system.

- Next, the rts2 username and password should be replaced by the appropriate ones as defined during the rts2 installation

    rts2_username = 'sujay'
    rts2_password = 'sujaymate'

    To:

    rts2_username = 'username'
    rts2_password = 'password'

    NOTE: Don't forget the quotation marks after the 'is equal to' sign for all the 4 parameters.