## COMP1047 - Computer Networks - Lab 1.3

School of Computer Science University of Nottingham Ningbo China

## **Installing NS-2.35 on Ubuntu 14.04**

This post will tell you how to install NS-2.35 in Ubuntu 14.04 64-bit operating system.

NS-2 is a discrete event simulator targeted at networking research. NS-2 provides substantial support for simulation of TCP, routing, and multicast protocols over wired and wireless (local and satellite) networks.

**Step 1**: Download NS-2.35 from <a href="here">here</a> or from the web using any search engine.

**Step 2**: Copy the downloaded file from the Download folder to your home directory /home/username folder ( your username )

**Step 3**: Open your Terminal and execute these commands one by one. If you have already issued these commands in Ubuntu configuration phase then skip it.

```
sudo apt-get update
sudo apt-get install build-essential automake autoconf libxmu-dev
```

Step 4: untar ns-allinone-2.35.tar.gz using the command below

```
tar zxvf ns-allinone-2.35.tar.gz
```

**Step 5**: Once the file is unzipped, here you need to make a small change in the source file . Go to the folder ns-2.35/linkstate/ and open ls.h using any editor (gedit or nano or vi). Now go to line number 137 and make the following changes

Just add this-> before erase

```
void eraseAll() { this->erase(baseMap::begin(), baseMap::end()); }
```

Or

void eraseAll() { erase(baseMap::begin(), baseMap::end()); }

with

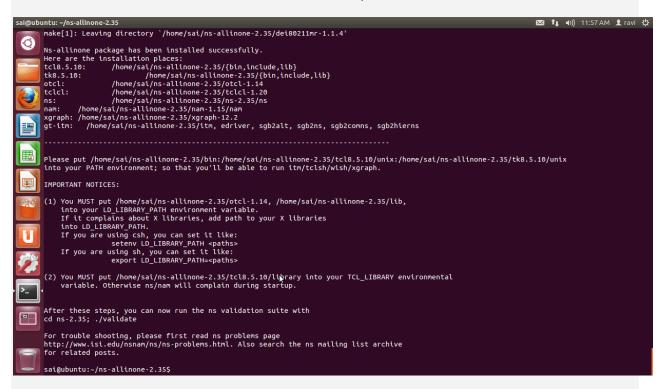
void eraseAll() { baseMap::erase(baseMap::begin(), baseMap::end()); }

Once this is done save your ls.h file and close the editor

Now you can install NS-2.35 in your system

**Step 6**: Go inside ns-allinone-2.35 by using the command cd ns-allinone-2.35 from your terminal and enter the command ./install

Your installation will start and it will take some time for complete installation



Once the installation is over, you need to set the path for NS-2.35

**Step 7**: As we are using Ubuntu, we need to paste the path in .bashrc file. Open .bashrc by entering the following command from your terminal

```
gedit .bashrc
```

Once the file is opened, you need to paste your path /home/unnc/comp1047/ is my path

```
#LD_LIBRARY_PATH
OTCL_LIB=/home/unnc/comp1047/ns-allinone-2.35/otcl-1.14
NS2_LIB=/home/unnc/comp1047/ns-allinone-2.35/lib
X11_LIB=/usr/X11R6/lib
USR_LOCAL_LIB=/usr/local/lib
export
LD_LIBRARY_PATH=$LD_LIBRARY_PATH:$OTCL_LIB:$NS2_LIB:$X11_LIB:$USR_LOCAL_LIB
# TCL_LIBRARY
TCL_LIBP/home/unnc/comp1047/ns-allinone-2.35/tcl8.5.10/library
USR_LIB=/usr/lib
export TCL_LIBRARY=$TCL_LIB:$USR_LIB
# PATH
XGRAPH=/home/unnc/comp1047/ns-allinone-2.35/bin:/home/unnc/comp1047/ns-allinone-2.35/tcl8.5.10/unix:/home/unnc/comp1047/ns-allinone-2.35/tk8.5.10/unix
```

# Note: the above two lines starting from XGRAPH should come in the same line
NS=/home/unnc/comp1047/ns-allinone-2.35/ns-2.35/
NAM=/home/unnc/comp1047/ns-allinone-2.35/nam-1.15/
PATH=\$PATH:\$XGRAPH:\$NS:\$NAM

Now save your file and close it

From your terminal run the following command to save your changes in the file

source .bashrc

The installation is over, now you need to check whether NS2 is working or not. In order to check type the following commands in your terminal

Enter ns in your terminal, if % symbol comes after you press enter, your installation is successful.

Enter nam in your terminal, if a Nam window pops out, Nam is installed successfully.

**Step 8**: Go inside ns-allinone-2.35/ns-2.35 by using the command cd ns-allinone-2.35/ns-2.35 from your terminal and enter the command ./validate

This command will validate your ns installation.