**Step 1: Setting up the Prerequisites**  
  
**1.** First of all, download Network Simulator (NS-2.35) from [here](https://adf.ly/sDX0A" \t "_blank).I assume you have downloaded it into your '/home/user\_name/Documents' directory.  
  
**2 [Optional].** Now we have to update the Ubuntu with its latest components. Open up a terminal and run these commands:

|  |  |
| --- | --- |
| 1 | sudo apt-get update |
| 2 | sudo apt-get dist-upgrade |
| 3 | sudo apt-get update |

Make sure that your Ubuntu is fully updated ( i.e. there should be no pending updates in your Ubuntu Software Center and in Software Updater).  
  
**3.** Before installing the NS we have to install some essential packages required by the NS. So run the following commands:

|  |  |
| --- | --- |
| 1 | sudo apt-get install build-essential autoconf automake |
| 2 | sudo apt-get install tcl8.5-dev tk8.5-dev |
| 3 | sudo apt-get install perl xgraph libxt-dev libx11-dev libxmu-dev |
| 4 | sudo apt-get install gcc-4.4 |

**Step 2: Extract and Install NS**  
  
**1.** Extract the downloaded NS package either using the right click context menu "Extract here" or using the following commands from a terminal:

|  |  |
| --- | --- |
| 1 | cd /home/user\_name/Documents |
| 2 | tar -xvzf ns-allinone-2.35.tar.gz |

**2.** After extracting the "ns-allinone-2.35" folder, open up the file "/ns-allinone-2.35/ns-2.35/linkstate/ls.h" in an editor. You can do it either from the terminal or from the file explorer (Nautilus). We have to make some changes in the ls.h file else it will show an error while installing the NS. Once you have opened the file move to the line 137 and replace the *erase*(image 1) with *this—>erase* (image 2) and save the file.

|  |
| --- |
| <http://2.bp.blogspot.com/-4EbjtWGD3FQ/U25OYOw8u-I/AAAAAAAAAoE/LhnrOGFxqcg/s1600/3.png> |
| Image 1. Replace *erase*. |

|  |
| --- |
| <http://1.bp.blogspot.com/-ViDuXLkMT8Y/U25OdRhM1YI/AAAAAAAAAoM/XMoXff3I5ds/s1600/4.png> |
| Image 2. With *this->erase*. |

**NOTE:** If you don't make the above stated change then you will see an error while installing the NS (image 3).

|  |
| --- |
| <http://3.bp.blogspot.com/-NmIORYkmf8Q/U25PBKTW1WI/AAAAAAAAAoU/vekFo0kSEg8/s1600/2.png> |
| Image 3. Error (Please Follow the Previous Step). |

**3.** Now its time to finally install the NS. Open up a terminal and move to the directory where you have extracted the package, in our case its '/home/user\_name/Documents' and install NS using the following commands (image 4):

|  |  |
| --- | --- |
| 1 | cd /home/user\_name/Documents/ns-allinone-2.35 |
| 2 | sudo ./install |

It will take around 15 minutes so have patience.

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| <http://3.bp.blogspot.com/-nOLAZogDV_U/U21D-8dHdHI/AAAAAAAAAnw/_MOSe2lrEXA/s1600/2.png> |
| Image 4. Installation in Progress. |

**Step 3: Set the Environment Variables**  
  
**1.** Assuming everything went well in the previous step and you have successfully installed your NS. Now that NS is installed, there are some environment variables that need to be added to your profile. This can be done by editing the *.bashrc* file. Open a new terminal and open the file using:

|  |  |
| --- | --- |
| 1 | sudo gedit .bashrc |

**NOTE:** You may want to create a backup of the *.bashrc* before editing, the easiest way is to copy the file to a different location. Later you can replace the edited *.bashrc* with the copied one in case something goes sideways or if you want to remove the NS.  
  
**2.** Add the following lines AT THE END of the file. Be sure to change "/path\_to" to the path of where you have extracted the NS (e.g. '/home/user\_name/Documents').

|  |
| --- |
| # LD\_LIBRARY\_PATH |
| OTCL\_LIB=/path\_to/ns-allinone-2.35/otcl-1.14/ |
| NS2\_LIB=/path\_to/ns-allinone-2.35/lib/ |
| USR\_Local\_LIB=/usr/local/lib/ |
| export LD\_LIBRARY\_PATH=$LD\_LIBRARY\_PATH:$OTCL\_LIB:$NS2\_LIB:$USR\_Local\_LIB |
| # TCL\_LIBRARY |
| TCL\_LIB=/path\_to/ns-allinone-2.35/tcl8.5.10/library/ |
| USR\_LIB=/usr/lib/ |
| export TCL\_LIBRARY=$TCL\_LIBRARY:$TCL\_LIB:$USR\_LIB |
| # PATH |
| XGRAPH=/path\_to/ns-allinone-2.35/xgraph-12.2/:/path\_to/ns-allinone-2.35/bin/:/path\_to/ns-allinone-2.35/tcl8.5.10/unix/:/path\_to/ns-allinone-2.35/tk8.5.10/unix/ |
| NS=/path\_to/ns-allinone-2.35/ns-2.35/ |
| NAM=/path\_to/ns-allinone-2.35/nam-1.15/ |
| export PATH=$PATH:$XGRAPH:$NS:$NAM |

Save the file and restart the system, alternatively you can just reload the *.bashrc* as:

|  |  |
| --- | --- |
| 1 | source ~/.bashrc |

**Step 4: Validate the Installation**  
  
You need to validate NS to check if everything is OK but keep in mind that it will take a lot of time (about 1:30 hrs). Open up a terminal and move to the directory ‘/home/user\_name/Documents/ns-allinone-2.35/ns-2.35/' and run:

|  |  |
| --- | --- |
| 1 | ./validate |

And That is it ! You can now run ns from a terminal window by executing: ns  
If you received the "%" sign, it means that NS is running (image 5). Congratulations !!

|  |
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| <http://3.bp.blogspot.com/-EGrfH6vK1nM/U21Cq7yX-8I/AAAAAAAAAno/ncO3nSFKqbQ/s1600/3.png> |
| Image 5. Installation Successful. |