

Configuration Manual

MSc Internship
Cybersecurity

Chaitanya Rudraraju
Student ID: x18178863

School of Computing
National College of Ireland

Supervisor: Ben Fletcher

National College of Ireland
MSc Project Submission Sheet
School of Computing



Student Name:

Chaitanya Rudraraju

Student ID:

X18178863

Programme:

M.Sc in Cybersecurity

Year: 2019-2020

Module:

Academic Internship

Lecturer:

Ben Fletcher

Submission Due

Date:

29th January, 2020

Project Title:

Simulation of Detecting and Preventing DDoS in Vehicular ad-hoc Networks(VANETS)

Word Count: 246 **Page Count:** 3

I hereby certify that the information contained in this (my submission) is information pertaining to research I conducted for this project. All information other than my own contribution will be fully referenced and listed in the relevant bibliography section at the rear of the project.

ALL internet material must be referenced in the bibliography section. Students are required to use the Referencing Standard specified in the report template. To use other author's written or electronic work is illegal (plagiarism) and may result in disciplinary action.

I agree to an electronic copy of my thesis being made publicly available on NORMA the National College of Ireland's Institutional Repository for consultation.

Signature:

Date:

Office Use Only	
Signature:	
Date:	
Penalty Applied (if applicable):	

Configuration Manual

Chaitanya Rudraraju
Student ID: x18178863

1 Introduction

The requirements and the procedure to install the software and run the simulation is described in this paper. The simulation can be performed either directly in the host that runs on Ubuntu OS or in the Ubuntu Virtual Machine (VM) running in a type-2 hypervisor such as Oracle VirtualBox or VMware.

2 Requirements

Operating System(OS) or Virtual Machine(VM): Ubuntu 16.04

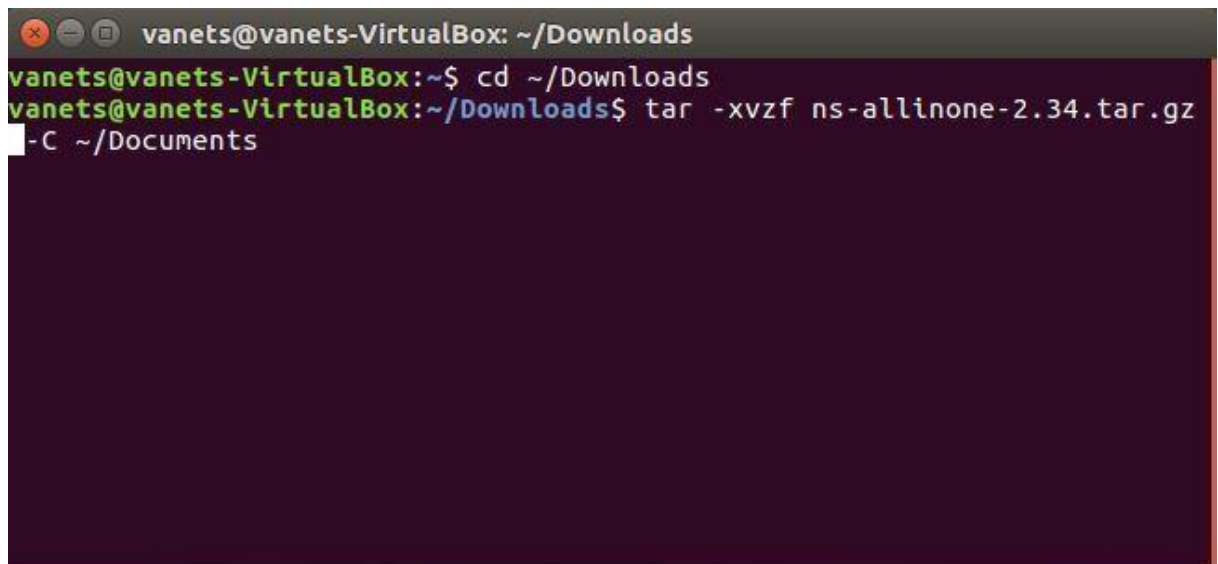
Minimum Storage: 8GB

Minimum RAM: 512MB

Software: The ns-allinone-2.34.tar.gz uploaded in the submission link of moodle.

3 Steps to run simulation

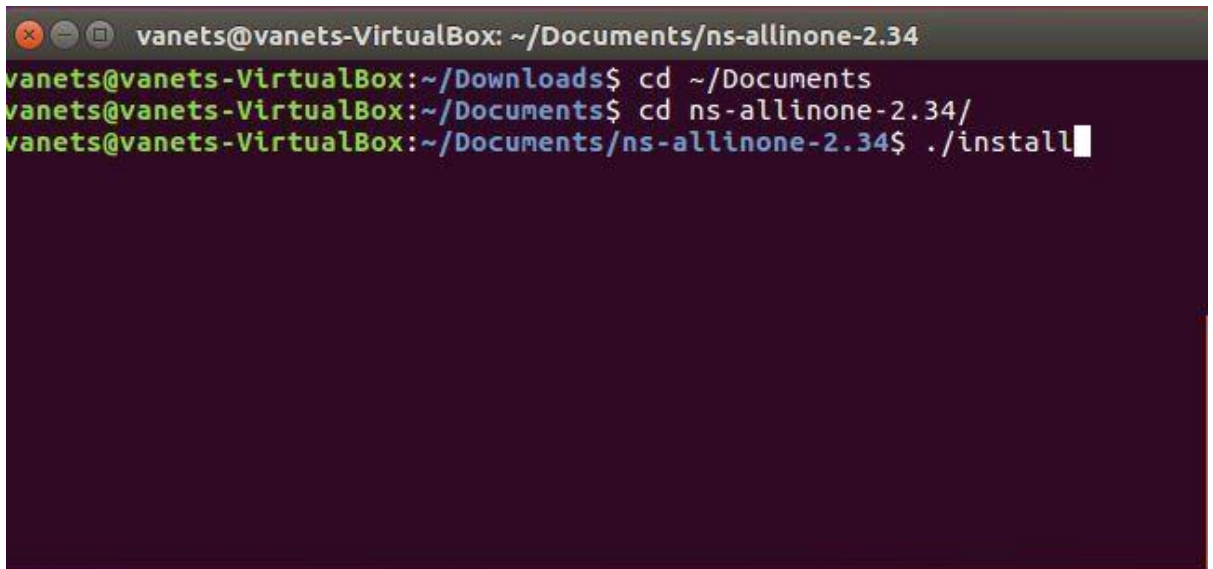
- a. Extract the zip file to one of the directory in Ubuntu using the command : **tar -xvzf zipfile.tar.gz -C path** as shown in **Fig 1** . -C is used to specify the location where the file needs to be extracted.



```
vanets@vanets-VirtualBox: ~/Downloads
vanets@vanets-VirtualBox:~$ cd ~/Downloads
vanets@vanets-VirtualBox:~/Downloads$ tar -xvzf ns-allinone-2.34.tar.gz
-C ~/Documents
```

Fig 1

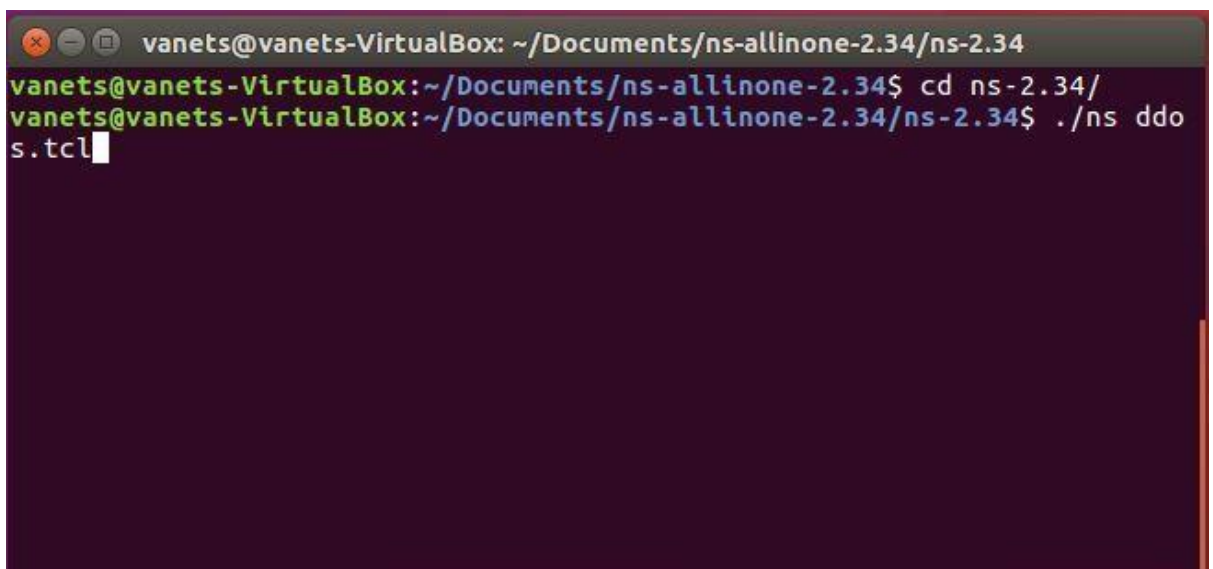
- b. The nsallinone-2.34 contains all the files required
- c. Install the software by changing the present working directory to ns-allinone-2.34. Use **./install** to install the NS2 simulator as shown in **Fig 2**



```
vanets@vanets-VirtualBox: ~/Documents/ns-allinone-2.34
vanets@vanets-VirtualBox:~/Downloads$ cd ~/Documents
vanets@vanets-VirtualBox:~/Documents$ cd ns-allinone-2.34/
vanets@vanets-VirtualBox:~/Documents/ns-allinone-2.34$ ./install
```

Fig 2

- d. Change the path to the location of **ns-allinone-2.34/ns-2.34** as shown in **Fig 3**
- e. Run the simulation by typing the following command: **./ns ddos.tcl** in terminal as shown in **Fig 3**



```
vanets@vanets-VirtualBox: ~/Documents/ns-allinone-2.34/ns-2.34
vanets@vanets-VirtualBox:~/Documents/ns-allinone-2.34$ cd ns-2.34/
vanets@vanets-VirtualBox:~/Documents/ns-allinone-2.34/ns-2.34$ ./ns ddos.tcl
```

Fig 3

4 Output

The network animator(nam) opens to run the simulation and the comparison graphs with and without Firecol are also generated.

5 References

- [1] “Downloads – Oracle VM VirtualBox.” [Online]. Available: <https://www.virtualbox.org/wiki/Downloads>. [Accessed: 12-Dec-2019].
- [2] “Ubuntu Releases.” [Online]. Available: <http://releases.ubuntu.com/>. [Accessed: 12-Dec-2019].
- [3] “nsnam - Browse /allinone/ns-allinone-2.34 at SourceForge.net.” [Online]. Available: <https://sourceforge.net/projects/nsnam/files/allinone/ns-allinone-2.34/>.
- [4] “The Network Simulator - ns-2.” [Online]. Available: <https://www.isi.edu/nsnam/ns/>.
- [5] 262588213843476, “TCL script to run a simple simulation using NS2 and NAM,” *Gist*. [Online]. Available: <https://gist.github.com/cseas/3639de92b03cc27ca3c480b3a0d3af90>.
- [6] “softvar/ns2-roadv,” *GitHub*. [Online]. Available: <https://github.com/softvar/ns2-roadv>.
- [7] “Basics of NS2 and Otcl/tcl script,” *GeeksforGeeks*, 23-May-2018. [Online]. Available: <https://www.geeksforgeeks.org/basics-of-ns2-and-otcltcl-script/>.