

Title of your project

Submitted in partial fulfillment of the requirements
of the degree of

Bachelor of Engineering

in

Branch Name

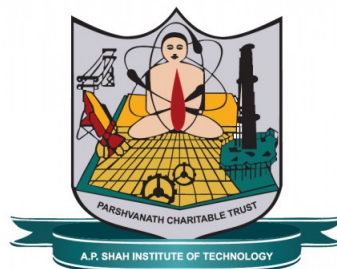
by

Name of the Student

Roll No:

Supervisor

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UNIVERSITY OF MUMBAI
2017-2018

Project Report Approval for B. E.

This Project Report entitled “*Project Title*” by *Name of the Student* is approved for the degree of *Bachelor of Engineering* in *Branch Name* from *University of Mumbai*.

Examiners

1. _____

2. _____

Date:

Place:

CERTIFICATE

This is to certify that the project entitled “*Title of project*” is a bonafide work of “*Name of students*” (*Roll No.*) submitted to the University of Mumbai in partial fulfillment of the requirement for the award of the degree of *Bachelor of Engineering* in *Branch Name*.

(Name and Sign)
Supervisor/Guide

(Name and Sign)
Co-Supervisor/Guide

(Name and Sign)
Head of Department

(Name and Sign)
Principal

Declaration

I declare that this written submission represents my ideas in my own words and where others' ideas or words have been included, I have adequately cited and referenced the original sources. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in my submission. I understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

(Signature)

(Name of Student and Roll No.)

Date:

Abstract

abstract in 10 to 15 lines.

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List of Abbreviations

IDS:	Intrusion Detection System
WSN:	Wireless Sensor Network
MANET:	Mobile Ad-Hoc Network
AODV:	Ad-Hoc On-demand Distance Vector Routing
DSR:	Dynamic Source Routing Protocol
NS2:	Network Simulator 2
ACK:	Acknowledgement
AGT:	Agent
RTR:	Router

Chapter 1

Introduction

The title of Chapter 1 shall be Introduction. It shall justify and highlight the problem posed, define the topic and explain the aim and scope of the work presented in the report. It may also highlight the significant contributions from the investigation.

1.1 Section

You can also create section and subsection

A chapter can be divided into Sections, Sub-sections and Sub-sub Sections so as to present different concepts separately.

1.1.1 Subsection

Sections and sub-sections can be numbered using decimal points, e.g. 2.2 for the second section in Chapter 2 and 2.3.4 for the fourth Sub-section in third Section of Chapter 2.

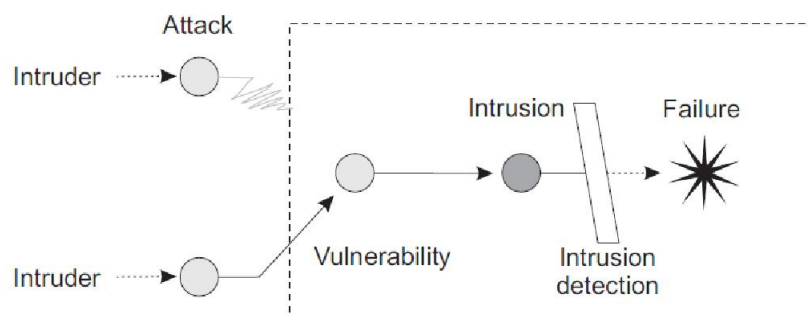


Figure 1.1: Intrusion Detection System

- A) Host-based IDS and
- B) Network-based IDS.
- C) Specification based Intrusion Detection.

1.1.2 Use of Bullets

- item 1
- item2
- item3
- item4

1.1.3 Use of Tables

One	Two
Three	Four

Table 1.1: An Example of a Table

Chapter 2

Literature Review

This shall normally form Chapter 2 and shall present a critical appraisal of the previous work published in the literature pertaining to the topic of the investigation. emphasis of the chapter shall depend on the nature of the investigation.

Chapter 3

Chapter 3

Add your chapter Name

Chapter 4

Chapter 4

Add your chapter Name

Chapter 5

Result

This shall form the penultimate chapter of the report and shall include a thorough evaluation of the investigation carried out and bring out the contributions from the study. The discussion shall logically lead to inferences and conclusions as well as scope for possible further future work.

Parameters	Wormhole Attack	AODV
Total No.of Sent Packets	85068	85068
Total No.of Received Packets	16252	68068
Total No.of Drop Packets	61948	16864
Throughput	98.01	410.24
Delay	0.0244	0.1528
Jitter	23.93	100.16

Table 5.1: Wormhole Attack Comparison with AODV Protocol

Chapter 6

Conclusions and Future Scope

This will be the final chapter of the report. A brief report of the work carried out shall form the first part of the Chapter. Conclusions derived from the logical analysis presented in the Results and Discussions Chapter shall be presented and clearly enumerated, each point stated separately. Scope for future work should be stated lucidly in the last part of the chapter.

Bibliography

- [1] Abror Abduvaliyev, Al-Sakib Khan Pathan, Jianying Zhou, Rodrigo Roman and Wai-Choong Wong , “On the vital Areas of Intrusion Detection Systems in Wireless Sensor networks”, IEEE Communications Surveys & Tutorials, Accepted For Publications, 2013- in press.
- [2] H.H. Soliman, et al, “A comparative performance evaluation of intrusion detection techniques for hierarchical wireless sensor networks”, Egyptian Informatics Journal (2012) 13, 225238.
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- [4] K.Fall and K.Varadhan, “The NS Manual” , http://www.isi.edu/nsnam/ns/doc/ns_doc.pdf., 1 Feb 2014.
- [5] Jae Chung and Mark Claypool, “NS by Example-Tutorial”, <http://nile.wpi.edu/NS/overview.html> , 1 Feb 2014.
- [6] Network Simulator blog, <http://Mohittahilani.blogspot.com> , 1 Feb 2014.
- [7] AWK Script for NS2, <http://mohit.ueuo.com/AWK-Scripts.html> , 1 Feb 2014.

Appendices

Detailed information, lengthy derivations, raw experimental observations etc. are to be presented in the separate appendices, which shall be numbered in Roman Capitals (e.g. Appendix I). Since reference can be drawn to published/unpublished literature in the appendices these should precede the Literature Cited section.

Appendix-A: NS2 Download and Installation

1. Download ns-allinone-2.35.tar.gz from <http://sourceforge.net/projects/nsnam/>
2. Place ns-allinone-2.35.tar in your desired directory; like /home/vishal.
3. Go to terminal and do as following commands
sudo apt-get update
sudo apt-get install automake autoconf libxmu-dev build-essential
4. Extract ns-allinone-2.35 and after extracting go to folder ns-allinone-2.35 from Terminal as
\$cd ns-allinone-2.35
\$/install
5. Path Setting
\$ gedit .bashrc

This command will open an existing file in editor. Just put the following path which is given bellow. [Remember that our ns-allinone path is /home/vishal. we will change this path according to our ns-allinone folder's path]

```
export PATH=$PATH:/home/vishal/ns-allinone-2.35/bin:/home/vishal/ns-allinone-2.35/tcl8.5.10/unix/home/vishal/ns-allinone-2.35/tk8.5.10/unix
```

```
export LD_LIBRARY_PATH=$LD_LIBRARY_PATH:/home/vishal/ns-allinone-2.35/otcl-1.14:/home/vishal/ns-allinone-2.35/lib
```

```
export TCL_LIBRARY_PATH=$TCL_LIBRARY_PATH:/home/vishal/ns-allinone-2.35/tcl8.5.10/library
```

After this save and exit.

6. Now type in terminal to check that, is all command we entered in .bashrc is correct or not? And To take the effect immediately

\$source .bashrc

7. Then perform the validation test using this command.

\$./validate

8. Run ns2 using this command

\$ns

We will get % prompt in our terminal. Now ns2 has been installed.

Acknowledgement

I have great pleasure in presenting the report on **Project Title** I take this opportunity to express my sincere thanks towards my guide **Guide Name** Department of (Name of Department), APSIT, Mumbai for (Branch Name) providing the technical guidelines and suggestions regarding line of work. I would like to express my gratitude towards his constant encouragement, support and guidance through the development of project.

I thank **Name of HOD** Head of Department, (Branch Name), APSIT, Mumbai for his encouragement during progress meeting and providing guidelines to write this report.

I thank (**Project Coordinator Name**) BE project co-ordinator, Department of (Department Name), APSIT, Mumbai for being encouraging throughout the course and for guidance.

I also thank the entire staff of APSIT, Mumbai for their invaluable help rendered during the course of this work. I wish to express my deep gratitude towards all my colleagues of APSIT, Mumbai for their encouragement.

Student Name:

Roll No.

Publication

Paper entitled “**Paper Title**” is presented at “**International Conference/Journal Name**” by “**Author Name**”.