## Installation Guidelines for NS2 on Windows

- 1) Requirements
  - a. Free disk space of 5GB required
  - b. Minimum 256MB RAM suggested
- 2) Assumptions
  - a. Windows installed in Drive partition "C"
- 3) Installation Instructions for CYGWIN
  - a. Download CYGWIN using setup.exe from http://www.cygwin.com
  - b. Run setup.exe

Cygwin Setup	
	Cygwin Net Release Setup Program
	This wizard will guide you through the installation and updating of the Cygwin environment and a plethora of GNU packages.
	E
	Setup.exe version 2.427
	Copyright 2000, 2001 Red Hat Inc. http://sources.redhat.com/cugwin/
	http:///sources.reand.com/cygwin/
	< Back Next > Cancel

- c. There are two ways to install after this step :
  - i. Install from Internet



This option is generally chosen, as everything is done automatically.

ii) Download and then Install

This option is desired when needed to install on large no. of machines.

d. Selecting Root directory where CYGWIN is installed

Recommended root directory path is "C:\cygwin".

Select the directory where you installation parameters.	ou want to install Cygwin. Also choose a few	Ľ
- Root Directory		
C:\cygwin	Biowse	ə
Install For	Default Text File Type	
All Users	C D <u>D</u> S	
⊂ Just <u>M</u> e		

e. Selecting directory where installation files are stored

Cygwin Setup - Select Local Package Directory	
Select Local Package Directory Select a directory where you want Setup to store the installation files it downloads. The directory will be created if it does not already exist.	E
Local Package Directory	
C:\cygwin Browse	
< <u>B</u> ack <u>N</u> ext >	Cancel

f. Selecting connection to internet : Direct connection preferred

Cygwin Setup - Select Connection Type	
Select Your Internet Connection Setup needs to know how you want it to connect to the internet. Choose the appropriate settings below.	E
Direct Connection     Use IE5 Settings     Use HTTP/FTP Proxy;	
Proxy Host Port 80	
< <u>B</u> ack <u>N</u> ext >	Cancel

g. Selecting Mirror site to download cygwin

Select one of the mirror site , generally preference is made to site that's near to download location.

Cygwin Setur	- Choose Download Site(s)	
Choose A Dow Choose a sit	<b>rnload Site</b> e from this list, or add your own sites to the list	E
	Available Download Sites:	
	ftp://ftp.univie.ac.at ftp://gd.tuwien.ac.at ftp://gnu.kookel.org ftp://linux.rz.ruhr-uni-bochum.de ftp://linux.sarang.net ftp://mir.zyrianes.net ftp://mirror.aarnet.edu.au ftp://mirror.averse.net ftp://mirror.averse.net ftp://mirror.cpsc.ucalgary.ca ftp://mirror.pacific.net.au ftp://mirror.pacific.net.au ftp://mirrors.kernel.org ftp://mirrors.rcn.net	
User URL:		Add
	< <u>B</u> ack	<u>N</u> ext > Cancel

## h. Selection of packages to install

Since CYGWIN has lot of packages, its desirable to install all packages.

In order to achieve this, Click view button, until it shows "full".

Œ	Cygwin	Setup - Select I	Packages					
	Select P Selec	<b>Packages</b> at packages to instal	I				0	E
			⊖ <u>K</u> eep	⊖ <u>P</u> re	v <u>● C</u> urr O	E <u>x</u> p Xië	🐹 Full	
	Curr	New	Bi	Sr	Categories		Package	^
		🚯 Skip	ηία	nja	Text		a2ps: Forma	-
		🚯 Skip	n/a	n/a	System		agetty: An ir	
		🚯 Skip	n/a	nja	Text		antiword: A	
		🚯 Skip	ηία	n/a	Net, Web		apache: Th	
		🚯 Skip	n/a	n/a	Devel, Libs		apr: The Ap	
		🚯 Skip	n/a	n/a	Devel, Libs		apr-util: Add	
		20040127-1	$\times$		Base, Shells		ash: A Bour	
		🚯 Skip	ηία	n/a	Text		aspell: A po	
		🚯 Skip	n/a	n/a	Text		aspell-de: G	
		🚯 Skip	n/a	n/a	Text		aspell-dev: I	· 🕶
	<						>	
				[	< <u>B</u> ack	<u>N</u> ext >	Cano	el

In order to make all packages installed, click the each of "skip" entry. After this step the installation window looks like this.

œ	Cygwin	Setup - Select Packag	ges			
	Select F Selec	Packages of packages to install				E
		<u>С К</u> е	ер 🤇	) <u>P</u> rev	. <u>⊂</u> urr ⊂ E <u>x</u> p	<u>∦īē</u> ₩ Full
	Curr	New	Bi	Sr	Categories	Package 🔼
		4.13-1	$\times$		Text	a2ps: Forma
		2.1-1	$\times$		System	agetty: An ir
		0.34-2	$\times$		Text	antiword: A
		1.3.29-2	$\times$		Net, Web	apache: Th
		0.9.5pre20040608-1	$\times$		Devel, Libs	apr: The Ap
		0.9.5pre20040608-1	$\times$		Devel, Libs	apr-util: Add
		20040127-1	$\times$		Base, Shells	ash: A Bouri
		0.50.3-1	$\times$		Text	aspell: A po
		0.50.2-1	$\times$		Text	aspell-de: G
			$\times$		Text	aspell-dev: I 🚩
	<					>
_						
				Ľ	< <u>B</u> ack <u>N</u> ext	> Cancel

Just click "Next" to make cygwin installed.

- 4) Installation Instructions for Network Simulator (NS-2)
  - a. Download NS-2 installation file from : <u>http://www.isi.edu/nsnam/dist/ns-allinone-</u>2.27.tar.gz
  - b. Save the above file in : C:\cygwin\
  - c. Now open the cygwin window by clicking the cygwin shortcut on the desktop
  - d. Inorder to extract the NS installation file , go to the location where the installation file is stored , by following commands:
    - cd c:cd cygwin/
  - e. Extraction of files :

Extract the installation files by the following commands:

- ➢ gzip −d ns-allinone-2.27.tar.gz
- ➤ tar -xvf ns-allinone-2.27.tar

by the above commands there will be directory created in the name of ns-allinone-2.27

f. Installing the packages from extracted files :

Commands to be executed :

➤ cd ns-allinone-2.27

after the above step:

➤ ./install

This command will initiate the process of installing NS2.

IMP NOTE: if in the process, you get a prompt saying "package **diff** missing do u want to proceed, press Y for proceeding or N for exiting.

If all the above steps are followed there should not be any error in installing NS2. if in any case if u get an error message saying that package missing, it means that those packages are skipped at the time of installation so u have to install those packages by doing setup again.

g. Validating NS2:

Move to the folder containing NS-2(i.e. ns-2.27) and then type the following command

./validate

This will test the installation of NS2 with the predefined examples.

NOTE (IMP):

Common errors and guidelines:

- 1) its always preferred to install cygwin as a normal user.
- 2) Check for display setting using at the prompt: startx

This will open a Xserver window. Now open another instance of cygwin and

ERRORS:

2.1) While testing a script : if the following error comes :

bash::ns:: command not found ::

## No need of .bashrc file update.

implies ~/.bash\_profile file isn't read or not configured.

For which : add the following to .bash\_profile and type

Source .bash\_profile

export NS\_HOME=/home/XXX/ns-allinone-2.27/
export PATH=\$NS\_HOME/tcl8.4.5/unix:\$NS\_HOME/tk8.4.5/unix:\$NS\_HOME/bin:\$PATH
export LD\_LIBRARY\_PATH=\$NS\_HOME/tcl8.4.5/unix:\$NS\_HOME/tk8.4.5/unix:\
\$NS\_HOME/otcl-1.8:\$NS\_HOME/lib:\$LD\_LIBRARY\_PATH
export TCL\_LIBRARY=\$NS\_HOME/tcl8.4.5/library

for example here is a sample ".bash\_profile" file ,

export NS\_HOME=/cygdrive/c/cygwin/ns-allinone-2.27/
export PATH=\$NS\_HOME/tcl8.4.5/unix:\$NS\_HOME/tk8.4.5/unix:\$NS\_HOME/bin:\$PATH
export LD\_LIBRARY\_PATH=\$NS\_HOME/tcl8.4.5/unix:\$NS\_HOME/tk8.4.5/unix:\
\$NS\_HOME/otcl-1.8:\$NS\_HOME/lib:\$LD\_LIBRARY\_PATH
export TCL\_LIBRARY=\$NS\_HOME/tcl8.4.5/library

## Standard working principles for NS:

Step 1: Open CYGWIN bash prompt Step 2: go to location of TCL file Step 3: type startx



once the above command "startx" is entered. The following window is opened



do all the operations in the above window. Like compiling ur tcl scripts etc.

<u>F</u> ile	NAM - The Network Animator v1.10
NAM - <sup>-</sup>	The Network Animator
Welcome to	) Nam 1.11
Developed	by UCB and the VINT, SAMAN, and Conser projects at ISI
Nam conta	ins source code with the following copyrights:
Copyright ( Copyright ( Copyright (	c) 1991-1994 Regents of the University of California. c) 1997-1999 University of Southern California c) 2000-2002 USC/Information Sciences Institute

This implies that the display variable is working.

For any further queries , please contact me at reddy9@uwindsor.ca .