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Lab Assignment No 2

Aim: To install and configure network simulator and learn basics of TCL scripting.

Lab Outcome Attained: Demonstrate the installation and configuration of network simulator.

Theory

- What is ns2?
  NS2 stands for Network Simulator Version 2. It is an open-source event-driven simulator designed specifically for research in computer communication networks.

- How to install ns2?
  A command is run in the command prompt: "**sudo apt-get purge nam**"

- What is nam?
  NAM stands for Network Animator. It is a TCL/TK based animation tool used to view real world packet traces and network simulation traces. It supports Topology layout, Packet level animation, Various data inspection tool, supports for graphical interface.

- How to install nam?
  A command is run in the command prompt: "**sudo apt-get install ns2**"

- What is TCL programming?
  TCL stands for Tool Command Lanaguge. It is the scripting language of choice in the business. Control structures, variables, network socket access, and APIs are all supported by the Tcl language. This is a high-level, general-purpose, dynamic programming language that is interpreted. Shell program TCL reads the TCL command from its standard input or a file and returns the required output.

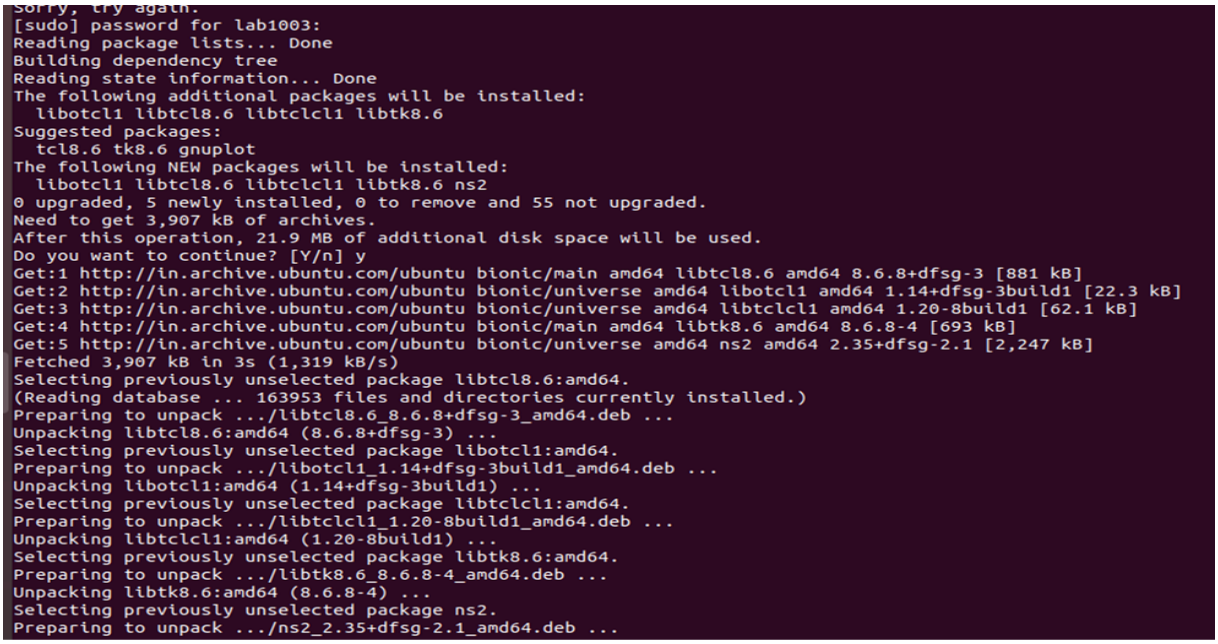
- Explain each of the lines:
  >set ns [new Simulator]- generates an NS simulator object instance, and assigns it to variable ns. It initializes the packet format, creates a scheduler, selects the default address format.
  >$ns at 1 "puts\ "hello world\""- Is used to print text on screen. Here we schedule an event to write at the time 1, by this script simulator instance "ns" writes "hello World"

>$ns at 1.5 “exit”- Is used to exit the simulator object.
>$ns run- This starts the ns and prints Hello world.

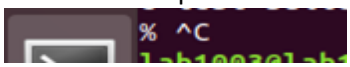
Screenshots

1. Typed sudo apt-get install ns2 to install ns2.

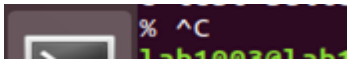
2. Password is asked



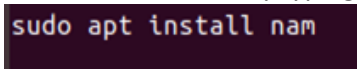
3. If the password is correct and the installation of ns2 was successful (%) symbol must come.



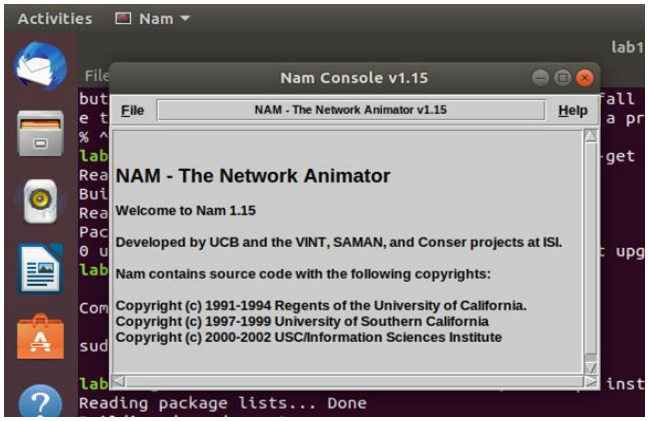
4. We have to then exit this by pressing Ctrl+C



5. Install nam by typing “sudo apt install nam”

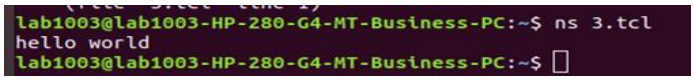


6. Type “sudo apt-get purge nam” then “nam”



7. In a text editor type the below text and save the file with TCL extension
   set ns [new Simulator]
   $ns at 1 “puts\ “hello world\””
   $ns at 1.5 “exit”
   $ns run

8. In the command editor type “ns filename.tcl” The program will be successfully executed if hello world is displayed.



Conclusion: LO2 which was demonstrate the installation and configuration of network simulator was hence achieved.