Network Simulation Tool for Project 25: Inter-RF Subsystem Interface (ISSI) All-in-one Installation Guide for Linux

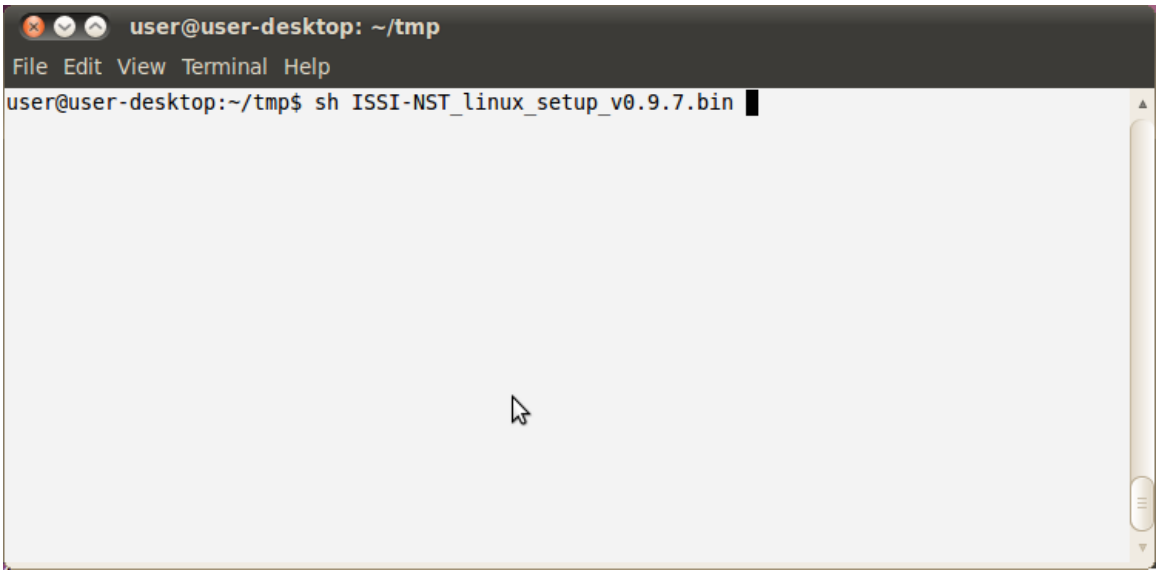
September 30, 2011
GUI version 1.0.0

Linux All-in-one

The installation of the ISSI-NST all-in-one tool in Linux [1] [2] comprises the selection of the packages to install (client, server or both), the copy of the required files and the installation of a compatible Java™ [3] Runtime Environment if none is found.

First of all, obtain the all-in-one installation package available at http://www.nist.gov/itl/antd/emntg/ps_p25_tool.cfm.

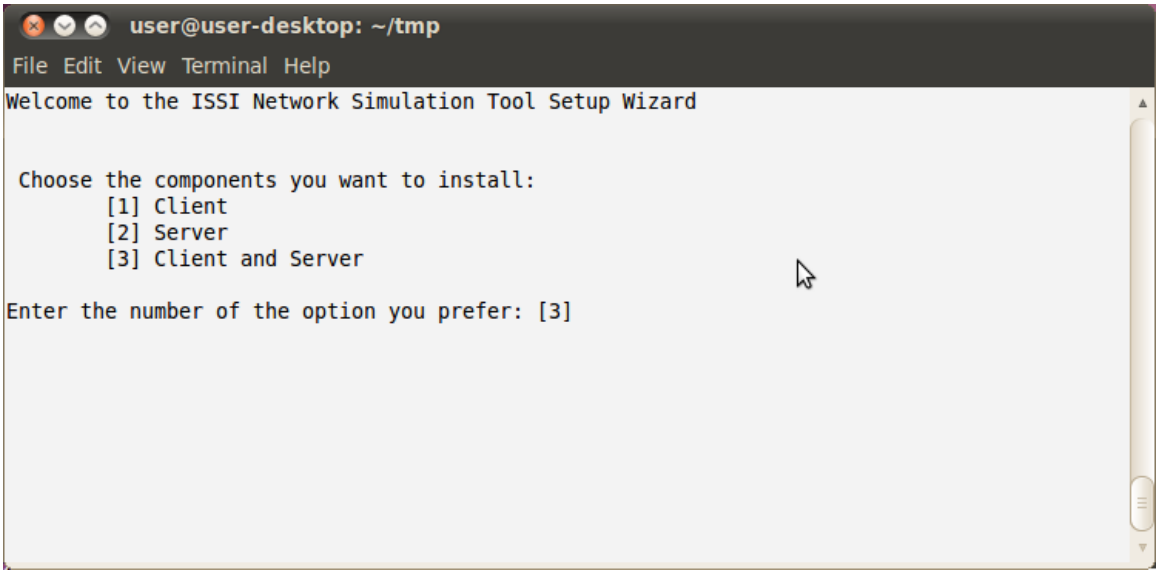
Open a terminal and run the package with '**`sh ISSI-NST_linux_setup.bin`**', as shown below. **Note: Replace version 0.9.7 with current version being installed.**



Note: You do not need to have administration privileges to perform the installation. However, you will need to have write permission in the target installation directory. You will need administration privileges to run the server if you intend to use ports lower than 1024.

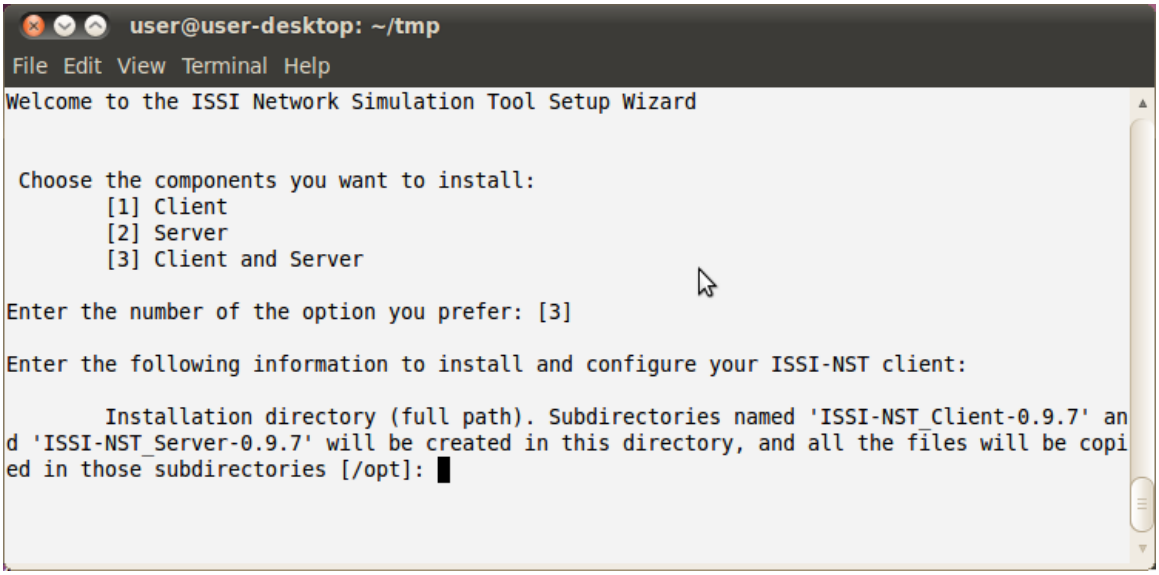
The installer will present you with a menu to select which package(s) to install:

[1] Linux is a registered trademark of Linus Torvalds.
[2] Disclaimer: Any mention of commercial products is for information only; it does not imply recommendation or endorsement by the NIST.
[3] Java is a registered trademark of Sun Microsystems, Inc. or its subsidiaries in the United States and other countries.

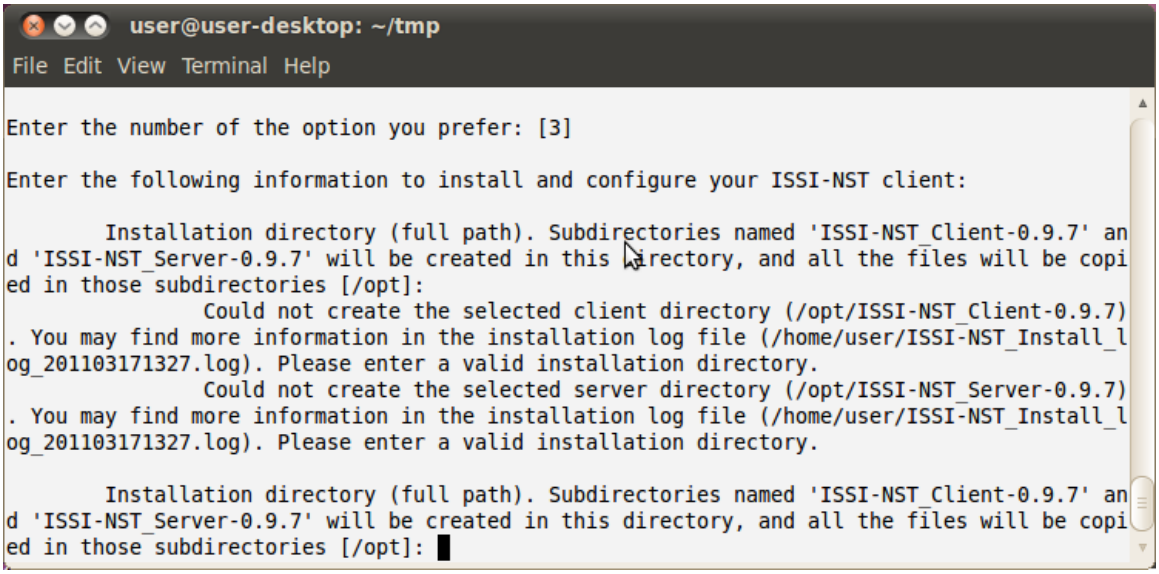


Selecting ‘Client’ will install the ISSI-NST client, the sample scenarios, and the client documentation. Selecting ‘Server’ will install the ISSI-NST server, the server configuration tool, and the server documentation. Selecting ‘Client and Server’ will install all of the above.

After making a selection, the installer will ask for the installation path for the selected package(s):



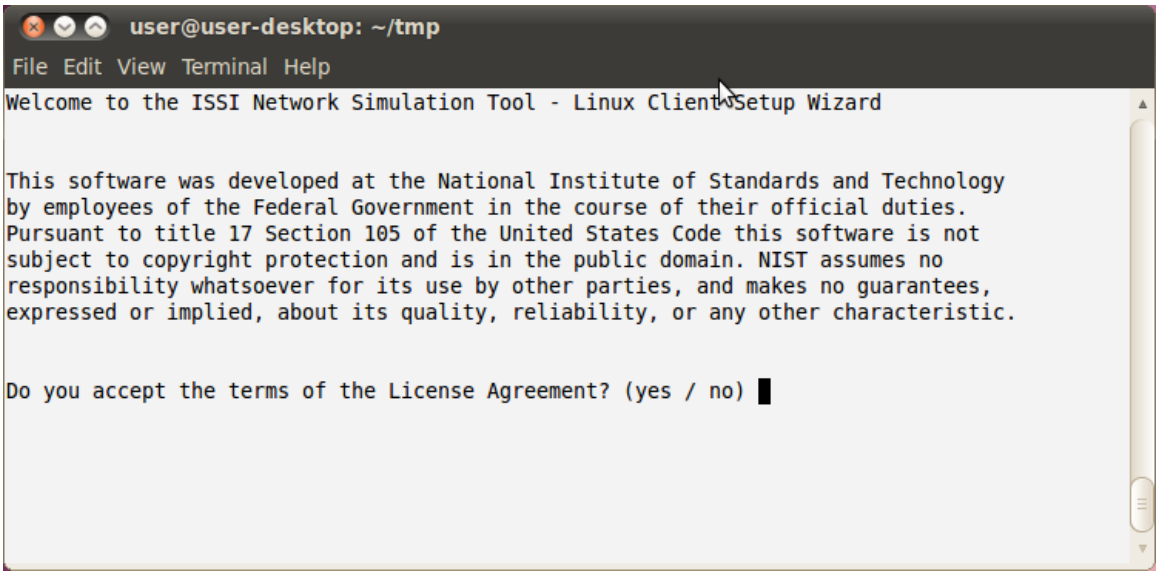
Make sure that you have permissions to write in the selected directory (and create it if it does not exist already); otherwise an error will be shown:



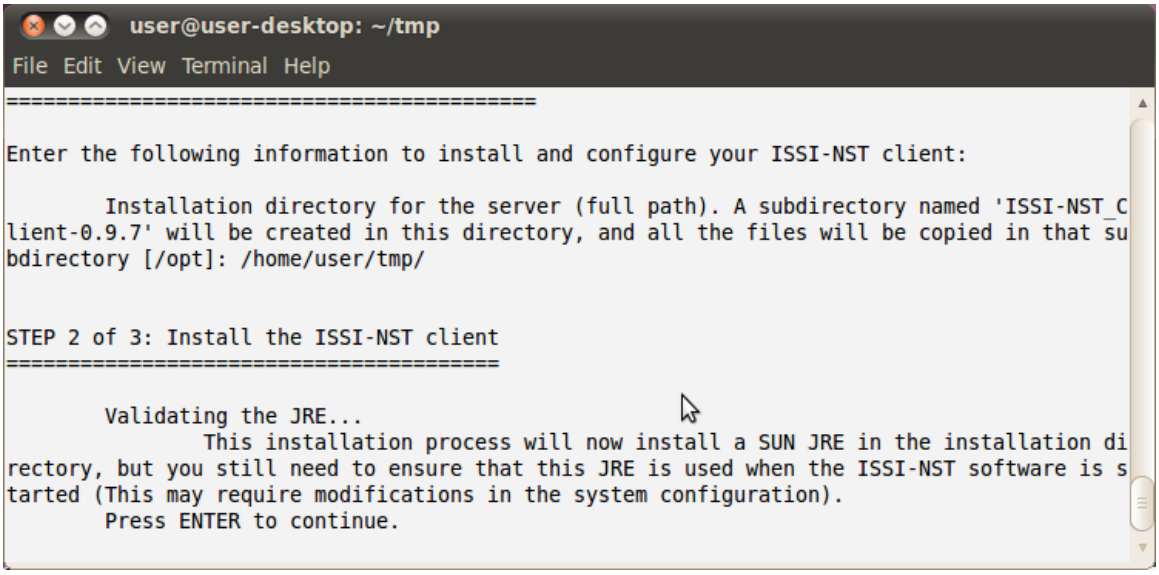
After this step, the individual installations of the client and/or the server packages will start.

GUI Installation

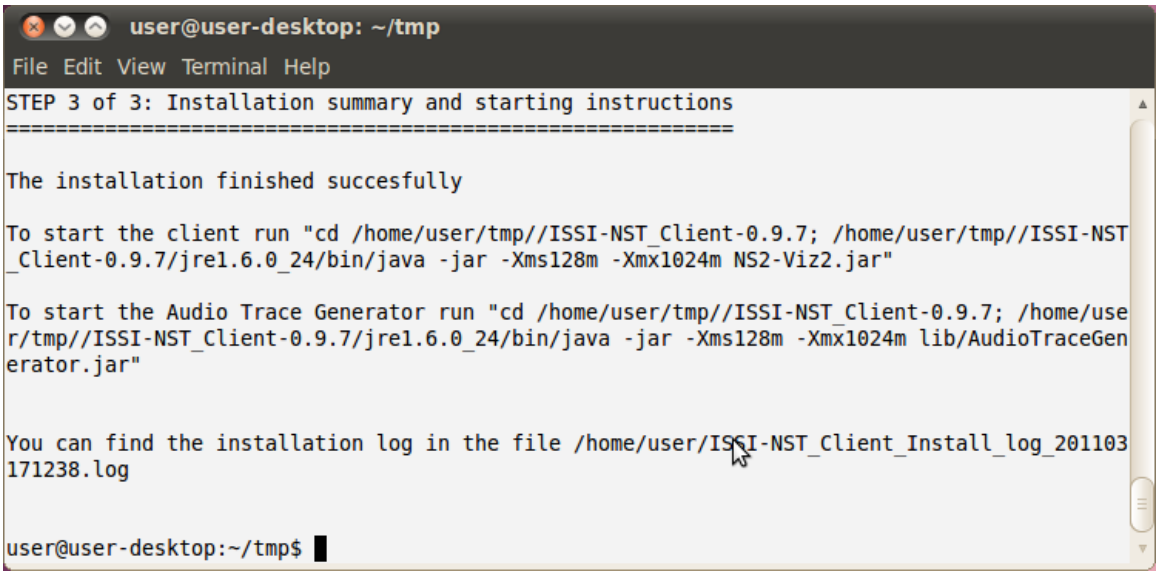
The installer will present you the license:



Next, the installation program will validate the existing Java Runtime Environment (JRE) in the system and if needed, install a compatible JRE. If a compatible JRE is not found, the installation program will proceed to install one in the server's installation directory:



When the installation is over, and if the server package was not selected for installation, the installer will present with a summary of the installation, along with the commands to start the tools and the path to the installation log file:

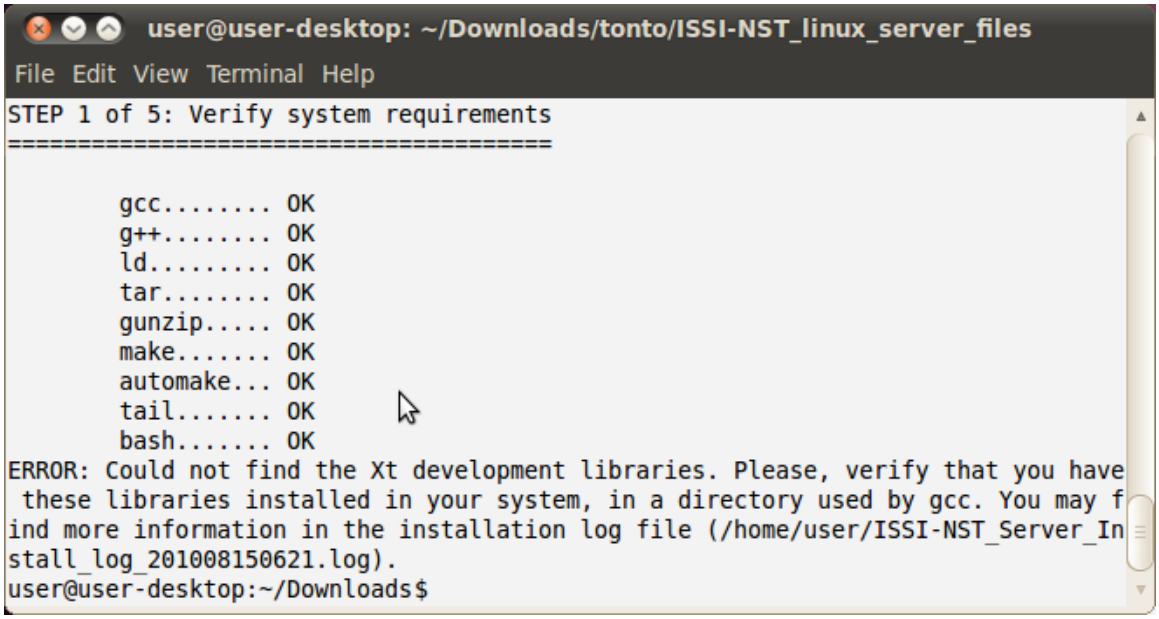


Server Installation

Follow the instructions. The installer will perform checks on the following requirements:

- GNU C Compiler (`gcc`), version 4 or higher
- C++ support for gcc (`c++`), version matching that of `gcc`
- Binutils, version matching that of `gcc`

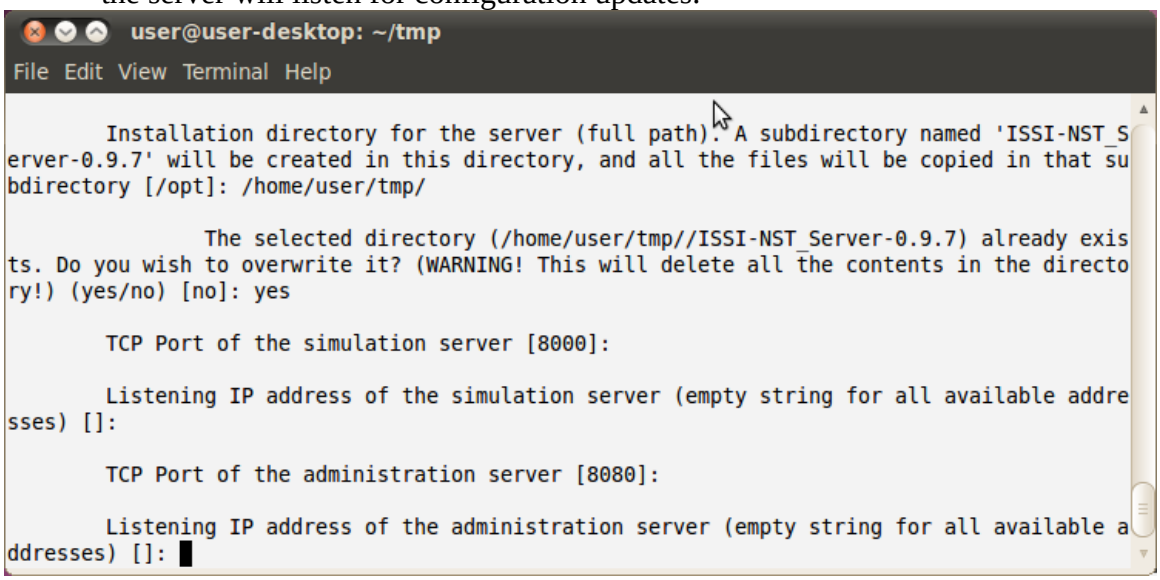
- `tar` archiving program
- `bash` compatible shell
- GNU data compressor (`gzip`)
- GNU `make` utility
- Autotools (`autoconf` and `automake`), version matching that of `make`
- `tail` command
- Xt development libraries (libXt-dev or libXt-devel)
- SUN's Java JRE 1.6.02 or higher (1.6.21 provided with the installation package). The use of other JRE's is not recommended due to compatibility issues.



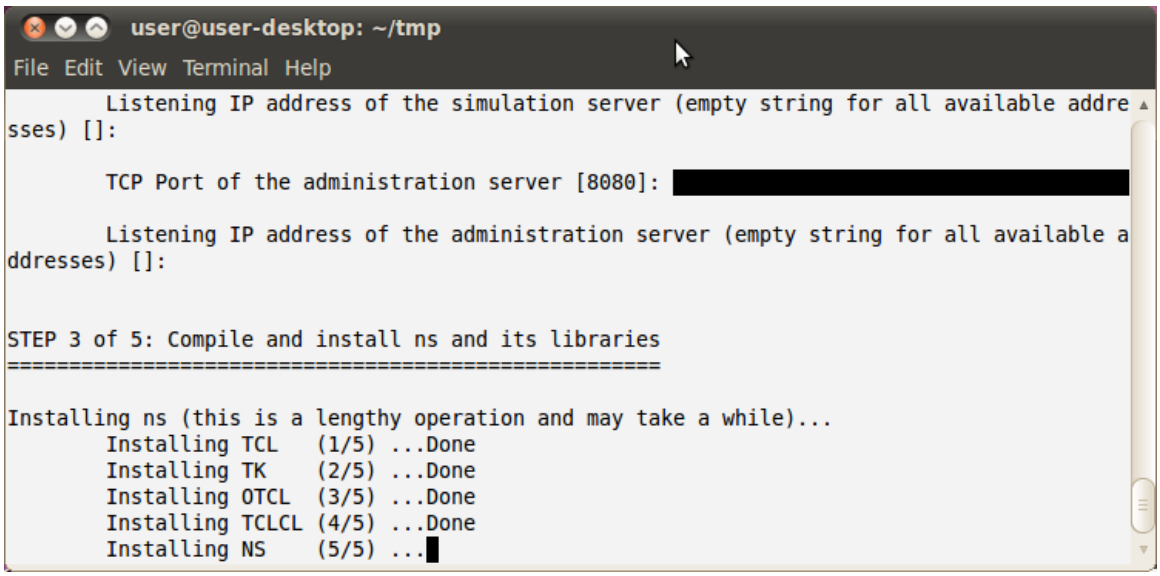
If an error is found, extended information can be found in the installation log file (the path to that file is provided in the error message).
Once the requisites have been verified, the user is asked for several configuration parameters. For each parameter, the default value is enclosed within brackets. Entering an empty answer (e.g., pressing the ENTER key) will use the default value provided. The configuration parameters requested are the following:

- **TCP port for the simulation server**: The TCP port in which this server will listen for the client requests.
  NOTE: Remember that you will need administrative privileges to start the application if you choose a port lower than 1024.
- **Listening IP address for the simulation server**: Network address in which the server will listen for client requests.
- **TCP port for the administration server**: The TCP port in which this server will listen for configuration updates.
  NOTE: Remember that you will need administrative privileges to start the application if you choose a port lower than 1024.

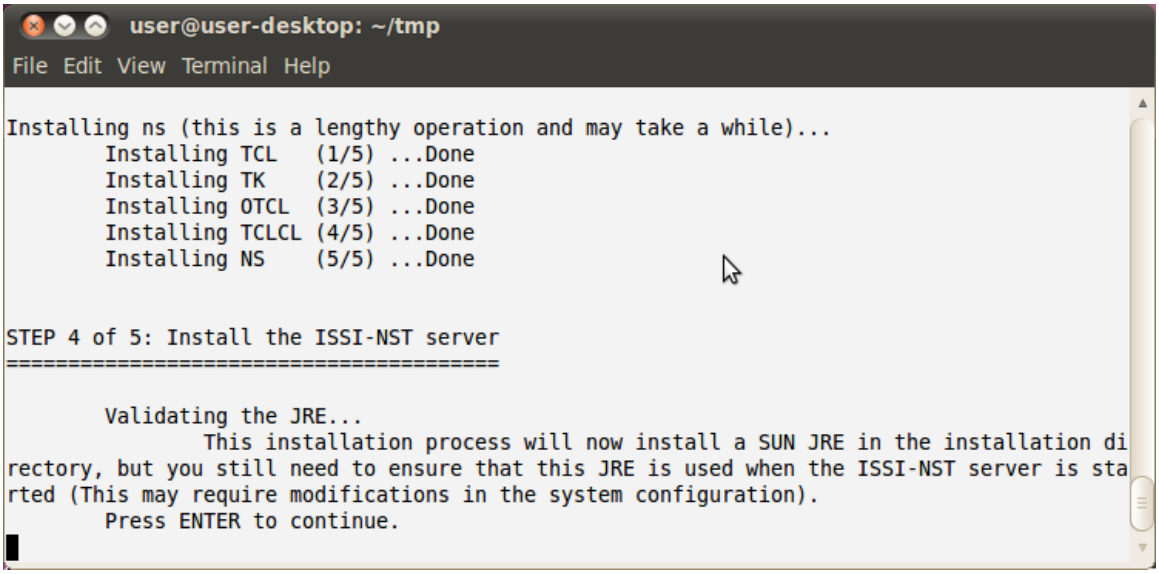
- **Listening IP address for the administration server**: Network address in which the server will listen for configuration updates.



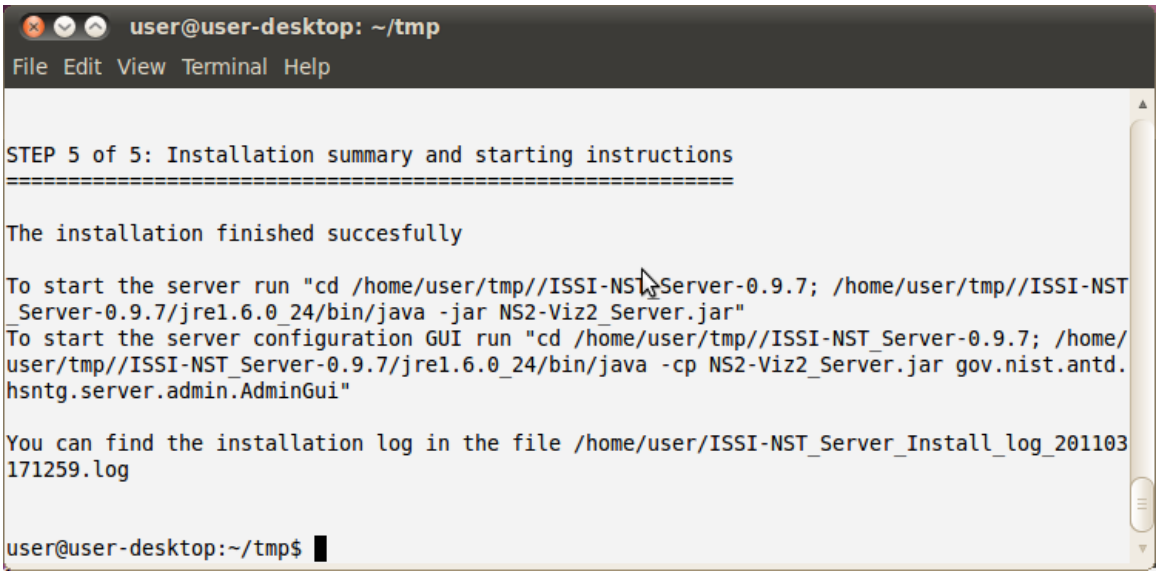
When all the configuration parameters have been introduced, the installation program will proceed to install the simulation model and its required libraries:



Finally, the installation software will validate the Java Runtime Environment in the system and if needed, install a compatible JRE in the server's installation directory:

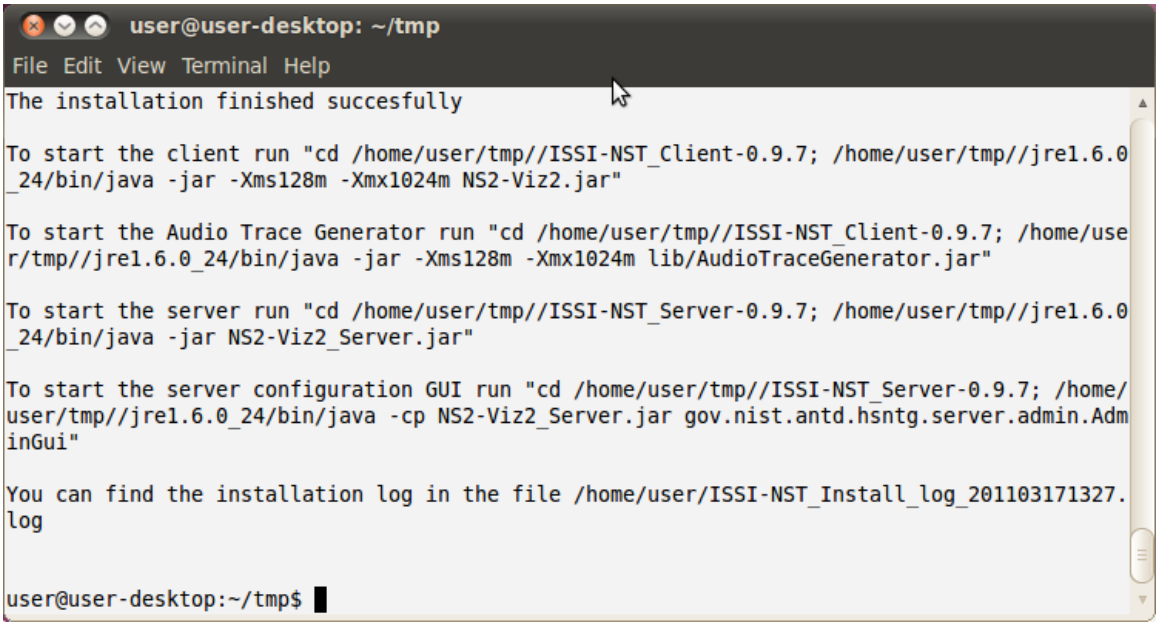


When the installation is over, the installer will present with a summary of the installation, along with the commands to start the server, launch the server configuration GUI, and the path to the installation log file:



If the client package was also installed, the installation summary will include the instructions to launch the client and the audio traces generation tool.

The basic configuration provided with the server installation program creates a default user for the simulations (**user**: `user01`; **password**: `user01`) and another one for the configuration GUI (**user**: `admin`; **password**: `admin`). This configuration can be changed using the configuration GUI (refer to the server documentation for further information).


user@user-desktop: ~/tmp
File Edit View Terminal Help
The installation finished succesfully
To start the client run "cd /home/user/tmp//ISSI-NST_Client-0.9.7; /home/user/tmp//jre1.6.0_24/bin/java -jar -Xms128m -Xmx1024m NS2-Viz2.jar"
To start the Audio Trace Generator run "cd /home/user/tmp//ISSI-NST_Client-0.9.7; /home/user/tmp//jre1.6.0_24/bin/java -jar -Xms128m -Xmx1024m lib/AudioTraceGenerator.jar"
To start the server run "cd /home/user/tmp//ISSI-NST_Server-0.9.7; /home/user/tmp//jre1.6.0_24/bin/java -jar NS2-Viz2_Server.jar"
To start the server configuration GUI run "cd /home/user/tmp//ISSI-NST_Server-0.9.7; /home/user/tmp//jre1.6.0_24/bin/java -cp NS2-Viz2_Server.jar gov.nist.antd.hsntg.server.admin.AdminGui"
You can find the installation log in the file /home/user/ISSI-NST_Install_log_201103171327.log
user@user-desktop:~/tmp$