IMPORTANT: Mac installations are imcopatible. Thus, if you have a MAC we highly suggest downloading an Ubuntu image for all assignments.

Install Tools for Windows

1. For NS
2. Download the following 3 files: ns.exe, tcl86.dll and init.tcl, from canvas at Files/Resources/ns\_nam.zip
3. Move to a folder, from which you will run ns.exe executable.
4. For NSBench
5. Download ns-bench-new.jar from canvas at Files/Resources.
6. Download openjdk java 15 <https://www.oracle.com/java/technologies/javase-jdk15-downloads.html> and <https://www.javahelps.com/2019/04/install-latest-oracle-jdk-on-linux.html>
7. Download Xming for Windows 10
8. Double click Xming in Apps. Whenever you open a new terminal write: “export DISPLAY=localhost.0.0”. Type “xclock” in terminal to make sure display is working.
9. For Nam
10. Download the nam.exe file from canvas at Files/Resources.
11. Similar as ns-bench, make sure Xming is running, and write “export DISPLAY=localhost.0.0”

Install Tools for Ubuntu 20.0.4 or Windows 10 using a Windows Subsystem for Linux

1. SPECIFIC FOR WINDOWS 🡺 Download Ubuntu as a WSL for Windows 10, Download Xming for Windows 10, Double click Xming in Apps. Whenever you open a new Ubuntu terminal write: “export DISPLAY=localhost.0.0”. Type “xclock” in terminal to make sure display is working.
2. Download nsbench-new.jar from canvas at Files/Resources.
3. Download openjdk java 15 <https://www.oracle.com/java/technologies/javase-jdk15-downloads.html> and <https://www.javahelps.com/2019/04/install-latest-oracle-jdk-on-linux.html>
4. Download ns from <https://sourceforge.net/projects/nsnam/files/allinone/ns-allinone-2.35/ns-allinone-2.35.tar.gz/download>
5. **IF UBUNTU version is HIGHER THAN 14:** Follow video for installing ns2 in Ubuntu <https://www.nsnam.com/2020/06/installation-of-ns2-ns-235-in-ubuntu.html>
6. In ubuntu terminal, write: sudo apt-get install xorg-dev. Change environment variables. Add the following lines to the file /~/.bashrc: (*The path in bold refers to the path where the ns2 package was extracted. Make sure to modify it to your environment)*
	1. export PATH=$PATH**:/home/ubuntu/NS2**/ns-allinone-2.35/bin:/home/ubuntu/NS2/ns-allinone-2.35/tcl8.5.10/unix:/home/ubuntu/NS2/ns-allinone-2.35/tk8.5.10/unix
	2. export LD\_LIBRARY\_PATH=$LD\_LIBRARY\_PATH**:/home/ubuntu/NS2**/ns-allinone-2.35/otcl-1.14:/home/ubuntu/NS2/ns-allinone-2.35/lib