LABS 1 & 2: VNC-Virtual Network Computing AND PUTTY/WINSCP

Lab 1 for EBU6503 Middleware- Implementing VNC and Putty/WinSCP

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To be used for the 20178 at BUPT

This document is to build upon the experience from Lab 1. In this lab, a demonstration of another tool call VNC (Virtual Network Computing) will be used to connect to heterogeneous systems. The objectives of the lab are:

- To put into practice message passing protocols for communication in cloud-based systems
- To improve upon the first lab by using additional tools to connect to heterogeneous systems

INTRODUCTION

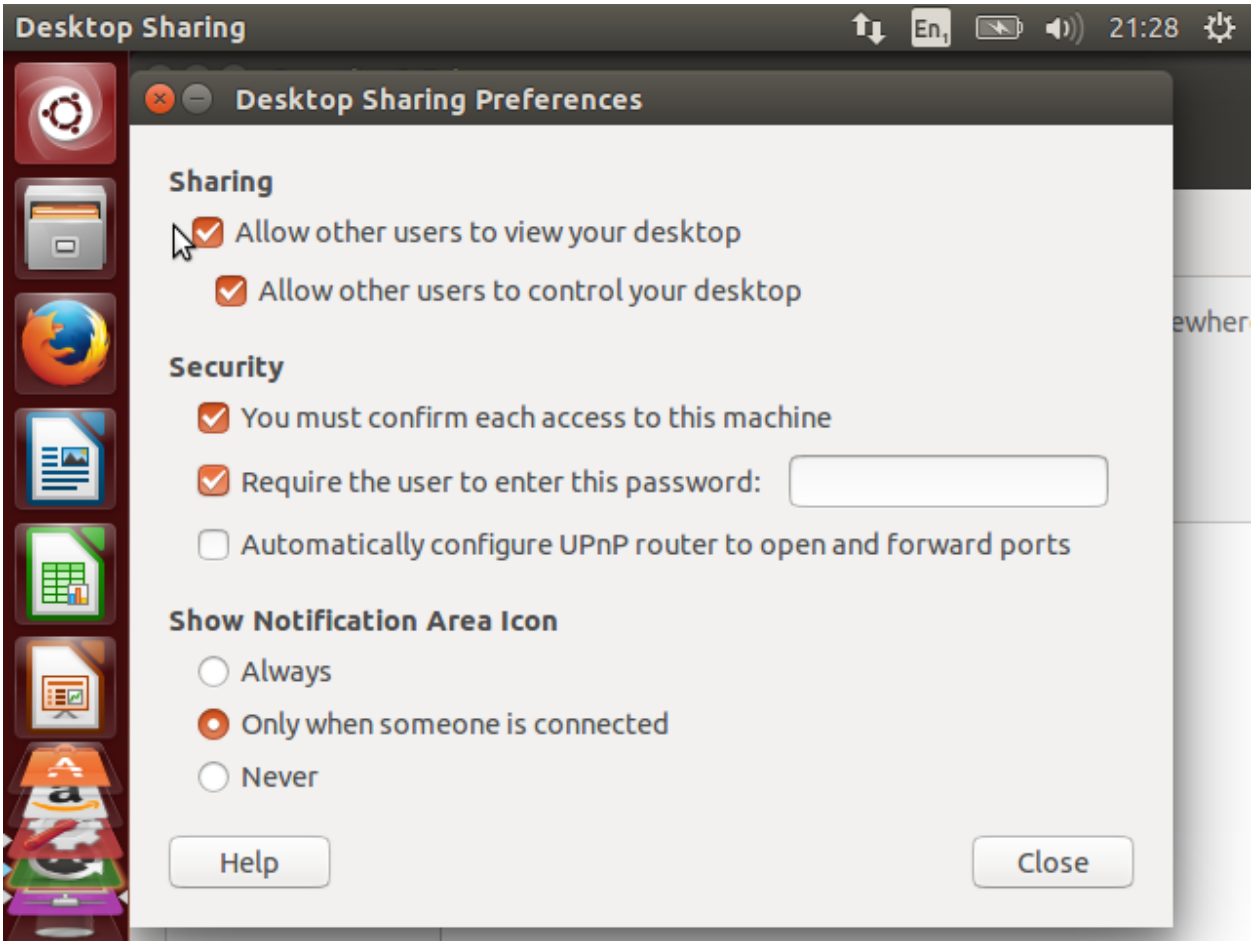
In this session, students will download and implement VNC (Virtual Network Connection) to connect systems from Windows to Linux or Linux to Linux.

IMPORTANT:

1. Take screenshots of each step for your installations, creating and copying files, connections/logins between Windows and Linux systems and submit to the TAs at the end of your lab.
2. To test this lab, after all installations and configurations on the Windows machines, half of the students should reboot their machines to Linux system while half should remain on Windows. Each student on a Windows machine should take the IP address of one of the Linux systems and connect to it and follow the instructions of logging in and creating/copying files using Putty and WinSCP. After that, the next sets of students on Linux should make changes to the files created and then go to the corresponding Windows machines and copy them back to the Windows machines using WinSCP.

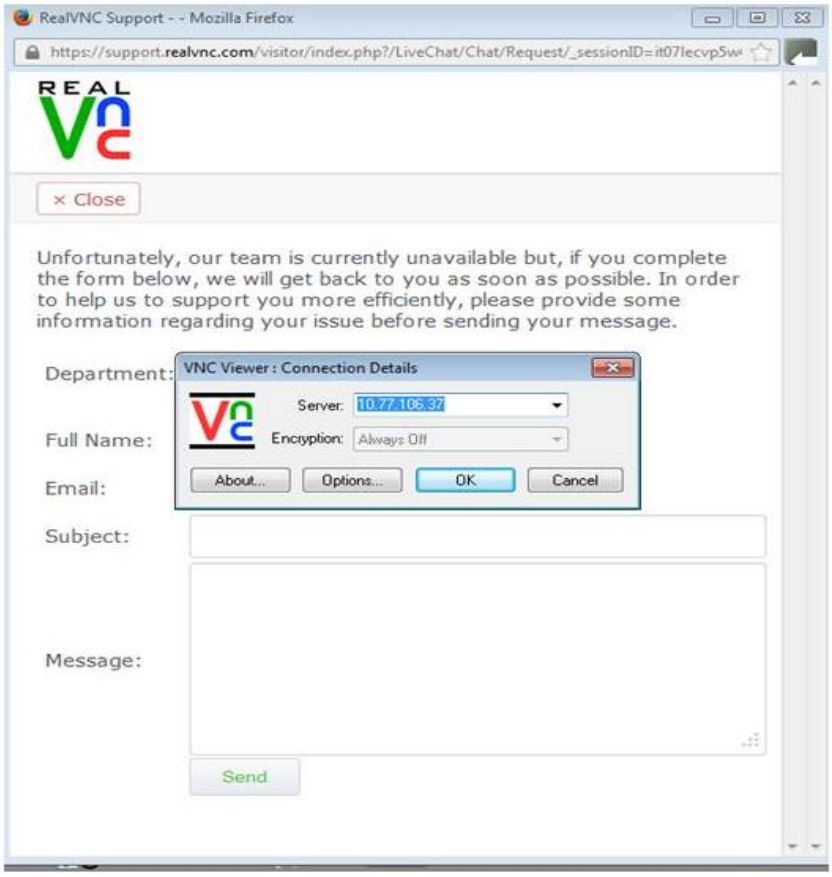
LAB 1: VNC IMPLEMENTATION

In this lab, you (students) will use Ubuntu Linux (14.04) and Windows 7 to create connections from Windows to Linux using VNC. Ubuntu usually comes with VNC installed on it. Configure Ubuntu to allow remote access to it from remote computers. Most Ubuntu systems do not come with firewall rules implemented, so you may not need to open ports. Go to "Search your computer and online resources" to search for "Desk Sharing" -> "Desktop Sharing Preferences". Check "Allow other users to view your desktop" and "Allow other users to control your desktop". Also check "you must confirm each access to this machine" and "Require the user to enter this password".



Check to ensure that the VNC port is opened by using "nmap" command line tool on the Ubuntu. If nmap is not installed, run "sudo apt-get install nmap". After installation run "nmap localhost" to see if ports 5900/tcp, 5901/tcp and 6001/tcp for VNC, VNC-1 and X11:1 are opened respectively. If they are not opened, open them using "ufw" tool.

Now download VNC Viewer for Windows on the Windows Machine and configure it. Use either RealVNC (http://www.realvnc.com/) or TightVNC (http://www.tightvnc.com/) for installation. When you download and install it, start it and type the IP address of the Linux machine to connect.



You should be able to connect to your Ubuntu Machine from the Windows machine using your VNC. You can control the Linux machine's keyboard, mouse and screen.

LAB 2: USING PUTTY AND WINSCP TO CONNECT FROM WINDOWS TO LINUX AND COPY FILES

To have access to a Linux system from Windows, use Putty and WinSCP. Putty allows users to log onto a Linux system and work from their Windows desktop. WinSCP allows users to log onto Linux systems from Windows systems and copy files securely across the two systems.

If you are using Amazon Web Services (AWS) Elastic Compute Cloud (EC2) the use the instructions at http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/putty.html to install and configure Putty and WinSCP to log onto your Linux system above and copy files.

Create a file on notepad or MS Word with the text "My Putty and WinSCP Demo" and save it on your Windows machine in any folder of your choice. Log onto your Linux system and copy the file across using Putty. Open the file in your Linux system and add the text "I am on Linux Systems" and save it. Log onto the Linux system using WinSCP from your Windows machine and copy the file back to your Windows machine.

If you are not using AWS EC2 instances, then go to http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html to download and configure Putty on your windows machine and go to https://winscp.net/eng/download.php to download and configure WinSCP on your windows machine.

Also do the following as with AWS EC2:

Create a file on notepad or MS Word with the text "My Putty and WinSCP Demo" and save it on your Windows machine in any folder of your choice. Log onto your Linux system and copy the file across using Putty. Open the file in your Linux system and add the text "I am on Linux Systems" and save it. Log onto the Linux system using WinSCP from your Windows machine and copy the file back to your Windows machine.