

Lab 7a - Introduction to the Attack Lab

4481 4.0 Computer Security Lab, Winter 2015

Format: Individual

Learning Objective: Practice configuring a small network

1 Network Configuration

A small company has decided to deploy a new IT infrastructure. While there are plans to add several workstations in the future, the proposed infrastructure contains only the devices shown in Figure 1.

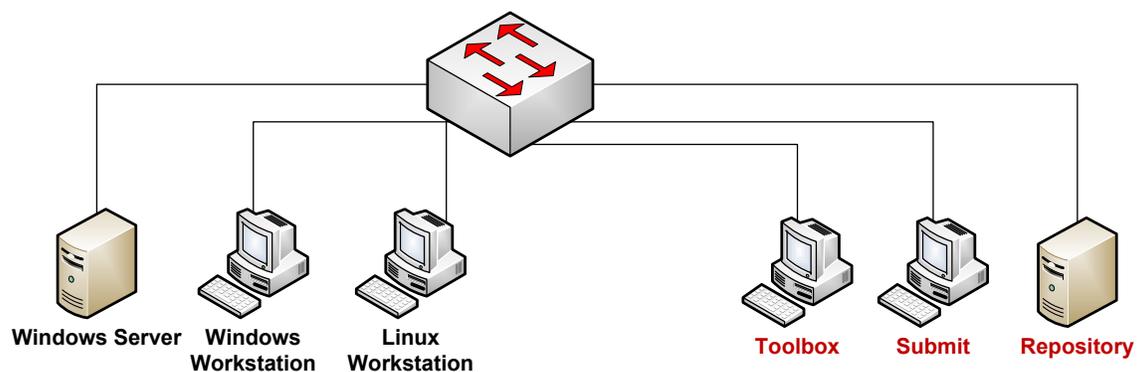


Figure 1: Network Configuration

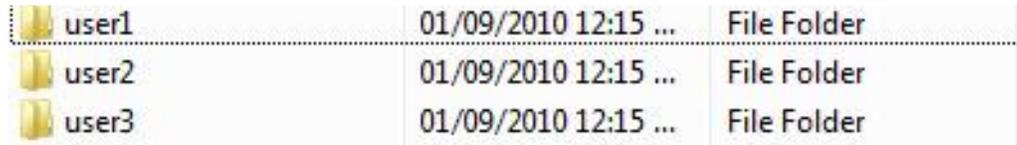
The company office will contain a Windows workstation, a Linux workstation, and a Windows 2003 server. The Windows 2003 server will be a domain controller.

Two users for the Windows workstation must be created in the domain controller. Also, three local users are required for the Linux workstation.

The IT department does not enforce any naming or IP convention. However, they do have the following policies:

1. There must be 50 reserved static IP addresses
2. Workstations are using dynamic IP addresses
3. The routing prefix of the network is $192.168.10x.0/24$ where x is your workgroup number (it will be provided by the instructor).

4. For each Windows user, there needs to be a shared directory whose name is the same as the user name. This shared directory is located on the domain controller in a directory called `public`. Users are allowed to read/write/delete files from their shared directory, as well as read files from other users' shared directories. The shared directories must be protected from being deleted by any non-admin user (advanced feature). An example is shown in Figure 2.



user1	01/09/2010 12:15 ...	File Folder
user2	01/09/2010 12:15 ...	File Folder
user3	01/09/2010 12:15 ...	File Folder

Figure 2: Sample content of the `public` directory

5. The `public` directory mounts automatically when a user logs in any workstation
6. Workstation users should be able to launch executable files in the `<userhome>/pbin` directory.

Your task is to configure and setup the IT infrastructure (the workstations and the server) according to the above specification. Your job is also to develop a suitable IP address schema.

What to do:

1. Design naming and IP schema
2. Configure the Windows 2003 server
3. Verify connectivity of all devices, i.e. every computer must be able to ping all others
4. Promote the Windows 2003 server into a domain controller
5. Verify DNS configuration (name resolving and reverse resolving)
6. Add the Windows workstation into the domain
7. Create the `public` directory on Windows 2003 server
8. Create users
9. Modify user profiles

- Configure auto-mount of the user's home directory
- Configure ability to launch programs from `<userhome>/pbin`
- Configure auto-mount of the `public` directory

10. Verify configuration correctness

The network diagram in Figure 1 contains three more machines: Submit, Repository and Tools. These machines are supplementary for the course. You need to perform the following two tasks: the Repository machine should have a static IP, and the Linux workstation and the Toolbox machine must be configured to download packages from the Repository.

Helpful material

The course website contains several links to documents that should be helpful for this lab, such as protocols (DHCP, DNS and ICMP), and file permission schemas for Windows and Linux. Become familiar with social engineering techniques. Make sure to consult with them.

The following list of commands (some apply only to Linux) should also come in handy: `find`, `dig`, `nslookup`, `ping`, `dcpromo`. Become familiar with them by studying the man pages.