
The Internet Teaching Lab

ITLab Manual

Developed by:

VINTLab **The Virginia Internet
Teaching Laboratory**

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Authors



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General Information

- 1) Please be careful when handling the equipment in the lab.
- 2) Be careful with handling fiber-optic cables. Fiber-optic cables are easily damaged, and expensive to replace. Stepping on a cable or bending the cable at a narrow angle may render the cable useless.
- 3) All experiments require that you have superuser (root) privileges. Please be careful when modifying the configuration of computers and routers.

Information on the Labs for ITLab students

The Internet Teaching Lab (ITLab) manual contains six labs. Each lab has three phases:

- (1) a prelab,
- (2) a supervised time-limited lab session, and
- (3) a lab report.

Pre-laboratory Assignments (Prelabs)

These are exercises to be undertaken in preparation for the laboratory itself. They are to be undertaken in your own time. The prelab must be completed before the beginning of the associated laboratory. In many cases, the prelabs ask you to acquire skills and background without which you are not able to complete the lab in a timely fashion.

If you have failed to complete the prelabs you may not get admitted to the lab session. The prelab accounts for 20% of the grade of your lab report. Since you are working with root privileges on all equipment, lack of preparation will increase the risk that you make configuration errors. This is done to ensure that students who have completed the prelabs receive the proper attention from the lab instructor.

Lab Session

These are the activities to be undertaken during your appointed time slot. Laboratory activities are not graded but your attendance at each laboratory is required. If you miss a lab exercise, you do not have the data necessary to prepare a lab report.

Note that you will not have access to the ITLab network from the campus network. Therefore, bring the following material to the lab:

- class notes,
- textbook,
- printout of lab manual section.



Each laboratory has a check-list form. If the lab manual has a checkpoint, as shown in the margin, you show your work to the teaching assistant.

Although ungraded, you are expected to undertake the various laboratory activities to the extent that you can. You are required to give your checklist to a teaching assistant prior to leaving the laboratory.

Note ! We ask you to fill out an anonymous feedback sheet for each lab. The feedback sheet will be used to revise the lab manual.

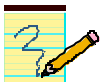


You will summarize the findings and measurement made in the lab exercises in your lab report. Make sure that you take notes and that you save collected data to files. A floppy disk symbol as shown in the margin indicates that you have to save data to a file for your lab report.

Make sure that you copy all files with your data to floppy disks, before you leave the lab. If you do not save your files, you will not be able to include measurement data in your lab report.

Lab Reports

After each lab exercise, you will be asked to prepare a lab report. In the lab report you summarize and analyze the findings from the lab exercises.



A notepad symbol in the lab manual indicates an assignment for your lab report.

You will submit a single lab report with your lab partner. The lab reports are due at the beginning of the next lab. The expectation is that you submit a typewritten document. Each lab report must have a title page, which contains names, and title of the lab.

ITLab and UNIX

The computers in the ITLab are running a version of the UNIX operating system. Specifically, we will run the Linux operating system. The ITLab does not require that you are a UNIX expert. However, familiarity with basic UNIX commands and the X Windows user interface will be helpful.

If you never worked on a computer with a UNIX based operating system (e.g., Linux, FreeBSD, Solaris, AIX, HP/UX, Irix), you may want to look up additional resources.

There are many on-line tutorials available on the Web:

- <http://www.isu.edu/departments/comcom/unix/workshop/unixindex.html>
An introduction to Unix in 14 chapters from the Idaho State University
- <http://www.nacse.org/unix-tutorial>
“Coping with Unix: An Interactive Survival Kit” is an interactive tutorial for novice Unix user. Includes quizzes.

There are many books for Unix novices. The following may be helpful:

- UNIX Power Tools, by Jerry D. Peek, Tim O'Reilly, Mike Loukides, 1120 pages, O'Reilly & Associates, 1997.
- Unix in a Nutshell, Daniel Gilly, Mike Loukides (Editor), , 3rd edition, O'Reilly & Associates; 1999.
- Unix for the Impatient, by Paul W. Abrahams, Bruce Larson, 2nd edition, Addison-Wesley, 1995.

If you are interested in learning about Linux, the following book may be of interest:

- Running Linux (3rd Edition), by Matt Welsh et. al., 3rd edition, O'Reilly & Associates, 1999.