SOCS Learning Module:
Operating System Tools in Linux

Intended Audience

This learning module is intended for Ph.D. students in the School of Computer Science who have little to no previous experience in using Linux operating system tools.

Learning Objectives

Core Objectives After completing this learning module, the student should be able to use command line tools to:

CO1. Manage files and directories on a Linux system

CO2. Control processes on a Linux system

CO3. Create and execute simple scripts and batching jobs

CO4. Edit text with common UNIX/Linux editors

CO5. Transfer files over the network using Linux

CO6. Process text with Linux commands

CO7. Select and apply appropriate development tools supported by Linux for a given project

Additional Objectives

As provided by the student's Advisory Committee

Learning Resources

Recommended Textbook

Introduction to Linux - A Hands on Guide by Machtelt Garrels
http://tille.garrels.be/training/tldp/

As claimed, this textbook is hands on. The student is encouraged to try out most examples in relevant chapters (see Appendix 1), as well as those in the Recommended Resource below (see Appendix 2).

Recommended Resources

1. *Linux Command Line*
   - https://www.gitbook.com/book/learnbyexample/linux-command-line/details

2. *Linux Tutorial – Software Development on Linux*
   - http://www.yolinux.com/TUTORIALS/LinuxTutorialSoftwareDevelopment.html

Other Recommended Resources

A beginner's guide to the **Unix** and **Linux** operating system

http://www.ee.surrey.ac.uk/Teaching/Unix/

Another beginner's guide to Linux
https://www.tecmint.com/free-online-linux-learning-guide-for-beginners/

An introduction to text manipulation on UNIX-based systems
https://www.ibm.com/developerworks/aix/library/au-unixtext/index.html

Additional Resources

As recommended by the student's Advisory Committee

Additional Exercises

As recommended by the student's Advisory Committee

Appendix 1: Learning Objectives as Covered in the Recommended Textbook

Chapter 3: About files and the file system

- CO1. Manage files and directories on a Linux system

Chapter 4: Processes

- CO2. Control processes on a Linux system

Chapter 6: Text editors

- CO4. Edit text with common UNIX/Linux editors

Section 7.2: Your text environment

- CO3. Create and execute simple scripts and batching jobs

Chapter 10: Networking

- CO5. Transfer files over the network using Linux

Appendix 2: Learning Objectives as Covered in the Recommended Resource 1

Chapter: Text Processing

- CO6. Process text with Linux commands

Appendix 3: Learning Objectives as Covered in the Recommended Resource 2

- CO7. Select and apply appropriate development tools supported by Linux for a given project