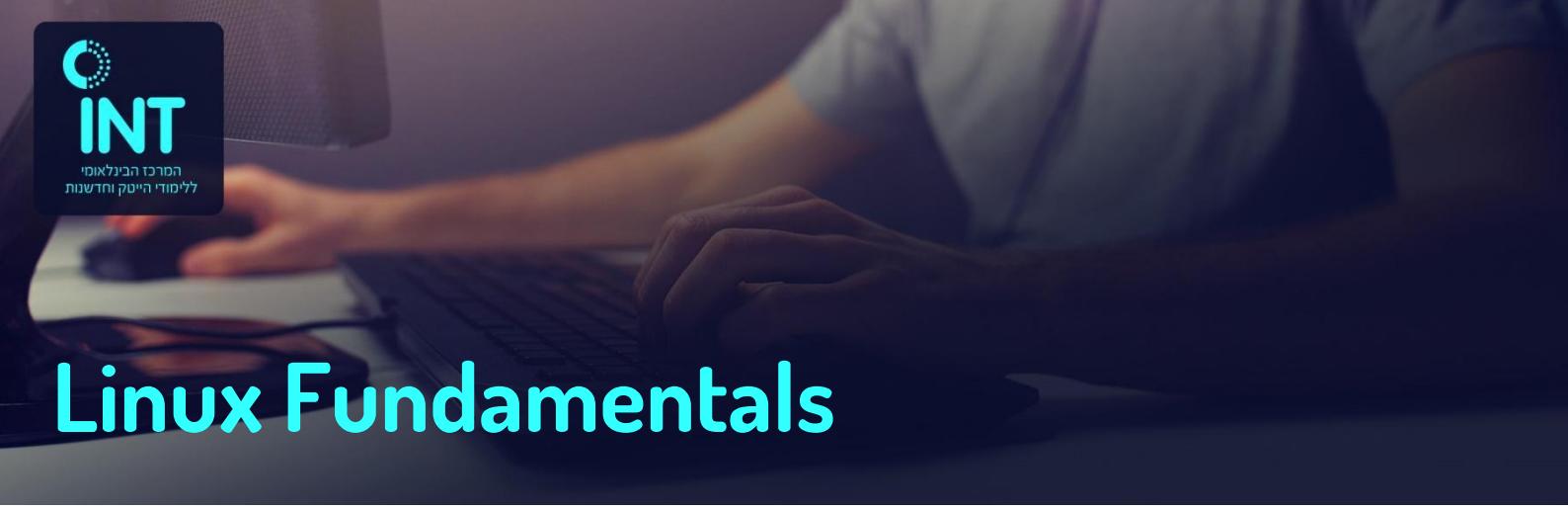# Linux Fundamentals

Linux is an open-source operating system released in 1991 for computers, but its use has expanded to underpin systems for cars, phones, web servers and, more recently, networking gear. Its longevity, maturity and security make it one of the most trusted OSes available today. This course covers a wide range of topics which a user needs to fully utilize the system's power and versatility and takes the participant step by step through the maze of Linux commands and interface.

You Must Know!

Duration:
40 Hours

Who should attend?
Linux users, programmers, and network administrators

Prerequisites:
Knowledge of general operating system concepts

Main Topics:

- o   File System
- o   Linux Structure
- o   Manipulating Files
- o   File Security
- o   Text Editor
- o   Bash
- o   Network Basics

Course modules

Module 1 – Introduction to Linux

- o Linux History
- o Linux Vendor Distribution Chart
- o Operating System Core
- o Logging in, Changing Password, Password Command
- o Command Structure, Simple Commands
- o Control Characters
- o Main Pages
- o Network Basics

Module 2 – Networking

- o Linux networking interfaces
- o Networking tools - ping, traceroute, ip, tcpdump, wget etc.
- o File transfer - ftp, scp.
- o SSH Server/Client

Module 3 – The File System

- o The Linux File System Structure
- o Pathnames and Directories
- o Displaying hidden files, File Types, Long Listing
- o Meta-characters
- o Asterisk, Question Mark, Square Brackets

Module 4 – Manipulating Files and Directories

- o Determining File Type
- o Displaying File Content Using cat, more, head, tail
- o Counting using wc
- o Comparing Files Using diff
- o File and Directory Name Conventions
- o Creating Files and Directories
- o Copying Files, Moving and Renaming Files
- o How Information is Stored on the Disk?
- o Links

Module 5 – File Security

- Security Overview
- Linux Accounts
- File Ownership
- Directory and File Access Modes
- Symbolic Mode, Octal (Absolute) Mode

Module 6 – Text Editor

- VI
- VIM
- NANO

Module 7 – Shell Overview

- Introduction to Shell (BASH)
- Aliases
- Shell commands
- Environment commands
- Shell Initialization Files

Module 8 – Redirections and Pipes

- Standard Input, Output and Error
- Redirecting Standard Output, Error and Input
- Appending to File
- File Overwrite Protection
- Multiple Redirections
- Merging Standard Output with Standard Error
- Pipes

Module 9 – Power Tools

- Regular Expressions
- Commands: find, grep, cut, sort, uniq
- Text Manipulation with the tr Command and sed Command

Module 10 – Process Management

- o Process Hierarchy
- o Processes and PIDs
- o Process Life Line
- o Managing Jobs
- o Signaling with kill
- o I/O Considerations
- o Batch Processes – The at Command
- o Listing and Deleting at Jobs

Module 11 – Network Basics

- o Client Server
- o Telnet
- o Trust
- o rlogin
- o rcp and rsh

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ללימודי הייטק וחדשנות

מתקדמים
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תל אביב
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