

# Linux

Course 887 | 40 Hours



**JOHN BRYCE**

תלמדו הייטק. זה עובד!

a matrix company



## Overview

The rising popularity of Unix & Linux systems is attributed to their robust features, including multi-tasking, multi-user support, advanced security, and high-performance handling of large datasets. Widely adopted as a preferred platform for internet servers, clusters, and ERP systems such as SAP and ORACLE. Additionally, the surge in containerization technologies like Docker, built upon the Linux-based Docker engine, further enhances their versatility.

## On Completion Delegates will be able to

The course encompasses Unix & Linux Operating systems, spanning from fundamental topics like the file system to advanced features such as process management. Participants will acquire essential skills in manipulating the shell (Bash) and creating basic automation tasks. The curriculum also includes basic administration topics, culminating in a comprehensive learning experience with numerous "Hands-On" labs to reinforce practical understanding

## Who Should Attend?

This course is designed for professionals utilizing Linux systems in their roles, including end users, IT managers, DevOps, automation specialists, developers, engineers, QA professionals, and more. It caters to individuals with minimal or no prior experience with Linux but possesses a basic understanding of other platforms like Windows, macOS, Unix etc.

## Prerequisites

Participants should have a user-level experience with any computer system. Familiarity with command-line usage is beneficial. The course also provides an advantage for those interested in server administration, prior knowledge in the field may be advantageous.

# Course Contents

## Introduction to Linux

- Linux concept & history
- Linux Kernel architecture
- Common Linux distributions overview

## Linux Session

- client-server methods
- Linux command Structure
- The Manual Pages

## The File System

- Common Linux distributions File System structure
- Manipulating directories and files using the Bash Shell
- Manipulating files using "wildcards"
- Mounting external file systems

## Text Editors

- Vim

## Organizing Files

- Security via Permissions
- The inode table
- Hard & soft links

## Pipes and Filters

- I/O redirections
- Using pipe and tee
- head/tail
- Cut
- sort/uniq
- grep
- tr

## Power Tools

- Using Find
- Regular Expressions
- Basic implementations of Sed & Awk (optional)

## The Bash Shell Environment

- Quoting

- Aliases
- History
- Custom & system variables
- Environment files & startup files

### **Processes management**

- Monitoring Processes Using top, ps, job
- Sending Signals
- Scheduling processes
- Handling Processes priority

### **Introduction to Shell Scripts**

- Simple scripts
- Positional parameters & arguments
- Command exit status
- Selection & conditions (if , elif, case)
- Looping commands (for , while)
- Handling arithmetic expressions
- Interactive input
- Debugging in the Shell

### **Basic Network Configuration & monitoring**

- ip command
- ping
- traceroute and tracepath
- Network configuration files
- Network Manager

### **Basic Server Deployment**

- Controlling services
- Installing external software (dpkg. tar.gz...)

### **General Administration Topics (optional, only if time is available)**

- Linux startup flow
- Run levels & inittab
- Systemd targets

### **Containers overview (Only if time is available)**

- Containers technology main points
- Podman vs. Docker basics



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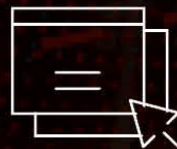
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