

# **Unix/Linux BASIC SYLLABUS**

## **Module 1 – Introduction to the Linux Operating System**

- > Getting started navigating the file system
- > The file system structure
- Directories and files
- > Pathnames
- > Navigating the file system
- > Exercise: Logging on to the system
- Exercise: Navigating the file system

#### Module 2 – Basic Commands

- > Command line syntax
- ➤ Basic file handling commands (mv, cp, ln, rm etc...)
- ➤ Basic Directory handling commands (mkdir, rmdir, etc...)
- > Exercise: Manipulating files and directories

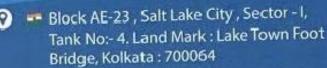
### Module 3 – File Permissions and Access Control

- > Users and user groups
- File access permissions
- > Changing file attributes
- > Switching users and user groups
- ➤ Linking files
- > Exercise: Setting and access permissions











## Module 4 – Redirection and Pipes

- > Input redirection
- > Output redirection
- > Pipes
- Exercise: Using redirection and pipe facilities

#### Module 5 – Introduction to the vi Editor

- > Overview of the vi editor
- Basic functions
- > Switching to input mode
- > Other useful commands
- > Exercises: Using the vi editor

# **Module 6 – Searching Text**

- > Searching for text with grep
- ➤ Linking files
- > Exercises: Searching and Replacing Text

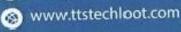
### Module 7 – Processes

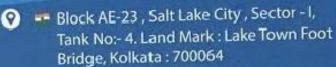
- ➤ What is a process?
- > Monitoring processes
- ➤ Killing processes
- ➤ Background processes
- ➤ Job Control
- > Grouping commands
- > Exercise: Monitoring and controlling processes











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#### **Module 8 – More Basic Commands**

- > The wc (word count) command
- > The find command
- > The cut command
- > The sort command
- > The finger command
- > Exercise: Using file handling commands

### **Module 9 – The User Environment**

- > Customizing the .bash\_profile file
- > Customizing the .bashrc file
- > Exercise: Setting up an environment







# **Unix Shell Script Basic**

## **Module 1 – Getting Started**

- ➤ What is a shell script?
- ➤ Development guidelines
- > Creating and editing shell scripts
- > Naming and storing shell scripts
- > Executing shell scripts
- > Exercise: Write a simple shell script

# **Module 2 – Using Variables**

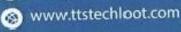
- > Environment variables
- ➤ Local variables
- > Arrays
- ➤ Assigning values to variables
- > Assessing variable values
- ➤ Using quotes
- > Delimiting variable names
- > Echo control sequences
- Exercise: Add variables to a script

# **Module 3 – Integer Arithmetic**

- Using the expr command
- ➤ Using the (( )) notation
- > Exercise: Add integer arithmetic to a shell script











## **Module 4 – Handling Run Time Data**

- > The read command
- > Command line arguments
- > Exercise: Writing a generic shell script
- > Exercise: Writing an interactive shell script

#### **Module 5 – Condition Execution**

- > The if statement
- > The test command
- > Other test notations
- > Switch case
- > Default and substitute variables
- > Exit status codes
- > Exercise: Adding validation to previous scripts

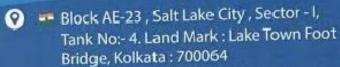
# **Module 6 – Loop Constructs**

- ➤ The while loop
- ➤ The until loop
- ➤ The for loop
- > The while true and until false loops
- > Loop control commands
- > select loop
- > Exercise: Enhancing the previously written scripts











## **Module 7 – Multi-Branch Decisions**

> The case statement

### **Module 8 – Functions**

- ➤ What is a function?
- > Syntax
- > Examples
- > Exercise: Add a function to a script





# **Advanced Unix Shell Scripting**

### **Module 1 – The Stream Editor (SED)**

- ➤ Introduction and command line syntax
- > The sed program structure
- > sed program processing
- > Use sed commands
- > sed addresses
- > sed instructions
- > Exercises: SessionSimple text processing with sed
- Exercises: SessionCreate sed scripts to edit files

## **Module 2 – Pattern Scanning Utility (AWK)**

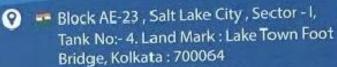
- > Introduction to The Pattern Scanning Utility awk
- > Introduction and command line syntax
- > The awk program structure
- > Use regular expressions
- Operators
- > Simple patterns
- > Extended patterns
- **Comments**
- Special patterns (BEGIN and END)
- > Program variables
- ➤ Built-in variables
- ➤ Mathematical operators
- > Enhanced printing
- > Handling user variables
- > Exercises: Create simple awk scripts
- > Exercises: Create a simple awk script using variables











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