

PowerShell Fundamentals Practice Lab

Objectives:

- Learn to navigate the file system
- Practice basic file manipulation
- Gather system information
- Use PowerShell's help features

Part 1: Navigating the File System

1.1 Checking Current Directory

Use the ``Get-Location`` command to check the current directory.

```
```powershell
Get-Location
```
```

1.2 Listing Directory Contents

Use the ``Get-ChildItem`` command to list files and folders in the current directory.

```
```powershell
Get-ChildItem
```
```

1.3 Changing Directories

Navigate to a specific directory using ``Set-Location``. Try going to the ``Documents`` folder.

```
```powershell
Set-Location -Path "C:\Users\YourUsername\Documents"
```
```

Return to the previous directory by typing:

```
```powershell
Set-Location -
```
```

Part 2: File Manipulation

2.1 Creating Files

Create a new file with the ``New-Item`` command.

```
```powershell
New-Item -Path "C:\Users\YourUsername\Documents" -Name "TestFile.txt" -ItemType File
```
```

2.2 Writing to a File

Add text to the file using `Add-Content`.

```
```powershell
Add-Content -Path "C:\Users\YourUsername\Documents\TestFile.txt" -Value "Hello,
PowerShell!"
```
```

2.3 Viewing File Content

Display the file content with the `Get-Content` command.

```
```powershell
Get-Content -Path "C:\Users\YourUsername\Documents\TestFile.txt"
```
```

2.4 Renaming Files

Rename the file using `Rename-Item`.

```
```powershell
Rename-Item -Path "C:\Users\YourUsername\Documents\TestFile.txt" -NewName
"RenamedFile.txt"
```
```

2.5 Deleting Files

Remove the file using `Remove-Item`.

```
```powershell
Remove-Item -Path "C:\Users\YourUsername\Documents\RenamedFile.txt"
```
```

Part 3: Managing System Information

3.1 Viewing System Information

Display basic system information with `Get-ComputerInfo`.

```
```powershell
Get-ComputerInfo
```
```

3.2 Checking Running Processes

List all running processes using `Get-Process`.

```
```powershell
Get-Process
```
```

3.3 Stopping a Process

Use the `Stop-Process` command to stop a specific process. (Exercise caution when using this command.)

```
```powershell
Stop-Process -Name "notepad"
```
```

3.4 Checking Disk Space

View disk space information with `Get-PSDrive`.

```
```powershell
Get-PSDrive -PSProvider FileSystem
```
```

Part 4: Getting Help

4.1 Accessing Command Help

Use the `Get-Help` command to learn more about a specific command.

```
```powershell
Get-Help Get-Process
```
```

4.2 Viewing Examples

Add the `-Examples` parameter to see examples for a command.

```
```powershell
Get-Help Get-Process -Examples
```
```

4.3 Updating Help Files

Update PowerShell help files with `Update-Help`. (May require administrative rights.)

```
```powershell
Update-Help
```
```

Part 5: Challenge Questions

1. **Navigation Challenge:** How would you move back to the previous directory without specifying the full path?
2. **File Manipulation Challenge:** Create a new folder in the `Documents` directory called "LabFolder" and add three text files named "File1.txt," "File2.txt," and "File3.txt" within it.
3. **System Information Challenge:** List the top five processes consuming the most memory on your system.
4. **Help Challenge:** Find the help documentation and examples for the `Copy-Item` command. How would you use it to copy a file from one location to another?