Day 15: Introduction to Shell Scripting

DevOps Beginner Lesson

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What is Shell Scripting?

A Shell Script is a text file containing a sequence of commands that are executed by the shell.

Why is Shell Scripting important in DevOps?

- Automates repetitive tasks
- Enhances infrastructure provisioning
- Can integrate with DevOps tools
- Streamlines CI/CD pipelines

Components of a Shell Script

Shebang (#!/bin/bash)

This tells the system which interpreter to use when executing the script. In this case, it's Bash (/bin/bash).CommandsThe script contains

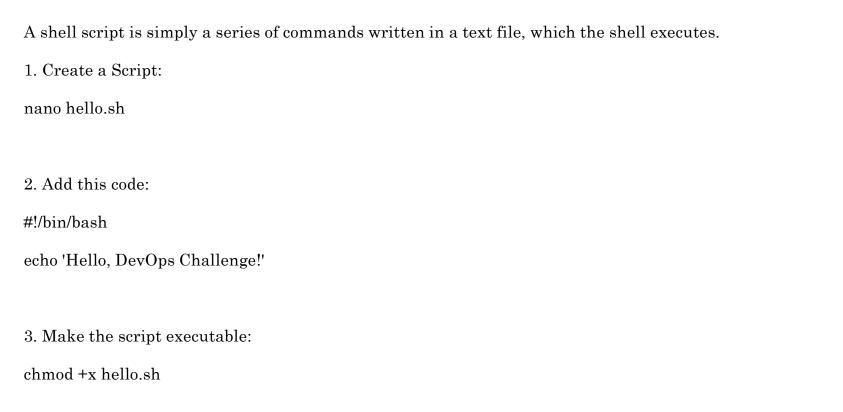
commands

you'd run in the terminal. These could be system commands (like ls, cat, echo, etc.) or custom ones.

Real-World Use Cases in DevOps

- Automating server setup
- CI/CD pipeline scripting
- File backups and restores
- Log management and monitoring

Writing Your First Shell Script



4. Run the script:

./hello.sh

Variables in Shell Scripting

Variables store data.

Define a variable:

name='DevOps'

Access the variable:

echo \$name

Taking User Input

1. Use the 'read' command:

echo 'Enter your name:'

read name

echo 'Hello, \$name!'

Conditionals (If-Else Statements)

```
Example of an if-else statement:

if [ $num -gt 10 ]; then

echo 'Greater than 10'

else

echo 'Less than or equal to 10'

fi
```

Loops in Shell Scripting

```
for i in 1 2 3 4 5; do
 echo $i
done
While loop example:
count=1
while [ $count -le 5 ]; do
 echo $count
 ((count++))
done
```

For loop example:

Functions in Shell Scripting

```
• Define a function:
```

```
greet() {echo 'Hello, $1!'
```

- Call the function:
- greet 'DevOps'

Arrays in Shell Scripting

Define an array:

fruits=('Apple' 'Banana' 'Orange')

Access array elements:

echo \${fruits[0]}

Debugging Shell Scripts

Use set -x to debug:

set -x

echo 'This is a test'

set +x

Best Practices

- 1. Use shebang #!/bin/bash
- 2. Name variables and functions clearly
- 3. Comment your scripts
- 4. Test scripts regularly
- 5. Use set -e to exit on error

Summary

- Write and execute shell scripts
- Use variables, loops, and conditionals
- Automate DevOps tasks