****This study guide is based on the video lesson available on TrainerTests.com****

Installing and Using the AWS Command Line Interface (CLI) Study Guide

Introduction to the AWS CLI

The **AWS Command Line Interface (CLI)** is a powerful tool that allows users to interact with AWS services using commands in a terminal or command prompt. It provides a unified interface to manage AWS services, offering an efficient way to automate tasks and manage resources without the need to access the AWS Management Console.

With the AWS CLI, users can:

- Manage AWS services such as EC2 (Elastic Compute Cloud), S3 (Simple Storage Service), and RDS (Relational Database Service) programmatically.
- Automate tasks through shell scripts.
- Query AWS resources and perform administrative tasks with ease.

In this chapter, we will guide you through the process of installing and configuring the AWS CLI on different operating systems, including Windows, Linux, and macOS.

Installation of the AWS CLI

The AWS CLI is available for **Windows**, **Linux**, and **macOS** operating systems. The installation process for each platform is straightforward, and AWS provides clear documentation to assist users in setting it up. Below, we will explore the steps to install the AWS CLI on each operating system.

AWS CLI Version 2

As of this writing, the latest version of the AWS CLI is **Version 2**. This version offers new features, including improved support for AWS Single Sign-On, interactive prompts, and SSO login flows. Version 2 is recommended for most users.

Installing AWS CLI on Windows

There are two primary methods to install the AWS CLI on Windows: using the **MSI Installer** or through a command-line command using **MSIExec**.

Method 1: Using the MSI Installer

1. **Download the MSI Installer**:
   - Open a browser and go to the official AWS documentation by searching for "install AWS CLI for Windows."
   - Locate the downloadable installer link for AWS CLI Version 2 and save the installer file to your computer.
2. **Run the Installer**:
   - Double-click the downloaded `.msi` file to launch the installer.
   - Follow the prompts: accept the license agreement, choose the installation location, and click **Install**.
3. **Finish the Installation**:
   - Once the installation is complete, click **Finish** to close the installer.
4. **Verify Installation**:
   - To ensure that the AWS CLI has been installed properly, open a command prompt (`cmd`) and type the following command:

     ```
     bash
     Copy code
     aws --version
     ```

   - If installed correctly, you will see the version number of the AWS CLI (e.g., `aws-cli/2.0.30`), along with the Python version used by AWS CLI and the operating system (e.g., Windows).

Method 2: Using the Command Line with MSIExec

Another way to install the AWS CLI on Windows is by using **MSIExec**, which allows you to install it via the command prompt:

1. **Open Command Prompt**:
   - Press **Win + R**, type `cmd`, and press **Enter** to open the command prompt.
2. **Run the MSIExec Command**:
   - Navigate to the directory where the AWS CLI installer is located (e.g., C:) and run the following command:

     ```
     bash
     Copy code
     msiexec.exe /i https://awscli.amazonaws.com/AWSCLIV2.msi
     ```

3. **Follow the Installer Prompts**:
   - The Windows installer will launch, and you can complete the installation by following the standard prompts (accept the terms, choose installation directory, etc.).
4. **Verify Installation**:
   - After installation, run the following command to check the installed version:

     ```
     bash
     Copy code
     aws --version
     ```

Installing AWS CLI on Linux

On Linux, the AWS CLI can be installed using the **curl** command, which downloads and installs the CLI directly from AWS's repository. The installation process is slightly different depending on the Linux distribution you are using, but the steps outlined below work for most distributions.

1. **Download the Installer**:
    - Open a terminal and use the following command to download the AWS CLI installer:

      ```
      bash
      Copy code
      curl "https://awscli.amazonaws.com/awscli-exe-linux-x86_64.zip" -o
      "awscliv2.zip"
      ```

2. **Unzip the Installer**:
    - Once the download is complete, extract the contents of the zip file:

      ```
      bash
      Copy code
      unzip awscliv2.zip
      ```

3. **Run the Installer**:
    - Navigate to the unzipped directory and run the installation script:

      ```
      bash
      Copy code
      sudo ./aws/install
      ```

4. **Verify Installation**:
    - To verify the installation, run the following command:

      ```
      bash
      Copy code
      aws --version
      ```

    - If the AWS CLI is installed correctly, you will see a message displaying the AWS CLI version (e.g., `aws-cli/2.0.30`).

Installing AWS CLI on macOS

On macOS, the AWS CLI can be installed either via the **curl command** or using **Homebrew** (a popular package manager for macOS). Both methods are simple and effective.

Method 1: Using the curl Command

1. **Download the Installer**:
    - Open the terminal and use the following command to download the AWS CLI installer:

      ```
      bash
      Copy code
      curl "https://awscli.amazonaws.com/AWSCLIV2.pkg" -o "AWSCLIV2.pkg"
      ```

2. **Install the AWS CLI**:
    - After the download is complete, run the installer using the macOS `installer` command:

```
bash
Copy code
sudo installer -pkg AWSCLIV2.pkg -target /
```

3. **Verify Installation**:
    - Run the following command to ensure that the AWS CLI is installed:

```
bash
Copy code
aws --version
```

Method 2: Using Homebrew

If you use Homebrew, you can install the AWS CLI with a single command:

1. **Install AWS CLI**:
    - Open the terminal and type:

```
bash
Copy code
brew install awscli
```

2. **Verify Installation**:
    - Run the following command to confirm that the AWS CLI has been installed successfully:

```
bash
Copy code
aws --version
```

Configuring AWS CLI

Once the AWS CLI is installed, the next step is to configure it with your AWS credentials. The CLI needs access keys to authenticate and interact with AWS services. You can create these keys from the **AWS Management Console**.

Steps to Configure AWS CLI

1. **Open the Command Line**:
    - Use the terminal (Linux/macOS) or command prompt (Windows) to configure the CLI.
2. **Run the Configuration Command**:
    - Use the `aws configure` command to start the configuration process:

```
bash
Copy code
aws configure
```

3. **Enter AWS Access Keys**:
    - When prompted, enter the following information:
        - **AWS Access Key ID**: Your unique access key.
        - **AWS Secret Access Key**: The corresponding secret key.
        - **Default region name**: The AWS region you want to use (e.g., `us-east-1`).

        - **Default output format**: The format for CLI output (JSON is the default).
4. **Verify Configuration**:
    - To verify that your AWS CLI configuration is set up correctly, you can run a simple command like listing S3 buckets:

```
bash
Copy code
aws s3 ls
```

Key AWS CLI Commands

The AWS CLI supports a wide range of commands, each corresponding to a specific AWS service. Here are some commonly used commands:

- **aws s3 ls**: List S3 buckets.
- **aws ec2 describe-instances**: Retrieve information about EC2 instances.
- **aws s3 cp**: Copy files to and from S3.
- **aws iam create-user**: Create a new IAM user.

Conclusion

The AWS CLI is an indispensable tool for developers and administrators working with AWS. It allows users to automate workflows, manage services, and configure resources efficiently through the command line. Whether you are using Windows, Linux, or macOS, the installation process is straightforward, and with proper configuration, you can quickly begin using AWS services through the CLI. By mastering the AWS CLI, you can streamline your interaction with AWS, saving time and reducing manual efforts.