What Is AWS CLI (Command Line Interface) ? Complete Guide

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AWS CLI is a command line tool that is used for managing the AWS Services from the command line. On downloading the AWS CLI software and configuring it with your AWS credentials you can control the AWS services from the command line and can automate the work through scripts. Whether you are launching EC2 instances, attaching the EBS Volumes, or managing the S3 buckets you can easily simplify these tasks and help in performing the tasks effectively.

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What is AWS CLI?

AWS Command Line (CLI) is a tool designed for managing AWS Services directly from the command line. It provides a lot of options and flexibility compared to the Web Console. It facilitates simplifying the process of interactions with various AWS services such as EC2, Amazon S3, and Amazon EBS providing a consistent command structure. It supports scripting and integration into various development and operational environments making it a versatile tool for AWS Users.

How Does AWS CLI Work?

The AWS Command Line Interface (CLI) is a powerful tool that allows users to interact with AWS

services directly from their terminal or command prompt. By providing a unified set of commands, the AWS CLI facilitates efficient management of AWS resources and automation of tasks.

- **Individual Interface**: It provides a consistent command structure for managing various AWS services.
- **Configuration**: AWS users have to configure the CLI with their AWS credentials and default region, enabling secure access to their AWS account.
- **Command Execution**: It allows the execution of commands for a wide range of operations, such as launching instances, managing storage, and monitoring resources.
- **Scripting and Automation**: It supports scripting for automotive repetitive tasks and integrating with other tools and services.
- **Output Formatting**: Offers multiple output formats (JSON, text, table) for easy parsing and readability.

How to Install AWS CLI? A Step-By-Step Guide

The following are the steps for installing AWS CLI:

Step 1: Download the Installer

- Download the AWS CLI from the AWS CLI Website site: https://aws.amazon.com/cli/
- Choose the type of CLI software based on your OS specifications
- For Linux and macOS users use the following command to download the installation script

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

Step 2: Run the Installer

- Use the following command to run the installer for the downloaded script in the Linux System:

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

```
unzip awscliv2.zip
sudo ./aws/install
```

- For macOS users run the following command:

```
sudo installer -pkg AWSCLIV2.pkg -target /
```

Step 3: Verify the Installation

- Verify the installation of AWS with the following command:

```
aws --version
```

Step 4: Configure the AWS CLI

- Now, configure with your aws credentials such as Access Key and Secret Key by running the following command:

```
aws configure
```

- To know more about the installation of AWS CLI refer to this – Article

What are the differences between AWS Console and AWS CLI?

The following are the differences between AWS Console and AWS CLI:

Aspect	AWS Console	AWS CLI
Interface Type	It is a Graphical User Interface	It comes with a command-line interface
Ease of Use	It is user-friendly with visual navigation	It requires the knowledge of command syntax
Speed	It will be slower because of	It will be faster for executing

Aspect	AWS Console	AWS CLI
	manual interventions	the batch operations.
Automation	It is limited, relies on manual interventions	It supports for scripting and automation
Accessibility	It is accessible via a web browser	It is accessible via terminal or command prompt

Difference between AWS shell and AWS CLI

The following are the differences between AWS Shell and AWS CLI:

Aspect	AWS Shell	AWS CLI
Interface Type	It provides an interactive shell with autocomplete features	It is a command-line interface
Ease of Use	It is easier for beginners with suggestions	It requires the knowledge of command syntax.
Learning Curve	It is lower and provides a guided experience	There will be a higher learning curve relies on the user's familiarity with commands
Features	It autocomplete and command documentation	It provides a comprehensive command set for the automation.

Aspect	AWS Shell	AWS CLI
Installation	It requires additional installations	It comes with standard installation on various OS platforms.

Difference Between AWS CLI and AWS SDK

The following are the differences between AWS Console, AWS CLI, and AWS SDK:

Aspect	AWS CLI	AWS SDK
Interface Type	It is a Command Line Interface (CLI)	It is a Software Development Kit (SDK)

Aspect	AWS CLI	AWS SDK
Primary Use	It is primarily used for managing AWS services via terminal commands	It integrates with AWS services into applications
Programming Required	No programming is needed for this	It requires programming knowledge
Supported Languages	It is language-agnostic, uses standard commands	It supports multiple languages such as Java, Python, etc.
Automation and Scripting	It will be ideal for scripting and automation tasks	It will be ideal for building and customizing applications

AWS Command Line Interface (CLI) Usage

AWS CLI is a software tool that provides control of multiple AWS services directly from the command line. It facilitates simplifying resource management and allows the user to automate the tasks and integrate AWS Services into your workflows efficiently. The following are some of the key points regarding its usage:

- **Resource Management**: Easily manage AWS services like EC2, S3, RDS, and more.
- **Automation**: Script and automate repetitive tasks using shell scripts.
- **Cross-Platform**: Available on Windows, macOS, and Linux, ensuring consistent usage across different environments.
- **Configuration**: Customize your environment with profiles and configuration settings for different use cases.

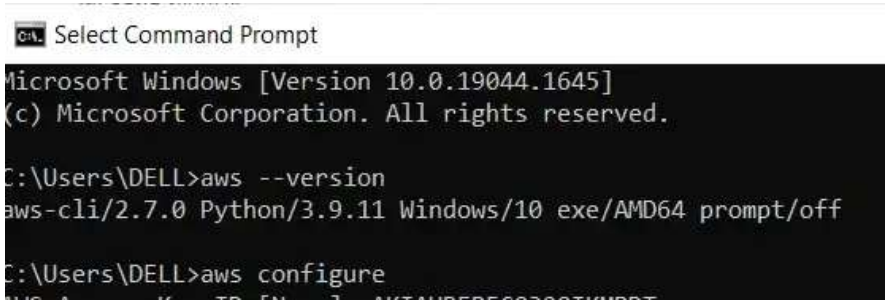
How to use AWS EC2, EBS, and S3 Services in AWS CLI? A Step-By-Step Guide

Step 1: Download the AWS Command Line Interface (CLI) software from AWS Console. With the AWS CLI, you can easily manage your AWS services from the command line, making it a powerful and convenient tool for managing your cloud infrastructure.

- Click on the Windows icon and download the software.
- After installation, open the command prompt and type the command:

```
aws --version
```

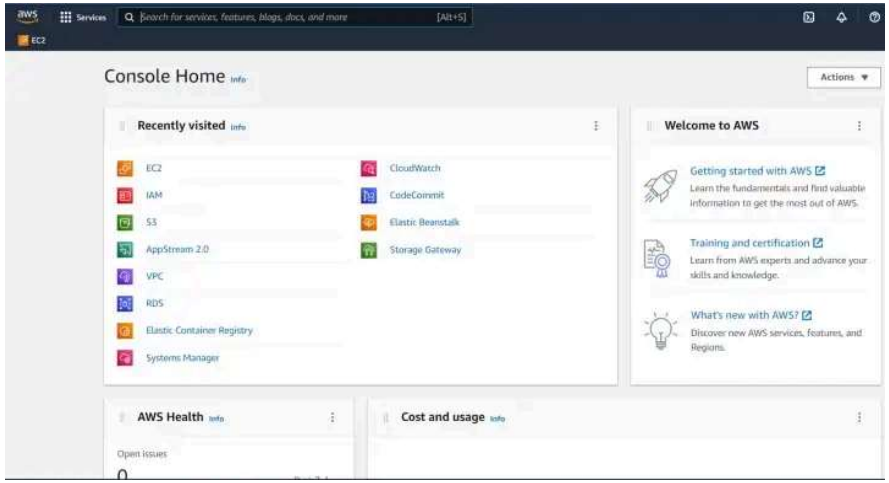
- It is to verify the installation. This will ensure that the software is properly installed and ready to use.



Step 2: Now, we need to configure AWS to take advantage of its powe omputing

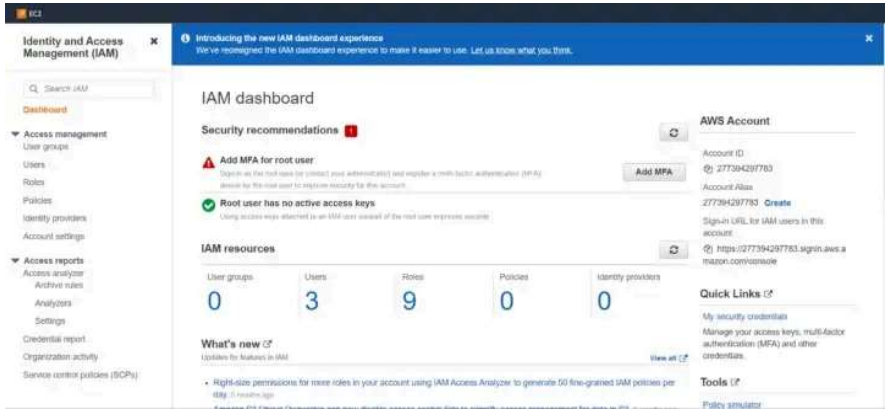
capabilities. With AWS, you can access a wide range of services, from storage and databases to analytics and machine learning, to help you build and scale your applications.

- Configuring AWS is straightforward, allowing you to quickly get up and running with the cloud.

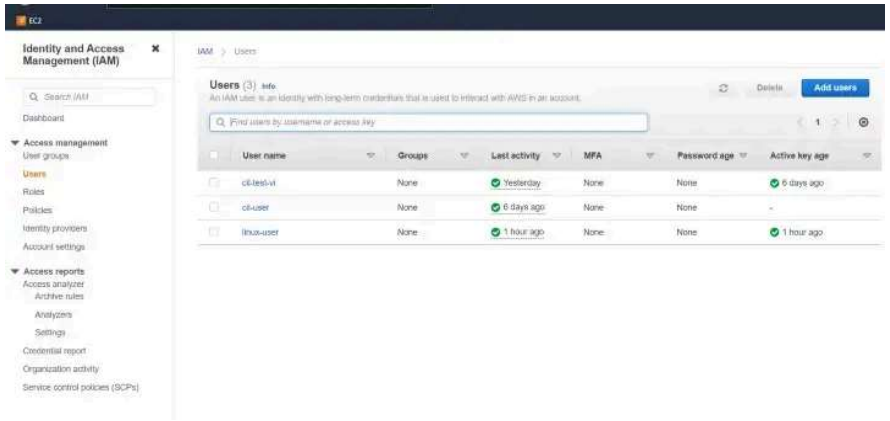


Steps To Create an IAM User in AWS

Step 3: Log in to the AWS console and search for the IAM service.



Step 4: Navigate to the Users tab and Click on the ‘Add user’ button.



Step 5: Enter a Username. Select an Access Key and click ‘Next’.

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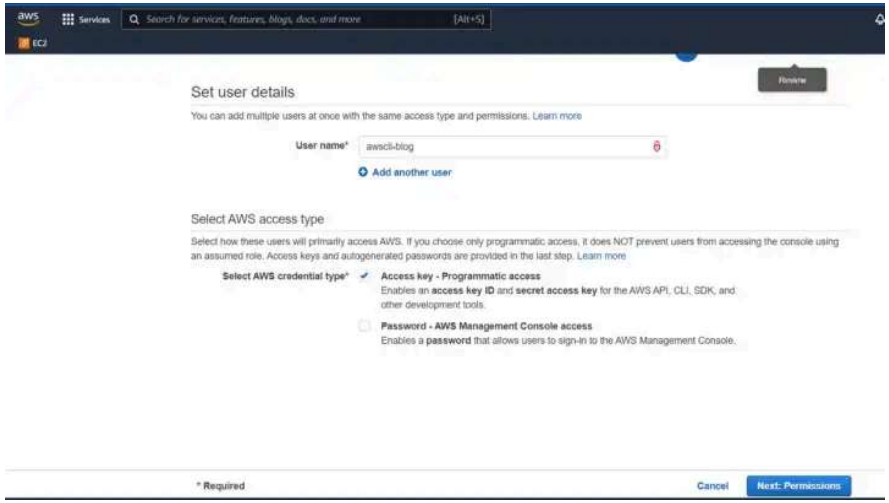
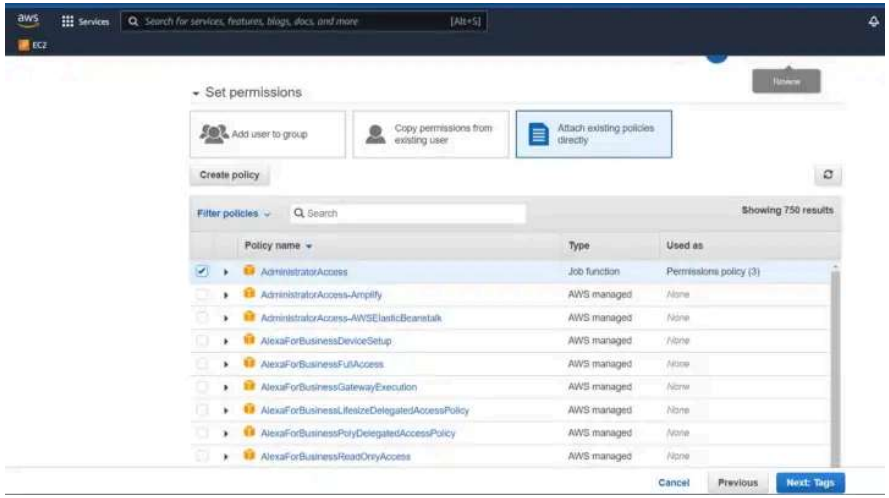
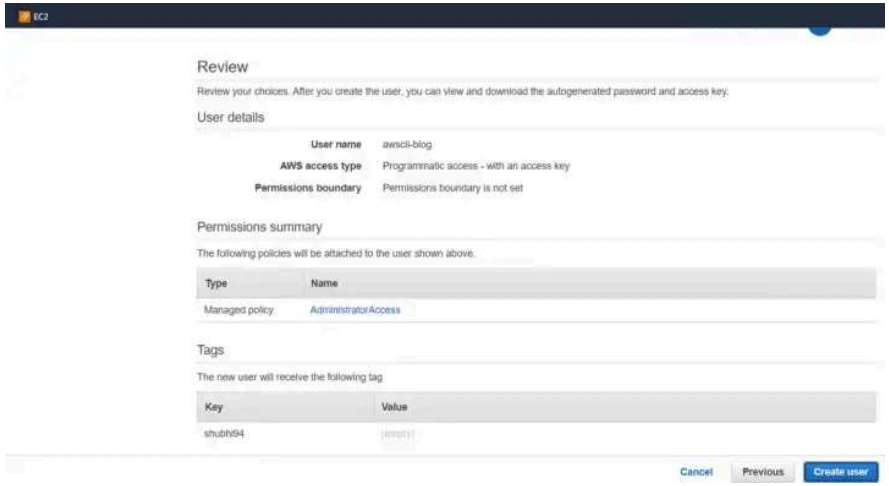


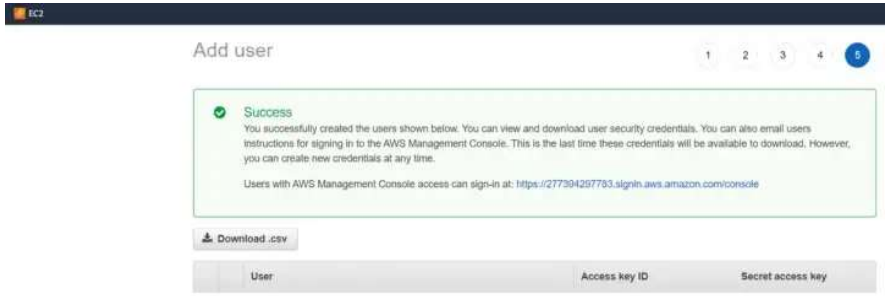
Step 6: Select the '**Administrator Access**' option and click **'Next'**.



Step 7: Click on the '**Create user**' button.



- The following screenshot shows the successful creation of an IAM user.



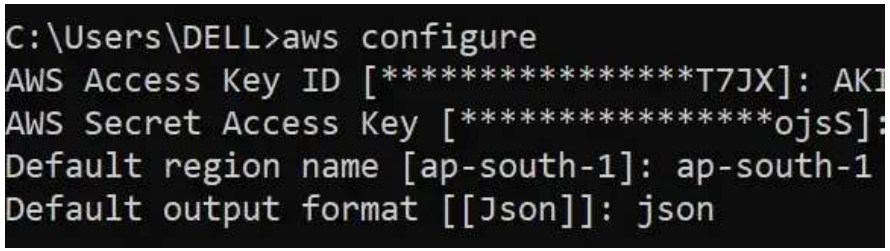
Configure AWS CLI With Credentials

Step 8: Log in to AWS CLI using your Access Key ID and Secret Access Key for secure access to your account. With these credentials, you can access your account and take advantage of the powerful features of the AWS Command Line Interface.

- Download the .csv File by following these Steps:
- Open the command line and type in the command

```
aws configure
```

- Copy and paste your IAM user Access Key ID and Secret Access Key into the command line.
- Enter the region name where you would like to launch your instance.
- Select the output format, such as JSON.



Creating EC2 Instances

Step 9: Launch an Amazon EC2 Instance with AWS CLI.

- Utilizing the AWS Command Line Interface (CLI), you can quickly and easily launch an Amazon EC2

instance, allowing you to access the power of the cloud with just a few simple commands.

- With the AWS CLI, you can quickly and easily spin up a virtual machine in the cloud, giving you the ability to access the power of the cloud with ease.
- We will launch an EC2 instance with the help of this command. You can select any image ID from the AWS console, use an existing key pair, select any existing security group ID, and use any existing subnet ID.
- All of these IDs must belong to the same availability zone for the instance to be launched successfully.

- Now, we have successfully launched an EC2 instance, unlocking a wor es for our

business. With this new instance, we can take advantage of the scalability, flexibility, and cost-effectiveness of the cloud, allowing us to quickly and easily deploy applications and services.
- This will enable us to stay ahead of the competition and remain competitive in the ever-evolving digital landscape.

Creating Key Pair Using AWS CLI

Step 10: Create a Key Pair using the AWS Command Line Interface (CLI). Utilizing the CLI allows for a more efficient and secure way to generate a key pair, ensuring that your data remains safe and secure.

- With the CLI, you can quickly and easily generate a key pair that will provide you with the highest level of security for your data.
- Create a key pair using this command. This command will enable you to securely generate a unique set of cryptographic keys that can be used to authenticate and encrypt data. With this key pair, you can ensure that your data is kept safe and secure.

```
aws ec2 create-key-pair --key-name vivek1
```

- Provide the name of the key pair to gain access.

- Now successfully created, this accomplishment marks a milestone in our journey toward success. We have worked hard to reach this point, and we are proud of the progress we have made.
- This achievement is a testament to our dedication and commitment to excellence.

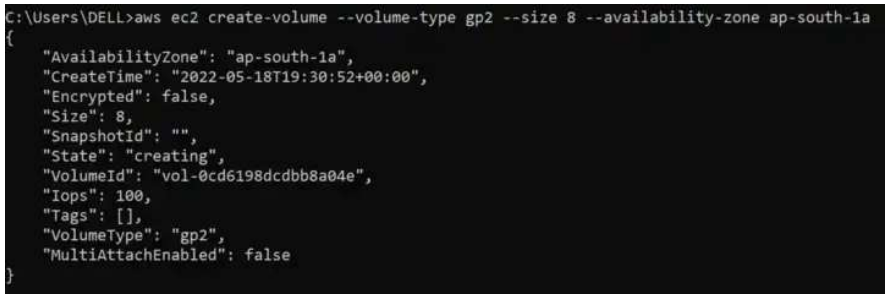
Creating EBS Volume using AWS CLI

Step 11: Utilizing the AWS Command Line Interface (CLI), we will create an Elastic Block Store (EBS) Volume to store our data. This will provide us with a secure, reliable, and cost-effective storage solution for our data.

- Using this command, you can create an EBS Volume. This powerful to[illegible] quickly

and easily create a reliable storage solution for your data. With EBS Volume, you can store your data securely and access it whenever you need it.

- Plus, you can scale up or down as needed, giving you the flexibility to meet your changing storage needs.



- Now Successfully Created.

Attaching EBS Volume to EC2 Instance Using AWS CLI

Step 12: We will attach EBS volume to the EC2 Instance using AWS CLI.

- Using this command attach EBS Volume to EC2 Instance.

```
aws ec2 attach-volume
--volume-id vol-1234567890abcdef0
```

```
--instance-id i-01474ef662b89480
--device /dev/sdf
```

Adding Security Groups Using AWS CLI

Step 13: We will create a Security Group using AWS CLI. Use the following command:

```
aws ec2 create-security-group  --group-name
my-sg --description "My sg group" --vpc-id
vpc-f0e73c9b
```

- **VPC ID:** To find the VPC ID, navigate to the VPC service in the Amazon EC2 console and click on VPCs.
- Now, we have successfully created a security group in Amazon EC2, allowing us to secure our resources and protect our data.

Step 14: Utilizing the AWS Command Line Interface (CLI), we will create an S3 Bucket to store our data. This bucket will provide a secure and reliable storage solution for our data, ensuring that it is always accessible and prote

- To upload an object to an S3 bucket, use the command:

```
aws s3 cp object_name s3://bucketname
```

- Then, use this command:

```
aws s3api put-object-acl  --bucket
(bucketname) --key  (object-name) --acl-
public-read
```

- Now, the object is accessible to the public.

Step 15: After you the successfully done all the steps you can see your object in your web browser using the object URL.

AWS CLI Commands

The following are some of the AWS CLI Commands:

1. Configure AWS CLI

- The following command is used for configuring AWS CLI with credentials such as access key, secret key, and output format.

```
aws configure
```

2. List Amazon S3 Buckets

The following is used for listing Amazon S3 Buckets that are available in your AWS Account:

```
aws s3 ls
```

3. Copy Files to Amazon S3

- The following command is used for copying the file on your local system to an Amazon S3 bucket.

```
aws s3 cp localfile.txt s3://bucketname/
```

4. Creating an Amazon S3 Bucket

The following command is used to create an Amazon S3 Bucket:

```
aws s3 mb s3://mybucket
```

5. Delete an Amazon S3 Bucket

The following command is used to delete an Amazon S3 Bucket:

```
aws s3 rb s3://mybucket --force
```

6. List Amazon EC2 Instances

- The following command is used for listing the Amazon EC2 instances by describing them:

```
aws ec2 describe-instances
```

7. Start an Amazon EC2 Instance

- The following command is used to start an Amazon EC2 Instance by specifying its instance ID:

```
aws ec2 start-instances --instance-ids i-1234567890abcdef0
```

8. Stop an Amazon EC2 Instance

- The following command is used to stop an Amazon EC2 Instance by

respective instance ID:

```
aws ec2 stop-instances --instance-ids i-
1234567890abcdef0
```

9. List Lambda Functions

- The following command is used to list the lambda functions:

```
aws lambda list-functions
```

10. Invoke a Lambda Function

The following command is used to invoke a AWS lambda function and it outputs the response to a file.

```
aws lambda invoke --function-name myfunction
out.txt
```

11. Create A DynamoDB Table

The following command is used to create a DynamoDB table with specifying the attributes and provisioning the throughput.

```
aws dynamodb create-table --table-name
mytable --attribute-definitions
AttributeName=Id,AttributeType=S --key-
schema AttributeName=Id,KeyType=HASH --
provisioned-throughput
ReadCapacityUnits=1,WriteCapacityUnits=1
```

12. List CloudFormation Stacks

- The following command is used to list the CloudFormation stacks:

```
aws cloudformation list-stacks
```

13. Deploy CloudFormation Stack

- The following command is used for deploying a CloudFormation stack with the template.yaml file that is defined with configurations.

```
aws cloudformation deploy --template-file
template.yaml --stack-name my-stack --
capabilities CAPABILITY_IAM
```

14. List All RDS Instances

- The following command is used for all the Amazon RDS instances:

```
aws rds describe-db-instances
```

Features of AWS CLI

The following are the features of AWS CLI:

1. **Unified Interface**: It provides a consistent command structure for managing various AWS services.
2. **Automation**: It allows scripting and automation of repetitive tasks while enhancing efficiency and consistency.
3. **Cross-Platform Compatibility**: It facilitates to work seamlessly on Windows, macOS, and Linux, ensuring flexibility across different environments.

4. **Configuration Management**: It comes up with supporting the profiles and configuration settings for customizing environments and managing multiple accounts.
5. **Output Formats**: It offers multiple output formats (JSON, text, table) for easy parsing and readability for fulfilling various types of needs.

Benefits of AWS CLI

The following are the benefits of AWS CLI:

1. **Streamlined Management**: AWS CLI provides a unified command line tool for managing multiple AWS services, simplifying resource management tasks.
2. **Automation**: It enables scripting and automation of repetitive tasks, allowing for efficient batch operations and workflow automation.
3. **Cross-Platform Compatibility**: It works seamlessly across different operating systems, including Windows, macOS, and Linux, ensuring consistent usage in diverse environments.
4. **Customization**: It provides the support of configuring profiles and settings, allowing users

to customize their environment and manage multiple AWS accounts with ease.

5. **Integration**: AWS CLI will easily integrate with other tools and services facilitating seamless integration into existing workflows and development pipelines.

AWS CLI – FAQs

What is Amazon Connect CLI?

The Amazon Connect CLI is a command-line tool that allows you to manage Amazon Connect contact center resources through the command line.

How to connect using AWS CLI?

You can connect to AWS using the AWS CLI by configuring your AWS credentials using the `aws configure` command.

Does AWS CLI cost Money?

No, the AWS CLI is a free software, it only charges for the AWS Services as per pay-as-you-go model.

How do I Open CLI?

To open the CLI, you need to launch your terminal or command prompt application on your computer and then type `aws` to start using the AWS CLI commands.

What is AWS CLI used for?

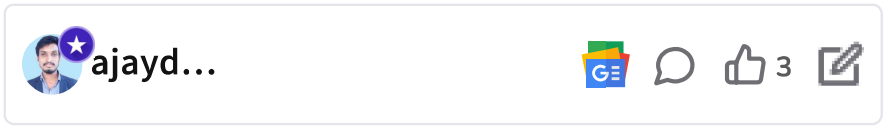
The AWS CLI is used to interact with various AWS services from the command line. It allows the AWS users to manage resources, automate and integrate with other services.

Can AWS CLI be used for Scripting?

Yes, AWS CLI can be used for scripting to automate the tasks and manage the deployments.

Is AWS CLI cross-platform compatible?

Yes, AWS CLI is a cross platform compatible. It supports many operating systems, including Windows, macOS, and Linux and helps in ensuring the consistent usage across different environments.



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