AWS CLI

QUALITY THOUGHT

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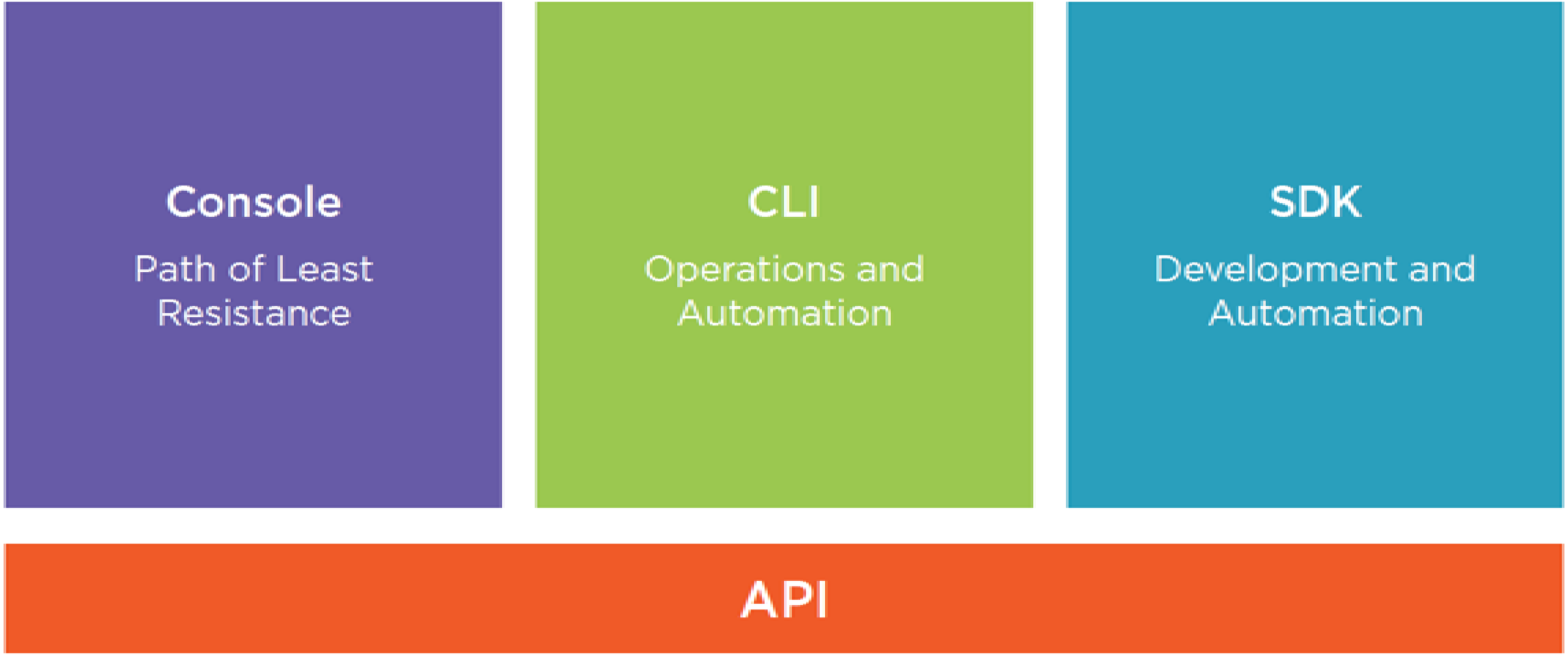
“All service interfaces, without exception, must be designed from the ground up to be externalizable.” – Attributed to Jeff Bezos

Why does this matter?

Everything in AWS Uses the API



Console

Path of Least Resistance

CLI

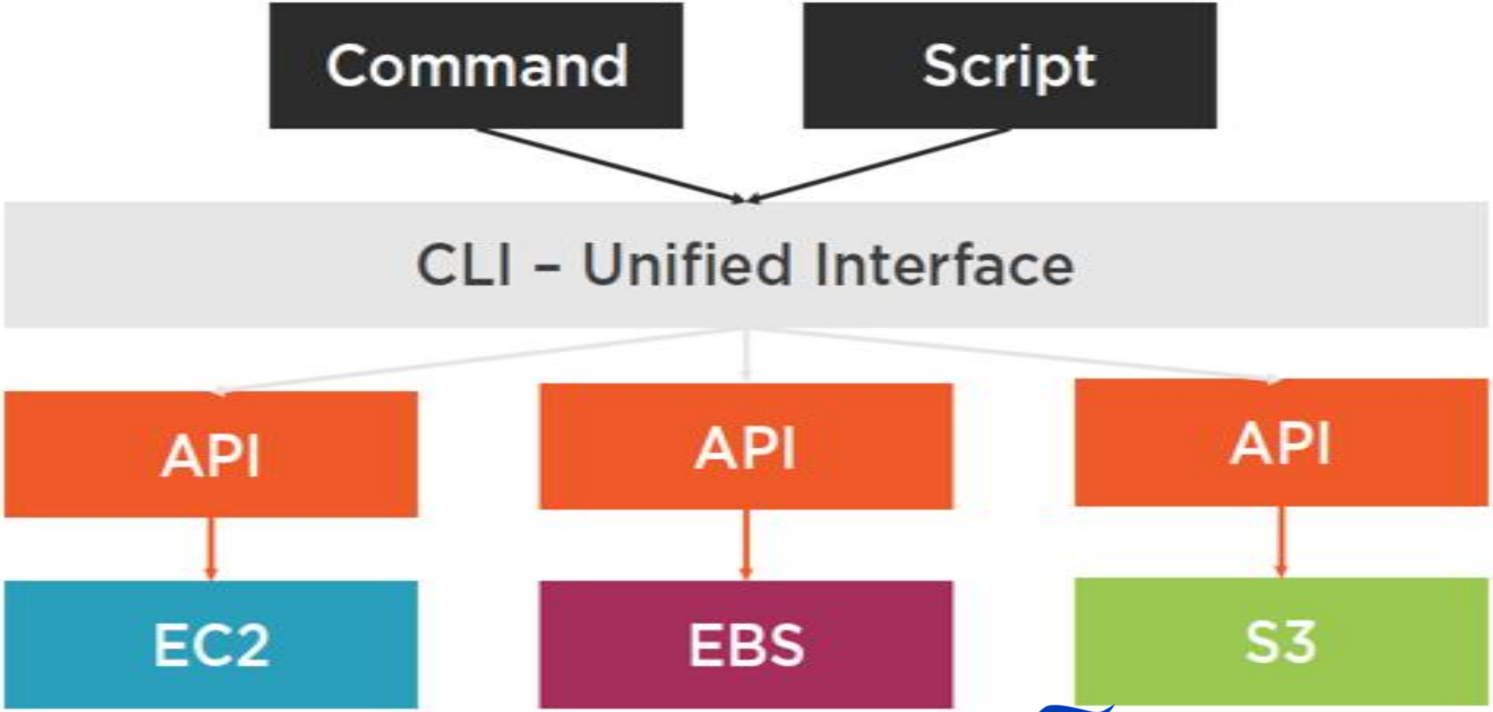
Operations and Automation

SDK

Development and Automation

API

What Is the AWS CLI?



Command

Script

CLI – Unified Interface

API

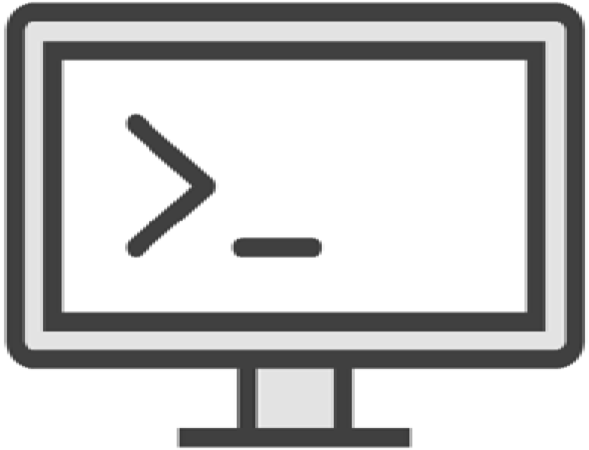
API

API

EC2

EBS

S3



CLI available for:

Windows

MacOS

Linux

Demo

- Install CLI on Linux
  - PIP
  - Standalone
- Configure CLI
  - Basics
  - Extras
- AWS Completer
- AWS Shell

Installation Steps (ubuntu)

1. Ensure python is installed (check using “whereis python” or “**python --version**”

2. Install pip using “**apt-get -y install python-pip**”

3. Install awscli using pip by executing following command “**pip install awscli**”

4. AWS CLI will be installed with this and check by executing “**aws help**”

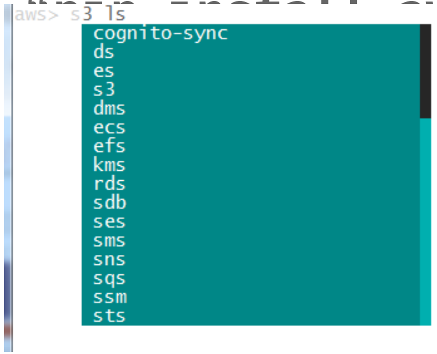
CONFIGURING AWS CLI

1. Configure aws by using aws configure and enter the required details

2. To enable command line completion execute following command “complete -C ‘**/usr/local/aws/completer**’ aws

complete -C aws_completer aws

1. Install aws-shell by executing “pip install aws-shell” and execute “aws-shell”



```
aws> s3 ls
      cognito-sync
      ds
      es
      s3
      dms
      ecs
      efs
      kms
      rds
      sdb
      ses
      sms
      sns
      sqs
      ssm
      sts
```

SECURING CLI

Order of Preference for Credentials

Command line options

Environment variables

- AWS_ACCESS_KEY_ID
- AWS_SECRET_ACCESS_KEY

Credentials file

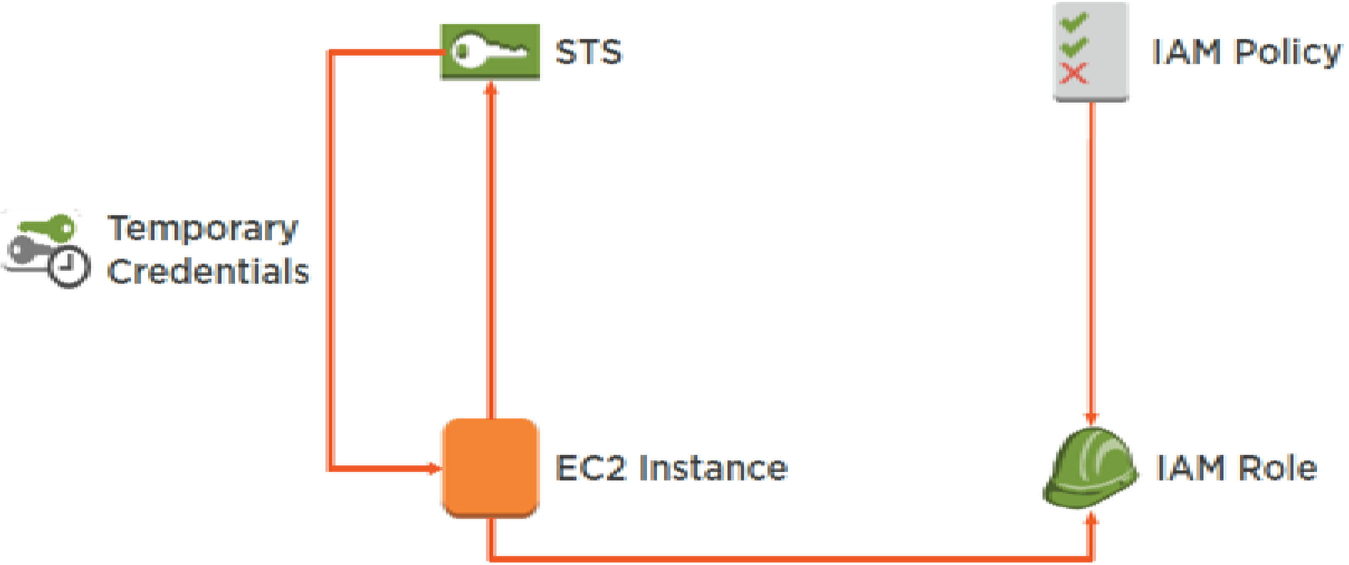
- ~/.aws/credentials
- C:\Users\USERNAME\.aws\credentials

CLI config file

- ~/.aws/config
- C:\Users\USERNAME\.aws\config

Instance profile credentials

Instance Profile Credentials Explained



Demo

Credential Order of Preference

- Show ways to supply credentials to CLI

CreDENTIAL ORDER OF PREFERENCE

1. Create an IAM Role for EC2 for s3 read-only access and launch ec2 instance with IAM Role

2. Execute command “aws ec2 describe-instances --region us-west-2” and you will observe unauthorizedOperation

3. Set Environment Variables with “export AWS_ACCESS_KEY_ID=<accesskeyid>” and “export AWS_SECRET_ACCESS_KEY=<secret_key>” of IAM user who has access to ec2

4. Now execute the same command as in step2 and you should be able to see the results as Environment variables are

CreDENTIAL ORDER OF PREFERENCE (CONTD)

5. Now unset environment variables by “unset AWS_ACCESS_KEY_ID” and “unset AWS_SECRET_ACCESS_KEY” and execute the command in step 2 and you will get unauthorized error.

6. Now execute “aws configure” and provide IAM User access key and secret access key. Execute the CLI Command in step 2 you should see the results

Copying and SyNCing objects between S3 Buckets

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Module Intro

Strategic goal: Simplicity of data migration

Scenario: Frequent data transfer between S3 buckets

Demo: S3 copy and sync between buckets

AWS S3 Dashboard

Easy Operations	Difficult Operations
Bucket creation	Copy of multiple objects
Single object upload	Synchronization between buckets
Single object download	Bulk permissions changes

Why Use S3?

Durability

Ease of access

Sticky glue that binds data-driven workloads together

Data Transfer Between S3 Buckets

Scenario 1

Upload existing data

Scenario 2

Copy between buckets same account

Scenario 3

Copy between buckets different account

Demo

S3 copy and sync between buckets

- Part 1
  - Upload and/or sync data to S3
- Part 2
  - Copy between buckets in same account
  - Copy between buckets in different accounts

Important Links

http://docs.amazonaws.cn/cli/latest/reference/glacier/index.html#cli-aws-glacier

http://docs.amazonaws.cn/cli/latest/reference/s3/index.html

http://docs.amazonaws.cn/cli/latest/reference/s3api/index.html

https://www.linkedin.com/pulse/how-scan-millions-files-aws-s3-jishnu-kinwar