



AWS Architecture Training CLI

Command Line Tools

Module 4

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Command Line Tools

- Overview & Access Credentials
- Navigating AWS Documentation
- EC2 CLI Installation Overview
- Notes

Overview

- AWS is accessible via SOAP and REST based web service APIs.
- Command line tools are a wrapper around these web APIs.
- Command line tools provide access to 100% of API functionality. UI tools, like the AWS Web Console, provide a subset.
- CLI provides programmatic access to AWS.
- CLI requirements vary based on the service they support.
 - Most AWS CLI tools are Java based

AWS API Authentication

- REST API uses Access ID & Secret Key
- SOAP API uses X.509 Certificate

Used by Command Line, 3rd Party Tools or programs to **sign (authenticate) AWS API requests!**

- Launch, Start, Stop, Terminate EC2 instances
- Create, attach, delete storage
- Configure Security Groups
- Configure AWS infrastructure changes
- Things you can do through the AWS Console

The screenshot displays the AWS IAM console interface for managing user credentials. It is divided into two main sections. The top section, titled 'Your Access Key ID:', shows a masked Access Key ID and a masked Secret Access Key. Below the secret key is a 'Hide' link. A 'Generate' button is present, with a note: 'Generate a new Secret Access Key (You will be asked to confirm this selection before a new Secret Access Key will be generated.)'. The bottom section, titled 'Your X.509 Certificate:', shows a masked X.509 Certificate. Below it are four buttons: 'Create New' (with description 'Create a New X.509 Certificate'), 'Download' (with description 'Download Your X.509 Certificate'), 'Upload' (with description 'Upload Your Own X.509 Certificate'), and 'Delete' (with description 'Delete Your Current X.509 Certificate from AWS').

AWS API Secrets

- Access ID & **Secret Key**
 - Symmetric Key (Shared between you and Amazon)
- X.509 **Certificate**
 - Asymmetric Keys (public/**private**)

Generated once. If you lose it, it's **gone!**



Private RSA Key
downloaded and stored
by you as a file

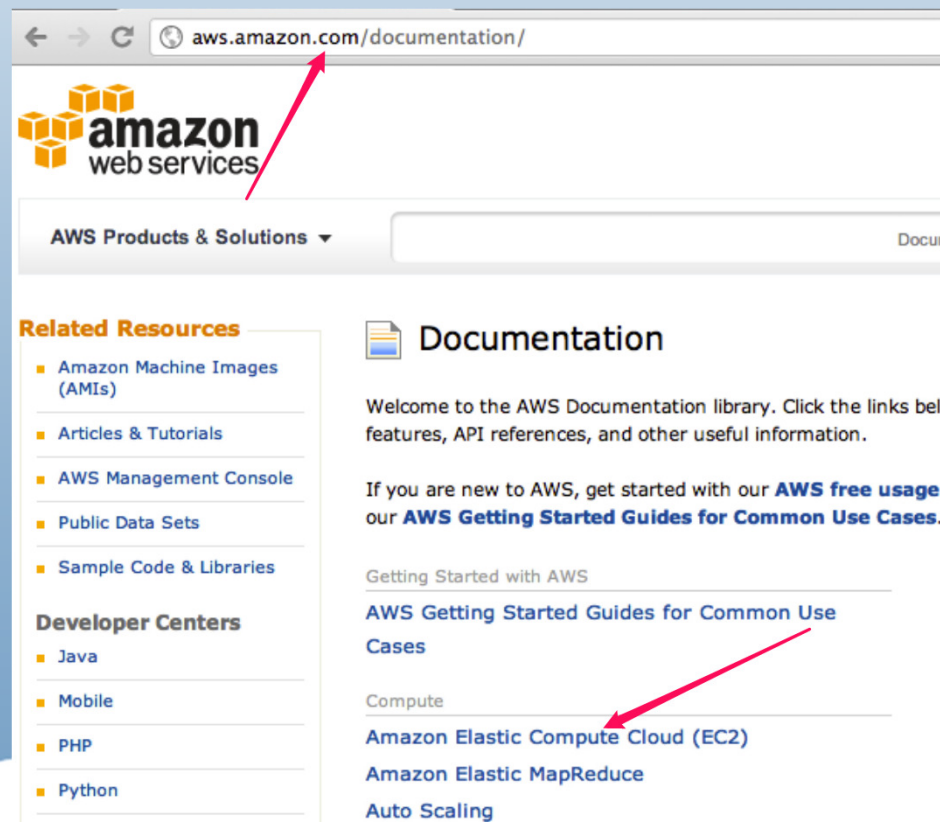
Copy kept by
Amazon

X.509 Certificate
Public Key as a certificate
(Used as a carrier for public
keys)



AWS Documentation

- Go to <http://aws.amazon.com/documentation>
- Select a service, like EC2.



AWS Documentation

- Typical documentation page looks something like this

The screenshot shows a web browser with three tabs open, all pointing to AWS documentation pages: `aws.amazon.com/documentation/ec2/`, `aws.amazon.com/documentation/s3/`, and `aws.amazon.com/documentation/rds/`. The active page is the Amazon RDS documentation. The header features the Amazon Web Services logo, a 'Sign Up' button, and links for 'My Account / Console' and 'English'. Below the header is a navigation bar with 'AWS Products & Solutions', a search bar, and links for 'Documentation', 'Developers', and 'Support'. The main heading is 'Amazon Relational Database Service (RDS) Documentation'. A yellow banner prompts users to 'Select from the AWS Products and Services pulldown to view detailed service documentation.' Below this, a list of documentation resources is provided, each with a title, a '(show description)' link, and icons for HTML and PDF formats. The resources include: 'Amazon Relational Database Service Getting Started Guide', 'Amazon Relational Database Service User Guide', 'Amazon Relational Database Service Command Line Reference', 'Amazon Relational Database Service API Reference', and 'Amazon Relational Database Service Quick Reference Card'. The AWS logo is visible in the bottom right corner.

aws.amazon.com/documentation/ec2/

aws.amazon.com/documentation/s3/

aws.amazon.com/documentation/rds/

amazon
web services

Sign Up

My Account / Console

English

AWS Products & Solutions

Documentation

Developers

Support

Amazon Relational Database Service (RDS) Documentation

Select from the AWS Products and Services pulldown to view detailed service documentation.

Products & Services

Amazon Relational Database Service Getting Started Guide	(show description)	HTML	PDF
Amazon Relational Database Service User Guide	(show description)	HTML	PDF
Amazon Relational Database Service Command Line Reference	(show description)	HTML	PDF
Amazon Relational Database Service API Reference	(show description)	HTML	PDF
Amazon Relational Database Service Quick Reference Card	(pdf) (show description)		

amazon
web services

AWS Documentation

- **Getting Started Guide:** helps you set up an account, walks you through a simple example to use the product for the first time.
- **Developer/User Guide:** info on command line tools, and API. It provides detailed descriptions of all the product concepts and provides instructions on using the various features with the different interfaces.
 - The [EC2 User Guide](#) explains how to set up the EC2 command line tools.
- **API Reference:** detailed reference guide that describes all the API operations a product in detail. Also provides sample requests, responses, and errors for the supported web services protocols.
 - The API defines what the product can do.
- **Command Line Reference:** a detailed reference guide that describes all the command line tools for a product in detail. It provides basic syntax, options, and usage examples for each tool.

EC2 Command Line Tools

- CLI for EC2 API and for AMI creation.
- EC2 API tools uses SOAP API, therefore X.509 cert is required.
- Steps
 - Install Java
 - Download [EC2 CLI tools](#)
 - [Set](#) environment variables
 - JAVA_HOME
 - EC2_HOME
 - EC2_PRIVATE_KEY
 - EC2_CERT
 - EC2_URL (if not using the US East region)

Command Line Example:

- `$ ec2-describe-regions`

REGION	eu-west-1	ec2.eu-west-1.amazonaws.com
REGION	sa-east-1	ec2.sa-east-1.amazonaws.com
REGION	us-east-1	ec2.us-east-1.amazonaws.com
REGION	ap-northeast-1	ec2.ap-northeast-1.amazonaws.com
REGION	us-west-2	ec2.us-west-2.amazonaws.com
REGION	us-west-1	ec2.us-west-1.amazonaws.com
REGION	ap-southeast-1	ec2.ap-southeast-1.amazonaws.com

- Service endpoint can be set to one of the addresses above

- Set endpoint for US West 2:

```
export EC2_URL=https://ec2.us-west-2.amazonaws.com
```



Getting CLI Help

- The “-?” or “--help” parameters to a command line tool provides more information about command.
- README in the command line package provides info on setup and usage.
- CLI Quick Reference Cards

Automation Beyond the CLI

- CLI tools are great for simple automation
- Official Software Development Kits ([SDKs](#))
 - Android/iOS
 - Java
 - .NET
 - PHP
 - Ruby
- Unofficial SDK
 - [Boto](#) (Python)
 - And many others ...



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