

AWS CLI, SDK, IAM Roles & Policies



Developing on AWS

Introduction

Section Introduction

- So far, we've interacted with services manually.
- Developing against AWS has two components:
 - How to perform interactions with AWS without using the Online Console?
 - How to interact with AWS Proprietary services? (S3, DynamoDB, etc...)

Section Introduction

- Developing and performing AWS tasks against AWS can be done in several ways
 - Using the AWS CLI on our local computer
 - Using the AWS CLI on our EC2 machines
 - Using the AWS SDK on our local computer
 - Using the AWS SDK on our EC2 machines
 - Using the AWS Instance Metadata Service for EC2
- In this section, we'll learn:
 - How to do all of those
 - In the right & most secure way, adhering to best practices

AWS CLI

CLI is always Faster

- **Command Line Interface (CLI)** is way of interacting with the system in form of commands
- It is considered as fastest way of doing things in an repeated, automated fashion.

```
root@localhost ~# ping -c 1 www.google.com
PING www.l.google.com (209.85.152.21) 56(84) bytes of data.
 $\cdots$ 
root@localhost ~# netstat -an | grep statistics
  packets transmitted, 1 received, 0% packet loss, time 0ms
rtt min/avg/max/mdev = 0.000/0.000/0.000/0.000 ms
root@localhost ~# netstat -an
root@localhost ~# cd /var
root@localhost var# ls -la
total 72
drwxr-xr-x 19 root root 4096 Jul 20 22:49 .
drwxr-xr-x 23 root root 4096 Sep 14 20:42 ..
drwxr-xr-x 2 root root 4096 May 14 00:19 account
drwxr-xr-x 11 root root 4096 Jul 31 22:28 cache
drwxr-xr-x 3 root root 4096 May 18 16:03 db
drwxr-xr-x 3 root root 4096 May 18 16:03 empty
drwxr-xr-x 2 root root 4096 May 18 16:03 gssapi
drwxr-xr-x 39 root root 4096 May 18 16:03 lib
drwxr-xr-x 2 root root 4096 May 18 16:03 local
drwxr-xr-x 1 root root 4096 May 14 00:12 lost+found -> ./tmp/lost+found
drwxr-xr-x 14 root root 4096 Jun 29 20:42 log
drwxr-xr-x 1 root root 4096 Jun 29 22:43 mail -> spool/mail
drwxr-xr-x 3 root root 4096 May 18 16:03 misc
drwxr-xr-x 2 root root 4096 May 18 16:03 opt
drwxr-xr-x 2 root root 4096 May 18 16:03 preserve
drwxr-xr-x 2 root root 4096 Jul 1 22:11 report
drwxr-xr-x 1 root root 4096 May 14 00:12 rpm -> ./tmp
drwxr-xr-x 14 root root 4096 May 18 16:03 spool
drwxr-xr-x 4 root root 4096 Sep 17 23:56 var
drwxr-xr-x 2 root root 4096 May 18 16:03 var
root@localhost var# ps auxwww
Loaded plugins: langpacks, nesto, refresh-packagekit, remove-with-leaves
cpufusion-free-updates
cpufusion-free-updates-primary_08
cpufusion-free-updates-primary_08
updates/match-2pk
updates
2 tasks:primary_08
75% (----) 1: 82.9M 2: 2.6M 88.11% CPU
```

Example

GUI vs CLI:

- Create a directory called as **TEST**
- Inside it, create three text files named one.txt, second.txt and third. Txt.
- The contents in each one of them would be “this is my demo”
- The permission of all these files should be 600

AWS CLI

- **AWS CLI** is used for managing AWS resources from the terminal.
- It makes room for automation & make things much more faster.



To work on CLI you will need “Access Key” & “Secret Key”

AWS CLI Setup on Windows

AWS CLI Setup Windows

- We'll setup the CLI properly on Windows

Google search results for "install the aws cli on windows". The search bar shows the query. The results page includes the following sections: "All" (selected), "Videos", "Images", "News", "Shopping", "More", "Settings", and "Tools". Below the search bar, it says "About 1,600,000 results (0.51 seconds)". The first result is for "AWS Command Line UI" with a link to "aws.amazon.com/cli". Below it is "CLI Documentation" and "Customer Success Stories". At the bottom, there is a link to "Install the AWS Command Line Interface on Microsoft Windows - AWS ...". A yellow call-to-action button with the text "Click Here" is overlaid on the link.

install the aws cli on windows

All Videos Images News Shopping More Settings Tools

About 1,600,000 results (0.51 seconds)

AWS Command Line UI
Ad aws.amazon.com/cli
Unified Tool to Manage Your AWS Services. Start a Free Account Now!

CLI Documentation
User Guide & CLI Reference
To Get You Started with CLI.

Customer Success Stories
See How AWS Has Helped Customers of All Sizes Find Success in the Cloud

Install the AWS Command Line Interface on Microsoft Windows - AWS ...
<https://docs.aws.amazon.com/cli/latest/userguide/awscli-install-windows.html>

Click Here

Install the AWS CLI using the MSI installer. Download the appropriate MSI installer. Download MSI installer for Windows (64-bit) Download the AWS CLI MSI installer for Windows (32-bit) Run the downloaded MSI installer or the setup file. Follow the instructions that appear.

aws

AWS Documentation » AWS Command Line Interface » User Guide » Installing the AWS Command Line Interface » Install the AWS Command Line Interface on Microsoft Windows

Install the AWS Command Line Interface on Microsoft Windows

You can install the AWS CLI on Windows with a standalone installer or pip, a package manager for Python. If you already have pip, follow the instructions in the main [installation topic](#).

Sections

- [MSI Installer](#)
- [Install Python, pip, and the AWS CLI on Windows](#)

CLI Executable to your Command Line Path

Click Here

MSI Installer

The AWS CLI is supported on Microsoft Windows XP or later. For Windows users, the MSI installation package offers a

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Feedback

Have a question? Try the Forums. Did this page help you? Yes No [Feedback](#)

MSI Installer

The AWS CLI is supported on Microsoft Windows XP or later. For Windows users, the MSI installation package offers a familiar and convenient way to install the AWS CLI without installing any other prerequisites.

When updates are released, you must repeat the installation process to get the latest version of the AWS CLI. If you prefer to update frequently, consider [using pip](#) for easier updates.

To install the AWS CLI using the MSI installer

1. Download the appropriate MSI installer.

- [Download the AWS CLI MSI installer for Windows \(64-bit\)](#)
- [Download the AWS CLI MSI installer for Windows \(32-bit\)](#)
- [Download the AWS CLI MSI installer for Windows \(includes both the 32-bit and 64-bit MSI installers and will automatically install the correct version\)](#)

Click Here

Install the AWS Comma X + https://docs.aws.amazon.com/cli/latest/userguide/awscli-install-windows.html

aws

AWS Command Line Interface

User Guide

Documentation - This Guide

Search

What Is the AWS CLI?

- Install
- Linux
- Windows
- macOS
- Virtualenv
- Bundled Installer

Configure

Tutorial: Using Amazon EC2

What do you want to do with AWSCLI64PY3.msi (19.0 MB)?
From: s3.amazonaws.com

Run Save Cancel Feedback

MSI Installer

The AWS CLI is supported on Microsoft Windows XP or later. For Windows users, the MSI installation package offers a familiar and convenient way to install the AWS CLI without installing any other prerequisites.

When updates are released, you must repeat the installation process to get the latest version of the AWS CLI. If you prefer to update frequently, consider [using pip](#) for easier updates.

To install the AWS CLI using the MSI installer

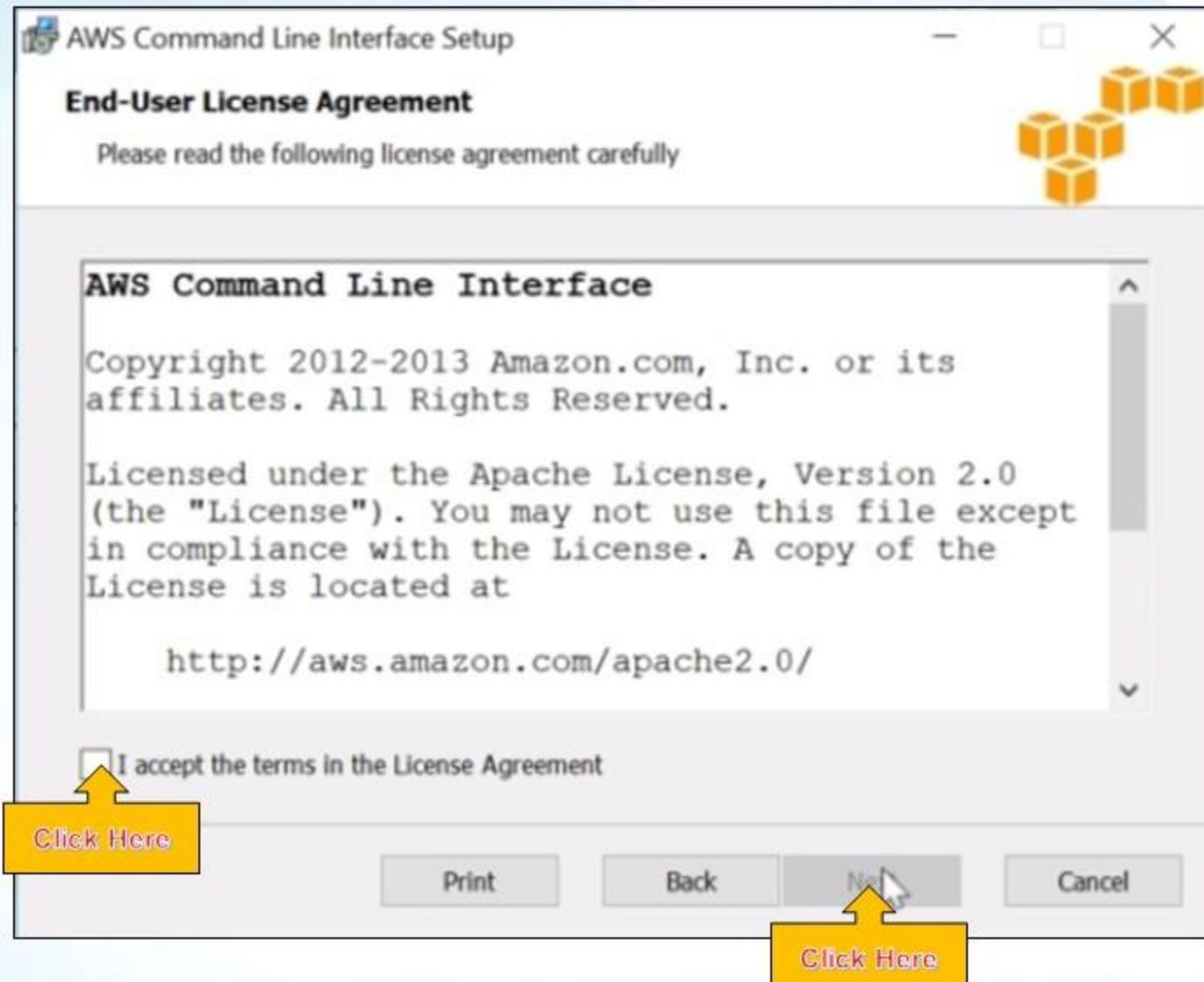
1. Download the appropriate MSI installer.
 - [Download the AWS CLI MSI installer for Windows \(64-bit\)](#)
 - [Download the AWS CLI MSI installer for Windows \(32-bit\)](#)
 - [Download the AWS CLI setup file](#) (includes both the 32-bit and 64-bit MSI installers and will automatically install the correct version)

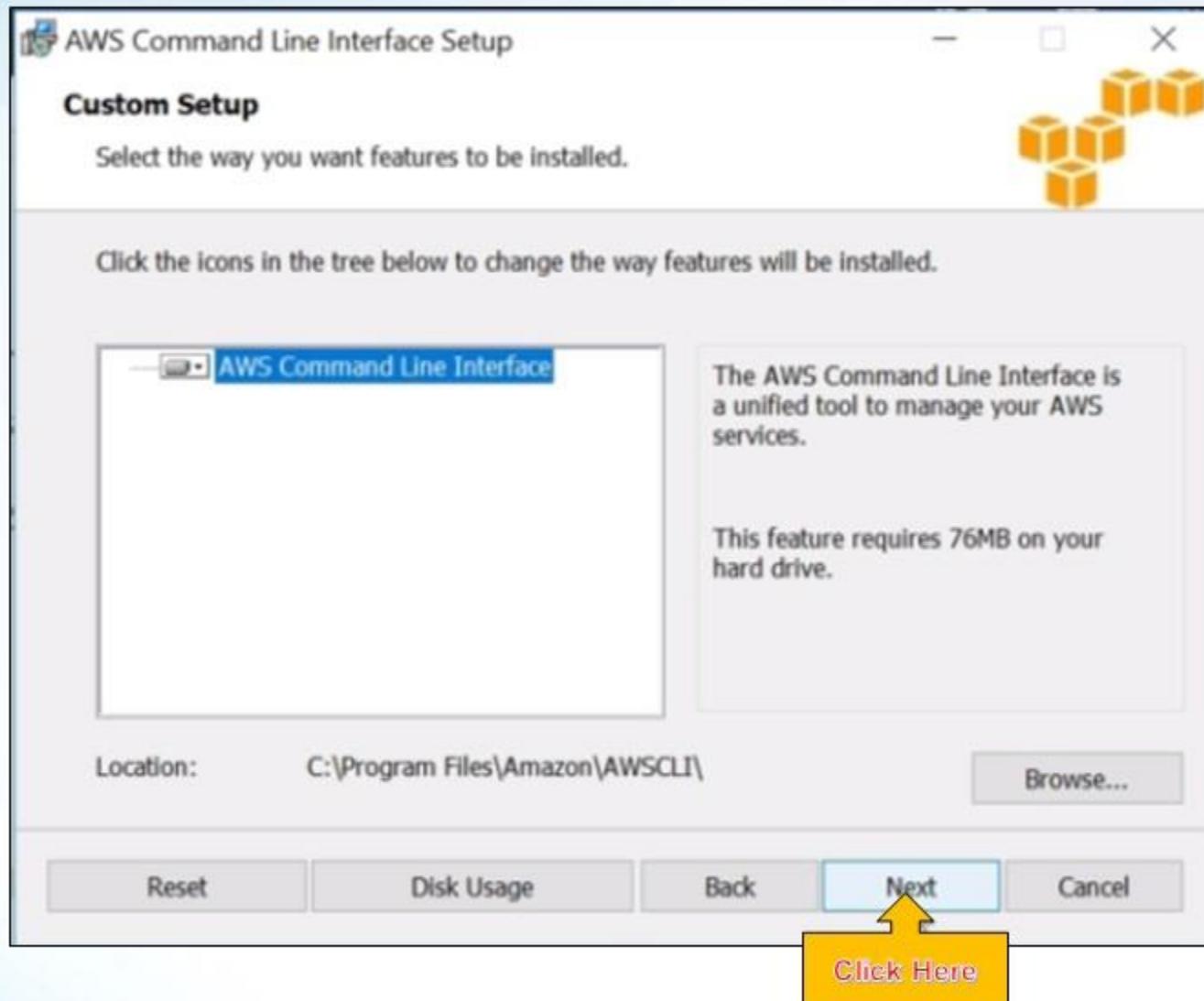
Note

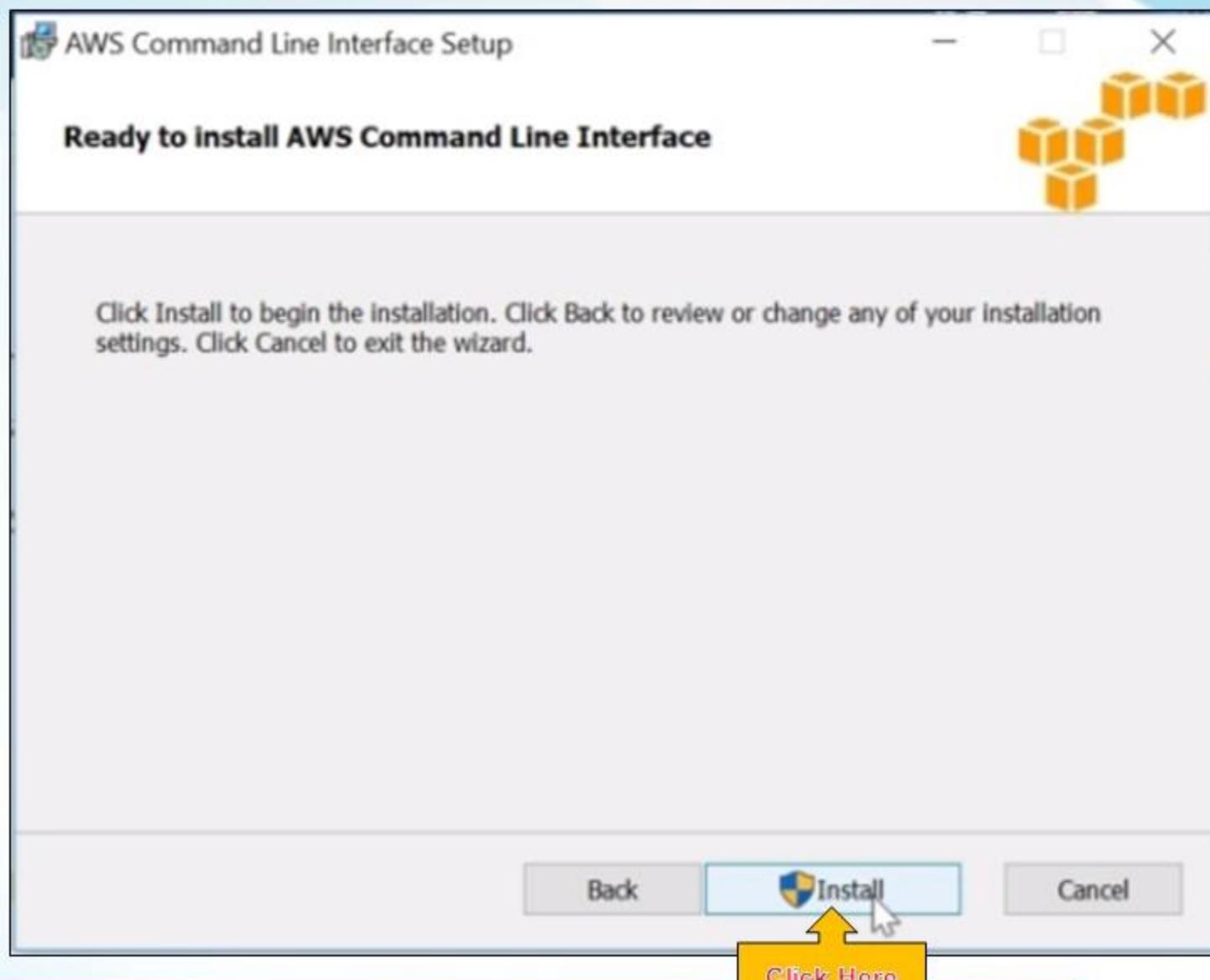
The MSI installer for the AWS CLI does not work with Windows Server 2008 (version 6.0.6002). Use [pip](#) to install with this version of Windows.

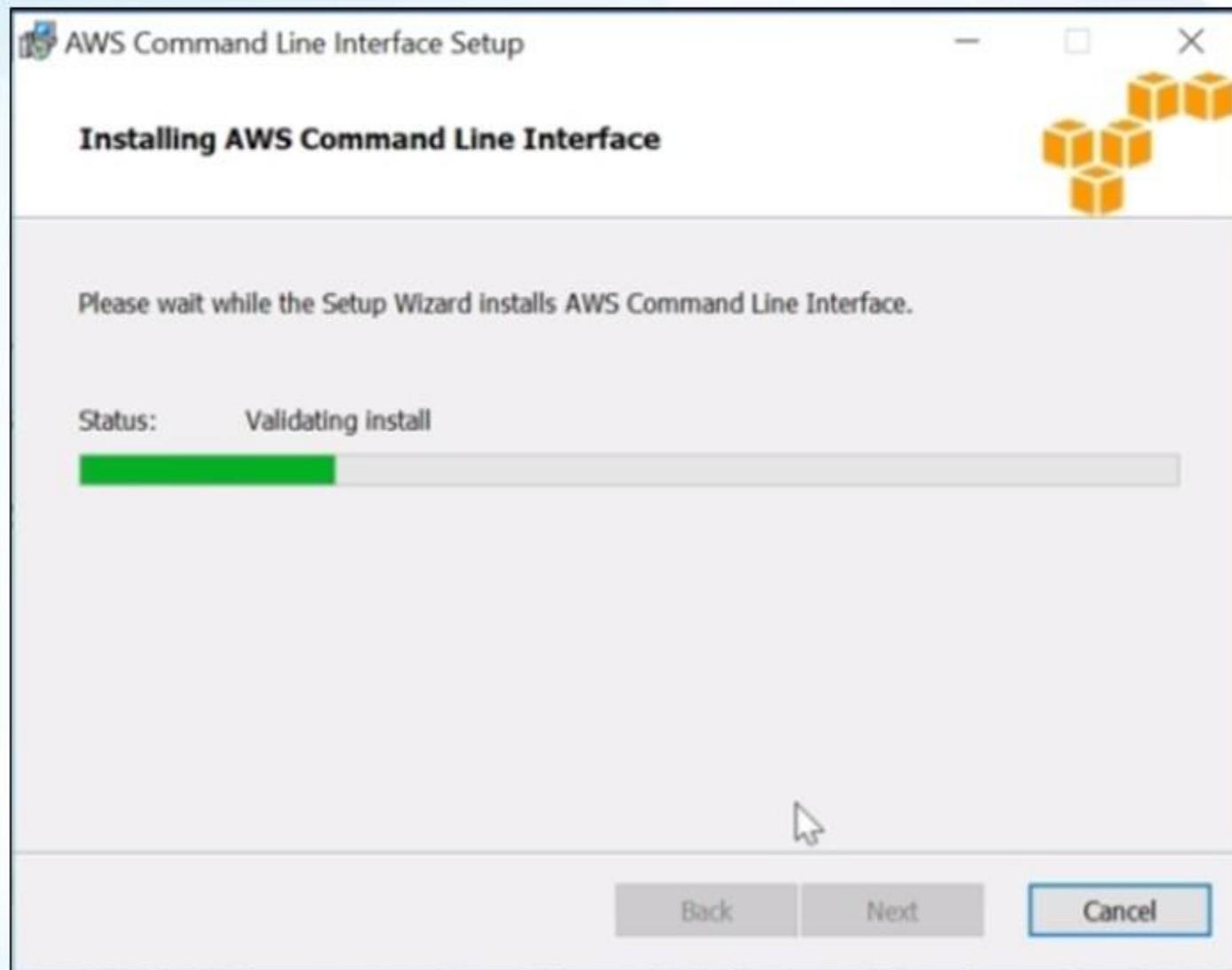
Click Here

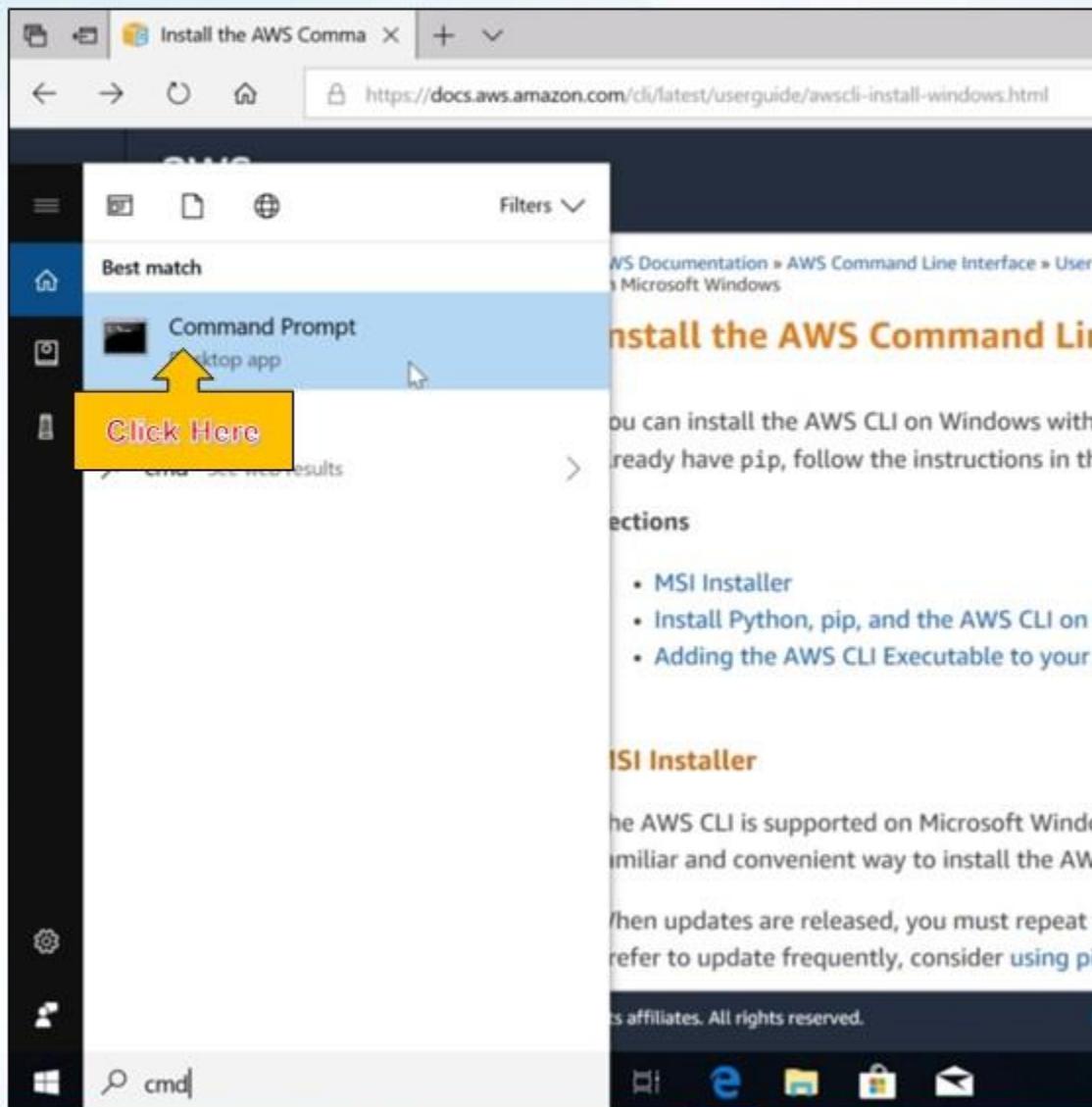












Command Prompt

```
Microsoft Windows [Version 10.0.17134.286]
(c) 2018 Microsoft Corporation. All rights reserved.
```

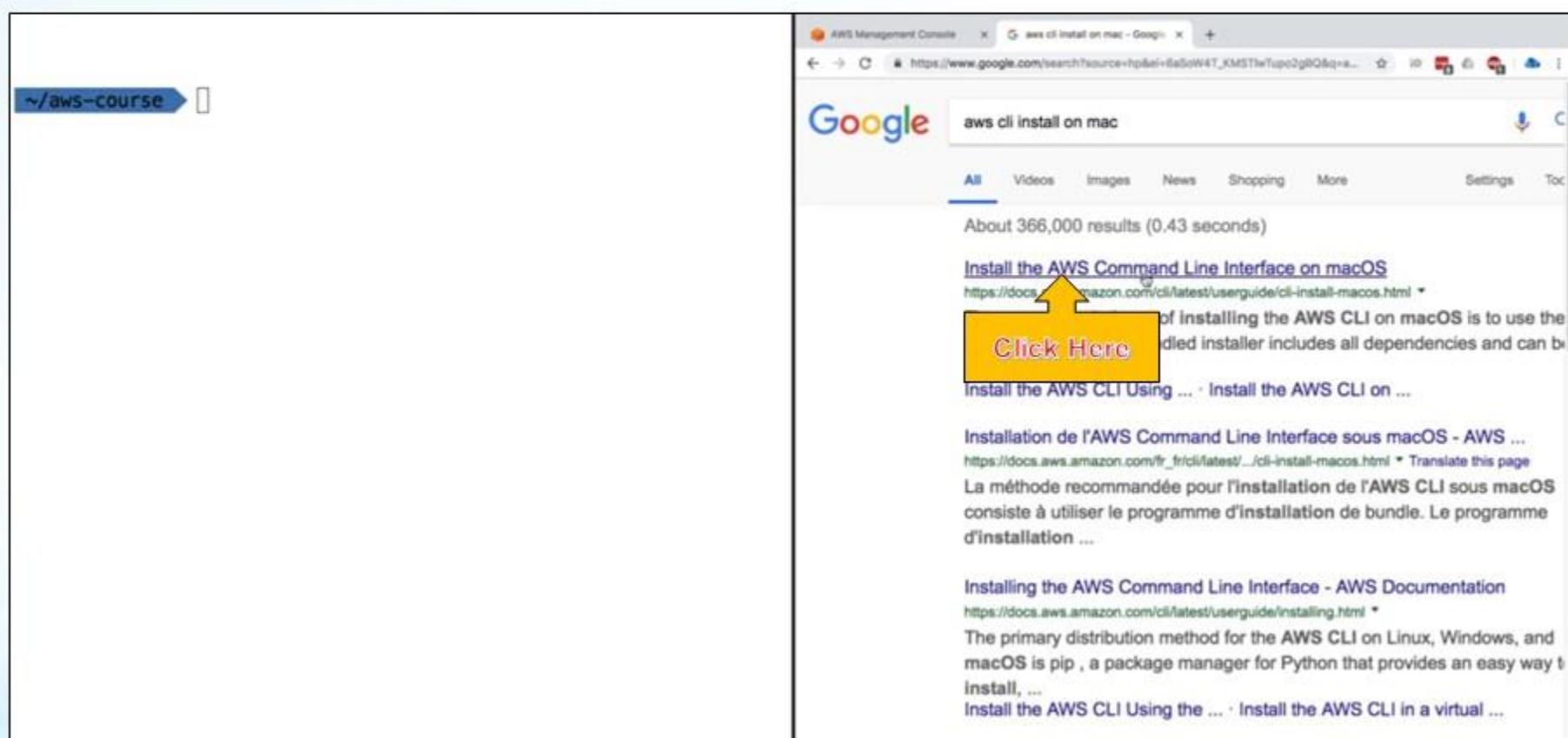
```
C:\Users\IEUser>aws --version
aws-cli/1.16.19 Python/3.6.0 Windows/10 botocore/1.12.9
```

```
C:\Users\IEUser>_
```

AWS CLI Setup on Mac OS X

AWS CLI Setup Mac OS X

- We'll setup the CLI properly on Mac OS X



~/aws-course ➔

AWS Management Console x G aws cli install on mac - Google x +

https://www.google.com/search?source=hp&hl=fr&tbo=H&T_KMSThTupc2gIQwq... 🔍 ⓘ

Google aws cli install on mac

All Videos Images News Shopping More Settings Toc

About 366,000 results (0.43 seconds)

[Install the AWS Command Line Interface on macOS](https://docs.aws.amazon.com/cli/latest/userguide/cli-install-macos.html)

of installing the AWS CLI on macOS is to use the bundled installer includes all dependencies and can be

Click Here

Install the AWS CLI Using ... · Install the AWS CLI on ...

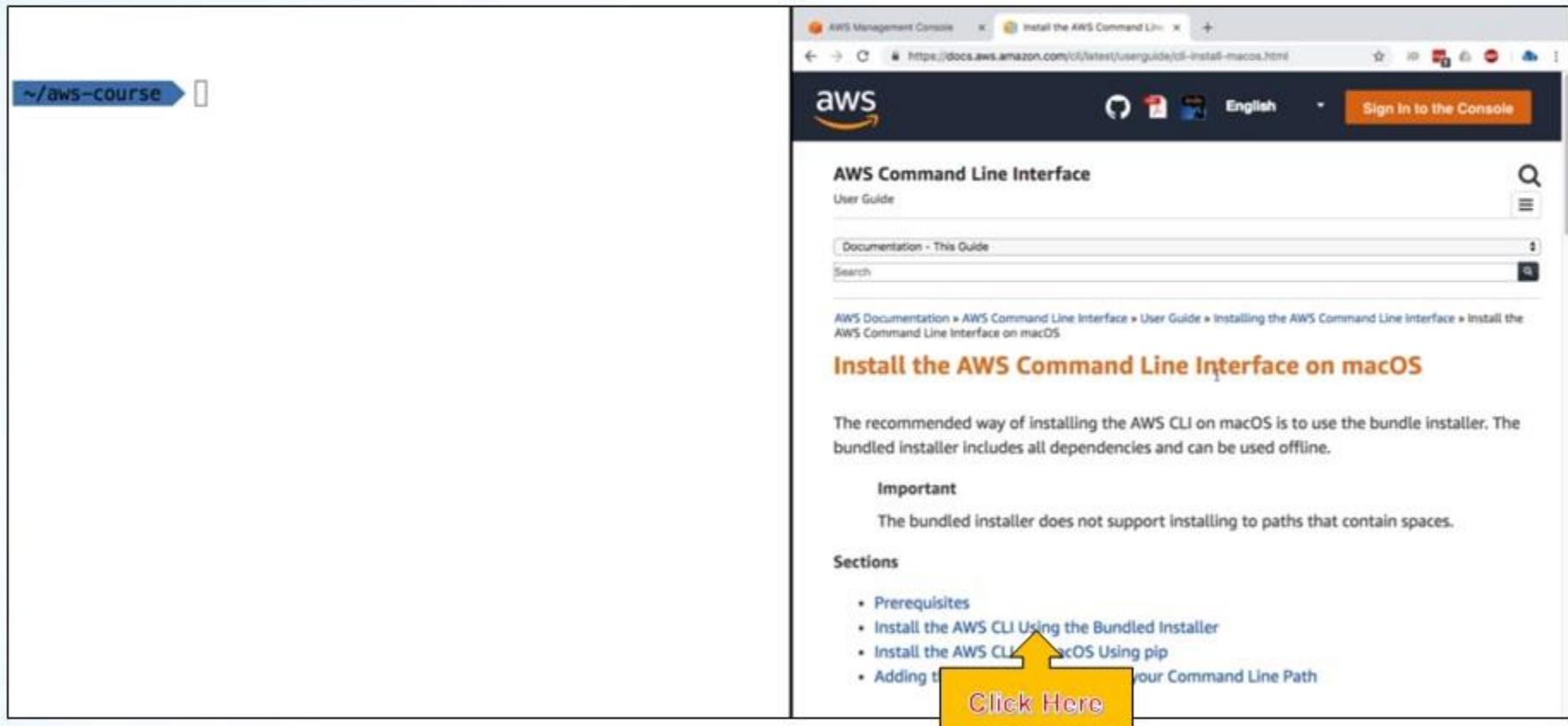
Installation de l'AWS Command Line Interface sous macOS - AWS ...
https://docs.aws.amazon.com/fr_fr/cli/latest/_/cli-install-macos.html • Translate this page

La méthode recommandée pour l'installation de l'AWS CLI sous macOS consiste à utiliser le programme d'installation de bundle. Le programme d'installation ...

Installing the AWS Command Line Interface - AWS Documentation
https://docs.aws.amazon.com/cli/latest/userguide/installing.html •

The primary distribution method for the AWS CLI on Linux, Windows, and macOS is pip , a package manager for Python that provides an easy way to install, ...

Install the AWS CLI Using the ... · Install the AWS CLI in a virtual ...



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AWS Management Console Install the AWS Command Line Interface

https://docs.aws.amazon.com/cli/latest/userguide/cl-install-macos.html

aws English Sign In to the Console

AWS Command Line Interface

User Guide

Documentation - This Guide

Search

AWS Documentation » AWS Command Line Interface » User Guide » Installing the AWS Command Line Interface » Install the AWS Command Line Interface on macOS

Install the AWS Command Line Interface on macOS

The recommended way of installing the AWS CLI on macOS is to use the bundle installer. The bundled installer includes all dependencies and can be used offline.

Important

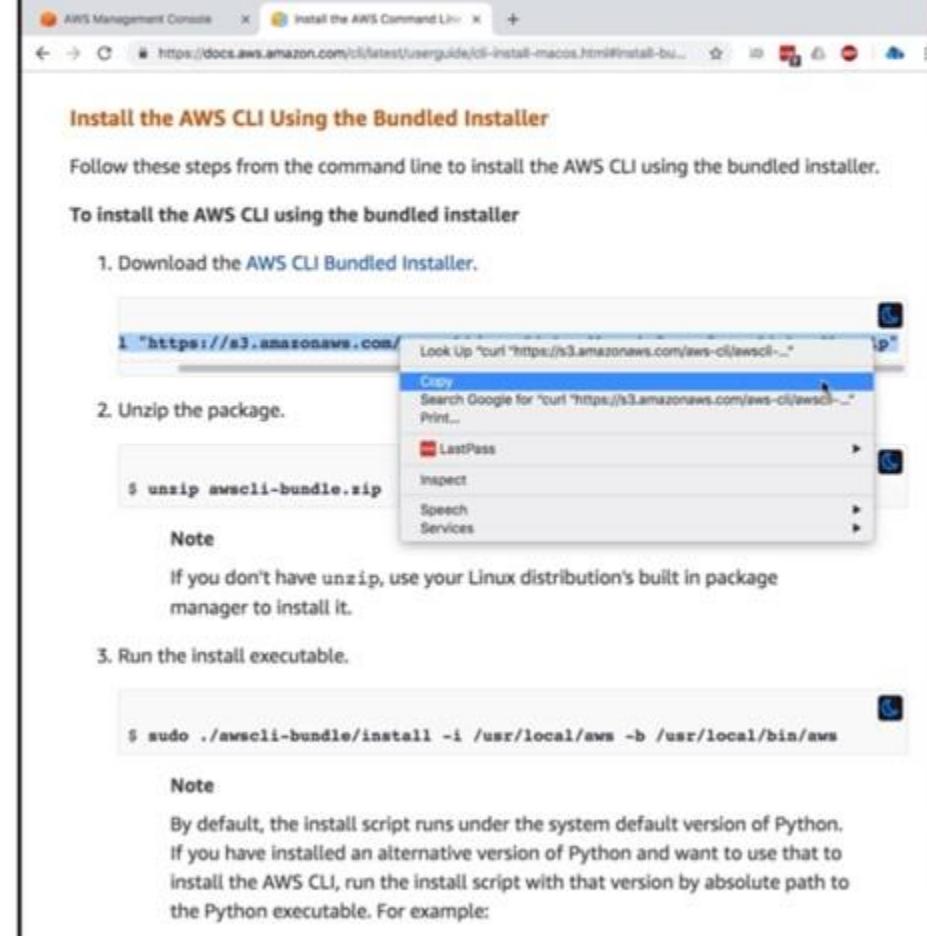
The bundled installer does not support installing to paths that contain spaces.

Sections

- Prerequisites
- Install the AWS CLI Using the Bundled Installer
- Install the AWS CLI on macOS Using pip
- Adding the AWS CLI to Your Command Line Path

Click Here

~/aws-course



The screenshot shows a web browser window with the title "Install the AWS Command Line Interface (CLI) on macOS" and the URL <https://docs.aws.amazon.com/cli/latest/userguide/cli-install-macos.html#install-bundle>. The page content is titled "Install the AWS CLI Using the Bundled Installer" and provides instructions for installing the AWS CLI using a bundled installer. Step 1, "Download the AWS CLI Bundled Installer", shows a command line: `curl "https://s3.amazonaws.com/aws-cli/awscli-bundle.zip" -o awscli-bundle.zip`. A context menu is open over this command, with the "Copy" option highlighted. Step 2, "Unzip the package", shows the command `unzip awscli-bundle.zip`. Step 3, "Run the install executable", shows the command `sudo ./awscli-bundle/install -i /usr/local/aws -b /usr/local/bin/aws`. Notes for each step provide additional instructions and context.

Install the AWS CLI Using the Bundled Installer

Follow these steps from the command line to install the AWS CLI using the bundled installer.

To install the AWS CLI using the bundled installer

1. Download the AWS CLI Bundled Installer.

```
1 curl "https://s3.amazonaws.com/aws-cli/awscli-bundle.zip" -o awscli-bundle.zip
```

2. Unzip the package.

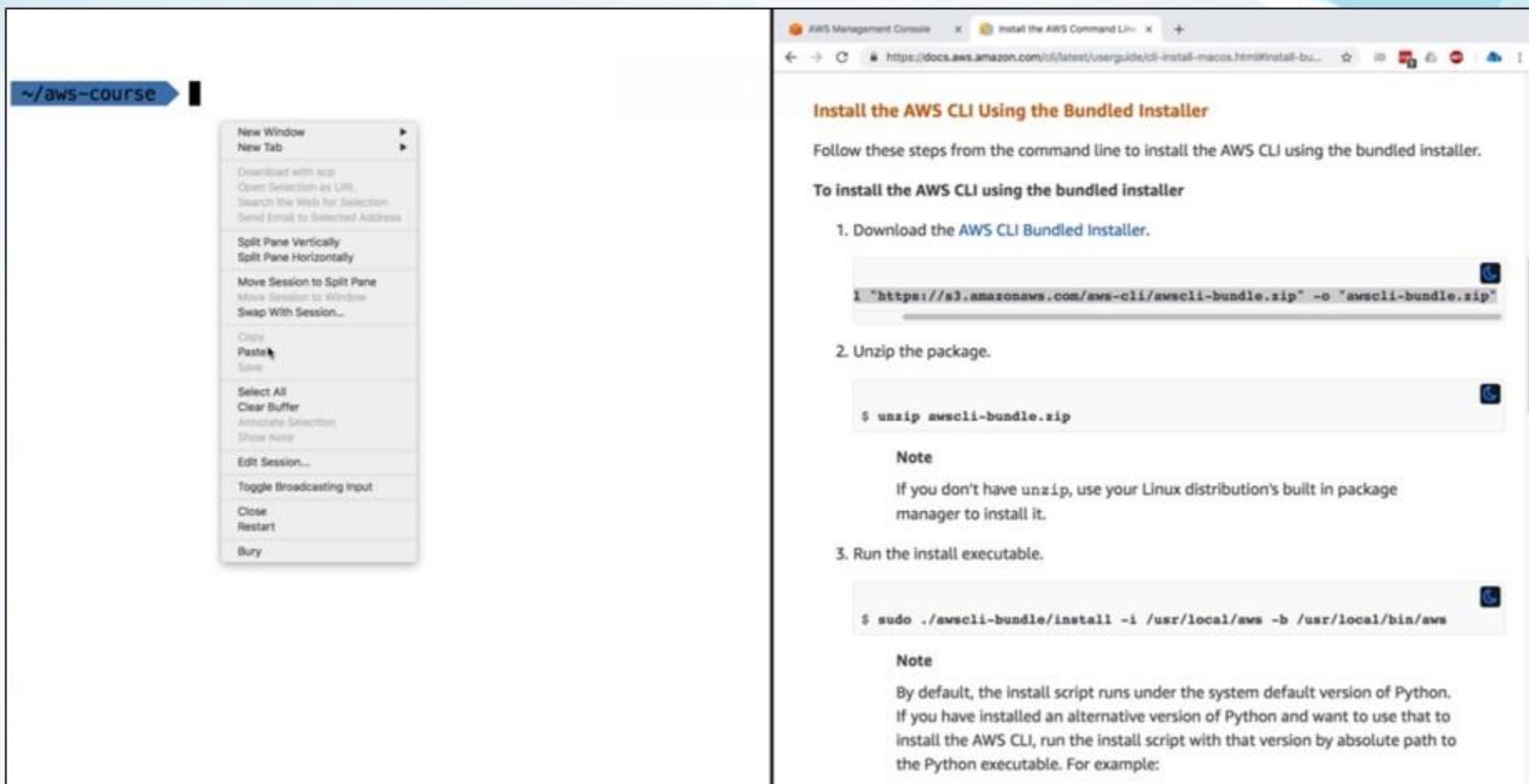
```
2 unzip awscli-bundle.zip
```

Note
If you don't have `unzip`, use your Linux distribution's built in package manager to install it.

3. Run the install executable.

```
3 sudo ./awscli-bundle/install -i /usr/local/aws -b /usr/local/bin/aws
```

Note
By default, the install script runs under the system default version of Python. If you have installed an alternative version of Python and want to use that to install the AWS CLI, run the install script with that version by absolute path to the Python executable. For example:



```
~/aws-course ➤ curl "https://s3.amazonaws.com/aws-cli/awscli-bundle.zip" -o "awscli-bundle.zip"
% Total    % Received % Xferd  Average Speed   Time   Time     T
ime  Current
                                         Dload  Upload   Total   Spent   L
eft  Speed
 0     0    0    0    0     0    0  --:--:-- --:--:--:--:
 0     0    0    0    0     0    0  --:--:-- --:--:--:--:
 2 10.1M  2 236k    0    0  208k    0  0:00:49  0:00:01  0:
 7 10.1M  7 747k    0    0  345k    0  0:00:29  0:00:02  0:
14 10.1M 14 1529k   0    0  487k    0  0:00:21  0:00:03  0:
00:18  487k
```

AWS Management Console X Install the AWS Command Line Interface X +

https://docs.aws.amazon.com/cli/latest/userguide/install-macos.html#install-bundled

Install the AWS CLI Using the Bundled Installer

Follow these steps from the command line to install the AWS CLI using the bundled installer.

To install the AWS CLI using the bundled installer

1. Download the AWS CLI Bundled Installer.

```
1 "https://s3.amazonaws.com/aws-cli/awscli-bundle.zip" -o "awscli-bundle.zip"
```

2. Unzip the package.

```
$ unzip awscli-bundle.zip
```

Note
If you don't have `unzip`, use your Linux distribution's built in package manager to install it.

3. Run the install executable.

```
$ sudo ./awscli-bundle/install -i /usr/local/aws -b /usr/local/bin/aws
```

```
~/aws-course ➤ curl "https://s3.amazonaws.com/aws-cli/awscli-bundle.zip" -o "awscli-bundle.zip"
% Total    % Received % Xferd  Average Speed   Time   Time     T
ime Current                                Dload  Upload   Total   Spent   Left  Speed
0       0       0       0       0       0 0:00:00 0:00:00 0:00:00 0:00:00
0       0       0       0       0       0 0:00:00 0:00:00 0:00:00 0:00:00
2 10.1M  2 236k  0       0       208k  0 0:00:49 0:00:01 0:00:00
7 10.1M  7 747k  0       0       345k  0 0:00:29 0:00:02 0:00:00
14 10.1M 14 1529k 0       0       487k  0 0:00:21 0:00:03 0:00:00
26 10.1M 26 2769k 0       0       661k  0 0:00:15 0:00:04 0:00:00
34 10.1M 34 3602k 0       0       699k  0 0:00:14 0:00:05 0:00:00
51 10.1M 51 5336k 0       0       870k  0 0:00:11 0:00:06 0:00:05 1020k
```

AWS Management Console ➤ Install the AWS Command Line Interface ➤ https://docs.aws.amazon.com/cli/latest/userguide/cli-install-macos.html#install-bundled-installer

Install the AWS CLI Using the Bundled Installer

Follow these steps from the command line to install the AWS CLI using the bundled installer.

To install the AWS CLI using the bundled installer

1. Download the AWS CLI Bundled Installer.

```
1 "https://s3.amazonaws.com/aws-cli/awscli-bundle.zip" -o "awscli-bundle.zip"
```

2. Unzip the package.

```
$ unzip awscli-bundle.zip
```

Look Up "unzip awscli-bundle.zip"
 Copy
 Search Google for "unzip awscli-bundle.zip"
 Print...
 LastPass
 Inspect
 Speech
 Services

3. Run the install executable.

```
$ sudo ./awscli-bundle/install -i /usr/local/aws -b /usr/local/bin/aws
```

Note
 By default, the install script runs under the system default version of Python.
 If you have installed an alternative version of Python and want to use that to install the AWS CLI, run the install script with that version by absolute path to the Python executable. For example:

```
~/aws-course ➤ curl "https://s3.amazonaws.com/aws-cli/awscli-bundle.zip" -o "awscli-bundle.zip"
% Total    % Received % Xferd  Average Speed   Time   Time     T
ime Current                                         Dload  Upload   Total   Spent   L
eft Speed
0     0    0     0    0     0    0  --:--:--  --:--:--  --:
0     0    0     0    0     0    0  --:--:--  --:--:--  --:
2 10.1M  2 236k  0     0  208k    0  0:00:49  0:00:01  0:
7 10.1M  7 747k  0     0  345k    0  0:00:29  0:00:02  0:
14 10.1M 14 1529k 0     0  487k    0  0:00:21  0:00:03  0:
26 10.1M 26 2769k 0     0  661k    0  0:00:15  0:00:04  0:
34 10.1M 34 3602k 0     0  699k    0  0:00:14  0:00:05  0:
51 10.1M 51 5336k 0     0  870k    0  0:00:11  0:00:06  0:
77 10.1M 77 8039k 0     0  9:00:09  0:00:07  0:
97 10.1M 97 9.8M  0     0  9:00:08  0:00:08  0:
100 10.1M 100 10.1M 0     0  9:00:08  0:00:08  0:
--:-- 1889k
~/aws-course ➤
```

Right-click context menu:

- New Window
- New Tab
- Download with s3c...
- Open Selection as URL
- Search the Web for Selection
- Send Email to Selected Address
- Split Pane Vertically
- Split Pane Horizontally
- Move Session to Split Pane
- Move Session to Window
- Swap With Session...
- Copy
- Paste**
- Save
- Select All
- Clear Buffer
- Annotate Selection
- Show Note
- Edit Session...
- Toggle Broadcasting Input

Install the AWS CLI Using the Bundled Installer

Follow these steps from the command line to install the AWS CLI using the bundled installer.

To install the AWS CLI using the bundled installer

1. Download the AWS CLI Bundled Installer.

```
1 "https://s3.amazonaws.com/aws-cli/awscli-bundle.zip" -o "awscli-bundle.zip"
```

2. Unzip the package.

```
$ unzip awscli-bundle.zip
```

Note

If you don't have `unzip`, use your Linux distribution's built in package manager to install it.

3. Run the install executable.

```
$ sudo ./awscli-bundle/install -i /usr/local/aws -b /usr/local/bin/aws
```

Note

By default, the install script runs under the system default version of Python. If you have installed an alternative version of Python and want to use that to install the AWS CLI, run the install script with that version by absolute path to the Python executable. For example:

```
~/aws-course ➤ unzip awscli-bundle.zip
Archive: awscli-bundle.zip
  inflating: awscli-bundle/install
  inflating: awscli-bundle/packages/docutils-0.14.tar.gz
  inflating: awscli-bundle/packages/python-dateutil-2.6.1.tar.gz
  inflating: awscli-bundle/packages/jmespath-0.9.3.tar.gz
  inflating: awscli-bundle/packages/argparse-1.2.1.tar.gz
  inflating: awscli-bundle/packages/ordereddict-1.1.tar.gz
  inflating: awscli-bundle/packages/urllib3-1.23.tar.gz
  inflating: awscli-bundle/packages/six-1.11.0.tar.gz
  inflating: awscli-bundle/packages/simplejson-3.3.0.tar.gz
  inflating: awscli-bundle/packages/python-dateutil-2.7.3.tar.gz
  inflating: awscli-bundle/packages/colorama-0.3.9.tar.gz
  inflating: awscli-bundle/packages/virtualenv-15.1.0.tar.gz
  inflating: awscli-bundle/packages/futures-3.2.0.tar.gz
  inflating: awscli-bundle/packages/awscli-1.16.19.tar.gz
  inflating: awscli-bundle/packages/s3transfer-0.1.13.tar.gz
  inflating: awscli-bundle/packages/botocore-1.12.9.tar.gz
  inflating: awscli-bundle/packages/rsa-3.4.2.tar.gz
  inflating: awscli-bundle/packages/PyYAML-3.13.tar.gz
  inflating: awscli-bundle/packages/pyasn1-0.4.4.tar.gz
  inflating: awscli-bundle/packages/setup setuptools_scm-1.15.7.tar
.gz
~/aws-course ➤
```

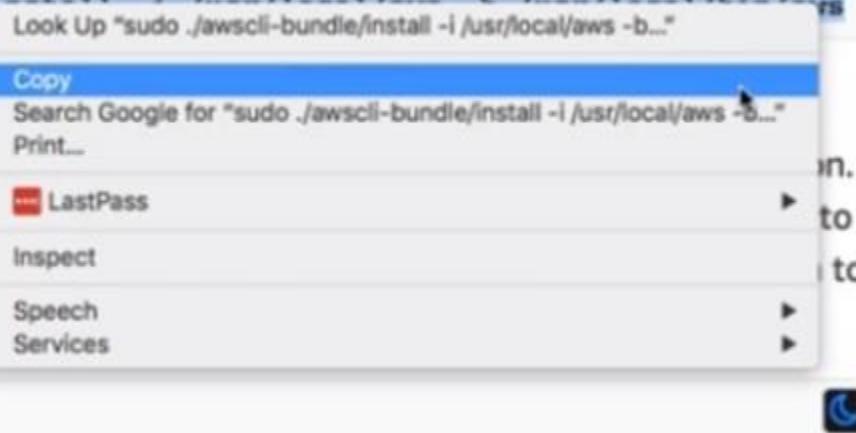
3. Run the install executable.

```
$ sudo ./awscli-bundle/
```

Note

By default, the install

If you have installed a
install the AWS CLI, re
the Python executable



```
~/aws-course ➤ sudo ./awscli-bundle/install -i /usr/local/aws -b /usr/local/bin/aws
Password:
Running cmd: /Users/stephanemaarek/.pyenv/versions/3.6.5/bin/python virtualenv.py --no-download --python /Users/stephanemaarek/.pyenv/versions/3.6.5/bin/python /usr/local/aws
Running cmd: /usr/local/aws/bin/pip install --no-index --find-links file:///Users/stephanemaarek/aws-course/awscli-bundle/packages/setup setuptools_scm-1.15.7.tar.gz
Running cmd: /usr/local/aws/bin/pip install --no-index --find-links file:///Users/stephanemaarek/aws-course/awscli-bundle/packages aws cli-1.16.19.tar.gz
Symlink already exists: /usr/local/bin/aws
Removing symlink.
You can now run: /usr/local/bin/aws --version
~/aws-course ➤
```

```
~/aws-course ➔ aws --version
aws-cli/1.16.19 Python/3.6.5 Darwin/17.7.0 botocore/1.12.9
~/aws-course ➔ █
```

AWS CLI Setup on Linux

AWS CLI Setup Linux

- We'll setup the CLI properly on Linux

Google search results for "install aws cli linux". The search bar shows the query. The results page includes the following content:

- AWS Command Line UI**
Ad aws.amazon.com/cli
Unified Tool to Manage Your AWS Services. Start a Free Account Now!
- CLI Documentation**
User Guide & CLI Reference
To Get You Started with CLI.
- Choosing a Cloud Platform**
Evaluate Different Cloud Vendors
Using Our Requirements List.

Install the AWS Command Line Interface on Linux - AWS Documentation

<https://docs.aws.amazon.com/cli/latest/userguide/awscli-install-linux.html>

Important. The awscli package is available in repositories for other package managers such as APT and yum, but it is not the latest version ...

Click Here

The AWS Command Line Interface (CLI) is a powerful tool for managing AWS services from the command line. This guide will help you install the AWS CLI and its dependencies on most Linux distributions.

Important

The `awscli` package is available in repositories for other package managers such as APT and yum, but it is not guaranteed you get it from pip or use the bundled installer.

If you already have pip, follow the instructions in the main [installation topic](#). Run `pip --version` to see if your version of pip is up to date.

```
$ pip --version
```

If you don't have pip, check to see which version of Python is installed.

```
$ python --version
```

or

```
$ python3 --version
```

If you don't have Python 2 version 2.6.5+ or Python 3 version 3.3+, [install Python](#). Otherwise, [install pip](#) and the AWS CLI.

Sections

- [Installing Pip](#)
- [Installing the AWS CLI with Pip](#)
- [Adding the AWS CLI Executable to your Command Line Path](#)



```
stephane@stephane-VirtualBox: ~
File Edit View Search Terminal Help
stephane@stephane-VirtualBox:~$ pip --version
Command 'pip' not found, but can be installed with:
sudo apt install python-pip
stephane@stephane-VirtualBox:~$ █
```

```
stephane@stephane-VirtualBox:~$ python --version
Command 'python' not found, but can be installed with:
sudo apt install python3
sudo apt install python
sudo apt install python-minimal

You also have python3 installed, you can run 'python3' instead.

stephane@stephane-VirtualBox:~$ █
```

```
stephane@stephane-VirtualBox:~$ python3 --version
Python 3.6.6
stephane@stephane-VirtualBox:~$ █
```

Installing Pip

If you don't have pip, install pip with the script provided by the Python Packaging Authority.

To install pip

1. Download the installation script from pypa.io:

```
$ curl -O https://bootstrap.pypa.io/get-pip.py
```

The script downloads and installs the latest version of pip. It is a single Python script that uses the Python's built-in `setuptools`.

2. Run the script with Python:

```
$ python get-pip.py --user
```

3. Add the executable path to your PATH variable: `~/.local/bin`

To modify your PATH variable (Linux, macOS, or Unix)

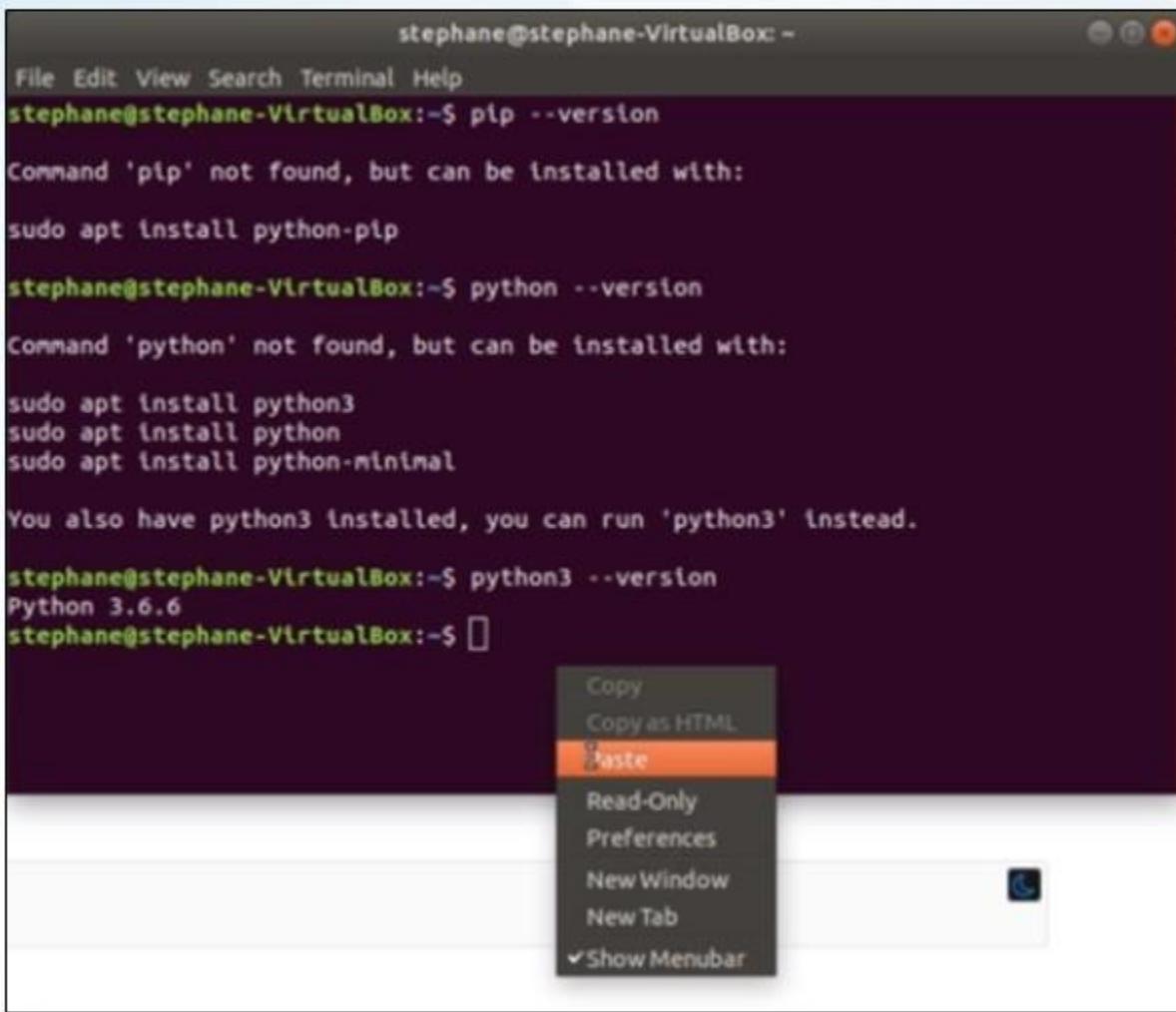
- a. Find your shell's profile script in your user folder. If you are not sure which shell you have, run `echo $SHELL`.

```
stephane@stephane-VirtualBox: ~
File Edit View Search Terminal Help
stephane@stephane-VirtualBox:~$ pip --version
Command 'pip' not found, but can be installed with:
sudo apt install python-pip

stephane@stephane-VirtualBox:~$ python --version
Command 'python' not found, but can be installed with:
sudo apt install python3
sudo apt install python
sudo apt install python-minimal

You also have python3 installed, you can run 'python3' instead.

stephane@stephane-VirtualBox:~$ python3 --version
Python 3.6.6
stephane@stephane-VirtualBox:~$
```

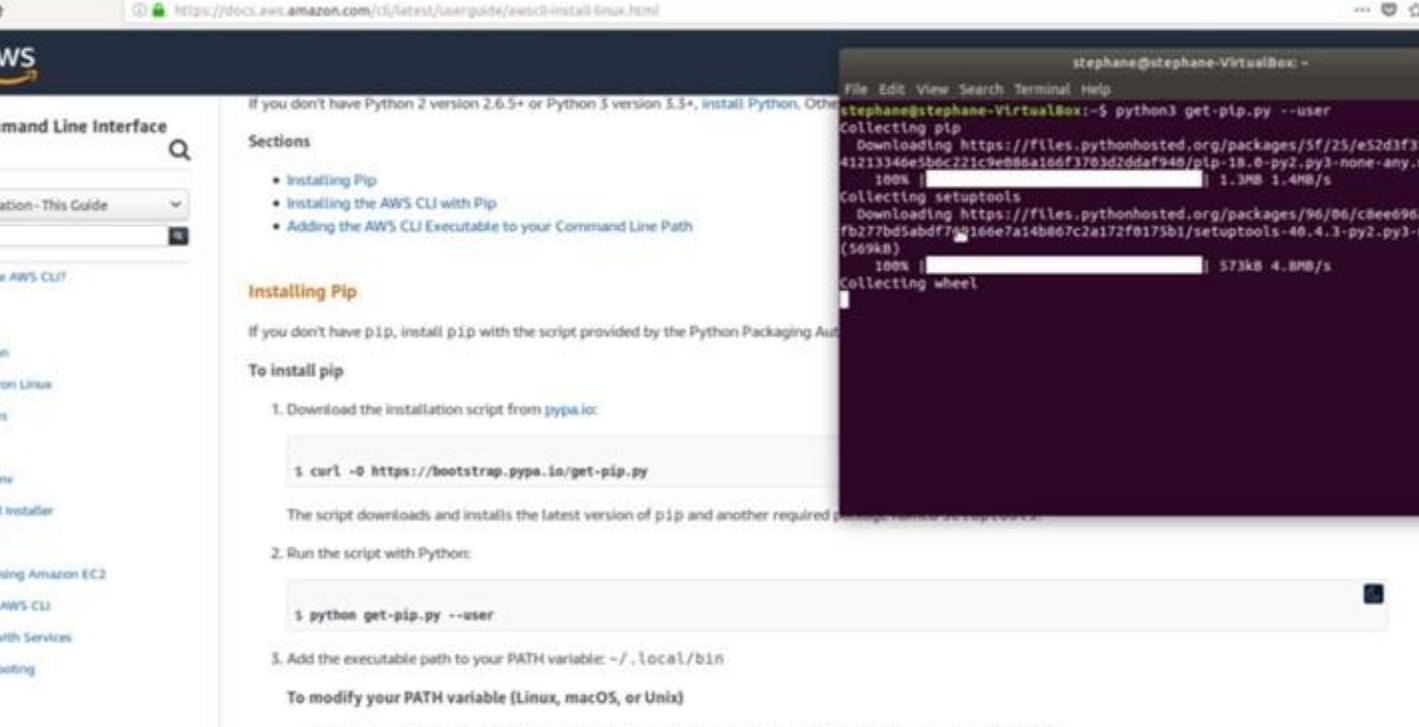


A context menu is open over the terminal window, with the 'Paste' option highlighted in orange, indicating it is the current selection. The menu also includes options like 'Copy', 'Copy as HTML', 'Read-Only', 'Preferences', 'New Window', 'New Tab', and 'Show Menubar'.

```
stephane@stephane-VirtualBox:~$ curl -O https://bootstrap.pypa.io/get-pip.py
Command 'curl' not found, but can be installed with:
sudo apt install curl
stephane@stephane-VirtualBox:~$ █
```

```
stephane@stephane-VirtualBox:~$ sudo apt install curl
[sudo] password for stephane:
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages were automatically installed and are no longer required:
  linux-headers-4.15.0-29 linux-headers-4.15.0-29-generic
  linux-image-4.15.0-29-generic linux-modules-4.15.0-29-generic
  linux-modules-extra-4.15.0-29-generic
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  libcurl4
The following NEW packages will be installed:
  curl libcurl4
0 upgraded, 2 newly installed, 0 to remove and 4 not upgraded.
Need to get 373 kB of archives.
After this operation, 1 036 kB of additional disk space will be used.
Do you want to continue? [Y/n] Y
```

```
stephane@stephane-VirtualBox: ~
File Edit View Search Terminal Help
Need to get 373 kB of archives.
After this operation, 1 036 kB of additional disk space will be used.
Do you want to continue? [Y/n] Y
Get:1 http://fr.archive.ubuntu.com/ubuntu bionic-updates/main amd64 libcurl4 amd64 7.58.0-2ubuntu3.3 [214 kB]
Get:2 http://fr.archive.ubuntu.com/ubuntu bionic-updates/main amd64 curl amd64 7.58.0-2ubuntu3.3 [159 kB]
Fetched 373 kB in 0s (1 644 kB/s)
Selecting previously unselected package libcurl4:amd64.
(Reading database ... 186103 files and directories currently installed.)
Preparing to unpack .../libcurl4_7.58.0-2ubuntu3.3_amd64.deb ...
Unpacking libcurl4:amd64 (7.58.0-2ubuntu3.3) ...
Selecting previously unselected package curl.
Preparing to unpack .../curl_7.58.0-2ubuntu3.3_amd64.deb ...
Unpacking curl (7.58.0-2ubuntu3.3) ...
Setting up libcurl4:amd64 (7.58.0-2ubuntu3.3) ...
Processing triggers for libc-bin (2.27-3ubuntu1) ...
Processing triggers for man-db (2.8.3-2) ...
Setting up curl (7.58.0-2ubuntu3.3) ...
stephane@stephane-VirtualBox:~$ curl -O https://bootstrap.pypa.io/get-pip.py
  % Total    % Received % Xferd  Average Speed   Time     Time     Time  Current
               Dload  Upload Total   Spent    Left Speed
100 1604k  100 1604k    0     0  3003k      0 --:--:-- --:--:-- --:--:-- 2998k
stephane@stephane-VirtualBox:~$
```



The screenshot shows a Linux desktop environment with a terminal window and a web browser. The terminal window is titled 'stephane@stephane-VirtualBox: ~' and shows the command 'python3 get-pip.py --user' being run, with the output of the pip3 installation process visible. The web browser is displaying the AWS Command Line Interface documentation for Linux, specifically the 'Install the AWS Command Line Interface' page. The page includes sections on 'Installing Pip', 'Adding the AWS CLI Executable to your Command Line Path', and 'To install pip'. It provides step-by-step instructions with terminal command examples and explanatory text.

If you don't have Python 2 version 2.6.5+ or Python 3 version 3.3+, install Python, Or the AWS CLI will not work.

Sections

- [Installing Pip](#)
- [Installing the AWS CLI with Pip](#)
- [Adding the AWS CLI Executable to your Command Line Path](#)

Installing Pip

If you don't have pip, install pip with the script provided by the Python Packaging Authority.

To install pip

1. Download the installation script from [pypa.io](https://bootstrap.pypa.io/get-pip.py):

```
$ curl -O https://bootstrap.pypa.io/get-pip.py
```

The script downloads and installs the latest version of pip and another required package, `setuptools`.

2. Run the script with Python:

```
$ python get-pip.py --user
```

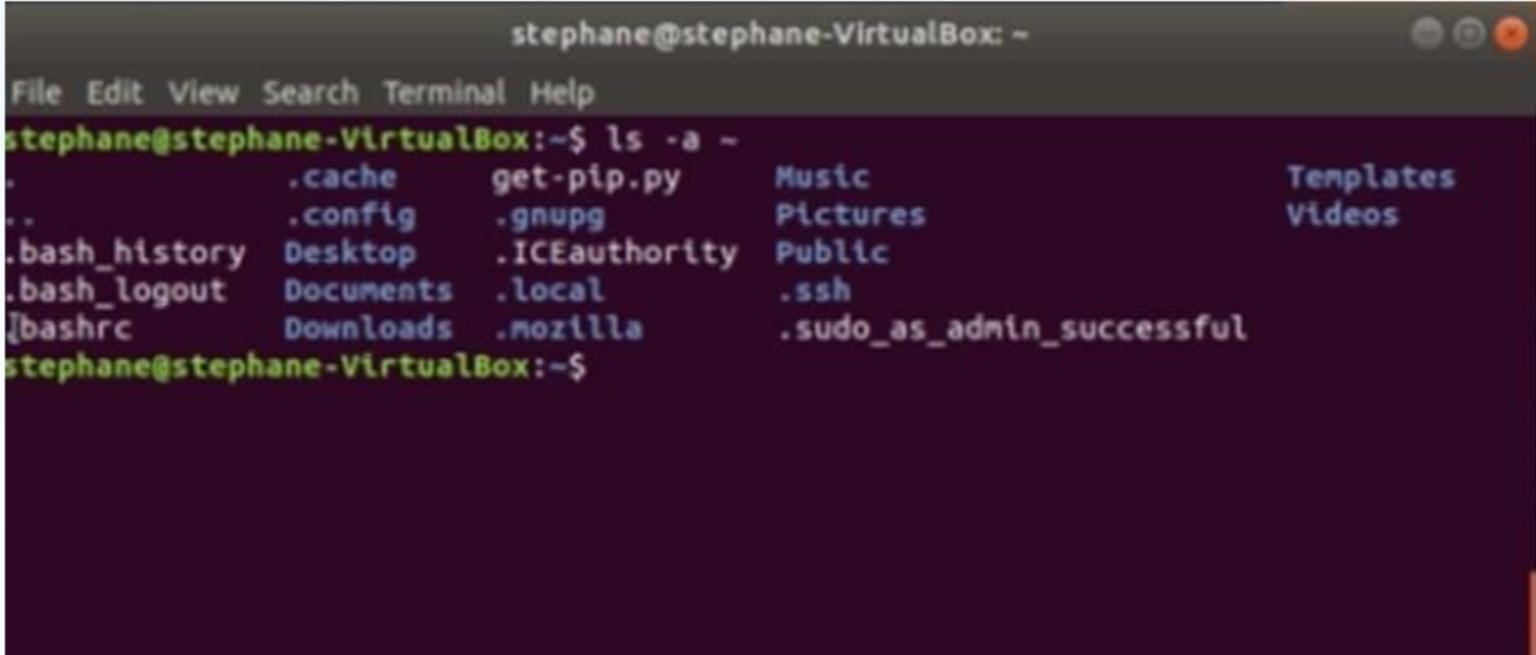
3. Add the executable path to your PATH variable: `~/.local/bin`

To modify your PATH variable (Linux, macOS, or Unix)

- a. Find your shell's profile script in your user folder. If you are not sure which shell you have, run `echo $SHELL`.

```
$ ls -a ~
. .bash_logout .bash_profile .bashrc Desktop Documents Downloads
```

```
stephane@stephane-VirtualBox:~\nFile Edit View Search Terminal Help\nstephane@stephane-VirtualBox:~$ python3 get-pip.py --user\nCollecting pip\n  Downloading https://files.pythonhosted.org/packages/5f/25/e52d3f31441505a5f3af\n41213346e5b6c221c9e086a166f3703d2ddaf940/pip-18.0-py2.py3-none-any.whl (1.3MB)\n    100% |████████████████████████████████| 1.3MB 1.4MB/s\nCollecting setuptools\n  Downloading https://files.pythonhosted.org/packages/96/06/c8ee69628191285dddf\nfb277bd5abdf769166e7a14b867c2a172f0175b1/setuptools-40.4.3-py2.py3-none-any.whl\n(569kB)\n    100% |████████████████████████████████| 573kB 4.8MB/s\nCollecting wheel\n  Downloading https://files.pythonhosted.org/packages/81/30/e935244ca6165187ae8b\ne876b6316ae201b71485538ffac1d718843025a9/wheel-0.31.1-py2.py3-none-any.whl (41kB)\n)\n    100% |████████████████████████████████| 51kB 1.8MB/s\n  launchpadlib 1.10.6 requires testresources, which is not installed.\n  Installing collected packages: pip, setuptools, wheel\n    The script wheel is installed in '/home/stephane/.local/bin' which is not on P\nATH.\n      Consider adding this directory to PATH or, if you prefer to suppress this warn\ning, use --no-warn-script-location.\nSuccessfully installed pip-18.0 setuptools-40.4.3 wheel-0.31.1\nstephane@stephane-VirtualBox:~$ █
```



stephane@stephane-VirtualBox: ~

File Edit View Search Terminal Help

```
stephane@stephane-VirtualBox:~$ ls -a ~
.           .cache      get-pip.py      Music           Templates
..          .config      .gnupg       Pictures        Videos
.bash_history  Desktop    .ICEauthority  Public
.bash_logout   Documents   .local        .ssh
.bashrc        Downloads   .mozilla     .sudo_as_admin_successful
stephane@stephane-VirtualBox:~$
```

Activities Firefox Web Browser + Sun, 10:44

Install the AWS Command Line Interface on Linux - AWS Command Line Interface - Mozilla Firefox

Install the AWS Command Line Interface X + https://docs.aws.amazon.com/cli/latest/userguide/install-linu...

aws

AWS Command Line Interface User Guide

Documentation - This Guide Search

What is the AWS CLI? **Install** Linux Python Amazon Linux Windows macOS VirtualBox Bundled Installer Configure Tutorial: Using Amazon EC2 Using the AWS CLI Working with Services Troubleshooting

On this page: **Installing Pip** Installing the AWS CLI with Pip Adding the AWS CLI Executable to your Command Line Path

Install AWS Pip

1. Download the installation script from pypa.io:

```
$ curl -O https://bootstrap.pypa.io/get-pip.py
```

The script downloads and installs the latest version of pip and another required package named setuptools.
2. Run the script with Python:

```
$ python get-pip.py --user
```
3. Add the executable path to your PATH variable: `~/.local/bin`

To modify your PATH variable (Linux, macOS, or Unix)

 - a. Find your shell's profile script in your user folder. If you are not sure which shell you have, run `echo $SHELL`.


```
$ ls -a ~
. .bash_logout .bash_profile .bashrc Desktop Documents Downloads
```

 - Bash - `.bash_profile`, `.profile`, or `.bash_login`.
 - Zsh - `.zshrc`
 - Tcsh - `.tcshrc`, `.cshrc` or `.login`.
- b. Add an export command to your profile script.

```
export PATH=~/.local/bin:$PATH
```

This command adds a path, `~/.local/bin` in this example, to the current PATH variable.
- c. Load the profile into your current session.

```
stephane@stephane-VirtualBox: ~
File Edit View Search Terminal Help
stephane@stephane-VirtualBox:~$ ls -a ~
.           .cache      get-pip.py      Music           Templates
..          .config      .gnupg       Pictures        Videos
.bash_history  Desktop     .ICEauthority  Public
.bash_logout   Documents   .local        .ssh
.bashrc        Downloads   .mozilla     .sudo_as_admin_successful
stephane@stephane-VirtualBox:~$ nano .bashrc
```

The screenshot shows a Linux desktop environment with a dark theme. On the left, a sidebar displays the AWS Command Line Interface documentation structure. The main content area shows the 'Install the AWS Command Line Interface on Linux' guide. A terminal window is open in the bottom right, showing the process of modifying the PATH variable in the .bashrc file and verifying the installation of pip.

Activities Terminal 10:44

Install the AWS Command Line Interface on Linux - AWS Command Line Interface - Mozilla Firefox

https://docs.aws.amazon.com/1/latest/userguide/awscli-install-linux.html

aws

AWS Command Line Interface

User Guide

Documentation - This Guide

Search

What is the AWS CLI?

Install

- Linux
 - Python
 - Amazon Linux
 - Windows
 - macOS
 - VirtualBox
 - Bundled Installer

Configure

- Tutorial: Using Amazon EC2
- Using the AWS CLI
- Working with Services
- Troubleshooting

To modify your PATH variable (Linux, macOS, or Unix)

a. Find your shell's profile script in your user folder. If you are not sure which shell you are using, run the command `ls -a ~` to see what files are in your user folder. Then, look for one of the following files:

- Bash - `.bash_profile`, `.profile`, or `.bash_login`.
- Zsh - `.zshrc`
- Tesh - `.tcshrc`, `.cshrc` or `.login`.

b. Add an export command to your profile script.

```
export PATH=~/local/bin:$PATH
```

This command adds a path, `~/local/bin` in this example, to the current PATH variable.

c. Load the profile into your current session.

```
$ source ~/.bash_profile
```

d. Verify that pip is installed correctly.

```
$ pip --version
pip 8.1.2 from /local/lib/python3.4/site-packages (python 3.4)
```

File Edit View Search Terminal Help

GNU nano 2.9.3 .bashrc

```
#!/bin/bash
# .bashrc: executed by bash(1) for non-login shells.
# See /usr/share/doc/bash/examples/startup-files (in the package bash-doc)
# for examples

# If not running interactively, don't do anything.
if [ -z "$PS1" ]; then
    return
fi

# don't put duplicate lines or lines starting with space in the history.
# See bash(1) for more options
HISTCONTROL=ignoreboth

# append to the history file, don't overwrite it
shopt -s histappend

# for setting history length see HISTSIZE and HISTFILESIZE in bash(1)
HISTSIZE=1000
```

Get Help No Write Out Where Is Cut Text Justify Cur Pos
Exit Read File Replace Uncut Text To Spell Go To Line

Activities Terminal - Jun. 10:44

Install the AWS Command Line Interface on Linux - AWS Command Line Interface - Mozilla Firefox

Install the AWS Command Line Interface - AWS Command Line Interface

aws

AWS Command Line Interface User Guide

Documentation - This Guide

Search

What is the AWS CLI?

install

- Linux
 - Python
 - Amazon Linux
- Windows
- MacOS
- VirtualBox
- Bundled Installer

Configure

- Tutorial: Using Amazon EC2
- Using the AWS CLI
- Working with Services
- Troubleshooting

To modify your PATH variable (Linux, macOS, or Unix)

a. Find your shell's profile script. If you are not sure which shell you are using, run `ls -a ~`. Then look for one of the following files:

- Bash - `.bash_profile`, `.profile`, or `.bash_login`.
- Zsh - `.zshrc`
- Tcsh - `.tcshrc`, `.cshrc` or `.login`.

b. Add an export command to your profile script.

```
export PATH=/local/bin:$PATH
```

This command adds a path, `~/local/bin` in this example, to the current PATH variable.

c. Load the profile into your current session.

```
$ source ~/.bash_profile
```

d. Verify that pip is installed correctly.

```
$ pip --version
pip 8.1.2 from /local/lib/python3.4/site-packages (python 3.4)
```

File Edit View Search Terminal Help

GNU nano 2.9.3 .bashrc Modified

```
stephane@stephane-VirtualBox:~
```

```
if [ -f ~/bash_aliases ]; then
    . ~/bash_aliases
fi

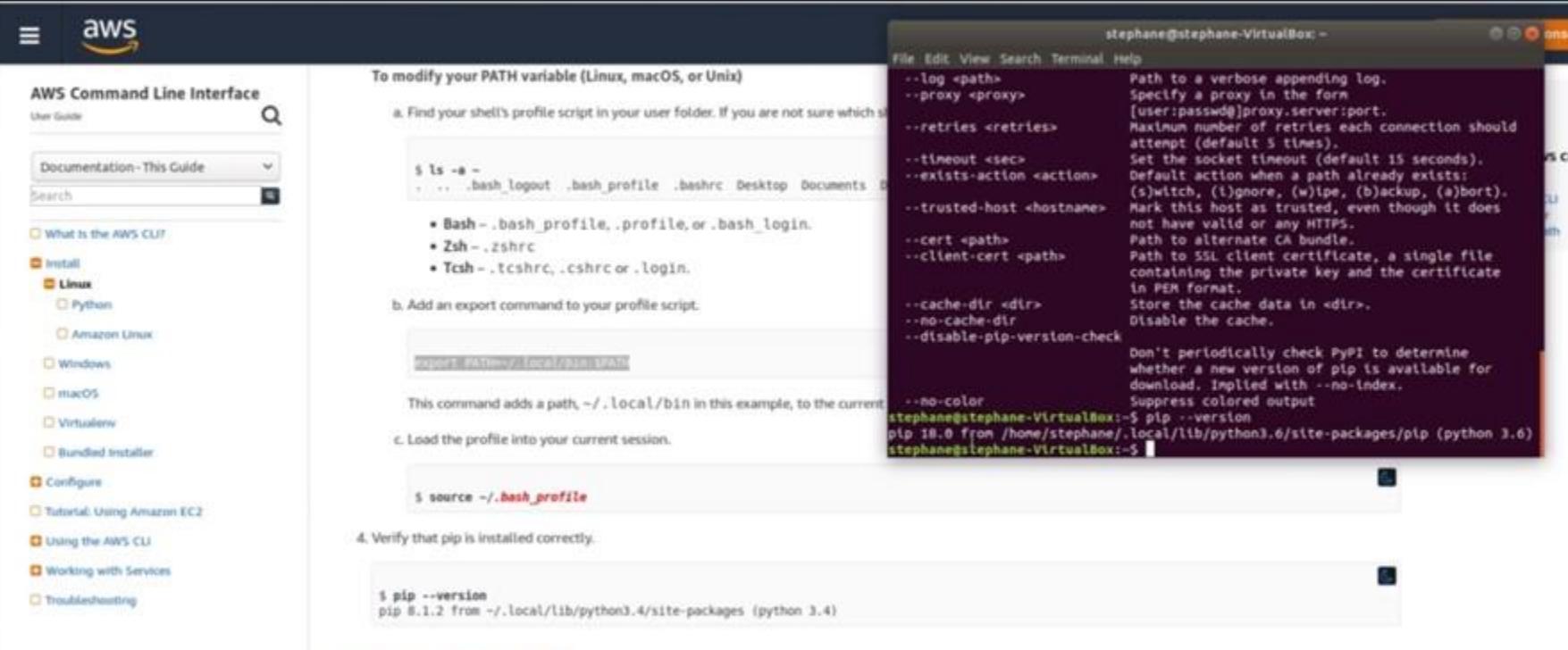
# enable programmable completion features (you don't need to enable
# this, if it's already enabled in /etc/bash.bashrc and /etc/profile
# sources /etc/bash.bashrc).
if ! shopt -oq posix; then
    if [ -f /usr/share/bash-completion/bash_completion ]; then
        . /usr/share/bash-completion/bash_completion
    elif [ -f /etc/bash_completion ]; then
        . /etc/bash_completion
    fi
fi

export PATH=~/local/bin:$PATH
Save modified buffer? (Answering "No" will DISCARD changes.)
```

Y Yes N No C Cancel

```
stephane@stephane-VirtualBox: ~
File Edit View Search Terminal Help
stephane@stephane-VirtualBox:~$ ls -a ~
.           .cache      get-pip.py      Music          Templates
..          .config      .gnupg       Pictures        Videos
.bash_history  Desktop     .ICEauthority  Public
.bash_logout   Documents   .local        .ssh
.bashrc        Downloads   .mozilla     .sudo_as_admin_successful
stephane@stephane-VirtualBox:~$ nano .bashrc
stephane@stephane-VirtualBox:~$ source .bashrc
stephane@stephane-VirtualBox:~$ pip
```

```
stephane@stephane-VirtualBox: ~
File Edit View Search Terminal Help
--log <path>                                used up to 3 times (corresponding to WARNING,
--proxy <proxy>                                ERROR, and CRITICAL logging levels).
--retries <retries>                            Path to a verbose appending log.
--timeout <sec>                               Specify a proxy in the form
--exists-action <action>                         [user:passwd@]proxy.server:port.
--trusted-host <hostname>                      Maximum number of retries each connection should
                                                attempt (default 5 times).
--cert <path>                                 Set the socket timeout (default 15 seconds).
--client-cert <path>                            Default action when a path already exists:
                                                (s)witch, (i)gnore, (w)ipe, (b)ackup, (a)bort).
--cache-dir <dir>                             Mark this host as trusted, even though it does
--no-cache-dir                                  not have valid or any HTTPS.
--disable-pip-version-check                     Path to alternate CA bundle.
                                                Path to SSL client certificate, a single file
                                                containing the private key and the certificate
                                                in PEM format.
                                                Store the cache data in <dir>.
                                                Disable the cache.
                                                Don't periodically check PyPI to determine
                                                whether a new version of pip is available for
                                                download. Implied with --no-index.
--no-color                                     Suppress colored output
stephane@stephane-VirtualBox:~$
```



The screenshot shows the AWS Command Line Interface documentation on the left and a terminal session on the right.

AWS Command Line Interface Documentation:

- Documentation - This Guide**
- Search**
- What is the AWS CLI?**
- Install**
 - Linux**
 - Python
 - Amazon Linux
 - Windows
 - macOS
 - Virtualenv
 - Bundled Installer
- Configure**
 - Tutorial: Using Amazon EC2
 - Using the AWS CLI
 - Working with Services
 - Troubleshooting

Terminal Session (stephane@stephane-VirtualBox:~)

```
File Edit View Search Terminal Help
--log <path> Path to a verbose appending log.
--proxy <proxy> Specify a proxy in the form
                [user:password]proxy.server:port.
--retries <retries> Maximum number of retries each connection should
                attempt (default 5 times).
--timeout <sec> Set the socket timeout (default 15 seconds).
--exists-action <action> Default action when a path already exists:
                (s)witch, (i)gnore, (w)ipe, (b)ackup, (a)bort.
--trusted-host <hostname> Mark this host as trusted, even though it does
                not have valid or any HTTPS.
--cert <path> Path to alternate CA bundle.
--client-cert <path> Path to SSL client certificate, a single file
                containing the private key and the certificate
                in PEM format.
--cache-dir <dir> Store the cache data in <dir>.
--no-cache-dir Disable the cache.
--disable-pip-version-check Don't periodically check PyPI to determine
                whether a new version of pip is available for
                download. Implied with --no-index.
--no-color Suppress colored output
stephane@stephane-VirtualBox:~$ pip --version
pip 10.0.0 from /home/stephane/.local/lib/python3.6/site-packages/pip (python 3.6)
stephane@stephane-VirtualBox:~$
```

Section: To modify your PATH variable (Linux, macOS, or Unix)

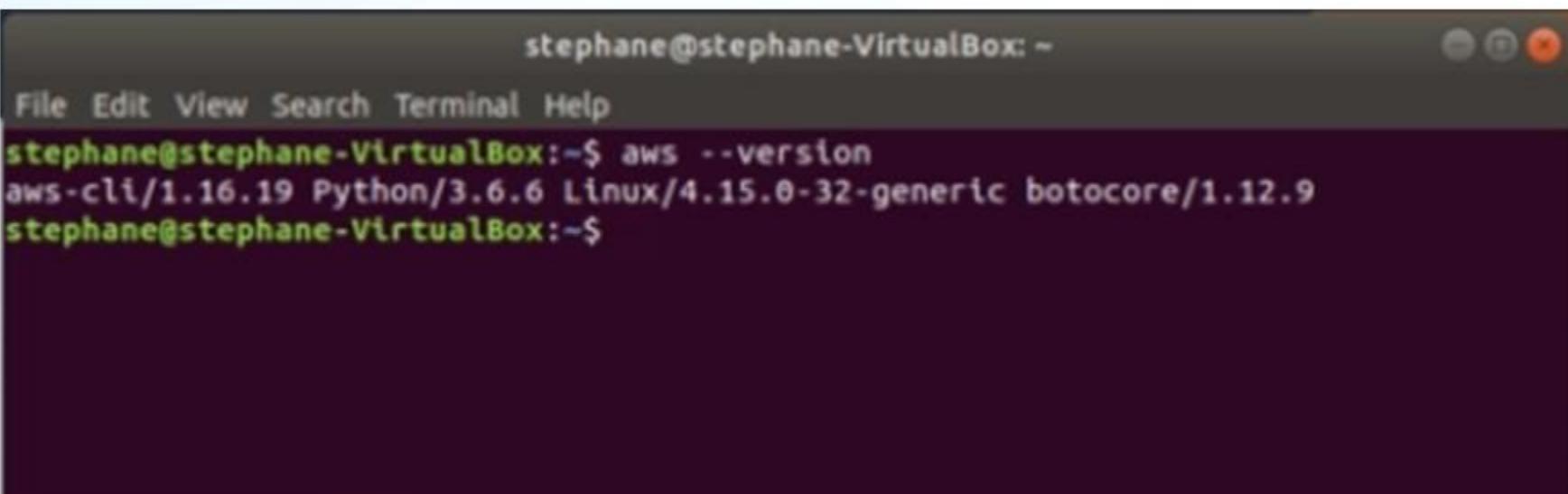
- Find your shell's profile script in your user folder. If you are not sure which shell you are using, run \$ ls -a in your terminal to see the contents of your home directory. You will find one of the following:
 - Bash - .bash_profile, .profile, or .bash_login.
 - Zsh - .zshrc
 - Tcsh - .tcshrc, .cshrc or .login.
- Add an export command to your profile script.
- Load the profile into your current session.
- Verify that pip is installed correctly.

Section: Installing the AWS CLI with Pip

Use pip to install the AWS CLI.



The screenshot shows a Linux desktop environment with a terminal window and a web browser window. The terminal window is titled 'stphane@stphane-VirtualBox: ~' and shows the command 'pip install awscli --upgrade --user' being run, with a progress bar and log output. The web browser window is titled 'Install the AWS Command Line Interface on Linux - AWS Command Line Interface - Mozilla Firefox' and displays the AWS CLI documentation for Linux, including steps to add the AWS CLI to the PATH and verify pip installation.



stephane@stephane-VirtualBox: ~

File Edit View Search Terminal Help

```
stephane@stephane-VirtualBox:~$ aws --version
aws-cli/1.16.19 Python/3.6.6 Linux/4.15.0-32-generic botocore/1.12.9
stephane@stephane-VirtualBox:~$
```

AWS CLI Configuration

AWS CLI Configuration

- Let's learn how to properly configure the CLI



- We'll learn how to get our access credentials and protect them
- Do not share your AWS Access Key and Secret key with anyone!**

aws Services Resource Groups

AWS services

Find a service by name or feature (for example, EC2, S3 or VM, storage).

Recently visited services

-  IAM
-  S3
-  Billing
-  Route 53
-  ElastiCache

All services

Build a solution

Get started with simple wizards and automated workflows.

-  Launch a virtual machine
With EC2
~2-3 minutes
-  Build a web app
With Elastic Beanstalk
~6 minutes
-  Build using virtual servers
With Lightsail
~1-2 minutes
-  Connect an IoT device
With AWS IoT
~5 minutes
-  Start a development project
With CodeStar
~5 minutes
-  Register a domain
With Route 53
~3 minutes

See more

AWS Management Console x +

https://eu-west-3.console.aws.amazon.com/console/home?region=eu-west-3

aws Services Resource Groups

AWS services

iam

IAM
Manage User Access and Encryption Keys

 IAM  S3  Billing

 Route 53  ElastiCache

> All services

Build a solution

Get started with simple wizards and automated workflows.

 Launch a virtual machine With EC2 ~2-3 minutes	 Build a web app With Elastic Beanstalk ~6 minutes	 Build using virtual servers With Lightsail ~1-2 minutes
 Connect an IoT device With AWS IoT ~5 minutes	 Start a development project With CodeStar ~5 minutes	 Register a domain With Route 53 ~3 minutes

[See more](#)

IAM Management Console

https://console.aws.amazon.com/iam/home#/home

aws Services Resource Groups

Search IAM

Dashboard

Groups

Users

Identity providers

Account settings

Credential report

Encryption keys

Click Here

Welcome to Identity and Access Management

IAM users sign-in link:
<https://datacumulus-courses.signin.aws.amazon.com/console>

IAM Resources

Users: 1 Roles: 6

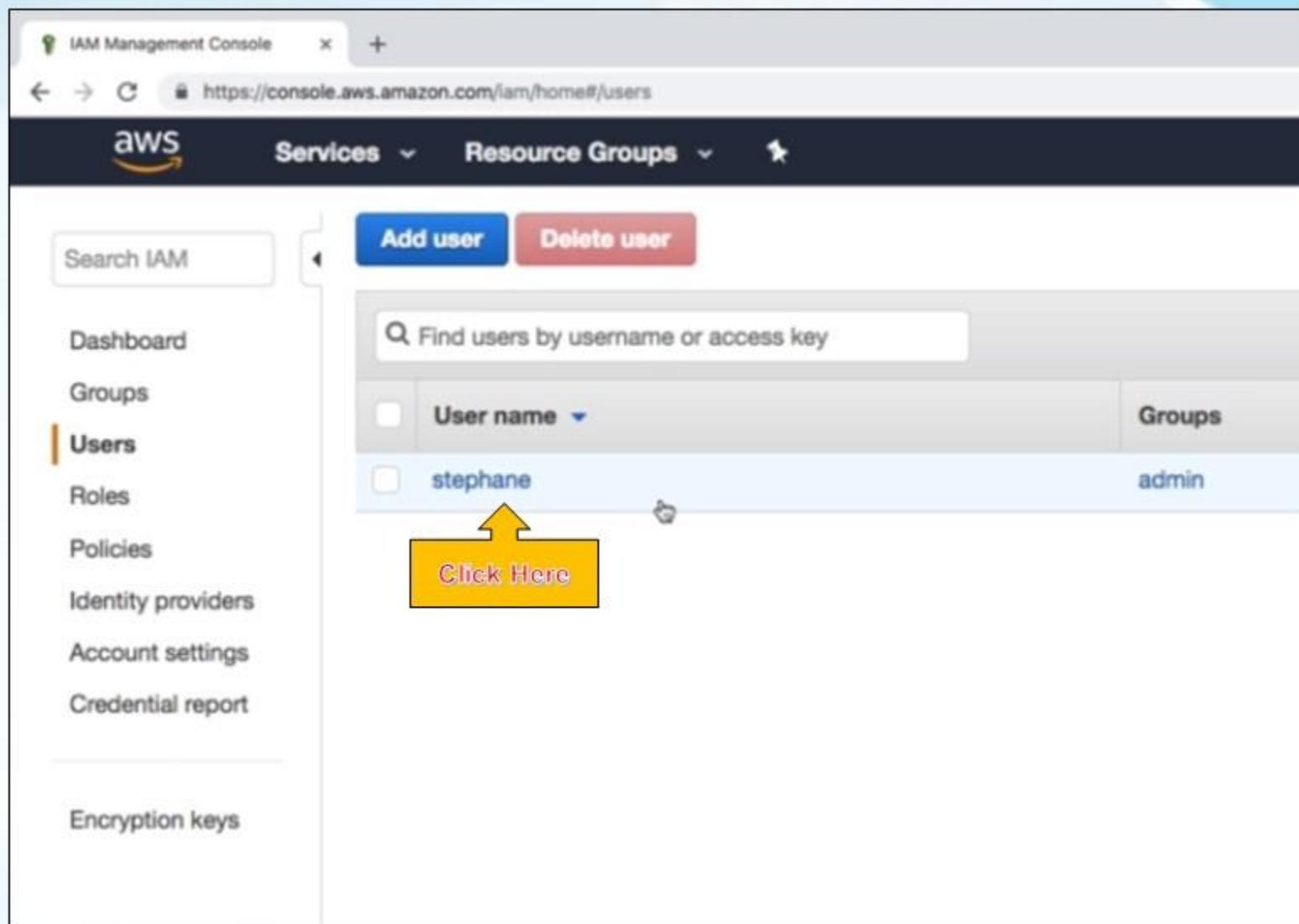
Groups: 1 Identity Providers: 0

Customer Managed Policies: 0

Security Status

5 out of 5 complete.

- Activate MFA on your root account
- Create individual IAM users
- Use groups to assign permissions
- Apply an IAM password policy
- Rotate your access keys



IAM Management Console x +

https://console.aws.amazon.com/iam/home#/users

aws Services Resource Groups

Add user Delete user

Search IAM

Dashboard Groups

Users

Roles Policies

Identity providers Account settings

Credential report

Encryption keys

Find users by username or access key

User name Groups

stephane admin

Click Here

IAM Management Console +

https://console.aws.amazon.com/iam/home#/users/stephane

aws Services Resource Groups

Users > stephane

Search IAM

Dashboard

Groups

Users

Roles

Policies

Identity providers

Account settings

Credential report

Encryption keys

Summary

User ARN: arn:aws:iam::387124123361:user/stephane [Edit](#)

Path: /

Creation time: 2018-09-19 14:23 UTC+0200

Permissions [Groups \(1\)](#) [Security credentials](#) [Access Advisor](#)

▼ Permissions policies (2 policies applied)

[Add permissions](#)

Policy name: [IAMUserChangePassword](#)

Attached directly:

- ▶  IAMUserChangePassword

Attached from group:

[Show 1 more](#)

▶ Permissions boundary (not set)

Permissions Groups (1) **Security credentials** Access Advisor

Sign-in credentials

Summary	Console sign-in link: https://datacumulus-courses.signin.aws.amazon.com/console
Console password	Enabled (last signed in Today) Manage
Assigned MFA device	Not assigned Manage
Signing certificates	None 

Access keys

Use access keys to make secure REST or HTTP Query protocol requests to AWS service APIs. For your protection, you should never share your recommend frequent key rotation. [Learn more](#)

Create access key	Created	Last used
 Click Here	2018-09-19 14:23 UTC+0200	N/A

SSH keys for AWS CodeCommit

Use SSH public keys to authenticate access to AWS CodeCommit repositories. [Learn more](#)

Upload SSH public key

Create access key

×



Success

This is the **only** time that the secret access keys can be viewed or downloaded. You cannot recover them later. However, you can create new access keys at any time.

[Download .csv file](#)

[Click Here](#)

Acc

Secret access key

AKIAJU3ESLUCOYNGAJ4A

***** Show

[Close](#)

aws Services Resource Groups

stephane @ datacumulus-cour...

Search IAM

Creation time: 2018-09-19 14:23 UTC+0000

Permissions Groups

Sign-in credentials

Access keys

Use access keys to make it easier to manage your AWS services. We recommend frequent rotation of access keys.

Create access key

Success
This is the **only** time that the secret access keys can be viewed or downloaded. You cannot recover them later. However, you can create new access keys at any time.

Download .csv file

Access key ID	Secret access key
AKIAJU3ESLUCOYNGAJ4A	***** Show

Close

Access key ID	Created	Last used	Status
AKIAVUITFK3Q7MTKILYT	2018-09-19 14:23 UTC+0200	N/A	Active
AKIAJU3ESLUCOYNGAJ4A	2018-09-24 10:59 UTC+0200	N/A	Active

SSH keys for AWS CodeCommit

Use SSH public keys to authenticate access to AWS CodeCommit repositories. [Learn more](#)

Upload SSH public key

Feedback English (US)

accessKeys.csv

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```
~/aws-course ➤ aws configure
```

```
AWS Access Key ID [None]: AKIAJU3ESLUCOYNGAJ4A
```

```
AWS Secret Access Key [None]: v8X0jYLacKc4Zp8MYqHGb9WlNaSS0ZXImAUDJupt
```

```
Default region name [None]: █
```

Create access key

X

Success

This is the only time that the secret access keys can be viewed or downloaded. You cannot recover them later. However, you can create new access keys at any time.

 Download .csv file

Access key ID

Secret access key

AKIAJU3ESLUCOYNGAJ4A

v8X0jYLacKc4Zp8MYqHGb9WlNaSS0ZXImAUDJupt



Close

```
~/aws-course ➤ aws configure
AWS Access Key ID [None]: AKIAJU3ESLU0YNGAJ4A
AWS Secret Access Key [None]: v8X0jYLacKc4Zp8MYqHGb9WlNaSS0ZXImAUDJupt
Default region name [None]: eu-west-3
Default output format [None]:
~/aws-course ➤ █
```

```
~/aws-course ➤ aws configure
AWS Access Key ID [*****AJ4A]: 
AWS Secret Access Key [*****Jupt]: 
Default region name [eu-west-3]: 
Default output format [None]: 
~/aws-course ➤ █
```

```
~/aws-course ➤ ls ~/.aws
config      credentials
~/aws-course ➤ cat ~/.aws/config
[default]
region = eu-west-3
~/aws-course ➤ cat ~/.aws/credentials
[default]
aws_access_key_id = AKIAJU3ESLUCOYNGAJ4A
aws_secret_access_key = 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
~/aws-course ➤ █ }
```

Permissions Groups (1) Security credentials Access Advisor

Sign-in credentials

Summary • Console sign-in link: <https://datacumulus-courses.signin.aws.amazon.com/console>

Console password Enabled (last signed in Today) | [Manage](#)

Assigned MFA device Not assigned | [Manage](#)

Signing certificates None 

Access keys

Use access keys to make secure REST or HTTP Query protocol requests to AWS service APIs. For your protection, you should never share your secret keys with anyone. As a best practice, we recommend frequent key rotation. [Learn more](#)

[Create access key](#)

Access key ID	Created	Last used	Status	
AKIAVUITFK3Q7MTKILYT	2018-09-19 14:23 UTC+0200	N/A	Active	Make inactive 

SSH keys for AWS CodeCommit

Use SSH public keys to authenticate access to AWS CodeCommit repositories. [Learn more](#)

Click Here

Access keys

Use access keys to make secure REST or HTTP Query protocol requests to AWS service APIs. For your protection, you should never share your secret keys with anyone. As a best practice, we recommend frequent key rotation. [Learn more](#)

[Create access key](#)

Access key ID	Created	Last used	Status	
AKIAVUITFK3Q7MTKILYT	2018-09-19 14:23 UTC+0200	N/A	Inactive	Make active X

SSH keys for AWS CodeCommit

Use SSH public keys to authenticate access to AWS CodeCommit repositories. [Learn more](#)

[Upload SSH public key](#)

Delete access key



Are you sure you want to delete this key?

Cancel

Delete

Click Here



Permissions Groups (1) **Security credentials** Access Advisor

Sign-in credentials

Summary	<ul style="list-style-type: none">Console sign-in link: https://datacumulus-courses.signin.aws.amazon.com/console
Console password	Enabled (last signed in Today) Manage
Assigned MFA device	Not assigned Manage
Signing certificates	None 

Access keys

Use access keys to make secure REST or HTTP Query protocol requests to AWS service APIs. For your protection, you should never share your secret keys with anyone. As a best practice, we recommend frequent key rotation. [Learn more](#)

[Create access key](#)

Access key ID	Created	Last used	Status
No results			

SSH keys for AWS CodeCommit

Use SSH public keys to authenticate access to AWS CodeCommit repositories. [Learn more](#)

[Upload SSH public key](#)

aws s3 ls

```
root@localhost:~  
File Edit View Search Terminal Help  
[root@localhost ~]# aws s3 ls  
An error occurred (AccessDenied) when calling the ListBuckets operation: Access Denied  
[root@localhost ~]# █
```

Secure | https://www.google.co.in/search?q=aws+cli&rlz=1C1CHBF_enIN761IN761&oq=aws+cli&aqs=chrome..69i57j0l3j69i65l2.3484j0j7&si

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aws cli

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About 4,97,000 results (0.56 seconds)

Amazon Command Line
Ad aws.amazon.com/cli
Simple File Commands for Efficient File Amazon S3 File Transfers.
Control Multiple Services - Easy to Manage

CLI Documentation
User Guide & CLI Reference
To Get You Started with CLI.

CLI Command Reference
Use AWS Command Help For More Information on Specific Commands

Customer Success Stories
See How AWS Has Helped Customers of All Sizes Find Success in the Cloud

User Guide
Learn About The AWS CLI Interface And How It Can Work For You!

AWS Command Line Interface - Amazon Web Services
<https://aws.amazon.com/cli/>

The AWS Command Line Interface User Guide walks you through installing and ... See the AWS CLI command reference for the full list of supported services.

You visited this page on 18/9/17.

Installing the AWS Command
Install the AWS Command Line Interface on your system.

AWS Command Line Interface
What Is the AWS Command Line Interface? The AWS CLI is an ...

Documentation
The AWS Command Line Interface (AWS CLI) is a unified tool that ...

Install the AWS Command ...
Install the AWS Command Line Interface on Microsoft Windows.

AWS CLI Command Reference
S3 - Ec2 - Aws - S3api - Iam - Configure - Lambda - Dynamodb

Aws
S3 - Ec2 - S3api - Iam - Lambda - Cloudformation - Configure - Rds

More results from amazon.com >

docs.aws.amazon.com/cli/latest/index.html

AWS CLI Command Reference Home User Guide Forum GitHub ⚡ Star 5,378 AWS →

 **AWS CLI Command Reference**

The AWS Command Line Interface is a unified tool that provides a consistent interface for interacting with all parts of AWS.

Quick search

Feedback

Did you find this page useful?
Do you have a suggestion?
Give us feedback or send us a pull request on GitHub.

User Guide

First time using the AWS CLI?
See the [User Guide](#) for help getting started.

- Command Reference
 - acm
 - apigateway
 - application-autoscaling
 - appstream
 - athena
 - autoscaling
 - batch
 - budgets
 - clouddirectory
 - cloudformation
 - cloudfront
 - cloudhsm
 - cloudhsmv2
 - cloudsearch
 - cloudsearchdomain
 - cloudtrail
 - cloudwatch
 - codebuild
 - codecommit
 - codepipeline
 - codestar
 - cognito-identity
 - cognito-identity
 - cognito-sync

→ C  <https://docs.aws.amazon.com/cli/latest/reference/>

AWS CLI Command Reference

Home User Guide Forum GitHub

- [polly](#)
- [pricing](#)
- [quicksight](#)
- [ram](#)
- [rds](#)
- [rds-data](#)
- [redshift](#)
- [rekognition](#)
- [resource-groups](#)
- [resourcegroupstaggingapi](#)
- [robomaker](#)
- [route53](#)
- [route53domains](#)
- [route53resolver](#)
- [s3](#)
- [lambda](#)
- [control](#)
- [runtime](#)
- [sso](#)
- [secretsmanager](#)
- [securityhub](#)
- [serverlessrepo](#)
- [service-quotas](#)
- [servicecatalog](#)
- [servicediscovery](#)
- [ses](#)
- [shield](#)
- [signer](#)
- [sms](#)

 Click Here



Table Of Contents

s3

- [Description](#)
 - [Path Argument Type](#)
 - [Order of Path Arguments](#)
 - [Single Local File and S3 Object Operations](#)
 - [Directory and S3 Prefix Operations](#)
 - [Use of Exclude and Include Filters](#)
- [Synopsis](#)
- [Options](#)
- [Available Commands](#)

Quick search

[Search](#)

Feedback

Did you find this page useful?

Do you have a suggestion?

[aws]

s3

Description

This section explains prominent concepts and notations in the set of high-level S3 commands provided by the AWS CLI.

Path Argument Type

Whenever using a command, at least one path argument must be specified. There are two types of arguments: `LocalPath` and `s3uri`.

`LocalPath`: represents the path of a local file or directory. It can be written as an absolute path or relative path.

`s3uri`: represents the location of a S3 object, prefix, or bucket. This must be written in the form `s3://mybucket/mykey` where `mybucket` is the specified S3 bucket, `mykey` is the specified S3 key. The argument must begin with `s3://` in order to denote that the path argument refers to a S3 object. No prefixes are separated by forward slashes. For example, if the S3 object `myobject` had the prefix `my`, the S3 key would be `myprefix/myobject`, and if the object was in the bucket `mybucket`, the `s3uri` would be `s3://mybucket/myprefix/myobject`.

← → ⌂ <https://docs.aws.amazon.com/cli/latest/reference/s3/index.html> ⌂

AWS CLI Command Reference [Home](#) [User Guide](#) [Forum](#) [GitHub](#) [Star 8,242](#) [🔍](#)

`aws s3 <Command> [<Arg> ...]`

Options

None

See '[aws help](#)' for descriptions of global parameters.

Available Commands

- [cp](#)
- [ls](#)
- [mb](#)
- [mv](#)
- [presign](#)
- [rb](#)
- [rm](#)
- [sync](#)
- [website](#)

[← update-resolver-rule](#) / [cp](#) [→](#)

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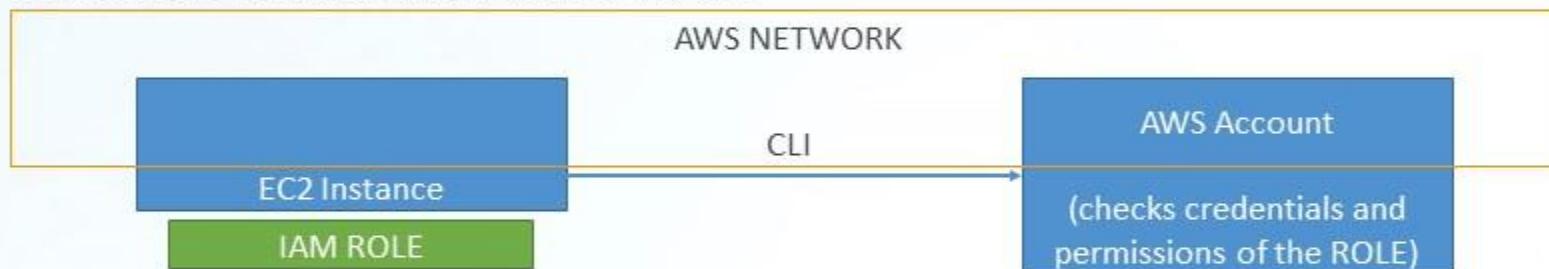
AWS CLI on EC2

AWS CLI ON EC2... THE BAD WAY

- We could run `aws configure` on EC2 just like we did (and it'll work)
- But... it's SUPER INSECURE
- NEVER EVER EVER PUT YOUR PERSONAL CREDENTIALS ON AN EC2
- Your PERSONAL credentials are PERSONAL and only belong on your PERSONAL computer
- If the EC2 is compromised, so is your personal account
- If the EC2 is shared, other people may perform AWS actions while impersonating you
- For EC2, there's a better way... it's called AWS IAM Roles

AWS CLI ON EC2...THE RIGHT WAY

- IAM Roles can be attached to EC2 instances
- IAM Roles can come with a policy authorizing exactly what the EC2 instance should be able to do



- EC2 Instances can then use these profiles automatically without any additional configurations
- This is the best practice on AWS and you should 100% do this.

The screenshot shows the AWS Management Console home page on the left and a sidebar on the right.

AWS services

- Recently visited services: EC2, S3, IAM, Billing, Route 53.
- All services

Build a solution

Get started with simple wizards and automated workflows.

- Launch a virtual machine: With EC2, ~2-3 minutes.
- Build a web app: With Elastic Beanstalk, ~6 minutes.
- Build using virtual servers: With Lightsail, ~1-2 minutes.
- Connect an IoT device: With AWS IoT, ~5 minutes.
- Start a development project: With CodeStar, ~5 minutes.
- Register a domain: With Route 53, ~3 minutes.

Helpful links

- Machine Learning
- SageMaker
- The fastest way to machine learning
- Amazon Relational Database Service (RDS)
- RDS management
- you. RDS supports PostgreSQL, MySQL, Oracle, and Microsoft SQL Server. Learn more

~/aws-course

AWS services

Search: iam

Helpful tips

- Create a Lambda function
- Create a CloudWatch log stream
- Create a CloudWatch metric
- Create a CloudWatch event rule

Build a solution

Get started with simple wizards and automated workflows.

 Launch a virtual machine With EC2 ~2-3 minutes	 Build a web app With Elastic Beanstalk ~6 minutes	 Build using virtual servers With Lightsail ~1-2 minutes
 Connect an IoT device With AWS IoT ~5 minutes	 Start a development project With CodeStar ~5 minutes	 Register a domain With Route 53 ~3 minutes

Explore

- Machine Learning
- SageMaker
- The fastest way to build machine learning models
- Amazon Relational Database Service (RDS)
- RDS management for MySQL, PostgreSQL, and Oracle

See more

EC2 Management Console X IAM Management Console X +

https://console.aws.amazon.com/ec2/v2/home?region=us-east-1#instances:sortby=instanc... star cloud refresh refresh more

aws Services Resource Groups star bell stephane @ datacumulus-course

EC2 Dashboard

Events

Tags

Reports

Limits

INSTANCES

Instances selected

Launch Templates

Spot Requests

Reserved Instances

Dedicated Hosts

Scheduled Instances

IMAGES

AMIs

Bundle Tasks

ELASTIC BLOCK STORE

Volumes

Snapshots

Lifecycle Manager

NETWORK & SECURITY

Security Groups

Elastic IPs

Placement Groups

Launch Instance Connect Actions

Filter by tags and attributes or search by key None found

You do not have any running instances in this region.

First time using EC2? Check out the Getting Started Guide.

Click the Launch Instance button to start your own server.

Launch Instance

Select an instance above

~/aws-course

The screenshot shows the AWS EC2 Management Console interface. The left sidebar is collapsed, and the main content area is the Instances section. The top navigation bar shows the URL <https://console.aws.amazon.com/ec2/v2/home?region=us-east-1#instances:sort=id>. The browser's address bar on the right shows `~/aws-course`.

The Instances section includes the following buttons and links:

- Launch Instance
- Connect
- Actions
- Filter by tags and attributes or search by key
- Launch Instance

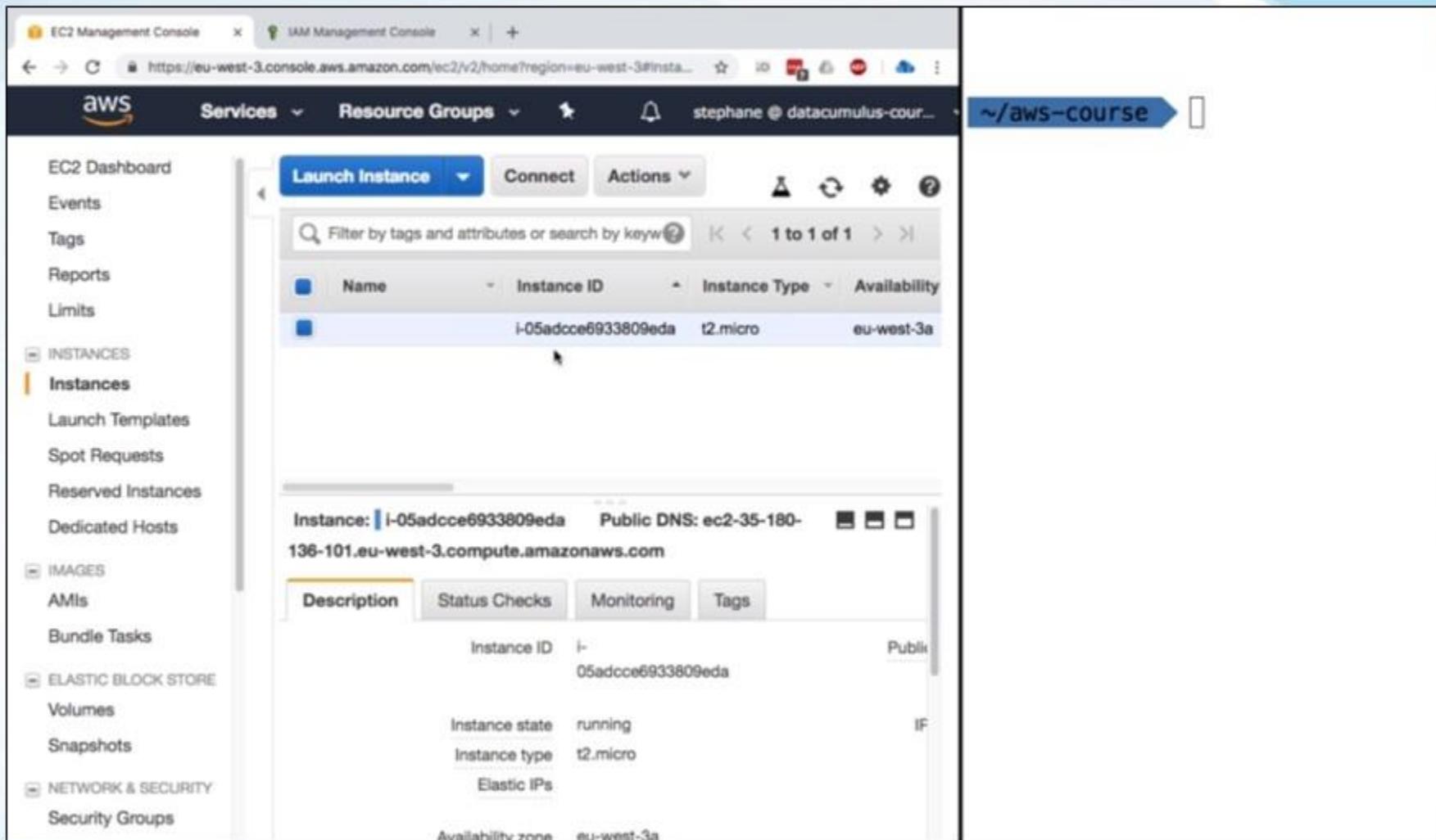
The main content area displays the following message: "You do not have any running instances in this region. First time using EC2? Check out the Getting Started guide. Click the Launch Instance button to start your own t..."

The right sidebar shows a list of AWS Regions:

- US East (N. Virginia)
- US East (Ohio)
- US West (N. California)
- US West (Oregon)
- Asia Pacific (Mumbai)
- Asia Pacific (Seoul)
- Asia Pacific (Singapore)
- Asia Pacific (Sydney)
- Asia Pacific (Tokyo)
- Canada (Central)
- EU (Frankfurt)
- EU (Ireland)
- EU (London)
- EU (Paris)** (highlighted with a yellow arrow and box)
- South America (Sao Paulo)

A yellow callout box with a blue arrow points to the "EU (Paris)" region in the list. The text "Click Here" is inside the callout box.

Below the region list, the text "Select an instance above" is displayed.



The screenshot shows the AWS EC2 Management Console interface. The top navigation bar includes the EC2 Management Console, IAM Management Console, and a URL for the EC2 home page. The main header features the AWS logo, a Services dropdown, a Resource Groups dropdown, a user profile for stephane, and a breadcrumb trail ending in ~/aws-course.

The left sidebar contains navigation links for EC2 Dashboard, Events, Tags, Reports, Limits, Instances (selected), Launch Templates, Spot Requests, Reserved Instances, Dedicated Hosts, Images (AMIs), Bundle Tasks, Elastic Block Store (Volumes, Snapshots), and Network & Security (Security Groups).

The main content area displays a table for a single instance:

Name	Instance ID	Instance Type	Availability Zone
i-05adcce6933809eda	i-05adcce6933809eda	t2.micro	eu-west-3a

Below the table, the instance details are summarized:

Instance: i-05adcce6933809eda Public DNS: ec2-35-180-136-101.eu-west-3.compute.amazonaws.com

Buttons for Description, Status Checks, Monitoring, and Tags are present.

Below the summary, specific instance details are listed:

Instance ID	Public IP
i-05adcce6933809eda	ec2-35-180-136-101.eu-west-3.compute.amazonaws.com

Instance state: running

Instance type: t2.micro

Elastic IPs

Availability zone: eu-west-3a

EC2 Management Console IAM Management Console

https://eu-west-3.console.aws.amazon.com/ec2/v2/home?region=eu-west-3#insta...

Services Resource Groups

stephane @ datacumulus-cour...

EC2 Dashboard

Events

Tags

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Limits

INSTANCES

Instances

Launch Templates

Spot Requests

Reserved Instances

Dedicated Hosts

IMAGES

AMIs

Bundle Tasks

ELASTIC BLOCK STORE

Volumes

Snapshots

Filter by tags and attributes or search by keyw...

1 to 1 of 1

Name Instance ID Instance Type Availability

	i-05adcce6933809eda	t2.micro	eu-west-3a
--	---------------------	----------	------------

Public DNS: ec2-35-180-136-101.eu-west-3.compute.amazonaws.com

ec2-35-180-136-101.eu-west-3.compute.amazonaws.com

35.180.136.101

Private DNS: ip-172-31-3-136.eu-west-3.compute.internal

Public IP: 35.180.136.101

IPv6 IPs: -

Tags

```
~/aws-course ➤ ssh -i EC2Tutorial.pem ec2-user@35.180.136.101
Last login: Thu Sep 20 12:41:45 2018 from 83.159.94.61
```

```
Amazon Linux 2 AMI
```

```
https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-3-136 ~]$
```

```
[ec2-user@ip-172-31-3-136 ~]$ aws
usage: aws [options] <command> <subcommand> [<subcommand> ...] [par
ameters]
To see help text, you can run:

aws help
aws <command> help
aws <command> <subcommand> help
aws: error: too few arguments
[ec2-user@ip-172-31-3-136 ~]$ █
```

```
[ec2-user@ip-172-31-3-136 ~]$ aws --version
aws-cli/1.14.8 Python/2.7.14 Linux/4.14.62-70.117.amzn2.x86_64 boto
core/1.8.12
[ec2-user@ip-172-31-3-136 ~]$ █
```

```
[ec2-user@ip-172-31-3-136 ~]$ aws configure
AWS Access Key ID [None]:
AWS Secret Access Key [None]:
Default region name [None]: eu-west-3
Default output format [None]:
[ec2-user@ip-172-31-3-136 ~]$ aws s3 ls
Unable to locate credentials. (You can configure credentials by running "aws configure".
[ec2-user@ip-172-31-3-136 ~]$ █
```

Look at your AWS Instance and see if there is any IAM Role attached to it.

No IAM Role? Let's configure an IAM Role.

Search IAM

- Dashboard
- Groups
- Users
- Roles
- Click Here
- Identity Providers
- Account settings
- Credential report
- Encryption keys

Welcome to Identity and Access Management

IAM users sign-in link:

<https://datacumulus-courses.signin.aws.amazon.com/console> | Customize



IAM Resources

Users: 1	Roles: 6
Groups: 1	Identity Providers: 0
Customer Managed Policies: 0	

Security Status

5 out of 5 complete.

<input checked="" type="checkbox"/> Activate MFA on your root account	▼
<input checked="" type="checkbox"/> Create individual IAM users	▼
<input checked="" type="checkbox"/> Use groups to assign permissions	▼
<input checked="" type="checkbox"/> Apply an IAM password policy	▼
<input checked="" type="checkbox"/> Rotate your access keys	▼

Search IAM

- Dashboard
- Groups
- Users
- Roles**
- Policies
- Identity providers
- Account settings
- Credential report

- Encryption keys

Roles

What are IAM roles?

IAM roles are a secure way to grant permissions to entities that you trust. Examples include:

- IAM user in another account
- Application code running on an EC2 instance that needs to perform actions on AWS
- An AWS service that needs to act on resources in your account to provide its features
- Users from a corporate directory who use identity federation with SAML

IAM roles issue keys that are valid for short durations, making them a more secure way to grant permissions.

Additional resources:

- [IAM Roles FAQ](#)
- [IAM Roles Documentation](#)
- [Tutorial: Setting Up Cross Account Access](#)
- [Common Scenarios for Roles](#)

[Create role](#) [Delete role](#)

Click Here

Create role

Select type of trusted entity



AWS service

EC2, Lambda and others



Another AWS account

Belonging to you or 3rd party



Web identity

Cognito or any OpenID provider

Allows AWS services to perform actions on your behalf. [Learn more](#)

Choose the service that will use this role

EC2

Allows EC2 instances to call AWS services on your behalf.

Lambda

Allows Lambda functions to call AWS services on your behalf.

[API Gateway](#)

[CodeDeploy](#)

[EMR](#)

[IoT](#)

[AWS Support](#)

[Config](#)

[ElastiCache](#)

[Kinesis](#)

Select type of trusted entity



AWS service

EC2, Lambda and others



Another AWS account

Belonging to you or 3rd party



Web identity

Cognito or any OpenID provider

Allows AWS services to perform actions on your behalf. [Learn more](#)

Choose the service that will use this role

EC2

Allows EC2 instances to call AWS services on your behalf.

Lambda

Allows Lambda functions to call AWS services on your behalf.

API Gateway	CodeDeploy	EMR	IoT
AWS Support	Config	ElastiCache	Kinesis
AppSync	DMS	Elastic Beanstalk	Lambda
Application Auto Scaling	Data Lifecycle Manager	Elastic Container Service	Lex
Application Discovery Service	Data Pipeline	Elastic Transcoder	Machine Learning
Auto Scaling	DeepLens	Elastic Load Balancing	Macie
Batch	Directory Service	Glue	MediaConvert
CloudFormation	DynamoDB	Greengrass	OpsWorks
CloudHSM	EC2	GuardDuty	RDS
	EC2 - Fleet	Inspector	Redshift

Cancel

Next

Click Here

Create role

▼ Attach permissions policies

Choose one or more policies to attach to your new role.

[Create policy](#)

[Filter policies](#) ▾

Search

	Policy name ▾	Used as	D
<input type="checkbox"/>	▶ AdministratorAccess	Permissions policy (1)	Pi
<input type="checkbox"/>	▶ AlexaForBusinessDeviceSetup	None	Pi
<input type="checkbox"/>	▶ AlexaForBusinessFullAccess	None	G
<input type="checkbox"/>	▶ AlexaForBusinessGatewayExecution	None	Pi
<input type="checkbox"/>	▶ AlexaForBusinessReadOnlyAccess	None	Pi
<input type="checkbox"/>	▶ AmazonAPIGatewayAdministrator	None	Pi
<input type="checkbox"/>	▶ AmazonAPIGatewayInvokeFullAccess	None	Pi
<input type="checkbox"/>	▶ AmazonAPIGatewayPushToCloudWatchLogs	None	Ai

▶ Set permissions boundary

Create role

▼ Attach permissions policies

Choose one or more policies to attach to your new role.

[Create policy](#)

Filter policies	Policy name	Used as
<input type="checkbox"/>	AmazonDMSRedshiftS3Role	None
<input type="checkbox"/>	AmazonS3FullAccess	None
<input type="checkbox"/>	AmazonS3ReadOnlyAccess	None
<input type="checkbox"/>	QuickSightAccessForS3StorageManagement...	None

Click Here 

Role name*	<input type="text" value="MyFirstEC2Role"/>
	Use alphanumeric and '+=,.@-_ ' characters. Maximum 64 characters.
Role description	Allows EC2 to make read-only calls to Amazon S3
	Maximum 1000 characters. Use alphanumeric and '+=,.@-_ ' characters.
Trusted entities	AWS service: ec2.amazonaws.com
Policies	 AmazonS3ReadOnlyAccess 
Permissions boundary	Permissions boundary is not set

aws Services Resource Groups stephane @ datacumulus-cou

Search IAM Create role Delete role

Dashboard Groups Users Roles Policies Identity providers Account settings Credential report Encryption keys

Search

Role name	Description	Trusted entities
<input type="checkbox"/> AWSService...	Default Service-Linked Role enabling...	AWS service: autoscal...
<input type="checkbox"/> AWSService...	This policy allows ElastiCache to ...	AWS service: elasticac...
<input type="checkbox"/> AWSService...	Allows ELB to call AWS services o...	AWS service: elasticlo...
<input type="checkbox"/> AWSService...	Allows Amazon RDS to manage A...	AWS service: rds (Ser...
<input type="checkbox"/> AWSService...	Enables resource access for AWS ...	AWS service: support...
<input type="checkbox"/> AWSService...	Access for the AWS Trusted Advis...	AWS service: trustedad...
<input type="checkbox"/> MyFirstEC2...	Allows EC2 to make read-only call...	AWS service: ec2...

The screenshot shows the AWS EC2 Instances page. On the left, a sidebar lists navigation options: EC2 Dashboard, Events, Tags, Reports, Limits, INSTANCES (with Instances selected), Launch Templates, Spot Requests, Reserved Instances, Dedicated Hosts, IMAGES (with AMIs selected), Bundle Tasks, ELASTIC BLOCK STORE (with Volumes selected), and NETWORK & SECURITY. The main content area displays a table of instances. One instance, named '09eda', is selected and highlighted with a blue border. A context menu is open over this instance, showing the following options: Connect, Get Windows Password, Launch More Like This, Instance State, Instance Settings (which is currently selected and highlighted in orange), Image, Networking, CloudWatch Monitoring, Add/Edit Tags, Attach to Auto Scaling Group, Attach/Replace IAM Role (which is highlighted in orange), Change Instance Type, Change Termination Protection, View/Change User Data, Change Shutdown Behavior, Change T2 Unlimited, Get System Log, Get Instance Screenshot, and Modify Instance Placement. The table headers are Name, Instance ID, Instance Type, and Availability. The instance details shown are Name: 09eda, Instance ID: ami-06340c, AMI ID: amzn2.ami.2.0.201.20190604.192646.2.0.201.20190604.192646.x86_64, Platform: Linux, IAM role: - (empty), and Key pair name: EC2 Tutorial.

Name	Instance ID	Instance Type	Availability
09eda	ami-06340c	t2.micro	eu-west-3a

AMI ID: amzn2.ami.2.0.201.20190604.192646.2.0.201.20190604.192646.x86_64

Platform: Linux

IAM role: -

Key pair name: EC2 Tutorial

[Instances](#) > Attach/Replace IAM Role

Attach/Replace IAM Role

Select an IAM role to attach to your instance. If you don't have any IAM roles, choose Create new IAM role to create a role in the IAM console.

If an IAM role is already attached to your instance, the IAM role you choose will replace the existing role.

Instance ID i-05adcce6933809eda () [i](#)

IAM role*

No Role



Filter by attributes

Profile Name

No Role

MyFirstEC2Role

[Cancel](#)

[Apply](#)

Instances > Attach/Replace IAM Role

Attach/Replace IAM Role

 IAM role operation succeeded

Close

EC2 Dashboard

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Launch Templates

Spot Requests

Reserved Instances

Dedicated Hosts

IMAGES

AMIs

Bundle Tasks

Launch Instance

Connect

Actions

Filter by tags and attributes or search by keyword

1 to 1 of 1

Name	Instance ID	Instance Type	Availability
	i-05adcce6933809eda	t2.micro	eu-west-3a

Instance: i-05adcce6933809eda Public DNS: ec2-35-180-136-101.eu-west-3.compute.amazonaws.com

Description Status Checks Monitoring Tags

Instance ID: i-05adcce6933809eda

Public

<ul style="list-style-type: none">ImagesAMIsBundle Tasks	Scheduled events	No scheduled events
<ul style="list-style-type: none">Elastic Block StoreVolumesSnapshots	The IAM roles associated with the instance, if applicable. Find out more about IAM roles for EC2.	
<ul style="list-style-type: none">Network & SecuritySecurity GroupsElastic IPsPlacement GroupsKey Pairs	IAM role	MyFirstEC2Role
	Key pair name	EC2 Tutorial
	Owner	387124123361
	Launch time	September 20, 2018 at 2:39:24 PM UTC+2 (92 hours)
	Termination protection	False

```
[ec2-user@ip-172-31-3-136 ~]$ aws s3 ls
2018-09-21 12:50:16 thebucketofstephane
2018-09-21 11:42:17 theotherbucketofstephane
[ec2-user@ip-172-31-3-136 ~]$ aws s3 ls s3://thebucketofstephane
2018-09-21 11:26:06      2150972 beach.jpg
2018-09-21 12:13:17      1835813 coffee.jpg
2018-09-21 12:39:54      199 index.html
[ec2-user@ip-172-31-3-136 ~]$ █
```

```
[ec2-user@ip-172-31-3-136 ~]$ aws s3 ls
2018-09-21 12:50:16 thebucketofstephane
2018-09-21 11:42:17 theotherbucketofstephane
[ec2-user@ip-172-31-3-136 ~]$ aws s3 ls s3://thebucketofstephane
2018-09-21 11:26:06      2150972 beach.jpg
2018-09-21 12:13:17      1835813 coffee.jpg
2018-09-21 12:39:54          199 index.html
[ec2-user@ip-172-31-3-136 ~]$ aws s3 mb s3://oijsdfoijdsoidfj
make_bucket failed: s3://oijsdfoijdsoidfj An error occurred (Access
Denied) when calling the CreateBucket operation: Access Denied
[ec2-user@ip-172-31-3-136 ~]$ █
```

Add permissions to MyFirstEC2Role

Attach Permissions

[Create policy](#)

[Filter policies](#) ▾

s3

	Policy name ▾	Type	Used as
<input type="checkbox"/>	▶ AmazonDMSRedshi...	AWS managed	None
<input type="checkbox"/>	▶ AmazonS3FullAccess	AWS managed	None
	▶ QuickSightAccessF...	AWS managed	None

Click Here

```
[ec2-user@ip-172-31-3-136 ~]$ aws s3 mb s3://oijsdfoijdsoidfj
make_bucket failed: s3://oijsdfoijdsoidfj An error occurred (Access
Denied) when calling the CreateBucket operation: Access Denied
[ec2-user@ip-172-31-3-136 ~]$ aws s3 mb s3://oijsdfoijdsoidfj
make_bucket failed: s3://oijsdfoijdsoidfj An error occurred (Access
Denied) when calling the CreateBucket operation: Access Denied
[ec2-user@ip-172-31-3-136 ~]$ aws s3 mb s3://oijsdfoijdsoidfj
make_bucket: oijsdfoijdsoidfj
[ec2-user@ip-172-31-3-136 ~]$ aws s3 rb s3://oijsdfoijdsoidfj
remove_bucket: oijsdfoijdsoidfj
[ec2-user@ip-172-31-3-136 ~]$ █
```

EC2 Management Console X IAM Management Console X +

https://eu-west-3.console.aws.amazon.com/ec2/v2/home?region=eu-west-3#insta...

Services ▼ Resource Groups ▼ star bell stephane @ datacumulus-cour...

EC2 Dashboard

Events

Tags

Reports

Limits

INSTANCES

Instances

Launch Templates

Spot Requests

Reserved Instances

Dedicated Hosts

IMAGES

AMIs

Bundle Tasks

ELASTIC BLOCK STORE

Volumes

Snapshots

NETWORK & SECURITY

Security Groups

Elastic IPs

Placement Groups

Key Pairs

Network Interfaces

Launch Instance ▼ Connect Actions ▼

Filter by tags and attributes or search by keyword Q 1 to 1 of 1 next

Name	Instance ID	Instance Type	Availability Zone
	i-05adcc6933809eda	t2.micro	eu-west-3a

Security Groups: group: view inbound rules view outbound rules outbound rules

Scheduled events: No scheduled events

The IAM roles associated with the instance, if applicable. Find out more about IAM roles for EC2.

IAM role: MyFirstEC2Role Source

Key pair name: EC2 Tutorial

Owner: 387124123361

Launch time: September 20, 2018 at 2:39:24 PM UTC+2 (92 hours)

Termination protection: False

Lifecycle: normal

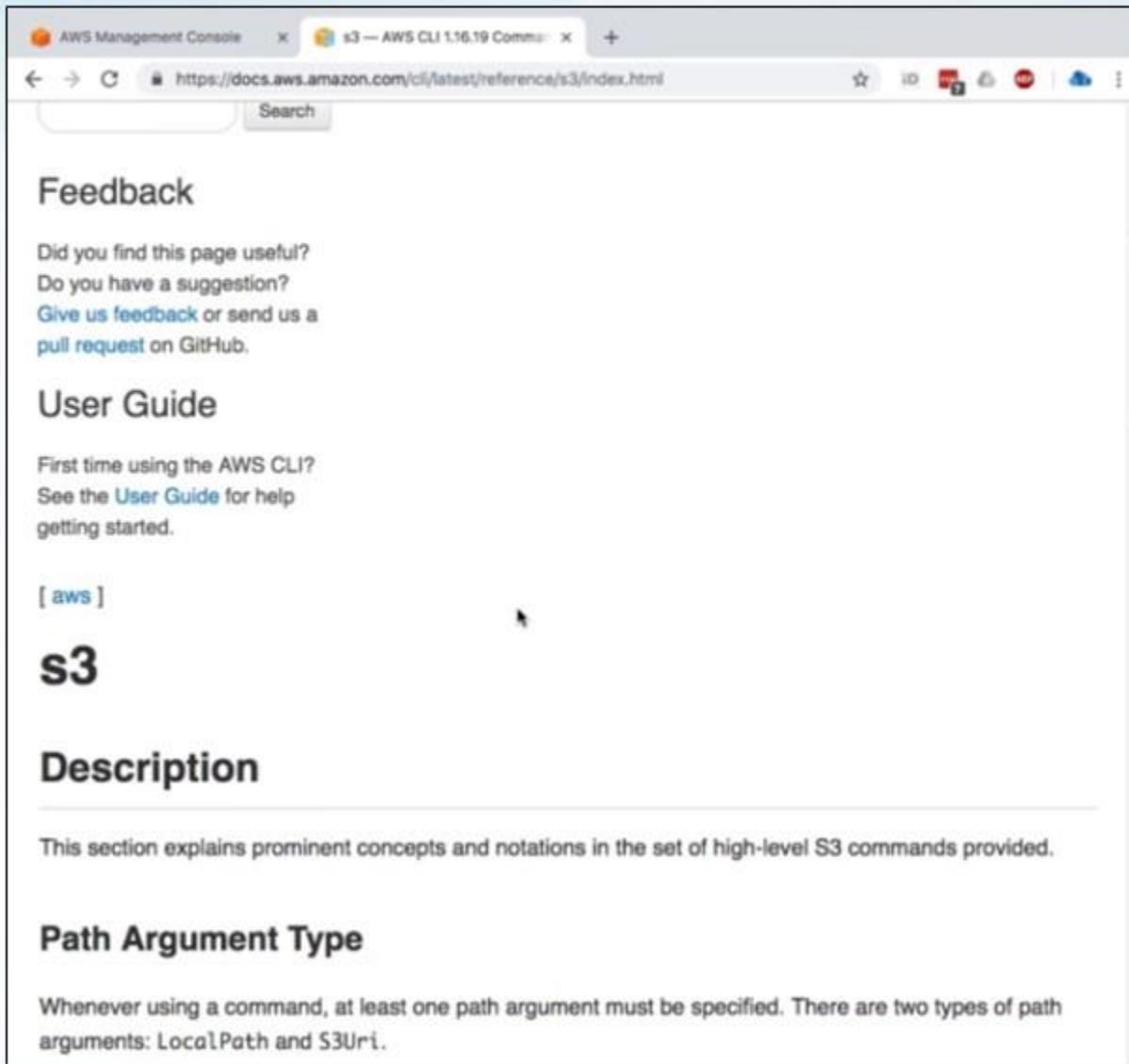
Feedback Feedback English (US) English (US) Privacy Policy Privacy Policy Terms of Use Terms of Use

```
[ec2-user@ip-172-31-3-136 ~]$ aws configure
AWS Access Key ID [None]:
AWS Secret Access Key [None]:
Default region name [None]: eu-west-3
Default output format [None]:
[ec2-user@ip-172-31-3-136 ~]$ aws s3 ls
Unable to locate credentials. You can configure credentials by running "aws configure".
[ec2-user@ip-172-31-3-136 ~]$ aws s3 ls
2018-09-21 12:50:16 thebucketofstephane
2018-09-21 11:42:17 theotherbucketofstephane
[ec2-user@ip-172-31-3-136 ~]$ aws s3 ls s3://thebucketofstephane
2018-09-21 11:26:06 2150972 beach.jpg
2018-09-21 12:13:17 1835813 coffee.jpg
2018-09-21 12:39:54 199 index.html
[ec2-user@ip-172-31-3-136 ~]$ aws s3 mb s3://oijsdfoijdsoidfj
make_bucket failed: s3://oijsdfoijdsoidfj An error occurred (Access Denied) when calling the CreateBucket operation: Access Denied
[ec2-user@ip-172-31-3-136 ~]$ aws s3 mb s3://oijsdfoijdsoidfj
make_bucket failed: s3://oijsdfoijdsoidfj An error occurred (Access Denied) when calling the CreateBucket operation: Access Denied
[ec2-user@ip-172-31-3-136 ~]$ aws s3 mb s3://oijsdfoijdsoidfj
make_bucket: oijsdfoijdsoidfj
[ec2-user@ip-172-31-3-136 ~]$ aws s3 rb s3://oijsdfoijdsoidfj
remove_bucket: oijsdfoijdsoidfj
[ec2-user@ip-172-31-3-136 ~]$
```

AWS CLI Practice with S3

A screenshot of a Google search results page. The search query is "aws s3 cli". The results page shows the following content:

- AWS Command Line UI**
Ad aws.amazon.com/cli
Unified Tool to Manage Your AWS Services. Start a Free Account Now!
- CLI Documentation**
User Guide & CLI Reference To Get You Started with CLI.
- User Guide**
Learn About The AWS CLI Interface And How It Can Work For You!
- s3 — AWS CLI 1.16.19 Command Reference**
<https://docs.aws.amazon.com/cli/latest/reference/s3/index.html>
S3Uri: representation of a S3 object, prefix, or bucket. This must be written in the form mybucket/mykey where mybucket is the specified S3 bucket, ...
Click Here
- Mv**
mv <LocalPath> <S3Uri> or <S3Uri> <LocalPath> or <S3Uri>
- Mb**
The following mb command creates a bucket. In this ...



The screenshot shows a web browser window with the following details:

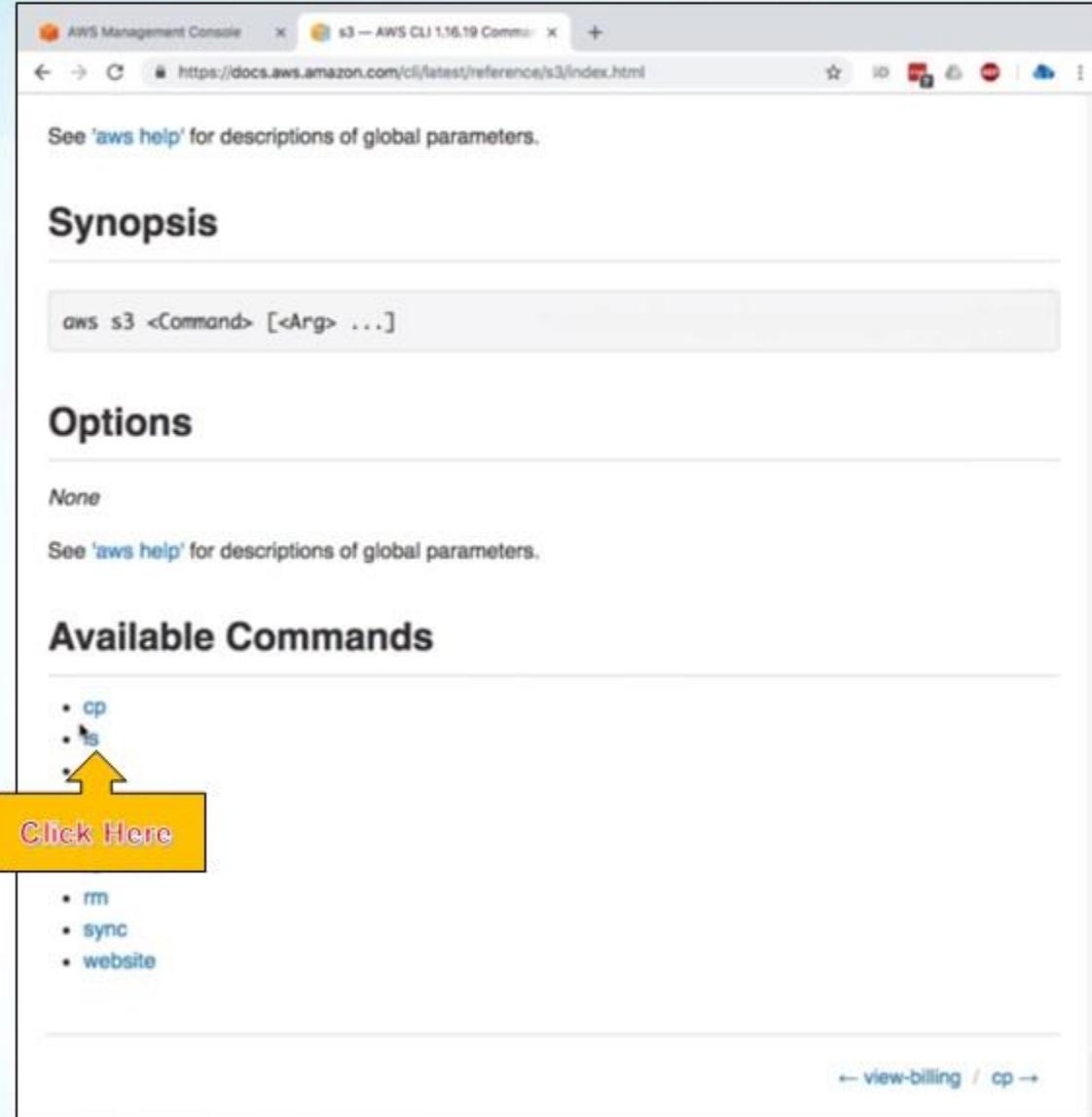
- Tab Bar:** AWS Management Console, s3 — AWS CLI 1.16.19 Command Reference, +
- Address Bar:** https://docs.aws.amazon.com/cli/latest/reference/s3/index.html
- Content Area:**
 - ## Feedback

Did you find this page useful?
Do you have a suggestion?
Give us [feedback](#) or send us a [pull request](#) on GitHub.
 - ## User Guide

First time using the AWS CLI?
See the [User Guide](#) for help getting started.
 - ### s3
 - ## Description

This section explains prominent concepts and notations in the set of high-level S3 commands provided.
 - ## Path Argument Type

Whenever using a command, at least one path argument must be specified. There are two types of path arguments: LocalPath and S3Uri.



A screenshot of a web browser displaying the AWS Management Console and the AWS CLI 1.16.19 Command Reference for S3. The browser tabs show 'AWS Management Console' and 's3 — AWS CLI 1.16.19 Command Reference'. The URL in the address bar is <https://docs.aws.amazon.com/cli/latest/reference/s3/index.html>. The page content includes:

- A note: "See 'aws help' for descriptions of global parameters."
- Synopsis**

```
aws s3 <Command> [<Arg> ...]
```
- Options**

None

See 'aws help' for descriptions of global parameters.
- Available Commands**
 - cp
 - ls
 - ...

A yellow callout box with a black border and a black arrow points to the ellipsis (...). Inside the box, the text "Click Here" is displayed in red.

At the bottom of the page, there is a navigation bar with the text "← view-billing / cp →".

AWS Management Console X Is — AWS CLI 1.16.19 Command X +

https://docs.aws.amazon.com/cli/latest/reference/s3/ls.html

--request-payer (string) Confirms that the requester knows that she or he will be charged for the request. Bucket owners need not specify this parameter in their requests. Documentation on downloading objects from requester pays buckets can be found at <http://docs.aws.amazon.com/AmazonS3/latest/dev/ObjectsinRequesterPaysBuckets.html>

See 'aws help' for descriptions of global parameters.

Examples

The following ls command lists all of the buckets owned by the user. In this example, the user owns the buckets mybucket and mybucket2. The timestamp is the date the bucket was created, shown in your machine's time zone. Note if s3:// is used for the path argument <S3Uri>, it will list all of the buckets as well:

```
aws s3 ls
```

Output:

```
2013-07-11 17:08:50 mybucket
2013-07-24 14:55:44 mybucket2
```

The following ls command lists objects and common prefixes under a specified bucket and prefix. In this example, the user owns the bucket mybucket with the objects test.txt and somePrefix/test.txt. The LastWriteTime and Length are arbitrary. Note that since the ls command has no interaction with the local filesystem, the s3:// URI scheme is not required to resolve ambiguity and may be omitted:

```
aws s3 ls s3://mybucket
```

```
~/aws-course ➤ aws s3 ls
2018-09-21 14:50:16 thebucketofstephane
2018-09-21 13:42:17 theotherbucketofstephane
~/aws-course ➤ aws s3 ls s3://thebucketofstephane
2018-09-21 13:26:06 2150972 beach.jpg
2018-09-21 14:13:17 1835813 coffee.jpg
2018-09-21 14:39:54 199 index.html
~/aws-course ➤
```

Synopsis

```
aws s3 <Command> [<Arg> ...]
```

Options

None

See '[aws help](#)' for descriptions of global parameters.

Available Commands

- [cp](#)
- [presign](#)
- [rb](#)
- [rm](#)
- [sync](#)
- [website](#)

Click Here

aws s3 cp help

```
CP()
CP()

NAME
  cp - 

DESCRIPTION
  Copies a local file or S3 object to another location locally or in S3.

  See 'aws help' for descriptions of global parameters.

SYNOPSIS
  cp
  <LocalPath> <S3Uri> or <S3Uri> <LocalPath> or <S3Uri> <S3
Uri>
  [--dryrun]
  [--quiet]
  [--include <value>]
  [--exclude <value>]
  [--acl <value>]
  [--follow-symlinks | --no-follow-symlinks]
  [--no-guess-mime-type]
  [--sse <value>]
  [--sse-c <value>]
  [--sse-c-key <value>]
:
```

```
~/aws-course ➤ aws s3 cp s3://thebucketofstephane/coffee.jpg coffee.jpg
download: s3://thebucketofstephane/coffee.jpg to ./coffee.jpg
~/aws-course ➤ ll
total 3600
-r-----@ 1 stephanemaarek  staff  1.7K 19 Sep 14:47 EC2Tutorial
.pem
-rw-r--r-- 1 stephanemaarek  staff  1.8M 21 Sep 14:13 coffee.jpg
~/aws-course ➤ ls
EC2Tutorial.pem coffee.jpg
~/aws-course ➤
```

Synopsis

```
aws s3 <Command> [<Arg> ...]
```

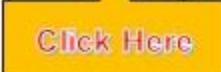
Options

None

See '[aws help](#)' for descriptions of global parameters.

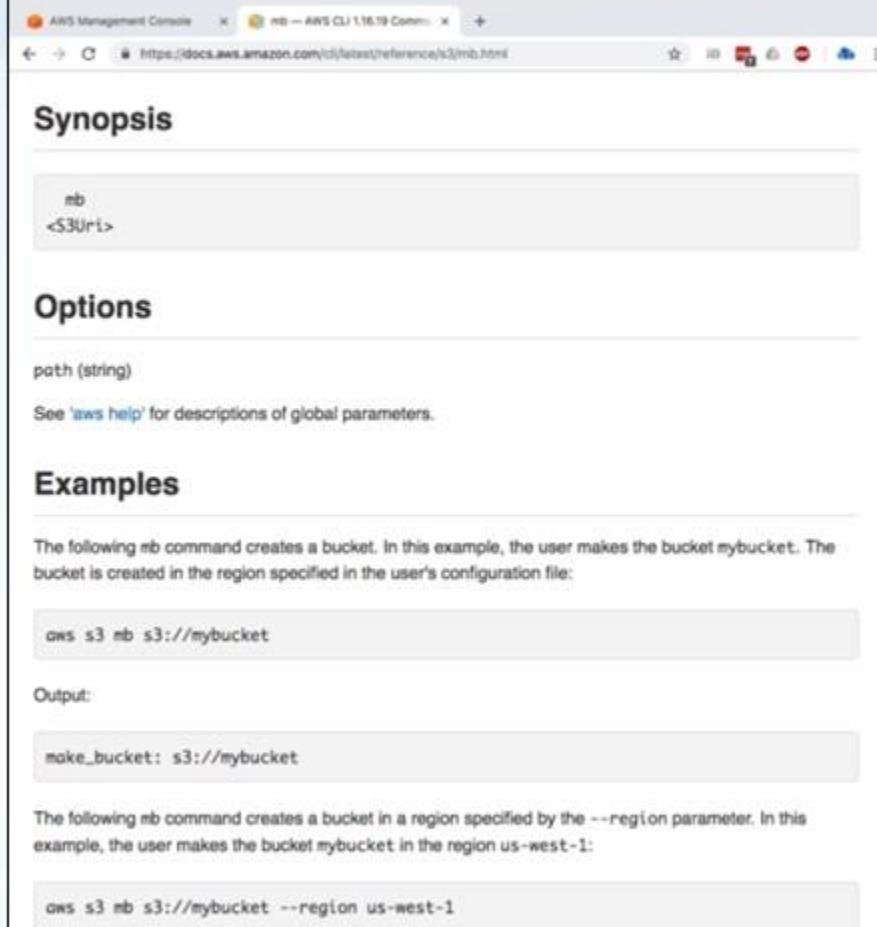
Available Commands

- [cp](#)
- [ls](#)
- [mb](#)
- [mb](#)



Click Here

- [rm](#)
- [sync](#)
- [website](#)



The screenshot shows a browser window with two tabs: 'AWS Management Console' and 'mb — AWS CLI 1.16.19 Command Line Interface Reference'. The 'mb' tab is active, displaying the AWS CLI documentation for the 'mb' command. The page includes sections for Synopsis, Options, and Examples, along with a code editor containing examples of the 'aws s3 mb' command.

Synopsis

```
mb
<S3Uri>
```

Options

path (string)

See 'aws help' for descriptions of global parameters.

Examples

The following mb command creates a bucket. In this example, the user makes the bucket `mybucket`. The bucket is created in the region specified in the user's configuration file:

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

Output:

```
make_bucket: s3://mybucket
```

The following mb command creates a bucket in a region specified by the `--region` parameter. In this example, the user makes the bucket `mybucket` in the region `us-west-1`:

```
aws s3 mb s3://mybucket --region us-west-1
```

```
~/aws-course ➤ aws s3 cp s3://thebucketofstephane/coffee.jpg coffee.jpg
download: s3://thebucketofstephane/coffee.jpg to ./coffee.jpg
~/aws-course ➤ ll
total 3600
-r-----@ 1 stephanemaarek staff 1.7K 19 Sep 14:47 EC2Tutorial.pem
-rw-r--r-- 1 stephanemaarek staff 1.8M 21 Sep 14:13 coffee.jpg
~/aws-course ➤ ls
EC2Tutorial.pem coffee.jpg
~/aws-course ➤ aws s3 mb s3://dsoifjsoiucner
make_bucket: dsoifjsoiucner
~/aws-course ➤ aws s3 ls
2018-09-24 11:16:52 dsoifjsoiucner
2018-09-21 14:50:16 thebucketofstephane
2018-09-21 13:42:17 theotherbucketofstephane
~/aws-course ➤
```

Synopsis

```
aws s3 <Command> [<Arg> ...]
```

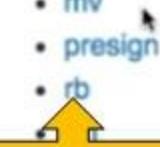
Options

None

See '[aws help](#)' for descriptions of global parameters.

Available Commands

- [cp](#)
- [ls](#)
- [mb](#)
- [mv](#)
- [presign](#)
- [rb](#)



Click Here

```
AWS Management Console X AWS CLI 1.16.19 Comm... X https://docs.aws.amazon.com/cli/latest/reference/index.html#aws

--no-sign-request (boolean)
Do not sign requests. Credentials will not be loaded if this argument is provided.

--ca-bundle (string)
The CA certificate bundle to use when verifying SSL certificates. Overrides config/env settings.

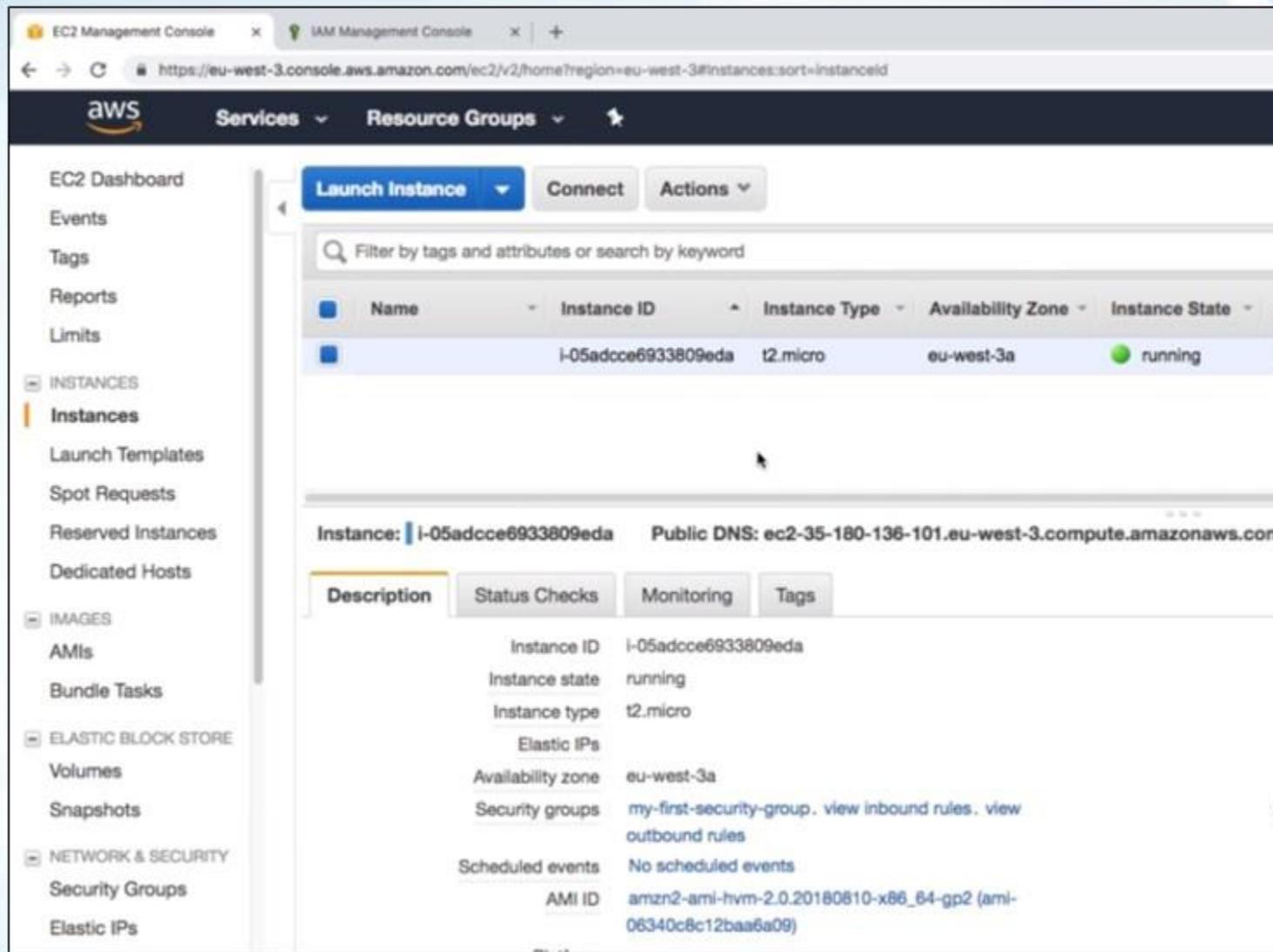
--cli-read-timeout (int)
The maximum socket read time in seconds. If the value is set to 0, the socket read will be blocking and not timeout.

--cli-connect-timeout (int)
The maximum socket connect time in seconds. If the value is set to 0, the socket connect will be blocking and not timeout.

Available Services
• acm
• acm-pca
• alexaforbusiness
• apigateway
• application-autoscaling
• appstream
• appsync
• athena
• autoscaling
• autoscaling-plans
• batch
• budgets
```

```
~/aws-course ➤ aws s3 cp s3://thebucketofstephane/coffee.jpg coffee.jpg
download: s3://thebucketofstephane/coffee.jpg to ./coffee.jpg
~/aws-course ➤ ll
total 3600
-r-----@ 1 stephanemaarek staff 1.7K 19 Sep 14:47 EC2Tutorial.pem
-rw-r--r-- 1 stephanemaarek staff 1.8M 21 Sep 14:13 coffee.jpg
~/aws-course ➤ ls
EC2Tutorial.pem coffee.jpg
~/aws-course ➤ aws s3 mb s3://dsoifjsoiucner
make_bucket: dsoifjsoiucner
~/aws-course ➤ aws s3 ls
2018-09-24 11:16:52 dsoifjsoiucner
2018-09-21 14:50:16 thebucketofstephane
2018-09-21 13:42:17 theotherbucketofstephane
~/aws-course ➤ aws s3 rb s3://dsoifjsoiucner
remove_bucket: dsoifjsoiucner
~/aws-course ➤ aws s3 ls
2018-09-21 14:50:16 thebucketofstephane
2018-09-21 13:42:17 theotherbucketofstephane
~/aws-course ➤
```

IAM Roles and Policies Hands On



The screenshot shows the AWS EC2 Management Console interface. The top navigation bar includes links for 'EC2 Management Console' and 'IAM Management Console'. The main content area has a dark header with the AWS logo, 'Services' dropdown, and 'Resource Groups' dropdown. Below this is a toolbar with 'Launch Instance' (highlighted in blue), 'Connect', and 'Actions' dropdown, followed by a search bar. The main table lists a single instance: 'i-05adcce6933809eda' (t2.micro, eu-west-3a, running). The 'Instances' section of the left sidebar is currently selected. At the bottom, a detailed view of the instance 'i-05adcce6933809eda' is shown, including its Public DNS and a table of its attributes.

Description	Value
Instance ID	i-05adcce6933809eda
Instance state	running
Instance type	t2.micro
Elastic IPs	
Availability zone	eu-west-3a
Security groups	my-first-security-group, view inbound rules, view outbound rules
Scheduled events	No scheduled events
AMI ID	amzn2-ami-hvm-2.0.20180610-x86_64-gp2 (ami-06340c8c12baa6a09)

EC2 Management Console x IAM Management Console x +

aws Services Resource Groups

Search IAM

Roles > MyFirstEC2Role

Summary

Policy AmazonS3FullAccess has been attached for the MyFirstEC2Role.

Role ARN	arn:aws:iam::387124123361:role/MyFirstEC2Role
Role description	Allows EC2 to make read-only calls to Amazon S3 Edit
Instance Profile ARNs	arn:aws:iam::387124123361:instance-profile/MyFirstEC2Role
Path	/
Creation time	2018-09-24 11:27 UTC+0200
Maximum CLI/API session duration	1 hour Edit

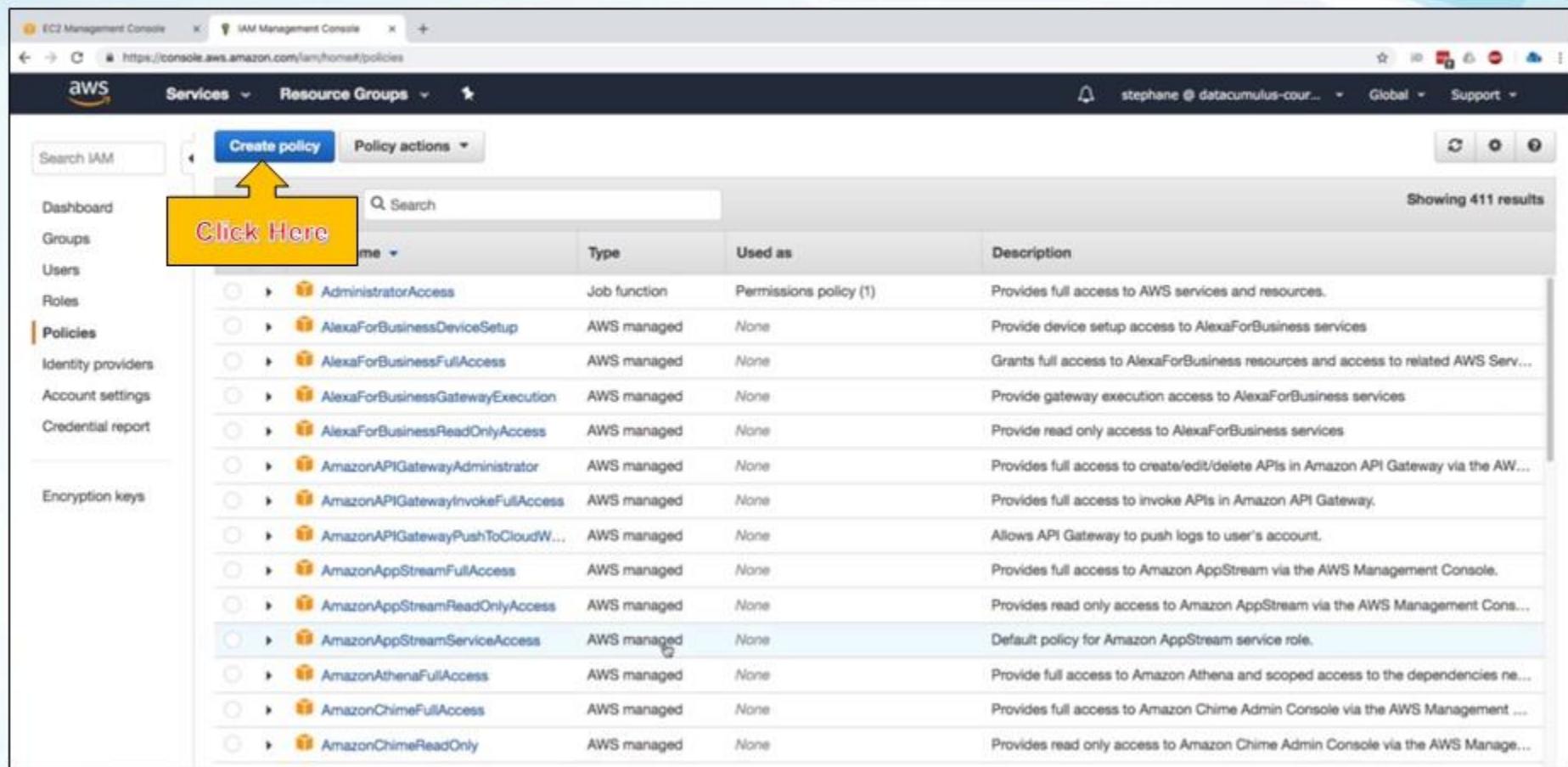
Click Here

Permissions Trust relationships Access Advisor Revoke sessions

▼ Permissions policies (2 policies applied)

Attach policies

Policy name
▶ AmazonS3FullAccess
▶ AmazonS3ReadOnlyAccess



EC2 Management Console X IAM Management Console X <https://console.aws.amazon.com/iam/home#/policies>

aWS Services Resource Groups

Search IAM Q Search Showing 411 results

Create policy Policy actions

Click Here

Name	Type	Used as	Description
AdministratorAccess	Job function	Permissions policy (1)	Provides full access to AWS services and resources.
AlexaForBusinessDeviceSetup	AWS managed	None	Provide device setup access to AlexaForBusiness services
AlexaForBusinessFullAccess	AWS managed	None	Grants full access to AlexaForBusiness resources and access to related AWS Serv...
AlexaForBusinessGatewayExecution	AWS managed	None	Provide gateway execution access to AlexaForBusiness services
AlexaForBusinessReadOnlyAccess	AWS managed	None	Provide read only access to AlexaForBusiness services
AmazonAPIGatewayAdministrator	AWS managed	None	Provides full access to create/edit/delete APIs in Amazon API Gateway via the AW...
AmazonAPIGatewayInvokeFullAccess	AWS managed	None	Provides full access to invoke APIs in Amazon API Gateway.
AmazonAPIGatewayPushToCloudW...	AWS managed	None	Allows API Gateway to push logs to user's account.
AmazonAppStreamFullAccess	AWS managed	None	Provides full access to Amazon AppStream via the AWS Management Console.
AmazonAppStreamReadOnlyAccess	AWS managed	None	Provides read only access to Amazon AppStream via the AWS Management Cons...
AmazonAppStreamServiceAccess	AWS managed	None	Default policy for Amazon AppStream service role.
AmazonAthenaFullAccess	AWS managed	None	Provide full access to Amazon Athena and scoped access to the dependencies ne...
AmazonChimeFullAccess	AWS managed	None	Provides full access to Amazon Chime Admin Console via the AWS Management ...
AmazonChimeReadOnly	AWS managed	None	Provides read only access to Amazon Chime Admin Console via the AWS Manage...

The screenshot shows the AWS IAM Management Console with the URL [https://console.aws.amazon.com/iam/home#/policies\\$new?step=edit](https://console.aws.amazon.com/iam/home#/policies$new?step=edit). The page is titled 'Create policy' and is step 1 of 2. It provides a visual editor for defining AWS permissions. The visual editor interface includes tabs for 'Visual editor' (selected) and 'JSON', and a 'Import managed policy' button. Below the tabs, there are 'Expand all' and 'Collapse all' buttons. A main panel is titled 'Select a service' and contains four sections: 'Service' (Choose a service), 'Actions' (Choose a service before defining actions), 'Resources' (Choose actions before applying resources), and 'Request conditions' (Choose actions before specifying conditions). Each section has a 'Choose' link. At the bottom of the panel is a 'Clone' and 'Remove' button. A 'Documentation' link is located on the far left. At the bottom right of the main panel are 'Cancel' and 'Review policy' buttons. A blue circle with the number '1' is positioned above the 'Select a service' panel, and a white circle with the number '2' is positioned to its right.

EC2 Management Console IAM Management Console +

Services Resource Groups IAM

stephane @ datacumulus-cour... Global Support

Create policy 1 2

A policy defines the AWS permissions that you can assign to a user, group, or role. You can create and edit a policy in the visual editor and using JSON. [Learn more](#)

[Visual editor](#) [JSON](#) [Import managed policy](#)

[Expand all](#) [Collapse all](#)

▼ Select a service Clone Remove

Service [Choose a service](#)

Actions [Choose a service before defining actions](#)

Resources [Choose actions before applying resources](#)

Request conditions [Choose actions before specifying conditions](#)

Add additional permissions

 [Cancel](#) [Review policy](#)

The screenshot shows the AWS IAM Management Console with the URL <https://console.aws.amazon.com/iam/home#/roles/MyFirstEC2Role>. The left sidebar is visible with the 'Roles' option selected. The main content area is titled 'Summary' and shows the following details for the 'MyFirstEC2Role':

Attribute	Value
Role ARN	arn:aws:iam::387124123361:role/MyFirstEC2Role
Role description	Allows EC2 to make read-only calls to Amazon S3 Edit
Instance Profile ARNs	arn:aws:iam::387124123361:instance-profile/MyFirstEC2Role
Path	/
Creation time	2018-09-24 11:27 UTC+0200
Maximum CLI/API session duration	1 hour Edit

Below the summary, there are tabs for 'Permissions', 'Trust relationships', 'Access Advisor', and 'Revoke sessions'. The 'Permissions' tab is selected, showing a list of applied policies:

- Permissions policies (2 policies applied)
- Attach policies
- Policy name ▾
- ▶ **AmazonS3FullAccess**
- ▶ **AmazonS3ReadOnlyAccess**

Search IAM

Roles > MyFirstEC2Role

Summary

[Delete role](#)

Dashboard

Groups

Users

Roles

Policies

Identity providers

Account settings

Credential report

Encryption keys

Role ARN	arn:aws:iam::387124123361:role/MyFirstEC2Role
Role description	Allows EC2 to make read-only calls to Amazon S3 Edit
Instance Profile ARNs	arn:aws:iam::387124123361:instance-profile/MyFirstEC2Role
Path	/
Creation time	2018-09-24 11:27 UTC+0200
Maximum CLI/API session duration	1 hour Edit

[Permissions](#) [Trust relationships](#) [Access Advisor](#) [Revoke sessions](#)

▼ Permissions policies (2 policies applied)

[Attach policies](#)

[Add inline policy](#)

Click Here

Policy name	Policy type
▶ AmazonS3FullAccess	AWS managed policy
▶ AmazonS3ReadOnlyAccess	AWS managed policy

▶ Permissions boundary (not set)

Create policy

1

2

A policy defines the AWS permissions that you can assign to a user, group, or role. You can create and edit a policy in the visual editor and using JSON. [Learn more](#)

[Visual editor](#) [JSON](#)

[Import managed policy](#)

[Expand all](#) | [Collapse all](#)

▼ Select a service

[Clone](#) [Remove](#)

Service Choose a service

Actions Choose a service before defining actions

Resources Choose actions before applying resources

Request conditions Choose actions before specifying conditions

[Add additional permissions](#)

[Cancel](#)

[Review policy](#)

Click Here

Permissions Trust relationships Access Advisor Revoke sessions

▼ Permissions policies (2 policies applied)

Attach policies Add inline policy

Policy name	Policy type	X
AmazonS3FullAccess	AWS managed policy	X
AmazonS3ReadOnlyAccess	AWS managed policy	X

Policy summary Simulate policy

Q Filter Click Here

Service	Access level	Resource	Request condition
S3	Full: Read Limited: List	All resources	None

Allow (1 of 146 services) Show remaining 145

▶ Permissions boundary (not set)



Permissions policies (2 policies applied)

[Attach policies](#)[Add inline policy](#)

Policy name	Policy type	
AmazonS3FullAccess	AWS managed policy	X
AmazonS3ReadOnlyAccess	AWS managed policy	X

[Policy summary](#)[\[\] JSON](#)[Simulate policy](#)

```
1. {
2.     "Version": "2012-10-17",
3.     "Statement": [
4.         {
5.             "Effect": "Allow",
6.             "Action": [
7.                 "s3:Get*",
8.                 "s3>List*"
9.             ],
10.            "Resource": "*"
11.        }
12.    ]
}
```

EC2 Management Console | IAM Management Console | AWS S3 listbucket api - Google | +

https://www.google.fr/search?q=AWS+S3+listbucket+api&rlz=1C5CHFA_enAU704AU704&oq=AWS+S3+listbucket+api&aqs=chrome..69i57j0i3.4665j0j7&sourceid=chrome&ie=UTF-8

Google

AWS S3 listbucket api

All News Videos Images Maps More Settings Tools

About 42,400 results (0.37 seconds)

GET Bucket (List Objects) Version 2 - Amazon Simple Storage Service
<https://docs.aws.amazon.com/AmazonS3/latest/API/v2-RESTBucketGET.html> ▾
Many thanks to the Reference (API Version 2006-03-01). Entire Site
(IA) Click Here must have permissions to perform the s3>ListBucket action. ... Requests Amazon S3 to encode the response and specifies the encoding method to use. ... Amazon S3 lists objects in UTF-8 character encoding in lexicographical order.
[Description](#) · [Requests](#) · [Responses](#)

ListBucket (SOAP API) - Amazon Simple Storage Service
<https://docs.aws.amazon.com/AmazonS3/latest/API/SOAPListBucket.html> ▾
Mar 1, 2006 - New Amazon S3 features will not be supported for SOAP. We recommend that you use either the REST API or the AWS SDKs. The ListBucket ...

EC2 Management Console | IAM Management Console | GET Bucket (List Objects) Version 2 | +

https://docs.aws.amazon.com/AmazonS3/latest/API/v2-RESTBucketGET.html

English | Sign in to the Console

Amazon Simple Storage Service

API Reference (API Version 2006-03-01)

Documentation - This Guide | Search

- Amazon S3 REST API Introduction
- Common Request Headers
- Common Response Headers
- Error Responses
- Authenticating Requests (AWS Signature Version 4)
- Browser-Based Uploads Using POST
- Operations on the Service
- Operations on Buckets
 - DELETE Bucket
 - DELETE Bucket analytics
 - DELETE Bucket cors
 - DELETE Bucket encryption
 - DELETE Bucket inventory
 - DELETE Bucket lifecycle
 - DELETE Bucket metrics
 - DELETE Bucket policy

AWS Documentation » Amazon Simple Storage Service (S3) » API Reference » Operations on Buckets » GET Bucket (List Objects) Version 2

GET Bucket (List Objects) Version 2

Description

This implementation of the GET operation returns some or all (up to 1,000) of the objects in a bucket. You can use the request parameters as selection criteria to return a subset of the objects in a bucket. A 200 OK response can contain valid or invalid XML. Make sure to design your application to parse the contents of the response and handle it appropriately.

To use this implementation of the operation, you must have READ access to the bucket.

To use this operation in an AWS Identity and Access Management (IAM) policy, you must have permissions to perform the `s3:ListBucket` action. The bucket owner has this permission by default and can grant this permission to others. For more information about permissions, see [Permissions Related to Bucket Operations](#) and [Managing Access Permissions to Your Amazon S3 Resources](#) in the [Amazon Simple Storage Service Developer Guide](#).

Important

This section describes the latest revision of the API. We recommend that you use this revised API, GET Bucket (List Objects) version 2, for application development. For backward compatibility, Amazon S3 continues to support the prior version of this API, GET Bucket (List Objects) version 1. For more information about the previous version, see [GET Bucket \(List Objects\) Version 1](#).

Note

To get a list of your buckets, see [GET Service](#).

Requests

On this page:

- Description
- Requests
- Responses
- Examples
- More Info

Permissions policies (2 policies applied)

[Attach policies](#)[Add inline policy](#)

Policy name	Policy type	
AmazonS3FullAccess	AWS managed policy	X
AmazonS3ReadOnlyAccess	AWS managed policy	X

[Policy summary](#)[\[\] JSON](#)[Simulate policy](#)

```
1. {
2.     "Version": "2012-10-17",
3.     "Statement": [
4.         {
5.             "Effect": "Allow",
6.             "Action": [
7.                 "s3:Get*",
8.                 "s3>List*"
9.             ],
10.            "Resource": "*"
11.        }
12.    ]
}
```

Search IAM

Roles > MyFirstEC2Role

Summary

Role ARN: arn:aws:iam::387124123361:role/MyFirstEC2Role

Role description: Allows EC2 to make read-only calls to Amazon S3 | Edit

Instance Profile ARNs: arn:aws:iam::387124123361:instance-profile/MyFirstEC2Role

Path: /

Creation time: 2018-09-24 11:27 UTC+0200

Maximum CLI/API session duration: 1 hour | Edit

Click Here

Permissions Trust relationships Access Advisor Revoke sessions

▼ Permissions policies (2 policies applied)

Attach policies

Policy name	Policy type
AmazonS3FullAccess	AWS managed policy
AmazonS3ReadOnlyAccess	AWS managed policy

▶ Permissions boundary (not set)

Create policy

1 2

A policy defines the AWS permissions that you can assign to a user, group, or role. You can create and edit a policy in the visual editor and using JSON. [Learn more](#)

Visual editor **JSON** Import managed policy

Expand all ▾ Select **Click Here** Clone Remove

Service Choose a service

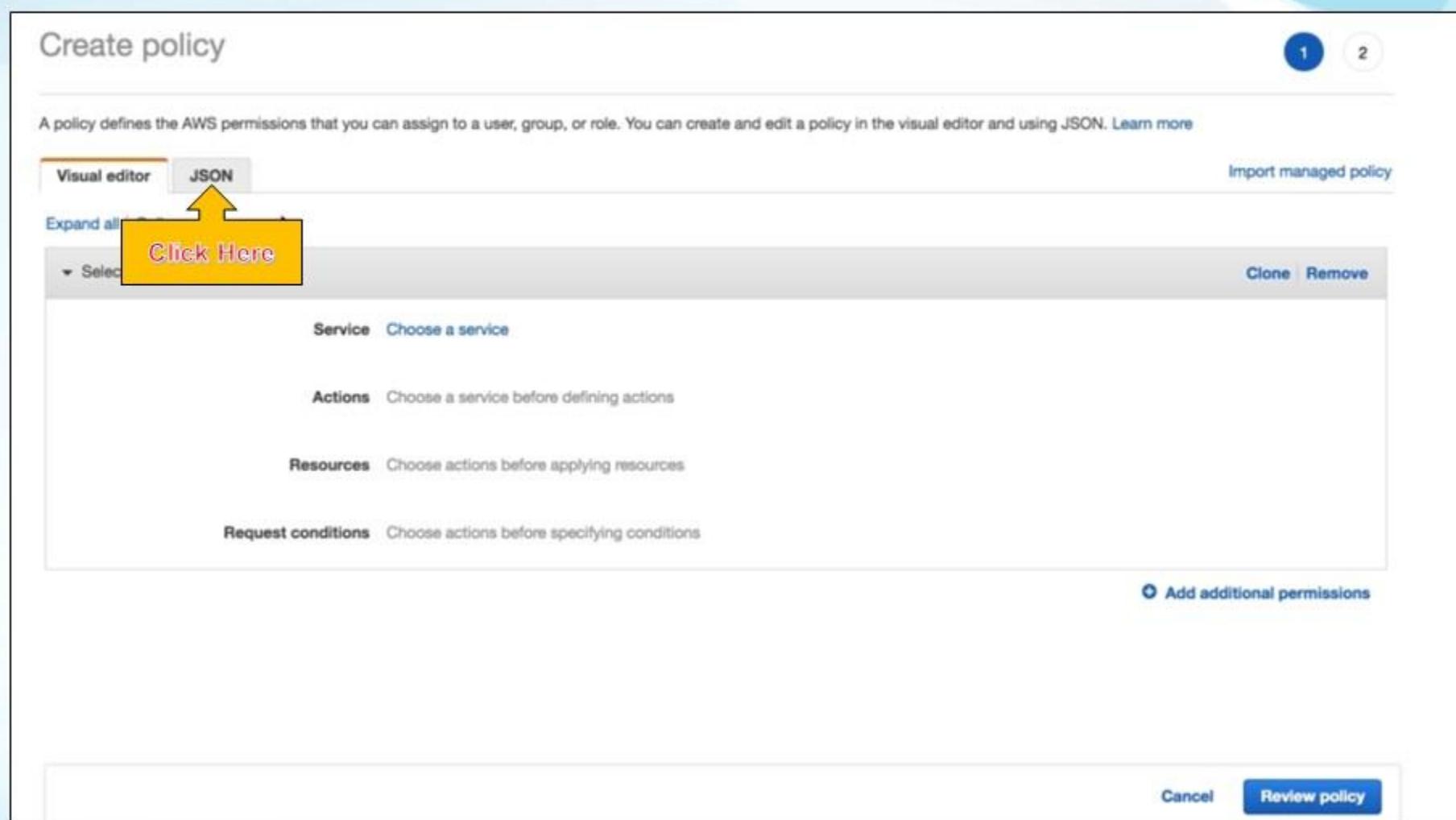
Actions Choose a service before defining actions

Resources Choose actions before applying resources

Request conditions Choose actions before specifying conditions

Add additional permissions

Cancel **Review policy**



Create policy

1 2

A policy defines the AWS permissions that you can assign to a user, group, or role. You can create and edit a policy in the visual editor and using JSON. [Learn more](#)

This policy validation failed and might have errors converting to JSON : The policy must have at least one statement For more information about the IAM policy grammar, see AWS IAM Policies ✖

Visual editor

JSON

Import managed policy

```
1. {
  2.   "Version": "2012-10-17",
  3.   "Statement": []
  4. }
```

Cancel

Review policy

Expand all | Collapse all

▼ S3

Service S3

Clone | Remove

Actions Specify the actions allowed in S3 ?

close

Q Filter actions

Manual actions (add actions)

All S3 actions (s3:*)

Access level

Expand all | Collapse all

▶ List

▼ Read

Click Here 

<input type="checkbox"/> CreateBucket	<input type="checkbox"/> GetBucketWebsite	<input type="checkbox"/> GetObjectVersionAcl
<input type="checkbox"/> GetBucketAcl	<input type="checkbox"/> GetEncryptionConfiguration	<input type="checkbox"/> GetObjectVersionForReplication
<input type="checkbox"/> GetBucketCORS	<input type="checkbox"/> GetInventoryConfiguration	<input type="checkbox"/> GetObjectVersionTagging
<input type="checkbox"/> GetBucketLocation	<input type="checkbox"/> GetIpConfiguration	<input type="checkbox"/> GetObjectVersionTorrent
<input type="checkbox"/> GetBucketLogging	<input type="checkbox"/> GetLifecycleConfiguration	<input type="checkbox"/> GetReplicationConfiguration
<input type="checkbox"/> GetBucketNotification	<input type="checkbox"/> GetMetricsConfiguration	<input type="checkbox"/> ListBucketByTags
	<input type="checkbox"/> GetObject	<input type="checkbox"/> ListBucketMultipartUploads

Cancel Review policy

All S3 actions (s3:*)

Access level

▶ List

▼ Read (31 selected)

<input checked="" type="checkbox"/> GetAccelerateConfiguration ⓘ	<input checked="" type="checkbox"/> GetBucketWebsite ⓘ	<input checked="" type="checkbox"/> GetObjectVersionAcl ⓘ
<input checked="" type="checkbox"/> GetAnalyticsConfiguration ⓘ	<input checked="" type="checkbox"/> GetEncryptionConfiguration ⓘ	<input checked="" type="checkbox"/> GetObjectVersionForReplication ⓘ
<input checked="" type="checkbox"/> GetBucketAcl ⓘ	<input checked="" type="checkbox"/> GetInventoryConfiguration ⓘ	<input checked="" type="checkbox"/> GetObjectVersionTagging ⓘ
<input checked="" type="checkbox"/> GetBucketCORS ⓘ	<input checked="" type="checkbox"/> GetIpConfiguration ⓘ	<input checked="" type="checkbox"/> GetObjectVersionTorrent ⓘ
<input checked="" type="checkbox"/> GetBucketLocation ⓘ	<input checked="" type="checkbox"/> GetLifecycleConfiguration ⓘ	<input checked="" type="checkbox"/> GetReplicationConfiguration ⓘ
<input checked="" type="checkbox"/> GetBucketLogging ⓘ	<input checked="" type="checkbox"/> GetMetricsConfiguration ⓘ	<input checked="" type="checkbox"/> ListBucketByTags ⓘ
<input checked="" type="checkbox"/> GetBucketNotification ⓘ	<input checked="" type="checkbox"/> GetObject ⓘ	<input checked="" type="checkbox"/> ListBucketMultipartUploads ⓘ
<input checked="" type="checkbox"/> GetBucketPolicy ⓘ	<input checked="" type="checkbox"/> GetObjectAcl ⓘ	<input checked="" type="checkbox"/> ListBucketVersions ⓘ
<input checked="" type="checkbox"/> GetBucketRequestPayment ⓘ	<input checked="" type="checkbox"/> GetObjectTagging ⓘ	<input checked="" type="checkbox"/> ListMultipartUploadParts ⓘ
<input checked="" type="checkbox"/> GetBucketTagging ⓘ	<input checked="" type="checkbox"/> GetObjectTorrent ⓘ	
<input checked="" type="checkbox"/> GetBucketVersioning ⓘ	<input checked="" type="checkbox"/> GetObjectVersion ⓘ	

▶ Write

▶ Permissions management

resources You chose actions that require the bucket resource type.

[Cancel](#) [Review policy](#)

Visual editor JSON Import managed policy

Expand all | Collapse all

▼ S3 (1 action) ⚠ 1 warning Clone Remove

Service	S3
Actions	Read
	GetObject
Resources	<input checked="" type="radio"/> Specific <input type="radio"/> All resources
object	You chose actions that require the object resource type. Add ARN to restrict access
Request conditions	Specify request conditions



Click Here

Add additional permissions

Cancel Review policy

Add ARN(s)

Amazon Resource Names (ARNs) uniquely identify AWS resources. Resources are unique to each service. [Learn more](#)

Specify ARN for object [List ARNs manually](#)

arn:aws:s3:::i/ [Copy](#)

Bucket name Any

Object name Any

[Cancel](#) [Add](#)

Add ARN(s)

Amazon Resource Names (ARNs) uniquely identify AWS resources. Resources are unique to each service. [Learn more](#)

Specify ARN for object [List ARNs manually](#)

arn:aws:s3:::thebucketofstephane/*

Bucket name thebucketofstephane Any

Object name * Any

[Cancel](#) [Add](#)

This policy validation failed and might have errors converting to Visual editor : Could not parse the policy: Statement is empty! For more information about the IAM policy grammar, see [AWS IAM Policies](#) X

[Visual editor](#) [JSON](#) [Import managed policy](#)

[Expand all](#) [Collapse all](#)

S3 (1 action) [Clone](#) [Remove](#)

Service	S3
Actions	Read
	GetObject
Resources	<input checked="" type="radio"/> Specific
close	<input type="radio"/> All resources
object	arn:aws:s3:::thebucketofstephane/* EDIT <input checked="" type="radio"/> Any
Add ARN to restrict access	
Request conditions Specify request conditions (optional)	
<input checked="" type="radio"/> Add additional permissions	
Cancel Review policy	

Click Here 

Create policy

1

2

Review policy

Name*

MyTestS3CustomPolicy

Use alphanumeric and '+,-,@-_ ' characters. Maximum 128 characters.

Description

Maximum 1000 characters. Use alphanumeric and '+,-,@-_ ' characters.

Summary Filter**Service** **Access level****Resource****Request condition**Allow (1 of 146 services) [Show remaining 145](#)

S3

Limited: Read

BucketName | string like |
thebucketofstephane, ObjectPath |
string like | All

None

* Required

Cancel

Previous

Create policy

Policies > MyTestS3CustomPolicy

Summary

Policy ARN: arn:aws:iam::387124123361:policy/MyTestS3CustomPolicy

Description:

Permissions Policy usage Policy versions Access Advisor

Policy summary (JSON) Edit policy

```
1. {
2.     "Version": "2012-10-17",
3.     "Statement": [
4.         {
5.             "Sid": "VisualEditor0",
6.             "Effect": "Allow",
7.             "Action": "s3:GetObject",
8.             "Resource": "arn:aws:s3:::thebucketofstephane/*"
9.         }
10.    ]
11. }
```

Google aws policy generator

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About 7,250,000 results (0.38 seconds)

AWS Official Site | Use AWS for Free
Ad aws.amazon.com/Account/Sign-Up
12 Months, \$0 Cost to You & 40+ Products. Sign Up & Use AWS for Free!

Choosing a Cloud Platform
Evaluate Different Cloud Vendors
Using Our Requirements List.

Why Amazon Web Services
Focus on What Differentiates Your
Business - Not the Infrastructure.

AWS Policy Generator - Amazon AWS
<https://awspolicygen.s3.amazonaws.com/policygen.html>
The AWS Policy Generator is a tool that enables you to create policies that control access to Amazon Web Services (AWS) products and resources.
For more ...

Creating IAM Policies - AWS Identity and Access Management
https://docs.aws.amazon.com/IAM/latest/UserGuide/access_policies_create.html
Policies are stored in AWS as JSON documents and are attached to principals as identity-based policies in IAM. You can attach an identity-based policy to a principal (or identity), such as an IAM group, user, or role.
... You can create a new IAM policy in the AWS Management Console ...

AWS Policy Generator

The AWS Policy Generator is a tool that enables you to create policies that control access to Amazon Web Services (AWS) products and resources. For more information about creating policies, see key concepts in [Using AWS Identity and Access Management](#). Here are sample policies.

Step 1: Select Policy Type

A Policy is a container for permissions. The different types of policies you can create are an [IAM Policy](#), an [S3 Bucket Policy](#), an [SNS Topic Policy](#), a [VPC Endpoint Policy](#), and an [SQS Queue Policy](#).

Select Type of Policy

Step 2: Add Statement(s)

A statement is the formal description of a single permission. See a [description of elements](#) that you can use in statements.

Effect Allow Deny

AWS Service All Services ('*')

Use multiple statements to add permissions for more than one service.

Actions All Actions ('*')

Amazon Resource Name (ARN)

ARN should follow the following format: arn:aws:s3:::<bucket_name>/<key_name>. Use a comma to separate multiple values.

Add Conditions (Optional)

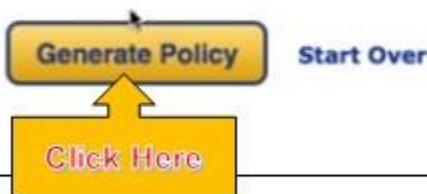
 Click Here

You added the following statements. Click the button below to Generate a policy.

Effect	Action	Resource	Conditions
Allow	* s3:GetObject	*	None

Step 3: Generate Policy

A policy is a document (written in the [Access Policy Language](#)) that acts as a container for one or more statements.



Policy JSON Document



Click below to edit. To save the policy, copy the text below to a text editor.
Changes made below will not be reflected in the policy generator tool.

```
{  
  "Version": "2012-10-17",  
  "Statement": [  
    {  
      "Sid": "Stmt1537782011370",  
      "Action": [  
        "s3:GetObject"  
      ],  
      "Effect": "Allow",  
      "Resource": "*"  
    }  
  ]  
}
```

This AWS Policy Generator is provided for informational purposes only, you are still responsible for your use of Amazon Web Services technologies and ensuring that your use is in compliance with all applicable terms and conditions. This AWS Policy Generator is provided as is without warranty of any kind, whether express, implied, or statutory. This AWS Policy Generator does not modify the applicable terms and conditions governing your use of Amazon Web Services technologies.

Close

Search IAM

Policies > MyTestS3CustomPolicy

Summary

Policy ARN: arn:aws:iam::387124123361:policy/MyTestS3CustomPolicy

Description

Permissions Policy usage Policy versions Access Advisor

Policy summary (JSON) Edit policy

```
1. {
2.     "Version": "2012-10-17",
3.     "Statement": [
4.         {
5.             "Sid": "VisualEditor0",
6.             "Effect": "Allow",
7.             "Action": "s3:GetObject",
8.             "Resource": "arn:aws:s3:::thebucketofstephane/*"
9.         }
10.    ]
11. }
```

Click Here

Dashboard Groups Users Roles Account settings Credential report Encryption keys

Search IAM

Dashboard

Groups

Users

Roles

Policies

Identity providers

Account settings

Credential report

Encryption keys

Additional resources:

- IAM Roles FAQ
- IAM Roles Documentation
- Tutorial: Setting Up Cross Account Access
- Common Scenarios for Roles

Create role Delete role

Showing 7 results

Role name	Description	Trusted entities
<input type="checkbox"/> AWSServiceRoleForAutoScaling	Default Service-Linked Role enables access to AWS Services and Resources used or...	AWS service: autoscaling (Service-Linked role)
<input type="checkbox"/> AWSServiceRoleForElastiCache	This policy allows ElastiCache to manage AWS resources on your behalf as necessar...	AWS service: elasticache (Service-Linked role)
<input type="checkbox"/> AWSServiceRoleForElasticLoadBalancing	Allows ELB to call AWS services on your behalf.	AWS service: elasticloadbalancing (Service-...
<input type="checkbox"/> AWSServiceRoleForRDS	Allows Amazon RDS to manage AWS resources on your behalf.	AWS service: rds (Service-Linked role)
<input type="checkbox"/> AWSServiceRoleForSupport	Enables resource access for AWS to provide billing, administrative and support servic...	AWS service: support (Service-Linked role)
<input type="checkbox"/> AWSServiceRoleForTrustedAdvisor	Access for the AWS Trusted Advisor Service to help reduce cost, increase performan...	AWS service: trustedadvisor (Service-Linked ...
<input type="checkbox"/> MyFirstEC2Role	Allows EC2 to make read-only calls to Amazon S3	AWS service: ec2

Click Here

Roles > MyFirstEC2Role

Summary

Role ARN arn:aws:iam::387124123361:role/MyFirstEC2Role 

Role description Allows EC2 to make read-only calls to Amazon S3 | [Edit](#)

Instance Profile ARNs arn:aws:iam::387124123361:instance-profile/MyFirstEC2Role 

Path /

Creation time 2018-09-24 11:27 UTC+0200

Maximum CLI/API session duration 1 hour [Edit](#)

Permissions

Trust relationships

Access Advisor

Revoke sessions

▼ Permissions policies (2 policies applied)

[Attach policies](#)

Click Here

▶  [S3FullAccess](#)

▶  [AmazonS3ReadOnlyAccess](#)

▶ Permissions boundary (not set)

Add permissions to MyFirstEC2Role

Attach Permissions

[Create policy](#)

[Filter policies](#) ▾

test

Policy name	Type	Used as
MyTestS3CustomPolicy	Customer managed	None

Click Here

Add permissions to MyFirstEC2Role

Attach Permissions

[Create policy](#)[Filter policies](#) Q test

Showing 1 result

	Policy name	Type	Used as	Description
	MyTestS3CustomPolicy	Customer managed	None	

[Cancel](#)[Attach policy](#) Click Here

Permissions Trust relationships Access Advisor Revoke sessions

▼ Permissions policies (3 policies applied)

Attach policies [+ Add inline policy](#)

Policy name	Policy type	Actions
AmazonS3FullAccess	AWS managed policy	X
AmazonS3ReadOnlyAccess	AWS managed policy	X
MyTestS3CustomPolicy	Managed policy	X

AWS Policy Simulator

Roles > MyFirstEC2Role

Summary

[Delete role](#)

Policy MyTestS3CustomPolicy has been attached for the MyFirstEC2Role.

X

Role ARN arn:aws:iam::387124123361:role/MyFirstEC2Role [?](#)

Role description Allows EC2 to make read-only calls to Amazon S3 | [Edit](#)

Instance Profile ARNs arn:aws:iam::387124123361:instance-profile/MyFirstEC2Role [?](#)

Path

/

Creation time 2018-09-24 11:27 UTC+0200

Maximum CLI/API session duration 1 hour [Edit](#)

[Permissions](#)

[Trust relationships](#)

[Access Advisor](#)

[Revoke sessions](#)

▼ Permissions policies (3 policies applied)

[Attach policies](#)

[Add inline policy](#)

Policy name ▾

▶  [AmazonS3FullAccess](#)

▶  [AmazonS3ReadOnlyAccess](#)

▶ [MyTestS3CustomPolicy](#)

Policy type ▾

AWS managed policy

AWS managed policy

Managed policy

X

Click Here

Detach policy

X

Are you sure you want to detach policy **AmazonS3FullAccess** from role
MyFirstEC2Role ?

Cancel

Detach

Click Here

Roles > MyFirstEC2Role

Summary

Policy has been detached from the role

Role description

Role details

Instance Profile

Path /

Creation time 2018-09-24 11:27 UTC+0200

Maximum CLI/API session duration 1 hour [Edit](#)

[Permissions](#) [Trust relationships](#) [Access Advisor](#) [Revoke sessions](#)

[Attach policies](#) [Add inline policy](#)

Permissions policies (2 policies applied)

Policy name	Policy type	Actions
AmazonS3ReadOnlyAccess	AWS managed policy	X
MyTestS3CustomPolicy	Managed policy	X

Permissions boundary (not set)

Detach policy

Are you sure you want to detach policy **MyTestS3CustomPolicy** from role **MyFirstEC2Role** ?

[Cancel](#) [Detach](#)

Click Here

Permissions Trust relationships Access Advisor Revoke sessions

▼ Permissions policies (1 policy applied)

Attach policies

Policy name ▾

AmazonS3ReadOnlyAccess

Policy summary { } JSON

```
1- {
2-     "Version": "2012-10-17",
3-     "Statement": [
4-         {
5-             "Effect": "Allow",
6-             "Action": [
7-                 "s3:Get*",
8-                 "s3>List*"
9-             ],
10-            "Resource": "*"
11-        }
12-    ]
13-}
```

Google aws policy simulator

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About 628,000 results (0.36 seconds)

AWS Official Site | Use AWS for Free
Ad aws.amazon.com/Account/Sign-Up
12 Months, \$0 Cost to You & 40+ Products. Sign Up & Use AWS for Free!

Storage
Amazon S3 Offers Secure, Durable, & Highly-Scalable Object Storage.

Why Amazon Web Services
Focus on What Differentiates Your Business - Not the Infrastructure.

Testing IAM Policies with the IAM Policy Simulator - AWS Identity and ...
https://docs.aws.amazon.com/IAM/latest/UserGuide/access_policies_testing-policies.html

Use the **Click Here** button to test and troubleshoot IAM policies that are attached to users, groups, or resources.

How the IAM Policy ... · Permissions Required for ... · Using the IAM Policy ...

IAM: Access the Policy Simulator Console - AWS Identity and Access ...
https://docs.aws.amazon.com/IAM/latest/reference_policies_examples_iam_policy-sim-co...

Use this IAM policy to allow access to the policy simulator in the AWS Management Console.

AWS Identity and Access Management (IAM) Policy Simulator Now ...
<https://aws.amazon.com/about-aws/whats-new/2015/10/aws-identity-and-access-management-iam-policy-sim...>

Oct 30, 2015 - Today, AWS Identity and Access Management (IAM) updated the IAM policy simulator to help you to test, verify, and understand resource-level ...

AWS Identity and Access Management

User Guide



Documentation - This Guide

Search



What Is IAM?

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Managing IAM Policies

Creating IAM Policies

Validating JSON Policies

AWS Documentation » AWS Identity and Access Management » User Guide » Access Management » Managing IAM Policies » Testing IAM Policies with the IAM Policy Simulator

Testing IAM Policies with the IAM Policy Simulator

For more information about how and why to use IAM policies, see [Policies and Permissions](#).

You can access the IAM Policy Simulator Console at: <https://policysim.aws.amazon.com/>

The following video provides an introduction to using the IAM policy simulator.

Click Here

Getting Started with the IAM Policy Simulator



Identity and Access Management (IAM) Policy Simulator

Kai Zhao – Product Manager



IAM Policy Simulator

Mode : Existing Policies • stephane •

Users, Groups, and Roles

Users stephane

Service	Action	Resource Type	Simulation Resource	Permission

Policy Simulator

Select service Select All Deselect All Reset Contexts Clear Results **Run Simulation**

► Global Settings ⓘ

Action Settings and Results [0 actions selected. 0 actions not simulated. 0 actions allowed. 0 actions denied.]

Service	Action	Resource Type	Simulation Resource	Permission

IAM Policy Simulator

Users, Groups, and Roles

- ✓ Users
- Groups
- Roles**

Filter

Click Here



Policy Simulator

Select service ▾ Select actions ▾

▶ Global Settings ⓘ

Action Settings and Results [0 actions selected]

Service	Action
---------	--------

IAM Policy Simulator

Policies 

Roles  Filter

- AWSServiceRoleForAutoScaling
- AWSServiceRoleForElastiCache
- AWSServiceRoleForElasticLoadBalancing
- AWSServiceRoleForRDS
- AWSServiceRoleForSupport
- AWSServiceRoleForTrustedAdvisor
- MyFirstEC2Role** 

Back

Policy Simulator

Select service  Select actions  Select results 

▶ Global  Click Here

Action Settings and Results [0 actions selected]

Service	Action
---------	--------

IAM Policy Simulator

Policies

Selected role: MyFirstEC2Role

IAM Policies

Filter

 AmazonS3ReadOnlyAccess	<input checked="" type="checkbox"/>
--	-------------------------------------

Click Here

Policy Simulator

Select service ▾ Select actions ▾ Select results ▾

▶ Global Settings ⓘ

Action Settings and Results (0 actions selected.)

Service	Action
---------	--------

IAM Policy Simulator

Mode : Existing Policies stephane

Policies

Selected role: MyFirstEC2Role

IAM Policies

Filter

AmazonS3ReadOnlyAccess

Resource Policies

Policy Simulator

CloudFormation

CloudFront

CloudHSM

CloudSearch

CloudTrail

CloudWatch

CloudWatch Events

CloudWatch Logs

Code Signing for FreeRTOS

CodeBuild

CodeCommit

CodeDeploy

CodePipeline

DynamoDB

EC2

EC2 Auto Scaling

EC2 Container Registry

EC2 Container Service

ElastiCache

Elastic Beanstalk

Elastic Container Service for Kubernetes

Elastic File System

Elastic Load Balancing

Elastic Load Balancing V2

Elastic MapReduce

Elastic Transcoder

IoT 1-Click

IoT Analytics

Key Management Service

Kinesis

Kinesis Analytics

Kinesis Firehose

Kinesis Video Streams

Lambda

Lex

Lightsail

MQ

Machine Learning

Manage API Gateways

Pinpoint

QuickSight

RDS

Redshift

Rekognition

Resource Group Tagging API

Resource Groups

Route 53

Route 53 Auto Naming

Route53 Domains

SSM

XRay



Click Here

IAM Policy Simulator

Mode : Existing Policies - stephane -

Policies

Selected role: MyFirstEC2Role

IAM Policies

Filter

AmazonS3ReadonlyAccess

Resource Policies

Back

Policy Simulator

Amazon S3 Select actions Select All Deselect All Reset Contexts Clear Results Run Simulation

Global Settings

Action Settings and Service

GetBucketLocation GetBucketCORS GetIpConfiguration GetAnalyticsConfiguration
PutObject ListMultipartUploadParts DeleteBucketWebsite DeleteObjectTagging
PutBucketWebsite GetObjectVersionForRange GetBucketAcl PutLifecycleConfiguration
DeleteBucket GetBucketPolicy PutObjectVersionTagging GetObject
GetEncryptionConfiguration PutObjectVersioning PutObject
PutReplicationConfiguration GetObjectListPutObjectVersionTagging
ListAllMyBuckets PutAccessControlList PutObject
PutObjectVersionTagging GetBucketNotification PutMetricsConfiguration GetBucketLogging
PutBucketRequestPayment GetInventoryConfiguration PutBucketNotification GetBucketTagging
PutBucketVersioning ListBucketByTags PutBucketCORS DeleteObject
GetObjectVersionTorrent ObjectOwnerOverrideTorrent ReplicateDelete GetObjectVersion
ListBucketVersions ListBucket PutBucketTagging PutBucketAcl
GetMetricsConfiguration AbortMultipartUpload PutBucketPolicy GetBucketRequestPayment
ReplicateObject GetObjectAcl PutObjectVersionAcl GetBucketWebsite
ReplicateTags PutObjectAcl PutAnalyticsConfiguration ListBucketMultipartUp...

Click Here

IAM Policy Simulator

Mode : Existing Policies stephane

Policies Back

Selected role: MyFirstEC2Role

IAM Policies

Filter

AmazonS3ReadOnlyAccess

Resource Policies

Policy Simulator

Amazon S3 1 Action(s) sele... Select All Deselect All Reset Contexts Clear Results Run Simulation

Global Settings

Action Settings and Results [1 actions selected. 0 actions not simulated. 1 actions allowed. 0 actions denied.]

Service	Action	Resource Type	Simulation Resource	Permission
Amazon S3	GetObject	object	*	allowed 1 matching statements.

Click Here

Policy Simulator

Amazon S3

1 Action(s) sele...

Select All

Deselect All

Reset Contexts

Clear Results

Run Simulation

Global Settings

Action Settings and Results [1 actions selected. 0 actions not simulated. 1 actions allowed. 0 actions denied.]

Service	Action	Resource Type	Simulation Resource	Permission
Amazon S3	GetObject	object	*	 allowed 1 matching statements.

[Show statement in AmazonS3ReadOnlyAccess](#)

Resource You can specify the resource and context keys used to simulate this action. By default the simulation resource is ***.

object

*

 Include Resource Policy

Policy Simulator

Amazon S3
2 Action(s) sele...
Select All
Deselect All
Reset Contexts
Clear Results
Run Simulation

▶ Global Settings

Action Settings and Contexts

Service

Amazon S3

Show statement in Amazon S3 Policy

Resource

object

Amazon S3

■ GetBucketLocation ■ GetBucketCORS ■ GetIpConfiguration ■ GetAnalyticsConfigurat...

■ PutObject ■ ListMultipartUploadParts ■ DeleteBucketWebsite ■ DeleteObjectTagging

■ PutBucketWebsite ■ GetObjectVersionForR... ■ GetBucketAcl ■ PutLifecycleConfiguration

■ DeleteBucket ■ GetBucketPolicy ■ GetObject ■ PutIpConfiguration

■ GetEncryptionConfigur... ■ PutObjectTagging ■ DeleteObjectVersionTa... ■ GetLifecycleConfigurat...

■ PutReplicationConfigur... ■ GetObjectTorrent ■ HeadBucket ■ GetBucketVersioning

■ ListAllMyBuckets ■ PutAccelerateConfigur... ■ GetReplicationConfigur... ■ DeleteObjectVersion

■ PutObjectVersionTagging ■ GetBucketNotification ■ PutMetricsConfiguration ■ GetBucketLogging

■ PutBucketRequestPay... ■ GetInventoryConfigurat... ■ PutBucketNotification ■ GetBucketTagging

■ PutBucketVersioning ■ ListBucketByTags ■ PutBucketCORS ■ DeleteObject

■ GetObjectVersionTorrent ■ ObjectOwnerOverrideT... ■ ReplicateDelete ■ GetObjectVersion

■ ListBucketVersions ■ ListBucket ■ PutBucketTagging ■ PutBucketAcl

■ GetMetricsConfiguration ■ AbortMultipartUpload ■ PutBucketPolicy ■ GetBucketRequestPay...

■ ReplicateObject ■ GetObjectAcl ■ PutObjectVersionAcl ■ GetBucketWebsite

■ ReplicateTags ■ PutObjectAcl ■ PutAnalyticsConfigurat... ■ ListBucketMultipartUp...

matching statements.

IAM Policy Simulator

Mode : Existing Policies stephane

Policies Back

Selected role: MyFirstEC2Role

IAM Policies

Filter

AmazonS3ReadOnlyAccess

Resource Policies

Policy Simulator

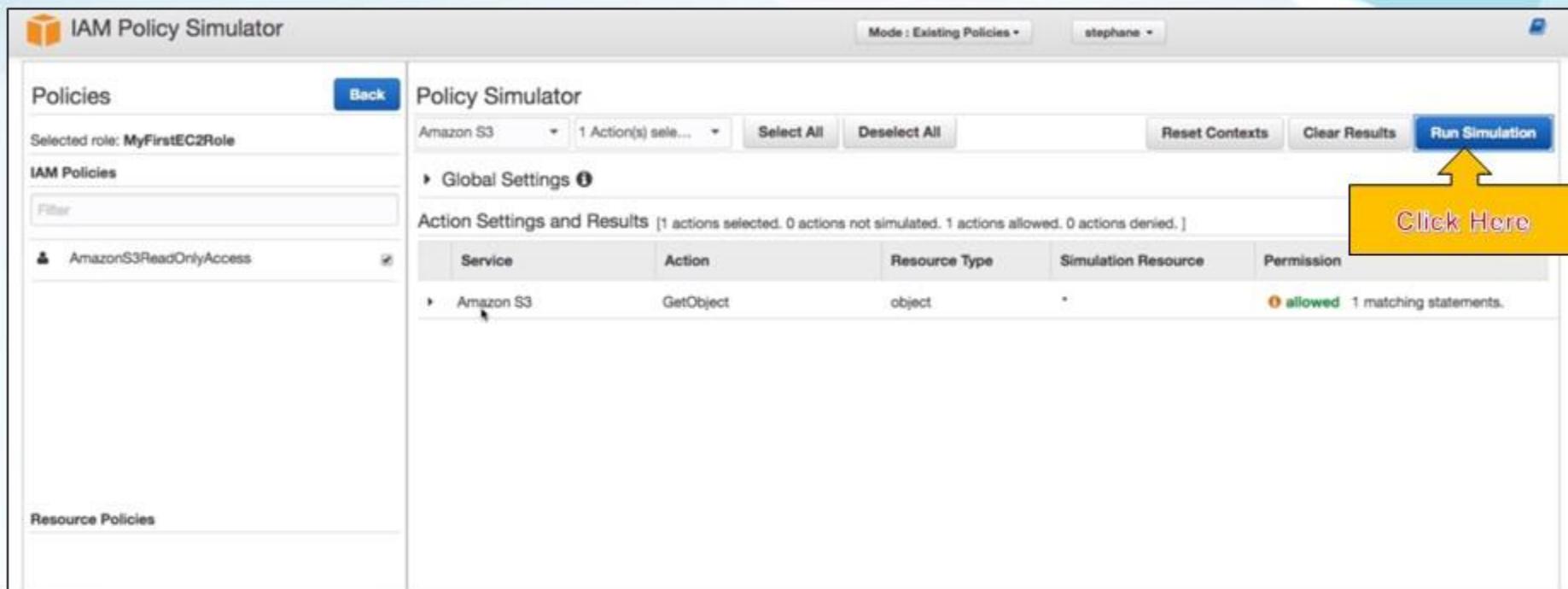
Amazon S3 1 Action(s) sele... Select All Deselect All Reset Contexts Clear Results Run Simulation

Global Settings 

Action Settings and Results [1 actions selected. 0 actions not simulated. 1 actions allowed. 0 actions denied.]

Service	Action	Resource Type	Simulation Resource	Permission
Amazon S3	GetObject	object	*	 allowed 1 matching statements.

Click Here 



Policy Simulator

Amazon S3 2 Action(s) sele... [Select All](#) [Deselect All](#) [Reset Contexts](#) [Clear Results](#) [Run Simulation](#)

▶ Global Settings [?](#)

Action Settings and Results [2 actions selected. 0 actions not simulated. 2 actions allowed. 0 actions denied.]

Service	Action	Resource Type	Simulation Resource	Permission
▶ Amazon S3	GetObject	object	*	allowed 1 matching statements.
▶ Amazon S3	ListBucket	bucket	*	allowed 1 matching statements.

Policy Simulator

Amazon S3 3 Action(s) selected Select All Deselect All Reset Contexts Clear Results Run Simulation

▶ Global Settings GetBucketLocation GetBucketCORS GetIpConfiguration GetAnalyticsConfiguration
Action Settings and Conditions PutObject ListMultipartUploadParts DeleteBucketWebsite DeleteObjectTagging
Service GetObjectVersionForRange GetBucketAcl PutLifecycleConfiguration
Amazon S3 GetEncryptionConfiguration GetObject PutIpConfiguration
Amazon S3 PutReplicationConfiguration DeleteObjectVersionTagging GetLifecycleConfiguration
Amazon S3 ListAllMyBuckets HeadBucket GetBucketVersioning
 PutObjectVersionTagging PutAccelerateConfiguration GetReplicationConfiguration DeleteObjectVersion
 PutBucketRequestPayment GetBucketNotification PutMetricsConfiguration GetBucketLogging
 PutBucketVersioning GetInventoryConfiguration PutBucketNotification GetBucketTagging
 GetObjectVersionTorrent ObjectOwnerOverrideTorrent ReplicateDelete DeleteObject
 ListBucketVersions ListBucket PutBucketCORS PutObject
 GetMetricsConfiguration AbortMultipartUpload PutBucketTagging DeleteObjectVersion
 ReplicateObject GetObjectAcl PutBucketPolicy GetBucketRequestPayment
 ReplicateTags PutObjectAcl PutObjectVersionAcl GetBucketWebsite
 PutAnalyticsConfiguration PutAnalyticsConfiguration
 ListBucketMultipartUploads

Click Here

Policy Simulator

Amazon S3 ▾ 3 Action(s) sele... ▾ Select All Deselect All Reset Contexts Clear Results Run Simulation

▶ Global Settings ⓘ

Action Settings and Results [3 actions selected. 0 actions not simulated. 2 actions allowed. 1 actions denied.]

Service	Action	Resource Type	Simulation Resource	Permission
▶ Amazon S3	GetObject	object	*	ⓘ allowed
▶ Amazon S3	ListBucket	bucket	*	ⓘ allowed
▶ Amazon S3	PutObject	object	*	ⓘ denied Implicitly denied (no matching statements).

IAM Policy Simulator

Mode : Existing Policies stephane

Policies Back

Editing policy: AmazonS3ReadOnlyAccess

```
{ "Version": "2012-10-17", "Statement": [ { "Effect": "Allow", "Action": [ "s3:Get", "s3>List" ], "Resource": "*" } ] }
```

Policy Simulator

Amazon S3 3 Action(s) sele... Select All Deselect All Reset Contexts Clear Results Run Simulation

Global Settings

Action Settings and Results [3 actions selected. 0 actions not simulated. 2 actions allowed. 1 actions denied.]

Service	Action	Resource Type	Simulation Resource	Permission
Amazon S3	GetObject	object	*	allowed 1 matching statements.
Amazon S3	ListBucket	bucket	*	allowed 1 matching statements.

Show statement in AmazonS3ReadOnlyAccess

Resource You can specify the resource and context keys used to simulate this action. By default the simulation resource is ***.

bucket Include Resource Policy

Amazon S3 PutObject object denied Implicitly denied (no matching...

Resource You can specify the resource and context keys used to simulate this action. By default the simulation resource is ***.

object Include Resource Policy

AWS EC2 Instance Metadata

AWS EC2 Instance Metadata

- AWS EC2 Instance Metadata is powerful but one of the least known features to developers
- It allows AWS EC2 instances to "learn about themselves" without using an IAM Role for that purpose.
- The URL is <http://169.254.169.254/latest/meta-data>
- You can retrieve the IAM Role name from the metadata, but you CANNOT retrieve the IAM Policy.
- Metadata = Info about the EC2 instance
- Userdata = launch script of the EC2 instance

- Let's practice and see what we can do with it!

```
[ec2-user@ip-172-31-3-136 ~]$ curl http://169.254.169.254
1.0
2007-01-19
2007-03-01
2007-08-29
2007-10-10
2007-12-15
2008-02-01
2008-09-01
2009-04-04
2011-01-01
2011-05-01
2012-01-12
2014-02-25
2014-11-05
2015-10-20
2016-04-19
2016-06-30
2016-09-02
2018-03-28
latest[ec2-user@ip-172-31-3-136 ~]$ █
```

These are the version of API Calls

```
[ec2-user@ip-172-31-3-136 ~]$ curl http://169.254.169.254/latest/
dynamic
meta-data
user-data[ec2-user@ip-172-31-3-136 ~]$ curl http://169.254.169.254/latest/meta-data/
ami-id
ami-launch-index
ami-manifest-path
block-device-mapping/
hostname
iam/
instance-action
instance-id
instance-type
local-hostname
local-ipv4
mac
metrics/
network/
placement/
profile
public-hostname
public-ipv4
public-keys/
reservation-id
security-groups
services/[ec2-user@ip-172-31-3-136 ~]$ █
```

Let's use the latest version.

```
services/[ec2-user@ip-172-31-3-136 ~]$ curl http://169.254.169.254/latest/meta-data/instance-id  
i-05adcce6933809eda[ec2-user@ip-172-31-3-136 ~]$ curl http://169.254.169.254/latest/meta-data/local-ipv4  
172.31.3.136[ec2-user@ip-172-31-3-136 ~]$ █
```

```
172.31.3.136[ec2-user@ip-172-31-3-136 ~]$ curl http://169.254.169.254/latest/meta-data/
ami-id
ami-launch-index
ami-manifest-path
block-device-mapping/
hostname
iam/
instance-action
instance-id
instance-type
local-hostname
local-ipv4
mac
metrics/
network/
placement/
profile
public-hostname
public-ipv4
public-keys/
reservation-id
security-groups
services/[ec2-user@ip-172-31-3-136 ~]$ █
```

```
ip-172-31-3-136.eu-west-3.compute.internal[ec2-user@ip-172-31-3-136 ~]$ curl http://169.254.169.254/latest/meta-data/iam/info
[ec2-user@ip-172-31-3-136 ~]$ curl http://169.254.169.254/latest/meta-data/iam/security-credentials
[ec2-user@ip-172-31-3-136 ~]$ curl http://169.254.169.254/latest/meta-data/iam/security-credentials/
MyFirstEC2Role[ec2-user@ip-172-31-3-136 ~]$ curl http://169.254.169.254/latest/meta-data/iam/security-credentials/MyFirstEC2Role
{
  "Code" : "Success",
  "LastUpdated" : "2018-09-24T10:11:17Z",
  "Type" : "AWS-HMAC",
  "AccessKeyId" : "ASIAVUITFK3Q2PW4H5JF",
  "SecretAccessKey" : "KqlccsxSseYKiGu+nNC1hM65/T90LSK7ssyec4/H",
  "Token" : "FQoGZXIvYXdzECwaDC7swnGeeWyl8lg6hSKxA1qGPXJHk7e5XtLALMtC6I1lLNi6eM+WZ5FqC4bs+aEm/xjUm8SF9fi70XJQ0k10kMmvQSPaMV0s6o16I2cc2HS
oxw7TGFuPH//5HyIAkYw0YbN6Hxbk0Q7fQoA01x8SSNULhNz0Pw+ScfbaMfG1LueM9UypF7nKIgHqDm0Jp4kSkEd40TfLq0m68QsXD02tYoESgX1HoroTT8wDvSg9VZ0XUkI9U3
Y/Y8v1C0kjDKPLJx9V0SLg/lPNQDU6fzBsAcshyPlH5/KYDphI62NpFf00caB/iVGCwdcDjDy/xhwAn5r7cGDJ8Ro9+uwDYj0k3ymnfGBYvp+Zw29T0kGEypo7mvuy5Kaox4DAGF
lCmDmN8ud7j8rZ6IQcuP3UnaC1SR4b0IfcMnCCyKBB2lJQ0CjhFKxau/gowzAwSUsridIGl4bGj9D2uVvKYE7LwoRGn6r93psEXidzfRrMicwlumD+GNy7CwgvIpWpTQlqlidBsj
+1fPQ07Hmv9bEJL6boWmBqu9ID5/lYEtdy4INVfPmxlvIy rq9DwQPr7Pv1Z2KhEKFNrSWE98uErEpcDK0o2vCi3QU=",
  "Expiration" : "2018-09-24T16:15:54Z"
}[ec2-user@ip-172-31-3-136 ~]$ █
```

This is temporary short lived id which EC2 instance gets through IAM Role attached to it.

```
}[ec2-user@ip-172-31-3-136 ~]$ curl http://169.254.169.254/latest/meta-data/  
ami-id  
ami-launch-index  
ami-manifest-path  
block-device-mapping/  
hostname  
iam/  
instance-action  
instance-id  
instance-type  
local-hostname  
local-ipv4  
mac  
metrics/  
network/  
placement/  
profile  
public-hostname  
public-ipv4  
public-keys/  
reservation-id  
security-groups  
services/[ec2-user@ip-172-31-3-136 ~]$ █
```

AWS SDK Overview

AWS SDK Overview

- What if you want to perform actions on AWS directly from your applications code ? (without using the CLI).
- You can use an SDK (software development kit) !
- Official SDKs are...
 - Java
 - .NET
 - Node.js
 - PHP
 - Python (named boto3 / botocore)
 - Go
 - Ruby
 - C++

AWS SDK Overview

- We have to use the AWS SDK when coding against AWS Services such as DynamoDB
- Fun fact... the AWS CLI uses the Python SDK (boto3)
- The exam expects you to know when you should use an SDK
- We'll practice the AWS SDK when we get to the Lambda functions
- Good to know: if you don't specify or configure a default region, then us-east-1 will be chosen by default

AWS SDK Credentials Security

- It's recommended to use the default credential provider chain
- The default credential provider chain works seamlessly with:
 - AWS credentials at `~/.aws/credentials` (only on our computers or on-premise)
 - Instance Profile Credentials using IAM Roles (for EC2 machines, etc...)
 - Environment variables (`AWS_ACCESS_KEY_ID`, `AWS_SECRET_ACCESS_KEY`)
- Overall, NEVER EVER STORE AWS CREDENTIALS IN YOUR CODE.
- Best practice is for credentials to be inherited from mechanisms above, and 100% IAM Roles if working from within AWS Services

Exponential Backoff

- Any API that fails because of too many calls needs to be retried with Exponential Backoff
- These apply to rate limited API
- Retry mechanism included in SDK API calls



CLI & SDK Quiz

Question 1:

My EC2 Instance does not have the permissions to perform an API call PutObject on S3. What should I do?

I should run 'aws configure' and insert my personal credentials, because I have access to PutObject on S3

 I should ask an administrator to attach a Policy to the IAM Role on my EC2 Instance that authorises it to do the API call

I should export the environment variables with my credentials on the EC2 Instance

I should use the EC2 Metadata API call

Question 2:

I have an on-premise personal server that I'd like to use to perform AWS API calls

- I should run `aws configure` and put my credentials there. Invalidate them when I'm done
- I should attach an EC2 IAM Role to my personal server

Question 3:

I need my colleagues help to debug my code. When he runs the application on his machine, it's working fine, whereas I get API authorisation exceptions. What should I do?

- Send him my AWS access key and secret key so he can replicate the issue on his machine
- Ask him to send me his credentials so I can start working
- Compare his IAM policy and my IAM policy in the policy simulator to understand the differences
- Ask him to create an EC2 server and puts his credentials there so I can run the application from the EC2 Instance

Question 4:

To get the instance id of my EC2 machine from the EC2 machine, the best thing is to...

- Create an IAM role and attach it to my EC2 instance so I can perform a "describe" API call
- Query the user data at <http://169.254.169.254/latest/user-data>
- Query the meta data at <http://169.254.169.254/latest/meta-data>
- Query the meta data at <http://254.169.254.169/latest/meta-data>

Thank You