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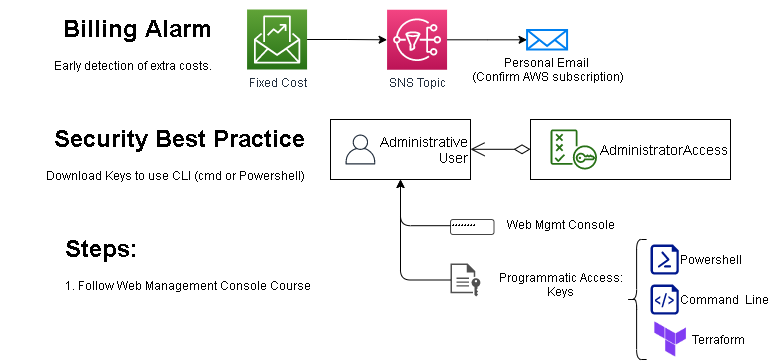
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# Purpose

General Idea of this lab is to have the management of your account using CLI or Web Console; in additional to control expenses using Billing Alarm, and fulfil the best practice to have an IAM user instead of having a root account to make programmatic changes.

# General Diagram



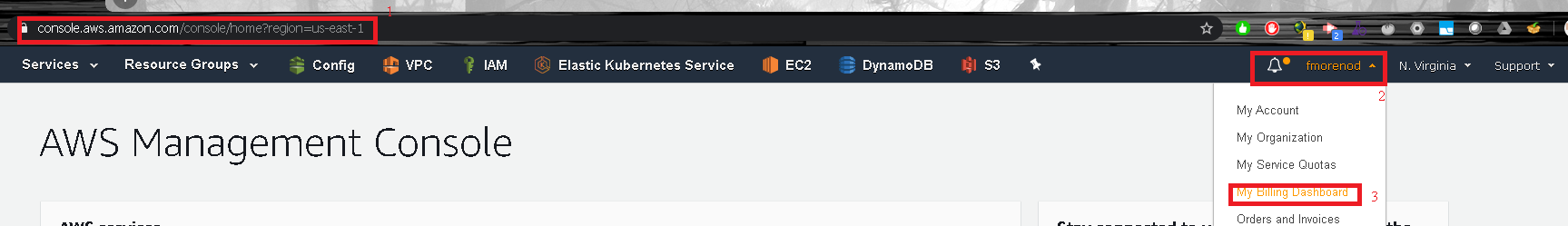
# Prerequisites

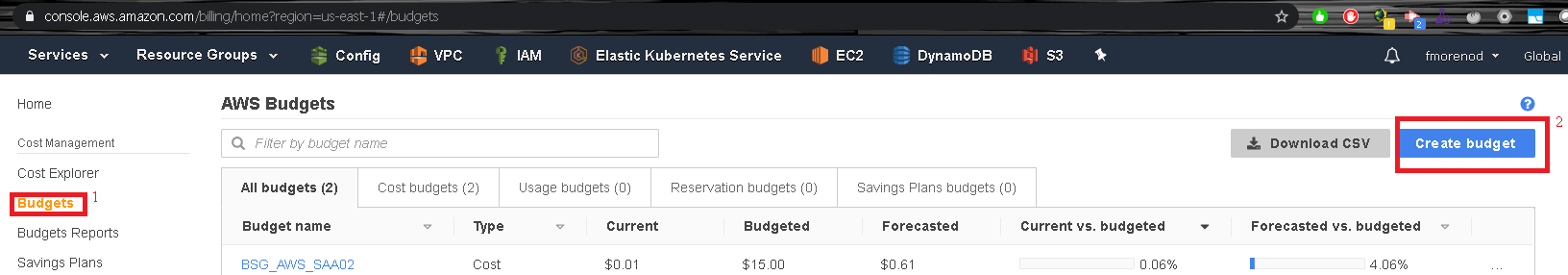
Create a AWS Free Tier Account following <https://aws.amazon.com/free/free-tier/> or to get a free one if your student or educator using <https://aws.amazon.com/education/awseducate/>

# Lab 1 using Web Management Console

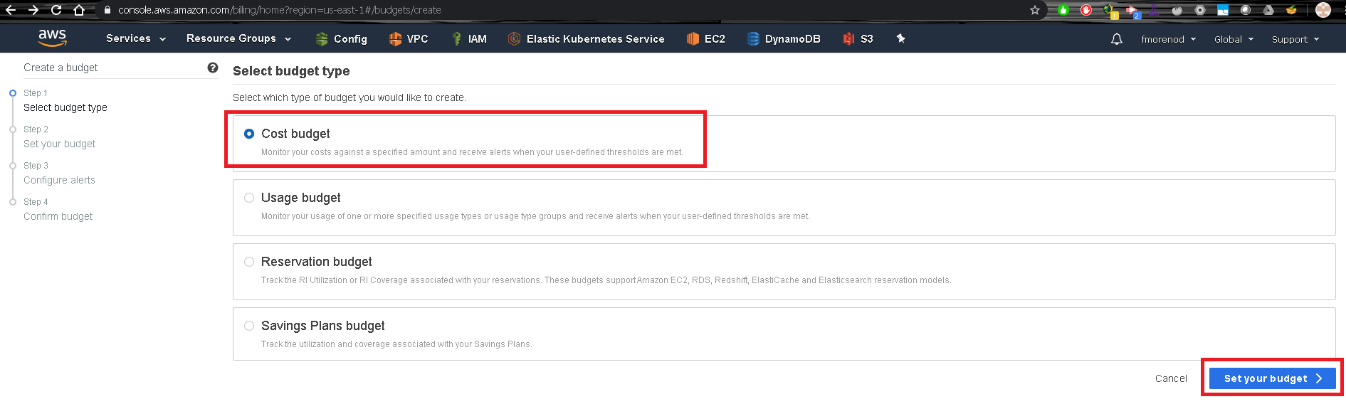
## Stablish Billing Alarm

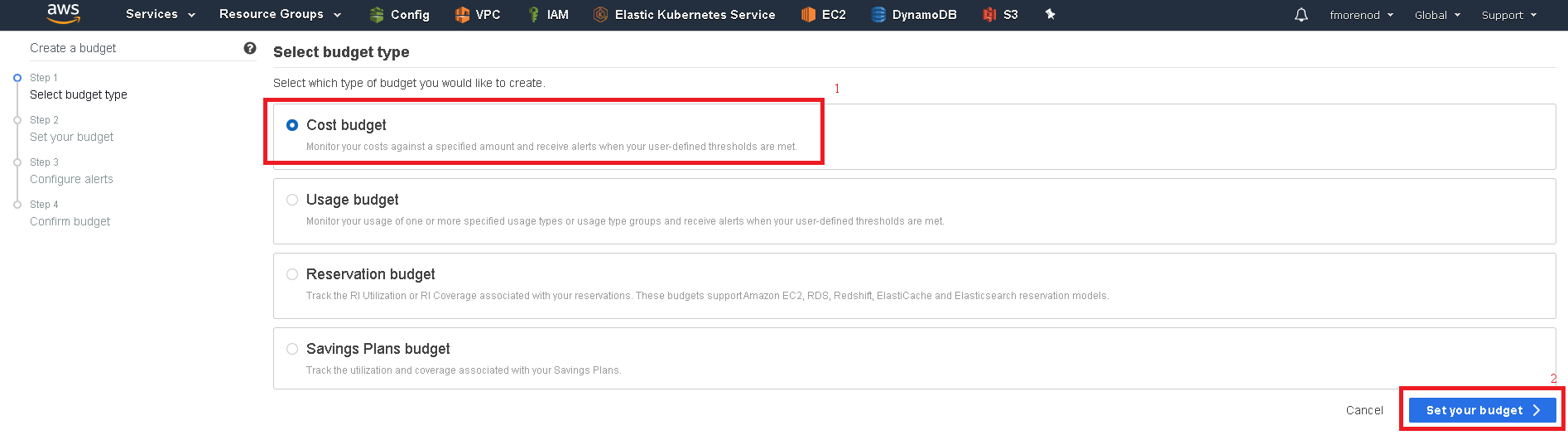
Make an alarm to have the control de of your expenses of your AWS account. It’s your responsibility stablish a value of money that you can spend on this course.

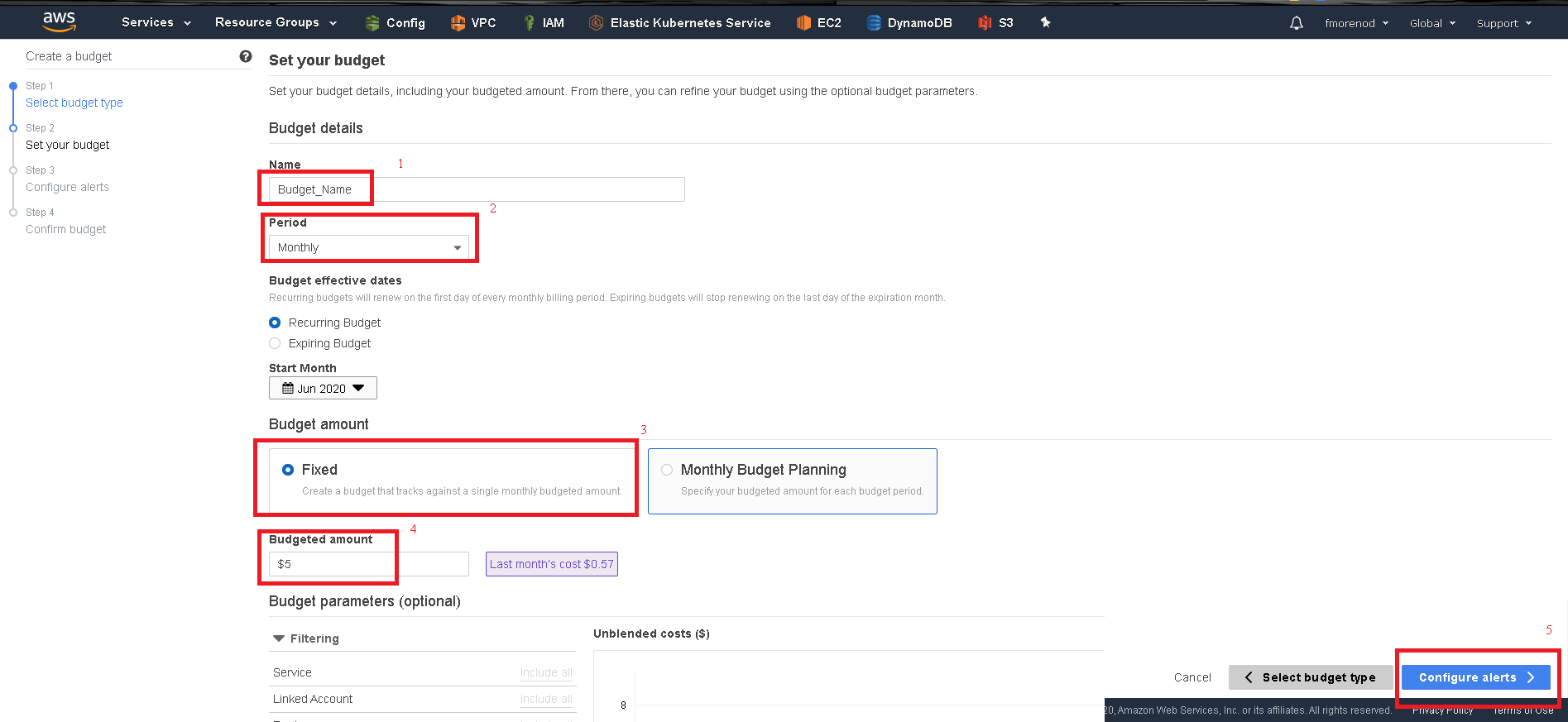




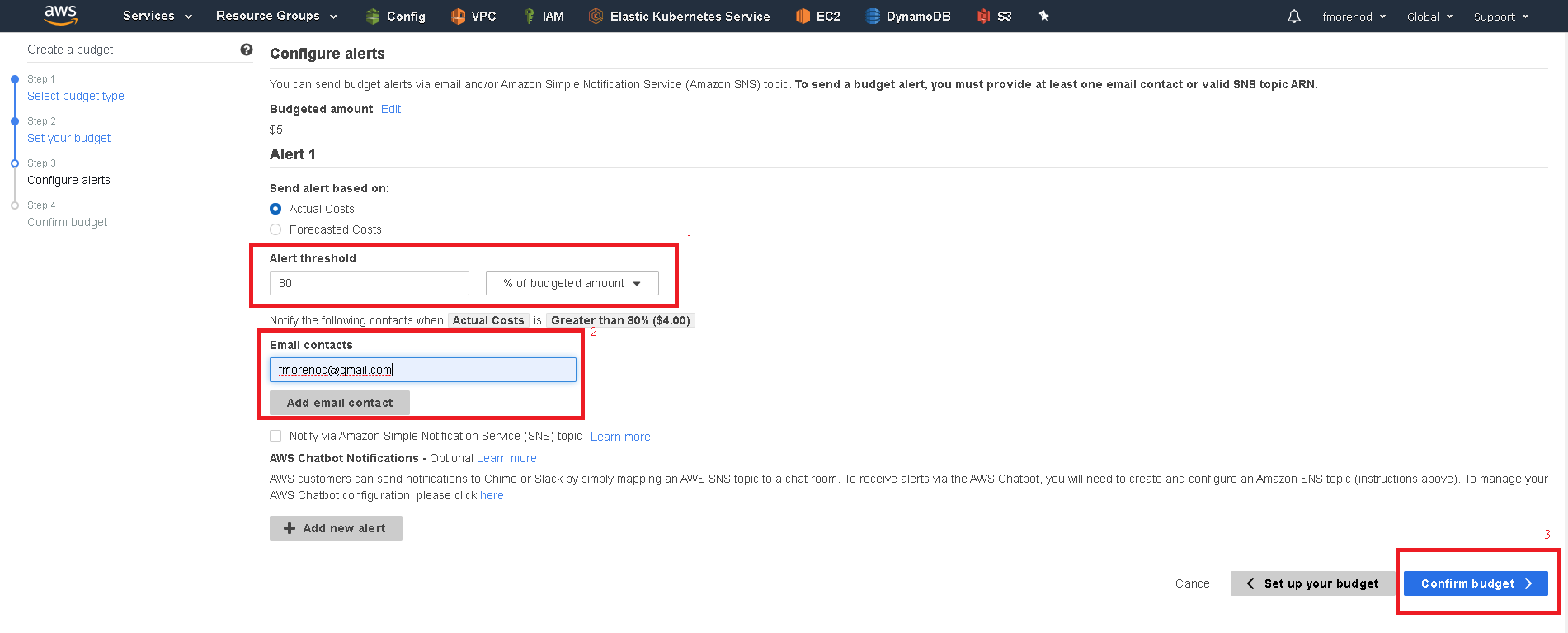
In this case, I configure a monthly stipend, however you can stablish another fixed expense.

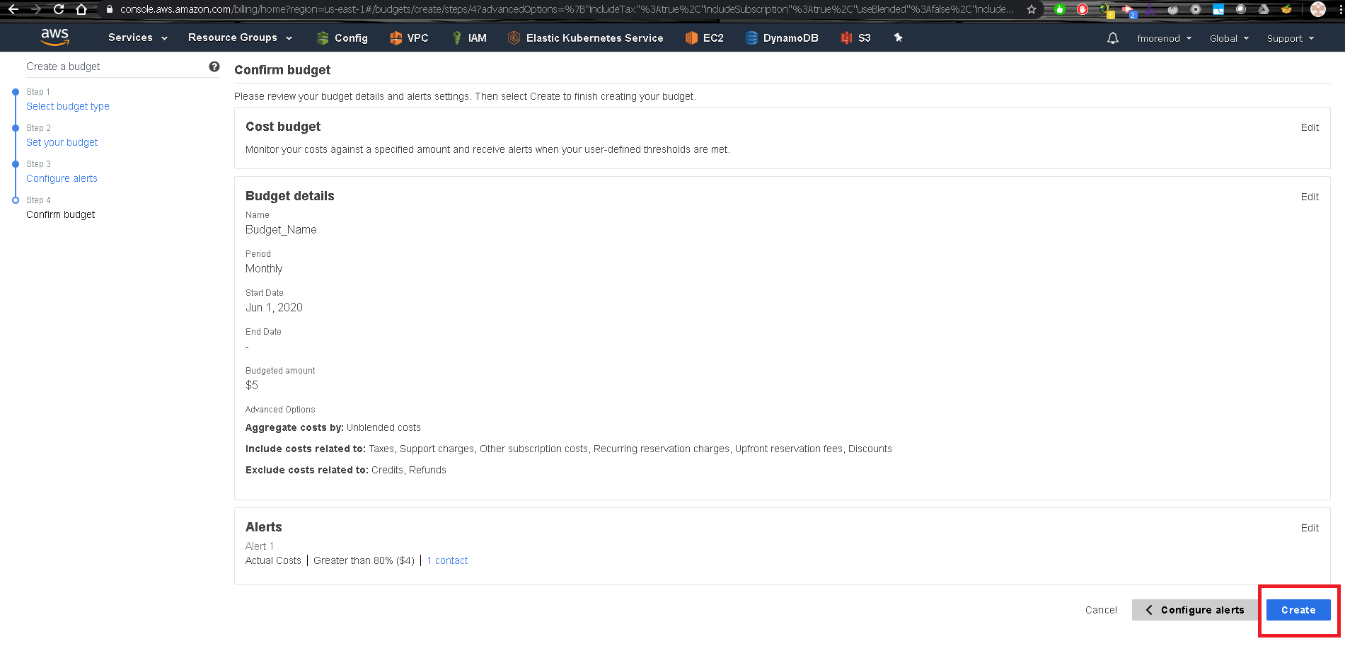


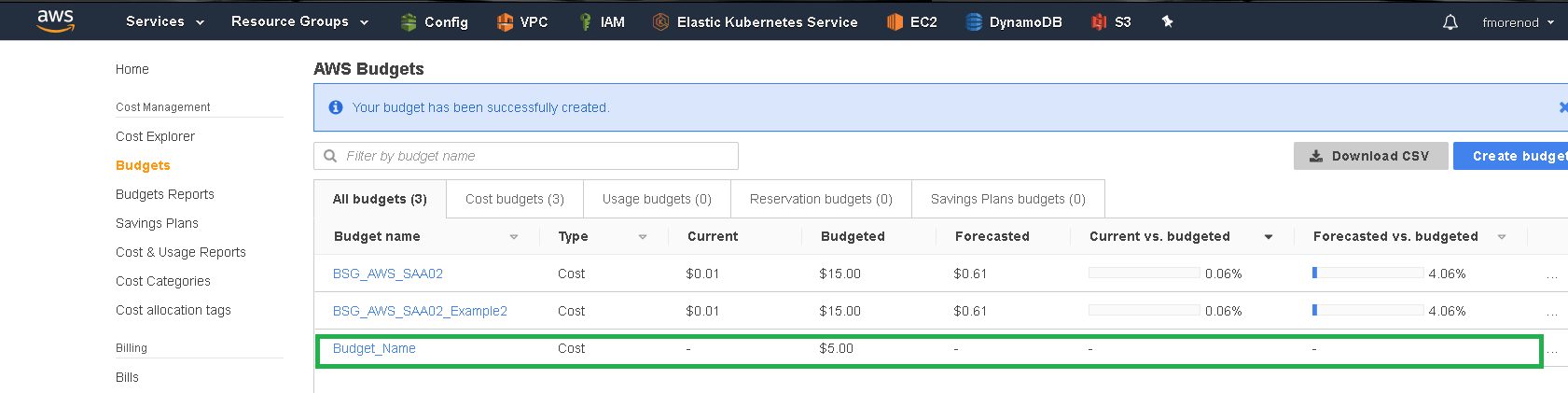




You will receive an email with the confirmation of the subscription of this topic/budget.

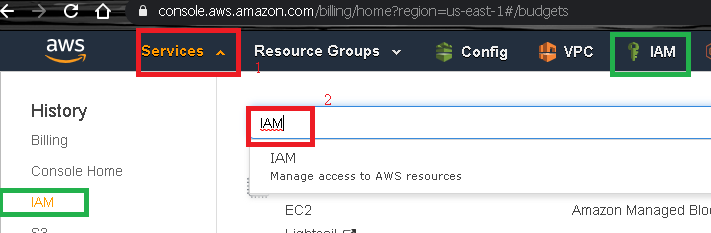


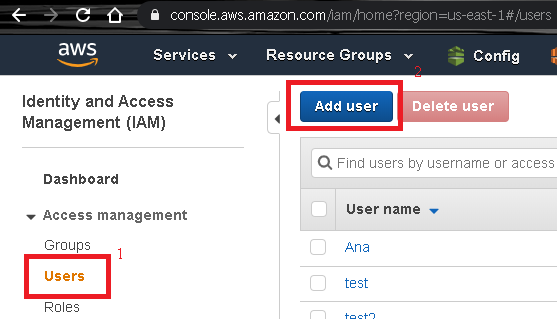


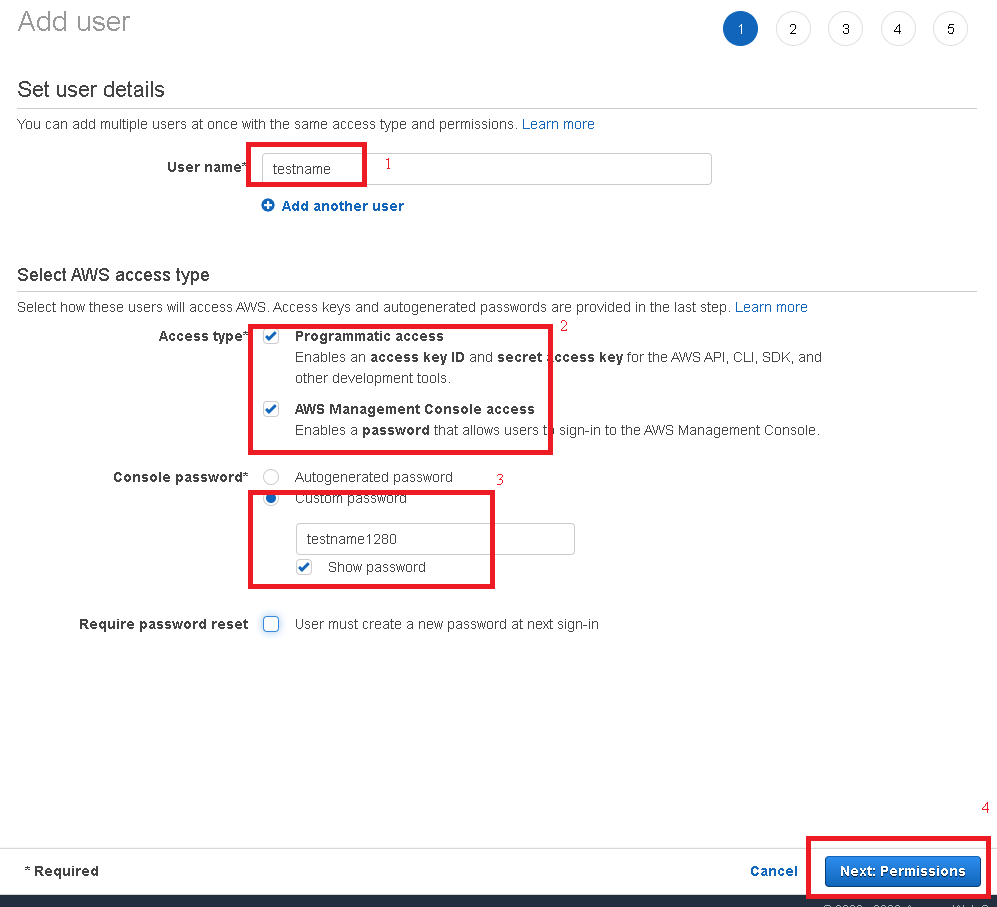


## Create administrative user

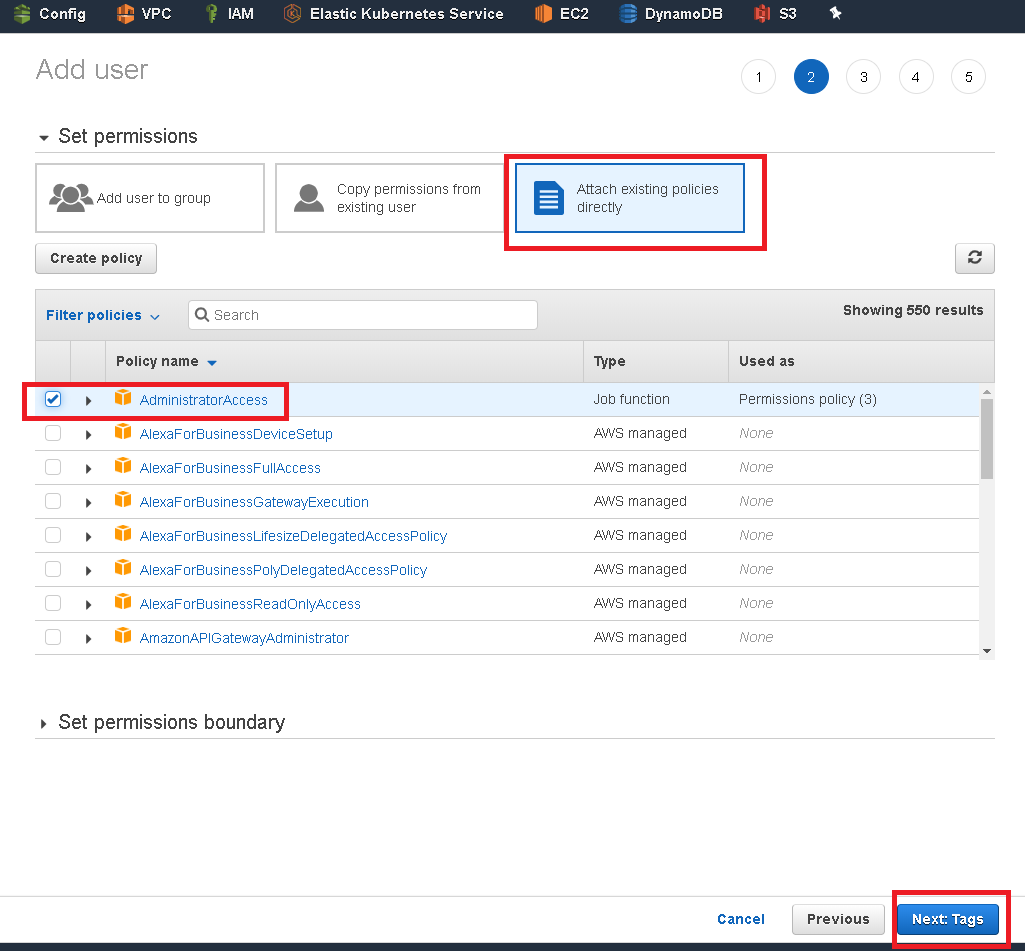
You will have to create a user to manage the following laboratories. In that case you have to use a programmatically access.

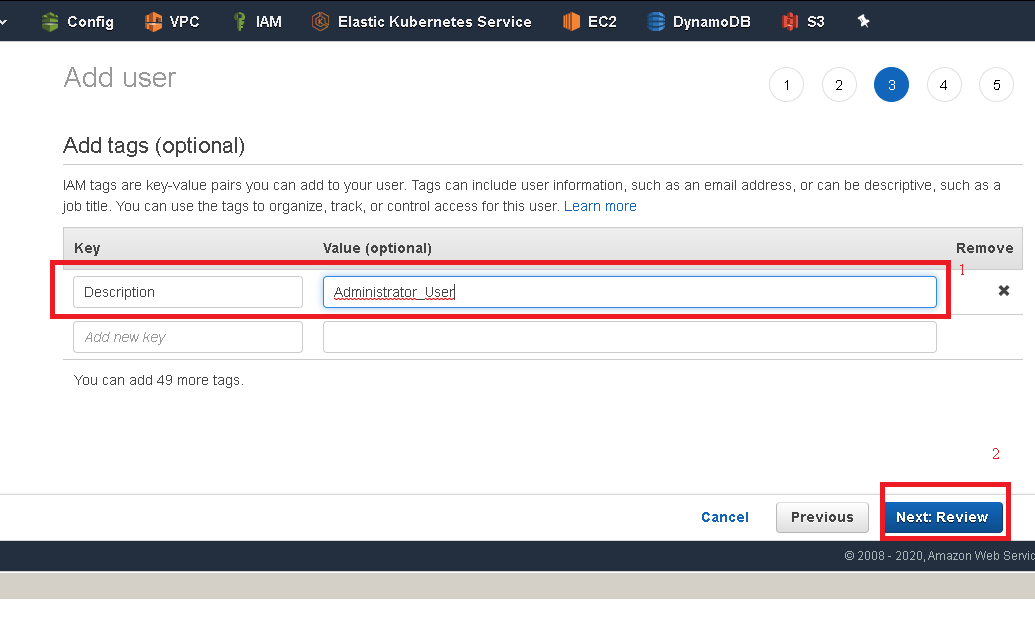


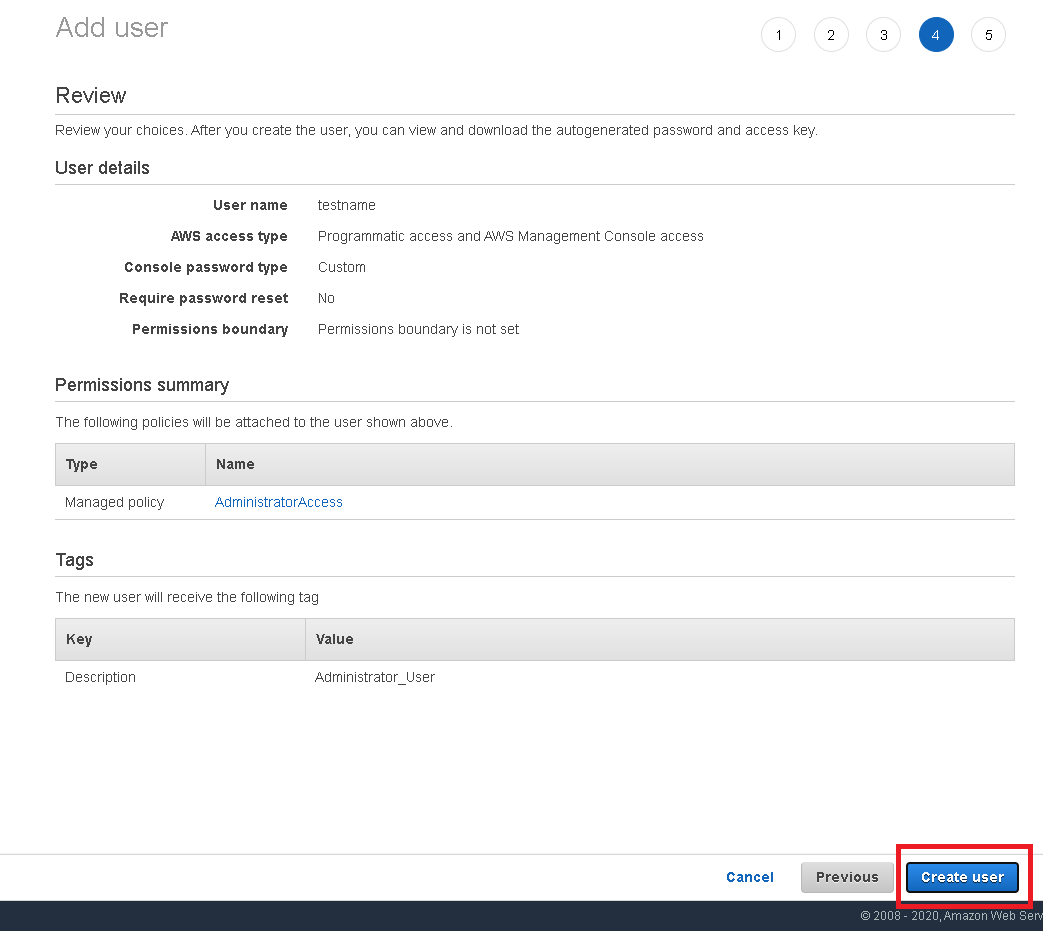




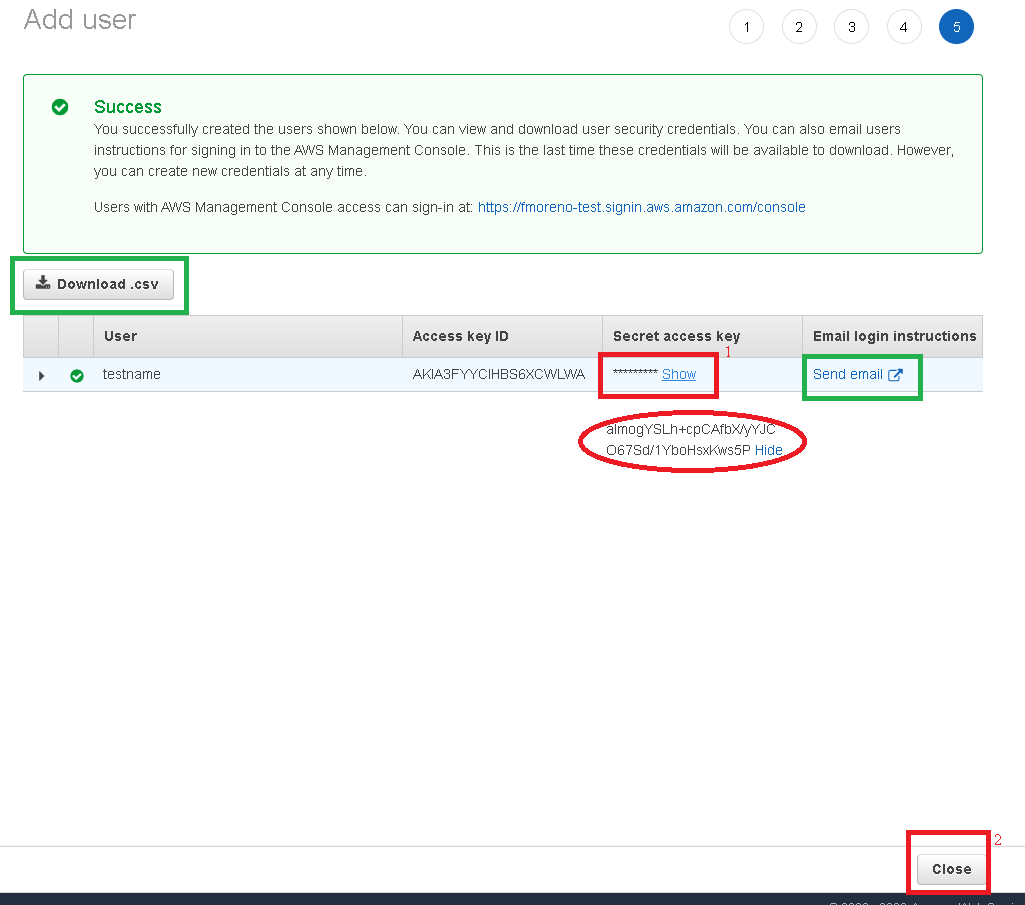
It’s better to have a full administrator Access.





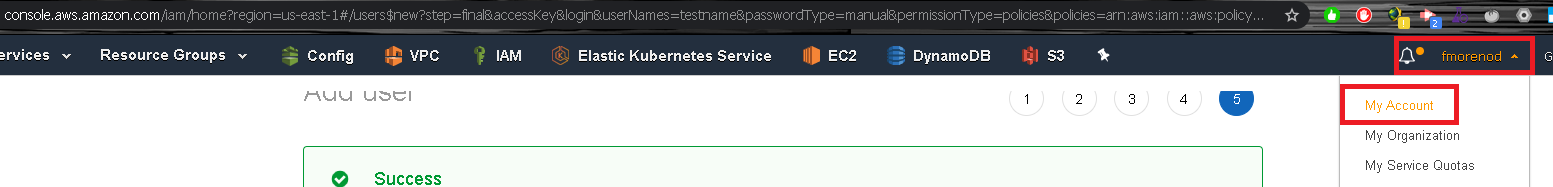


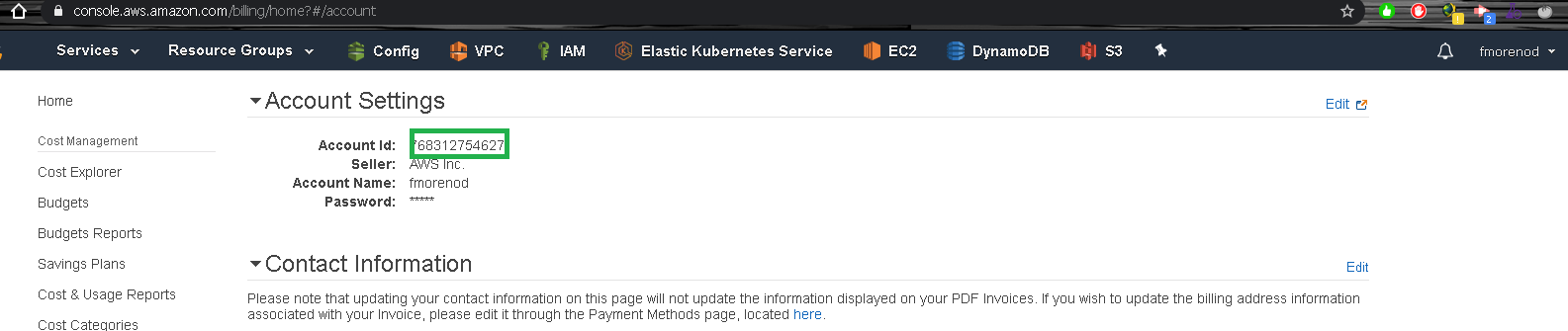
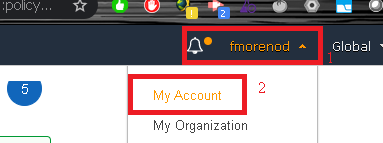
Please store those credentials, because you have to configure using “aws configure” or on environment variables.



Copy the text for Access key ID and Secret Access key, the same as the CSV file.

## Get Account Number





# Lab 1 using Command Line (Windows)

Follow the same steps of Web Management Console for:

Stablish Billing Alarm

Create Administrative User

Get AWS Account ID

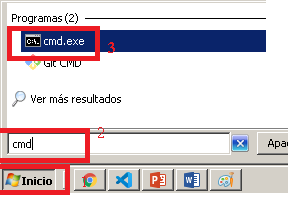
### Prerequisites

Download an AWS CLI for according OS, following <https://docs.aws.amazon.com/cli/latest/userguide/install-cliv2.html>

Jq is a tool to parse JSON text, so you can download to make readable output information. You can install using instructions on <https://stedolan.github.io/jq/download/>

## Identify current user

Open a console



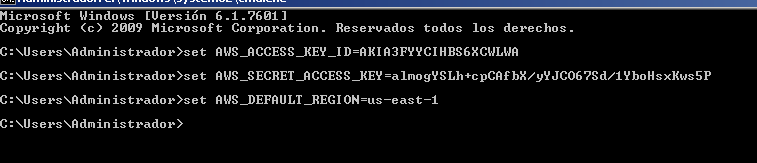
Configure the variables of Access key ID and Secret Access key that you create on Create Administrative User.

In addition you have you configure the default region.

set AWS\_ACCESS\_KEY\_ID=AKIA3FYYCIHBS6XCWLWA

set AWS\_SECRET\_ACCESS\_KEY=almogYSLh+cpCAfbX/yYJCO67Sd/1YboHsxKws5P

set AWS\_DEFAULT\_REGION=us-east-1



You have to make the same activity everytime that you like to send commands or you can configure the CLI to identify AWS User automatically using “aws configure” and insert the same data.



## Get Account ID

Following the instructions

rem Obtenemos datos de la cuenta por medio de una obtencion de identidad STS

aws sts get-caller-identity

aws sts get-caller-identity --query Account

aws sts get-caller-identity --query Account --output text

rem Unicamente obtenemos un valor de esa cuenta, podriamos realizarlo usando jq si tenemos json

aws sts get-caller-identity|jq ".Account"

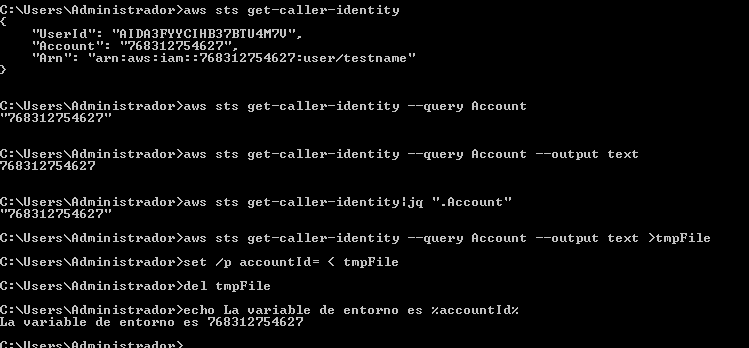
rem Obtener variable ejecutada en entorno

aws sts get-caller-identity --query Account --output text >tmpFile

set /p accountId= < tmpFile

del tmpFile

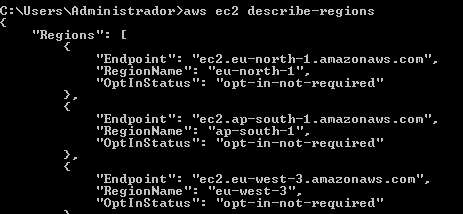
echo La variable de entorno es %accountId%



## Describe regions

You can check available regions for your account using

aws ec2 describe-regions



## Get Budget Information

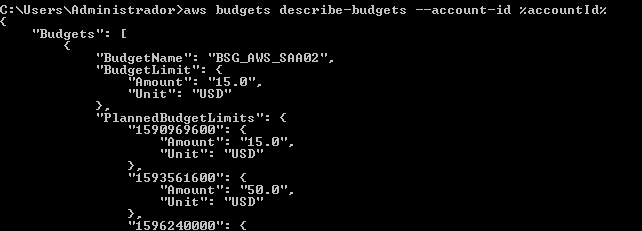
Running

aws budgets describe-budgets --account-id %accountId%

or

aws budgets describe-budgets --account-id %accountId% |jq ".Budgets[0].BudgetName"

, you get detailed information of budget that you already created.



# Lab 1 using Powershell (Windows)

Follow the same steps of Web Management Console for:

Stablish Billing Alarm

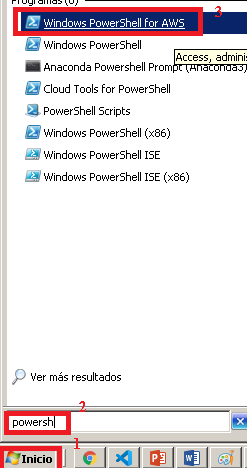
Create Administrative User.

### Prerequisites

Download an AWS Powershell Tools for according OS, following <https://docs.aws.amazon.com/powershell/latest/userguide/pstools-getting-set-up.html>

## Identify current user

Open Powershell Tools for AWS



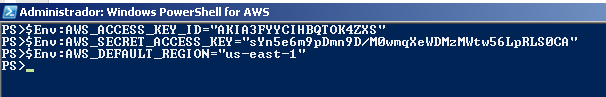
For default, Powershell request the user using the same configuration of “aws configure”, however we will create the environment variables to identify the current user.

<# Primero ingresar los datos de configuracion de la cuenta, obtenidos del archivo csv del IAM #>

$Env:AWS\_ACCESS\_KEY\_ID="AKIA3FYYCIHBQTOK4ZXS"

$Env:AWS\_SECRET\_ACCESS\_KEY="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"

$Env:AWS\_DEFAULT\_REGION="us-east-1"



## Get Account ID

<# Obtenemos datos de la cuenta por medio de una obtencion de identidad STS #>

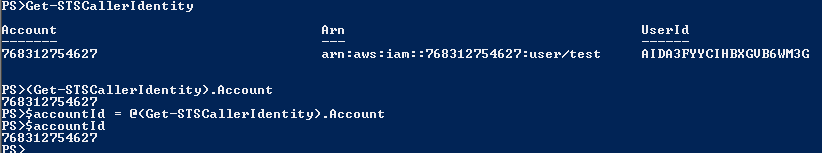
Get-STSCallerIdentity

<# Unicamente obtenemos un valor de esa cuenta, podriamos realizarlo usando jq si tenemos json #>

(Get-STSCallerIdentity).Account

$accountId = @(Get-STSCallerIdentity).Account

$accountId



## Describe regions

<# Vamos a traer el listado de regiones que estan disponibles para esa cuenta #>

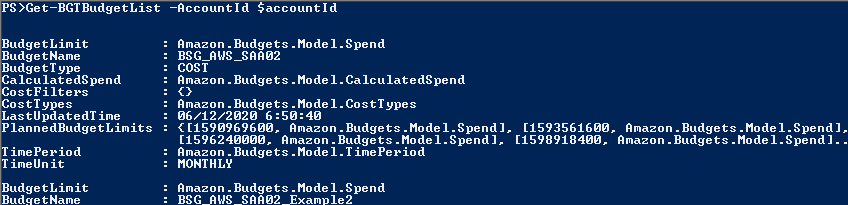
Get-EC2Region



Get Budget Information

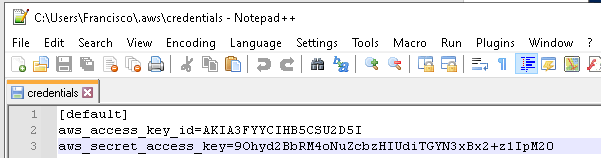
<# Vamos a traer alguna informacion del budget que realizamos recientemente #>

Get-BGTBudgetList -AccountId $accountId



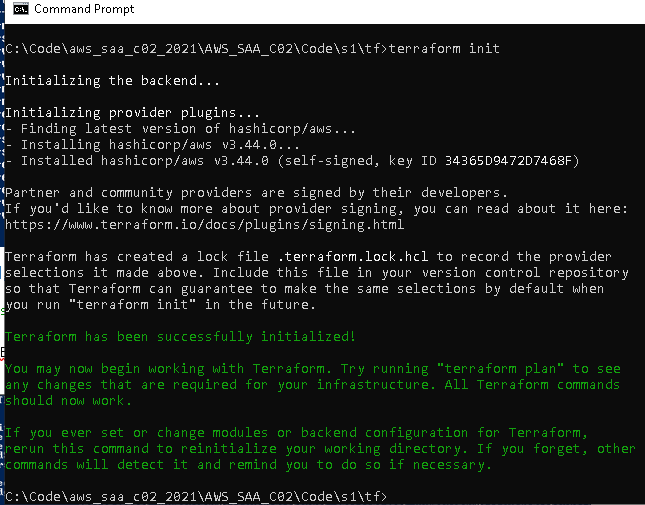
# Lab 1 using Terraform (Windows)

You must download the GIT repository on a folder, then you have to configure $HOME/aws/credentials from the Access Key and Secret Access Key for instance for Identify current user (Command Line), similar to have this file:

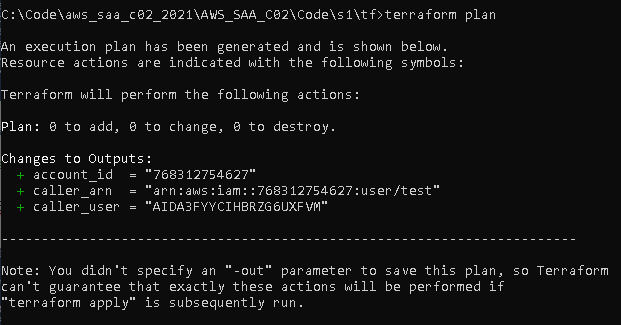


Then, we have to execute on the same folder that TF files:

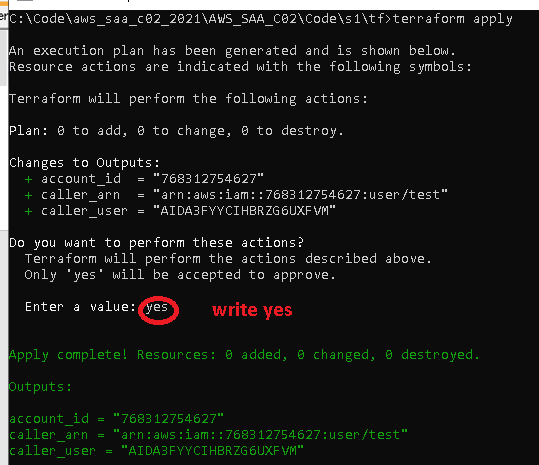
terraform init



terraform plan



terraform apply



# Evidence to send.

To have a review, the student must send some screenshots to instructor email:

1. Screenshot of confirmed subscription of Billing Alarm. You must create using Web Management Console on section [Stablish Billing Alarm](#_Stablish_Billing_Alarm).
2. Detailed Budget Information.