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LEARNING amazon-ec2

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#amazon-ec2

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About

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Chapter 1: Getting started with amazon-ec2

Remarks

This section provides an overview of what amazon-ec2 is, and why a developer might want to use it.

It should also mention any large subjects within amazon-ec2, and link out to the related topics. Since the Documentation for amazon-ec2 is new, you may need to create initial versions of those related topics.

Examples

EC2 Instances

Detailed instructions on launching an EC2 instance.

Launching an EC2 Instance with the AWS Management concole

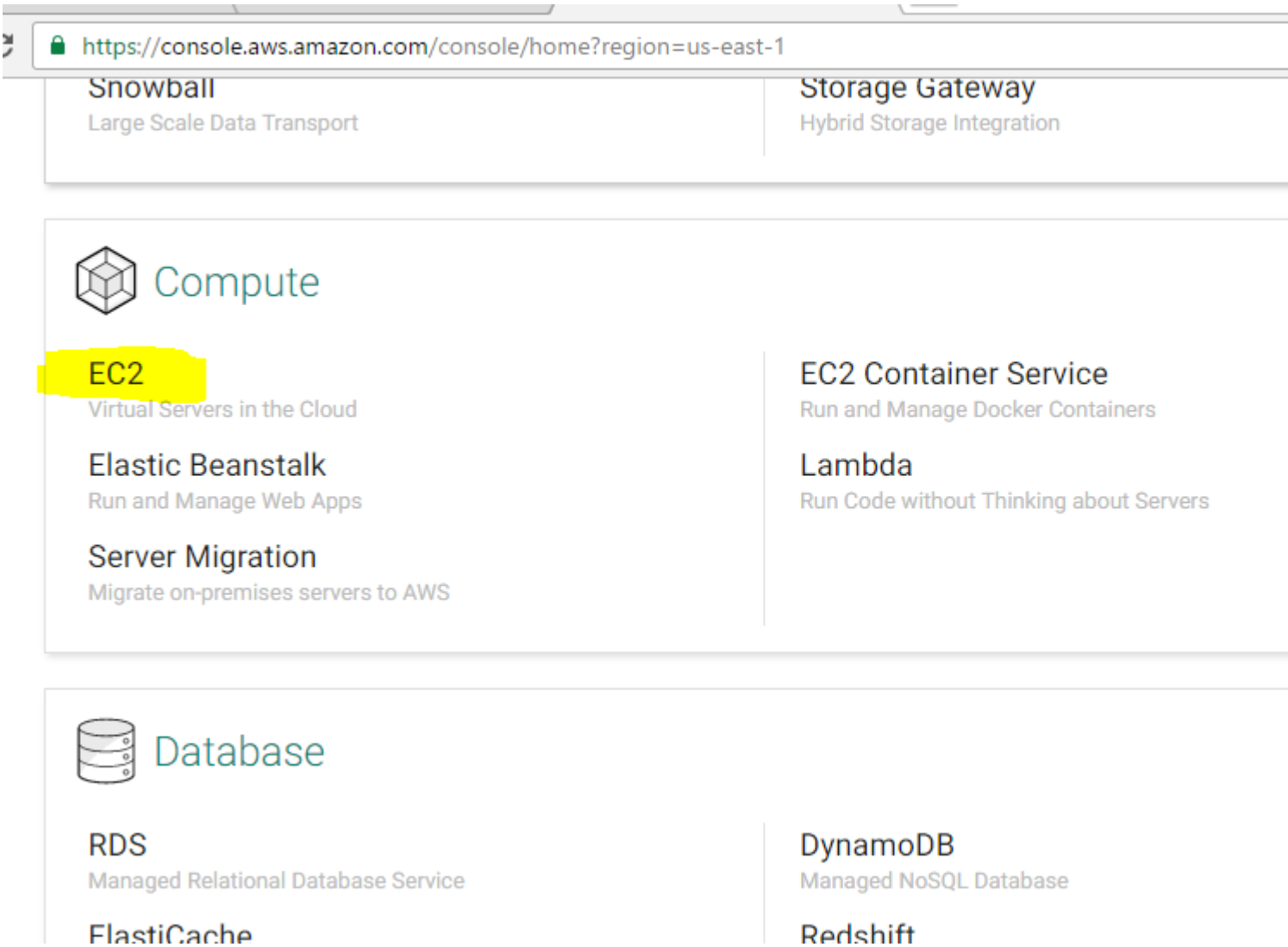
In this example, we will launch a basic EC2 Instance with Amazon Linux in the quickest manner possible via the AWS Management Console. Amazon frequently improves the user experience of the AWM Management console, so you might experience some changes to the screens below.

Important: launching an instance in this manner is not considered secure and can incur cost if the instance is left running. Please terminate any instances created with these steps that you do not intend to use and pay for.

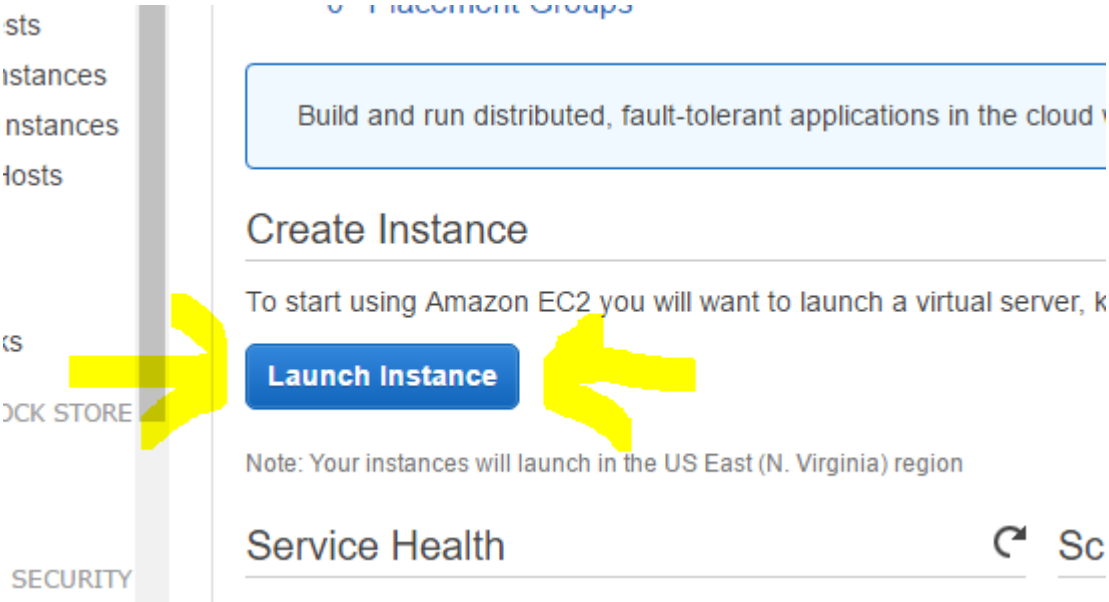
Amazon offers new users the AWS Free Tier account that allows you to test drive AWS features at very low cost.

First, sign into the AWS Management console. Create an account if you don't have one already (and take advantage of the Free Tier).

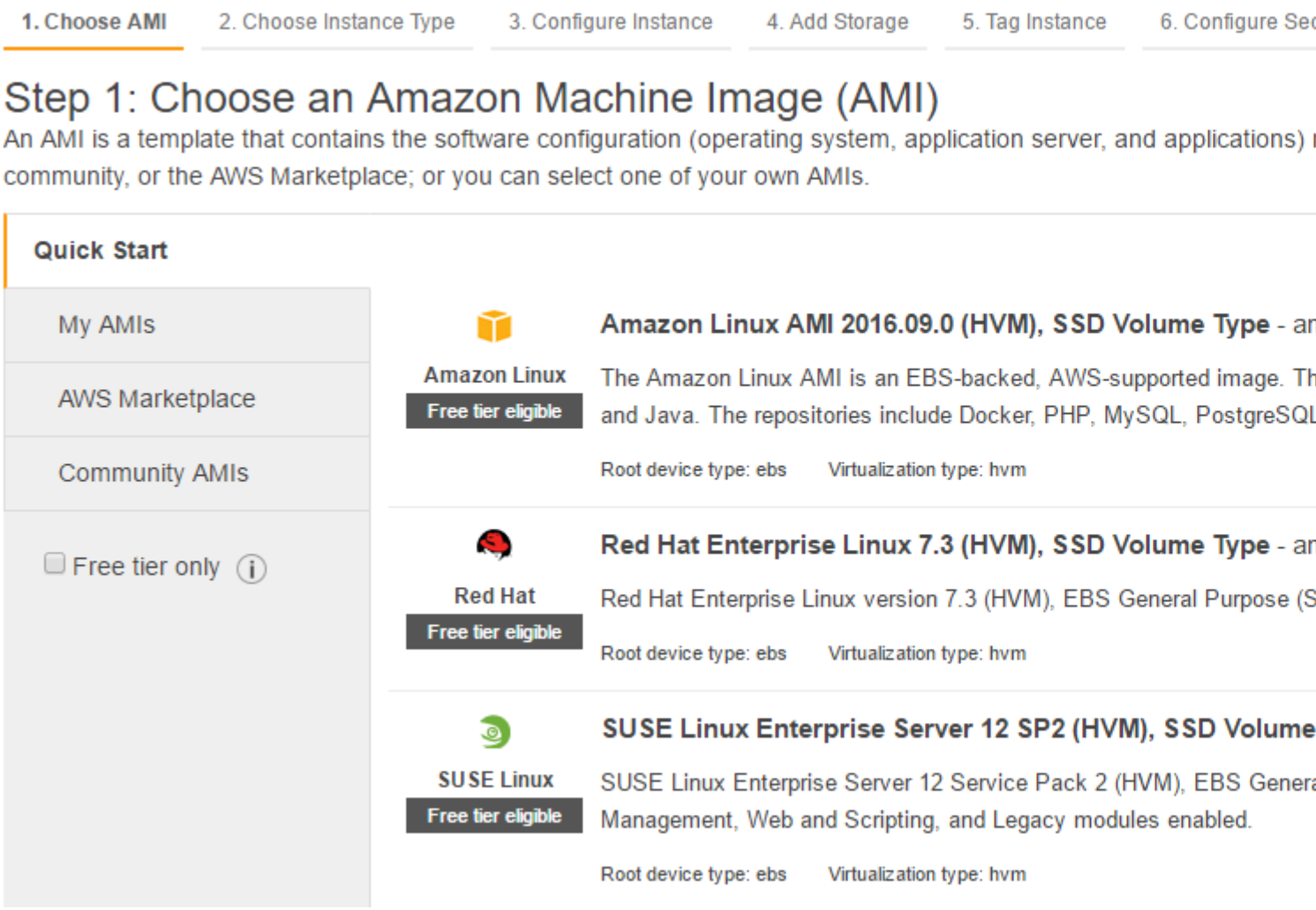
Scroll down to the compute section and click EC2



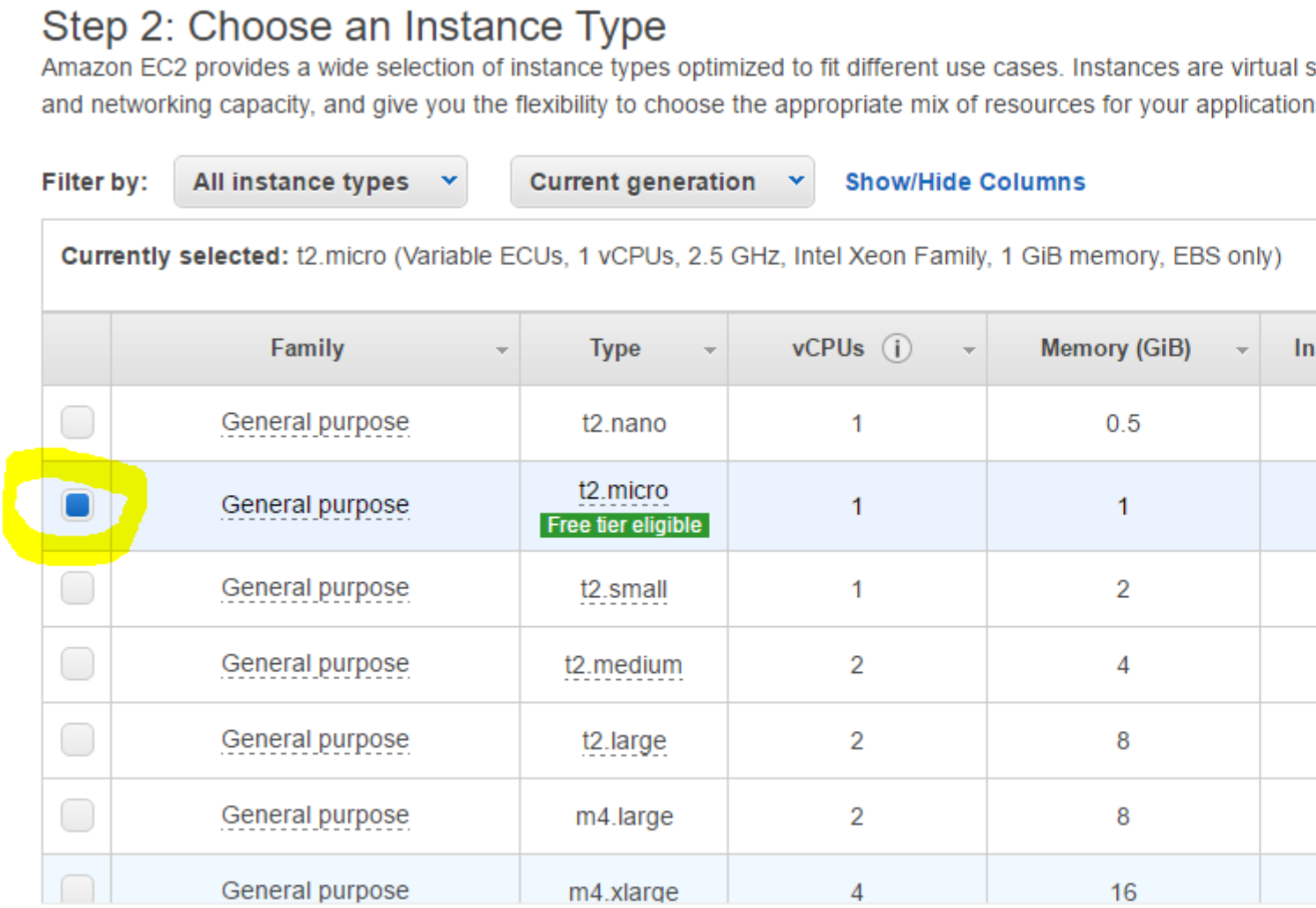
In the middle of the EC2 main screen, click the blue **Launch Instance** button.



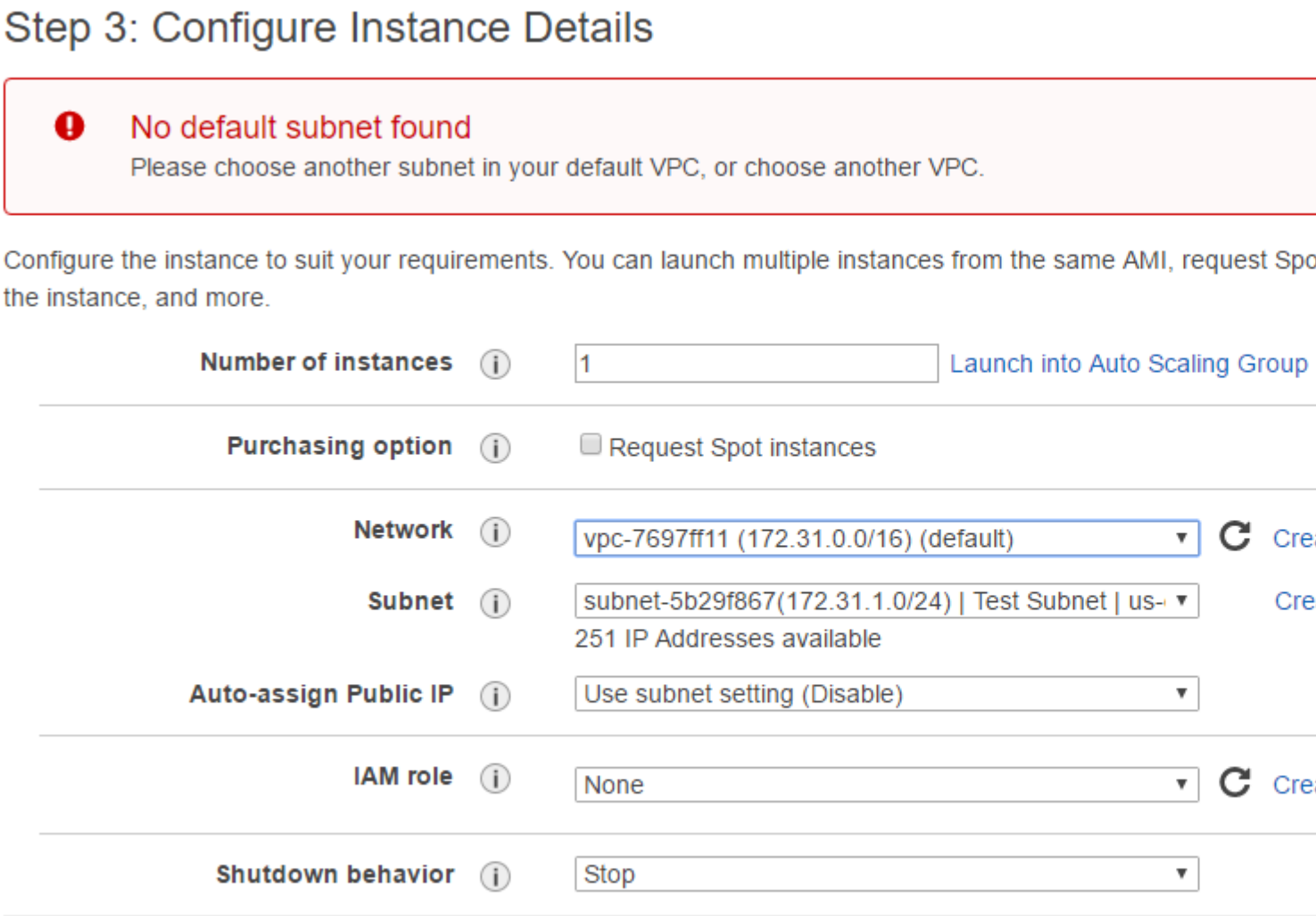
For the Step 1 screen, chose **Amazon Linux** by clicking on the top **Select** button.



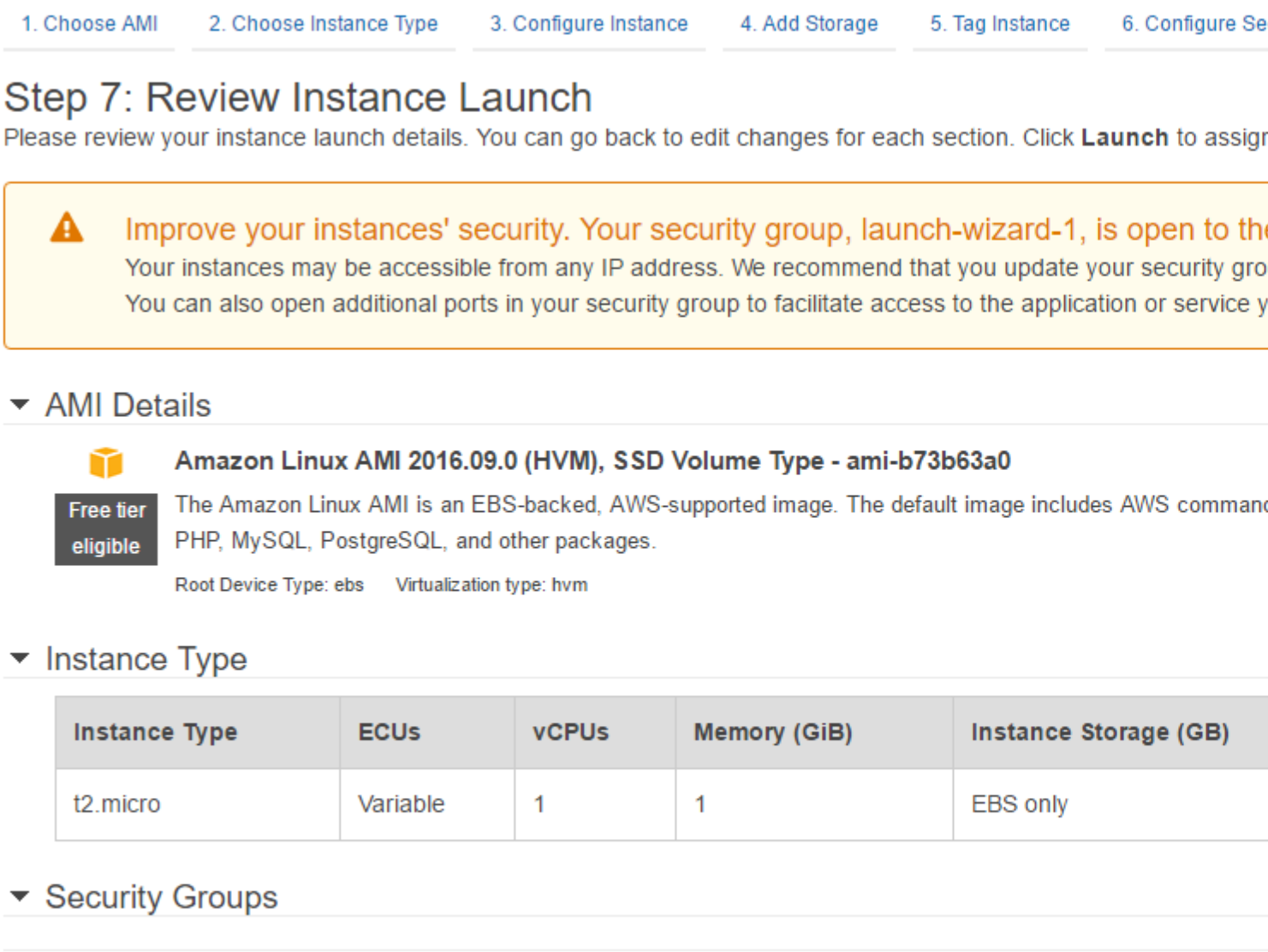
For Step 2, select **t2.micro** instance type and click the **Next: Configure Instance Details** button.



On Step 3, keep all of the defaults and click the **Review and Launch** button.



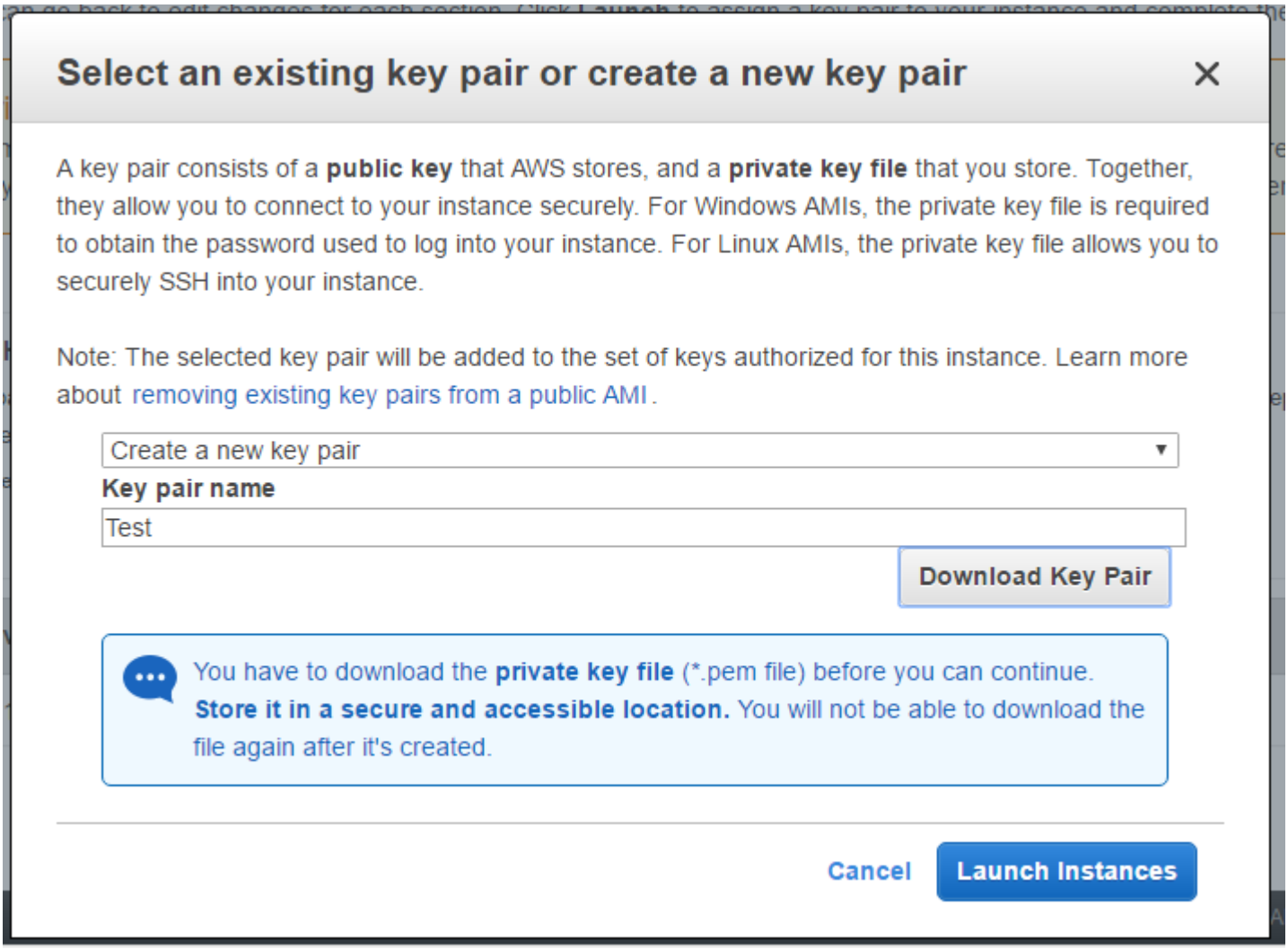
This takes you to Step 7 screen - Review and Launch. Click the blue launch button at the bottom of this screen.



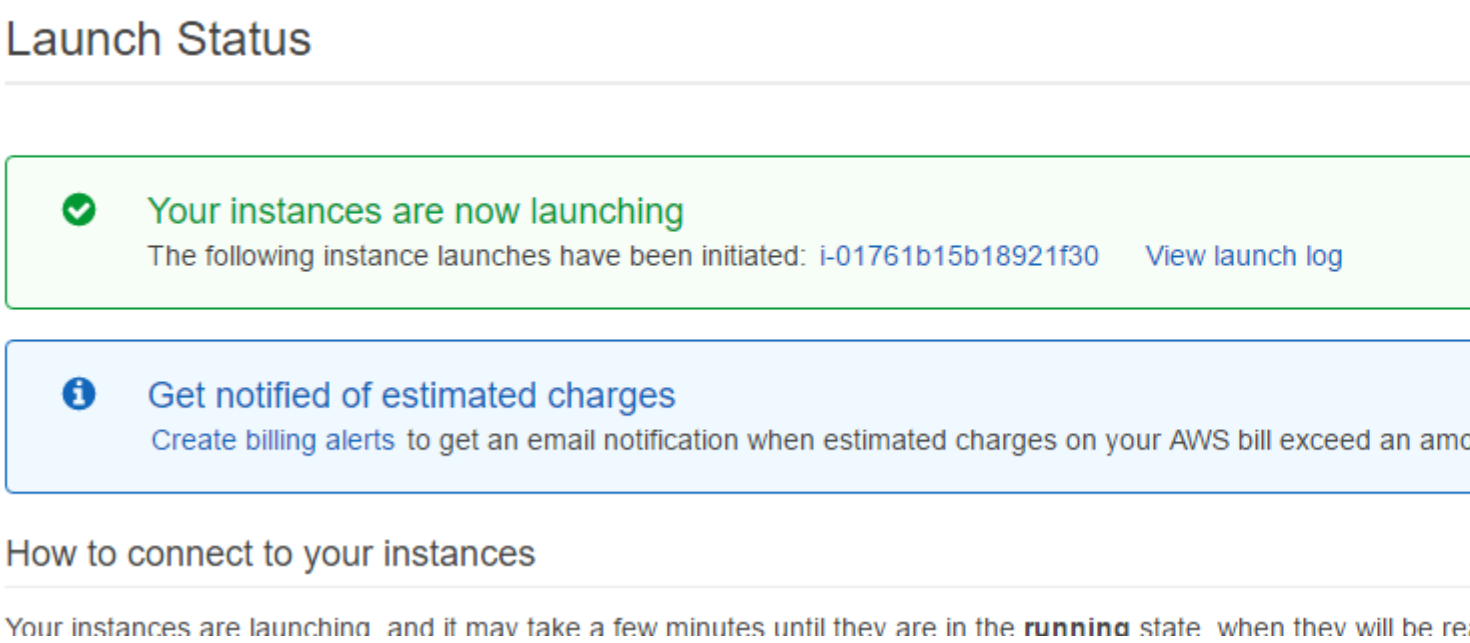
A dialog window will pop up asking you to create a new key for your instance. Please select **Create new Pair** and provide a name for your **Key Pair Name**. Click the **Download Key Pair** button to download the key pair to your computer. This will enable the blue **Launch Instances** button.

If you plan to keep your EC2 instance, then you need to safeguard this Key Pair file. *This is the only time you will be offered the Key Pair*. If you plan to terminate this EC2 after completion of this example, you can safely ignore the Key Pair file.

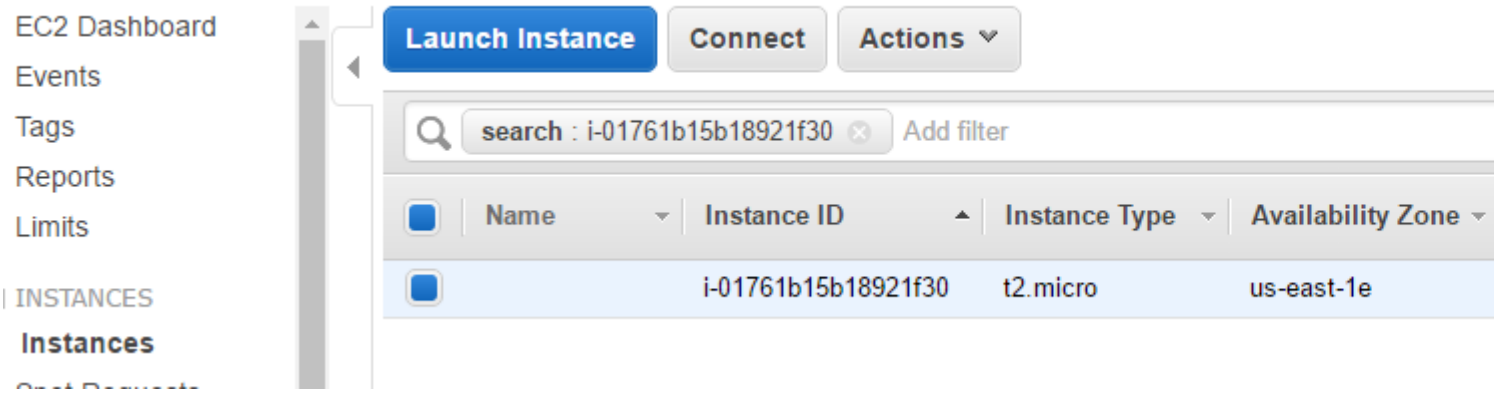
Click **Launch Instances** to launch your test EC2 instance.



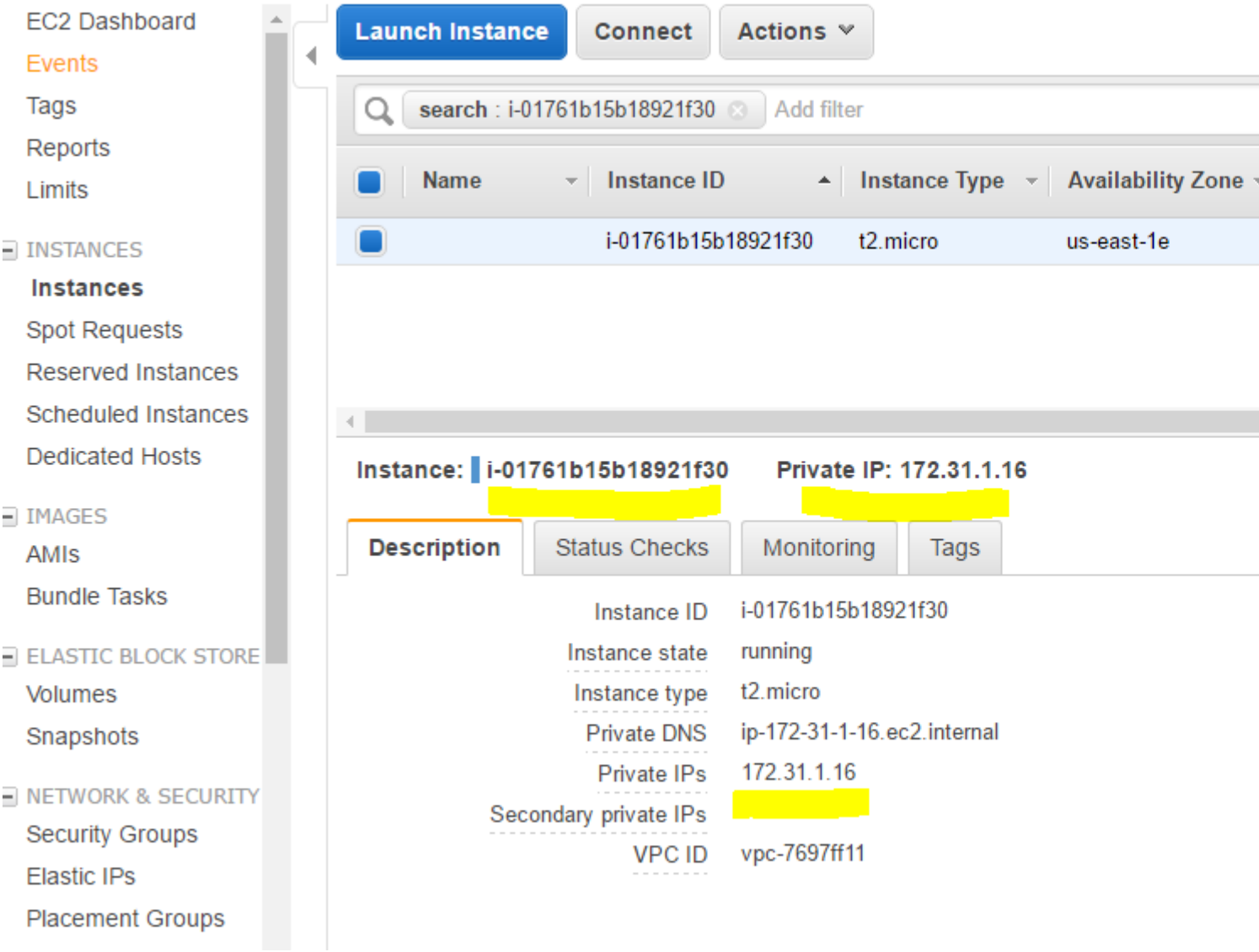
The next screen Launch Status contains a link to view the status of the launch. Click the instance name to view the launch status.



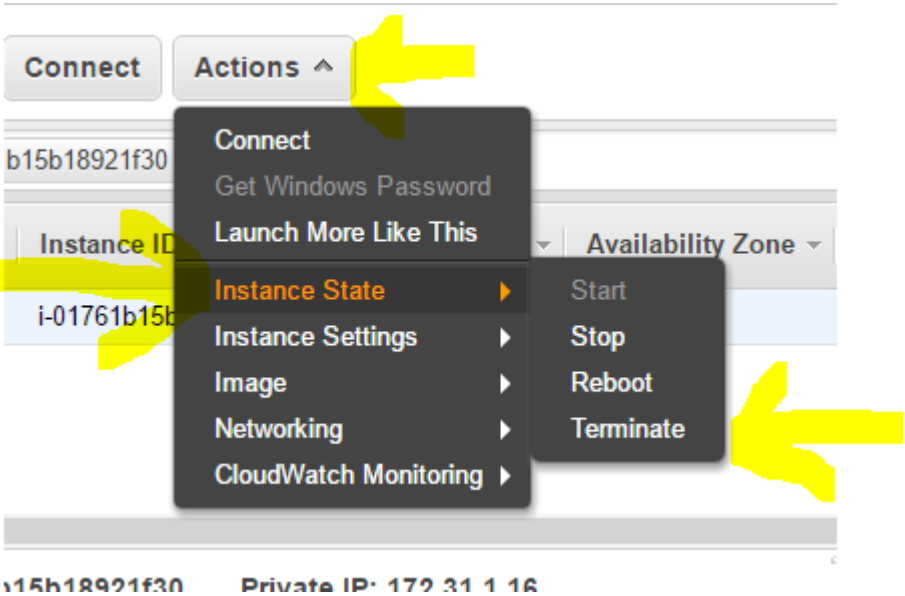
As AWS brings up the instance, the status will show **Initializing** for a few minutes.



When the instance is fully launched, your EC2 status should be **Running** and your instance screen should be similar to the following:



The last step of this example is to terminate this instance. Select Actions -> Instance State -> Terminate. Then click the blue button on the dialog screen(not shown): **Yes Terminate**.



Read Getting started with amazon-ec2 online: https://riptutorial.com/amazon-ec2/topic/2995/getting-started-with-amazon-ec2

Chapter 2: Introduction to AWS CLI

Examples

Installing the aws cli

On linux: If you don't have pip installed, install it first:

```
curl "https://bootstrap.pypa.io/get-pip.py" -o "get-pip.py"
sudo python get-pip.py
```

Then install awscli:

```
sudo pip install awscli
```

On Windows: Download the latest installers from here

Configuring the aws cli

Now you have aws cli installed, you'll have to configure it access your AWS resources. You can have multiple profiles like *test*, *dev*, *prod*, etc profiles. So let's assume you want to configure it for your test environment.

```
aws configure --profile=test
```

It will ask for following information:

```
AWS Access Key ID [None]: XXXXXXXXXXXXXX
AWS Secret Access Key [None]: XXXXXXXXXXXXXXXXXXXX
Default region name [None]: us-west-2
Default output format [None]: json
```

You will get the above information from IAM management in AWS Console.

Working with aws cli

The best part about aws cli is that you can embed the commands into a script and can trigger them based on some criteria. Like auto deployment on production (in Elastic Beanstalk), no need to go to AWS Console to select and deploy.
You'll get all the available commands by running:

```
# This will give all the available commands
aws help
```

You can even go further, like:

```
# This will give all the available options for ec2
aws ec2 help
```

and further

```
# This will output all the operations you can do with ec2 instances
aws ec2 describe-instances help
```

You can list/manipulate all the aws resources (S3, EC2, EBS, RDS, etc) using aws cli. Here's the complete documentation.

Read Introduction to AWS CLI online: https://riptutorial.com/amazon-ec2/topic/3639/introduction-to-aws-cli

Chapter 3: SSH Keys for Amazon EC2 instances

Examples

Securing your SSH private key

An SSH key has two pieces, the public key and the private key.

The private key:

- Is usually in a file named `id_rsa`, but it can be given any name.
- **CANNOT BE REGENERATED IF LOST!!!! Do not lose this file!**
  - If you lose it, you will not be able to get back into your instance. (StackOverflow is littered with questions by people who have done this.)
- **KEEP THIS FILE SECURE.**
  - On Unix/Linux systems, you are required to give it secure permissions or most clients will complain. `chmod 600 id_rsa` Its parent directories should also not be world-writable.
  - Do not share it with anyone.
  - Do not check it into a shared GitHub repo.

The public key:

- Is usually in a file named `id_rsa.pub`, but it can be given any name.
- Can be shared
- Can be regenerated from the private key. `ssh-keygen -y -f ~/.ssh/id_rsa`
- Needs to be added to the `$HOME/.ssh/authorized_keys` on the remote system to enable passwordless login with the private key. (AWS does this for you at instance creation for the keypair you select. They cannot update this file for you after instance creation.)

Read SSH Keys for Amazon EC2 instances online: https://riptutorial.com/amazon-ec2/topic/4888/ssh-keys-for-amazon-ec2-instances

Chapter 4: Using aws-cli for Amazon EC2

Examples

Getting information about EC2 instances

You can obtain information about EC2 instances using:

```
aws ec2 describe-instances
```

You can obtain information about specific EC2 instances using:

```
aws ec2 describe-instances --instance-ids ...
```

where `...` contains one or more instance identifiers. For example:

```
aws ec2 describe-instances --instance-ids i-abcdefgh i-ijklmnop
```

The output of `aws ec2 describe-instances` uses pagination by default. If the response contains the key `"NextToken"` then you'll need to use that token to obtain the next page of information:

```
aws ec2 describe-instances --starting-token <token from previous response>
```

Read Using aws-cli for Amazon EC2 online: https://riptutorial.com/amazon-ec2/topic/3441/using-aws-cli-for-amazon-ec2

Credits

S. No	Chapters	Contributors
1	Getting started with amazon-ec2	Community, Taterhead
2	Introduction to AWS CLI	icedwater, thekosmix
3	SSH Keys for Amazon EC2 instances	Karen B
4	Using aws-cli for Amazon EC2	Simeon Visser