

AWS Create RHEL 8 Elastic Compute Instance

In this tutorial, we will be creating an [AWS Elastic Compute \(EC2\)](#) instance with Ubuntu 20 as the operating system.

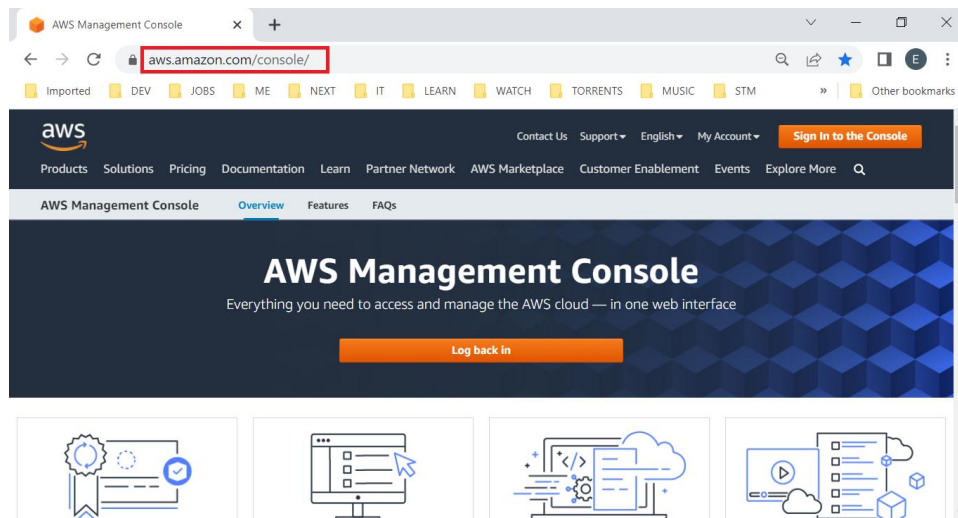
To complete this tutorial you will need an AWS Free Tier account.

If you do not have an AWS account, you can access my "AWS Create Free Tier Account" tutorial [here](#).

Steps to complete tutorial:

- Update Virtual Private Cloud (VPC)
- Create RHEL 8 EC2 Instance
- Connect to RHEL 8

To begin, go to the following website, <https://aws.amazon.com/console/> and log in to the console.

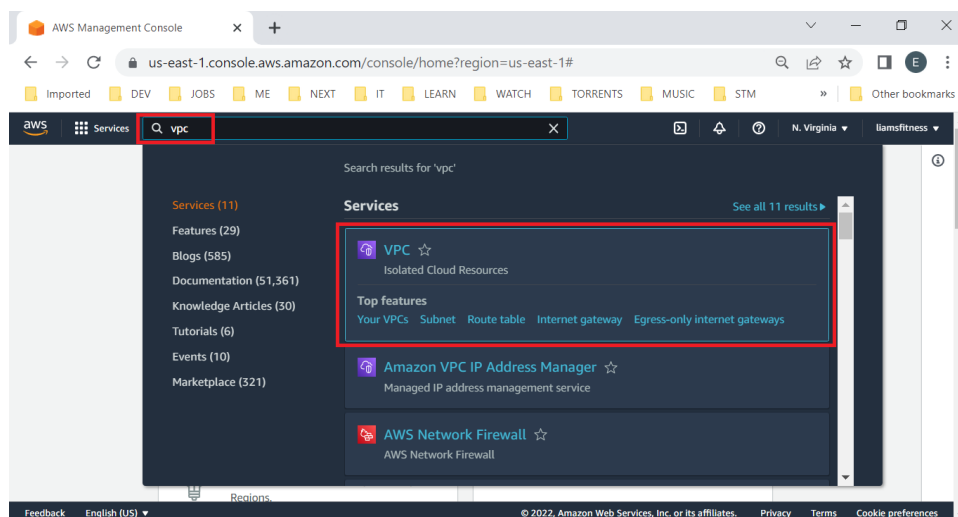


If you've already completed one of my other tutorials, "AWS Create Ubuntu 20 Elastic Compute Instance", you can skip this step and go directly creating an RHEL 8 instance. (add link)

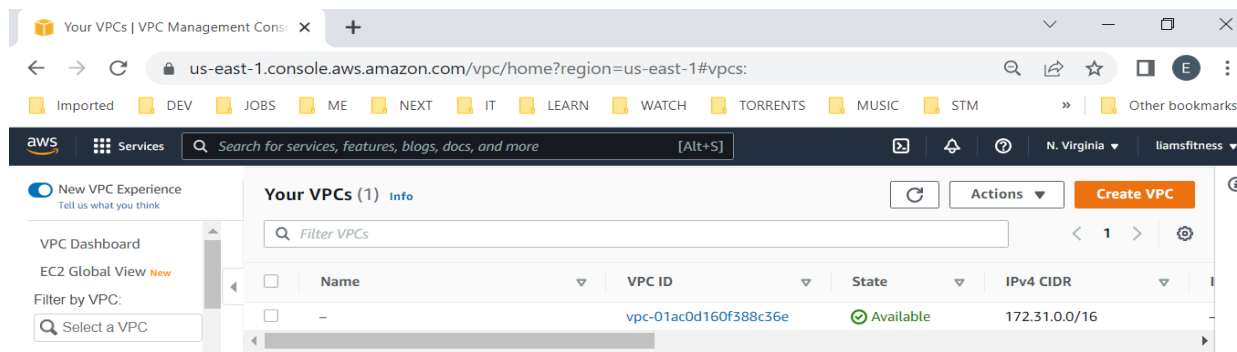
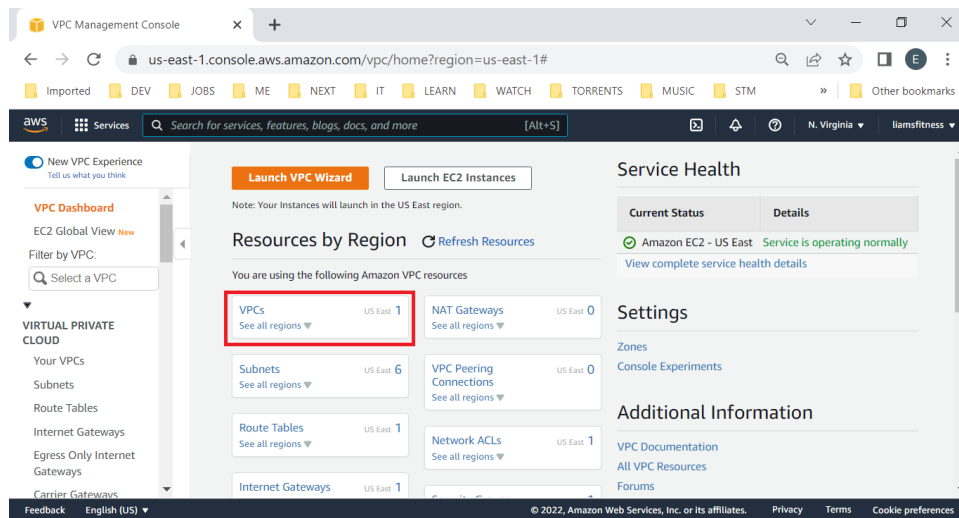
Before we create the EC2 instance, we will configure our default [VPC \(Virtual Private Cloud\)](#) so that it will be easier to work with moving forward. The VPC will allow us to launch resources in an isolated virtual network.

Update Virtual Private Cloud (VPC)

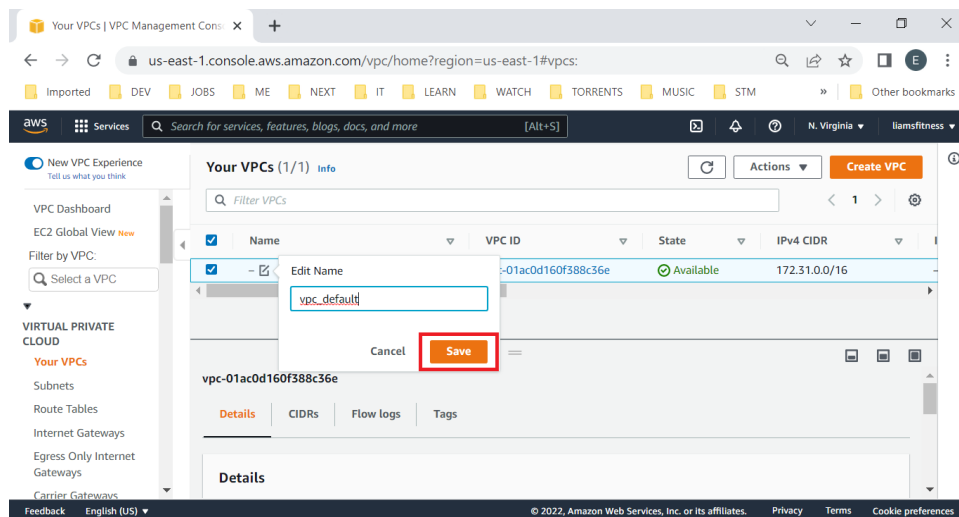
Once logged in, enter VPC in the search bar and select "VPC Isolated Cloud Resource"



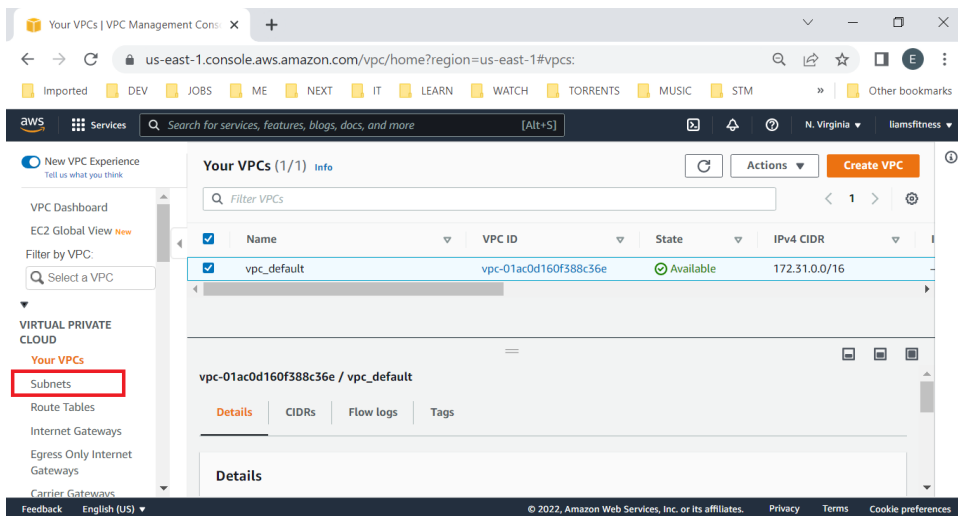
On the VPC Dashboard, select "VPCs"



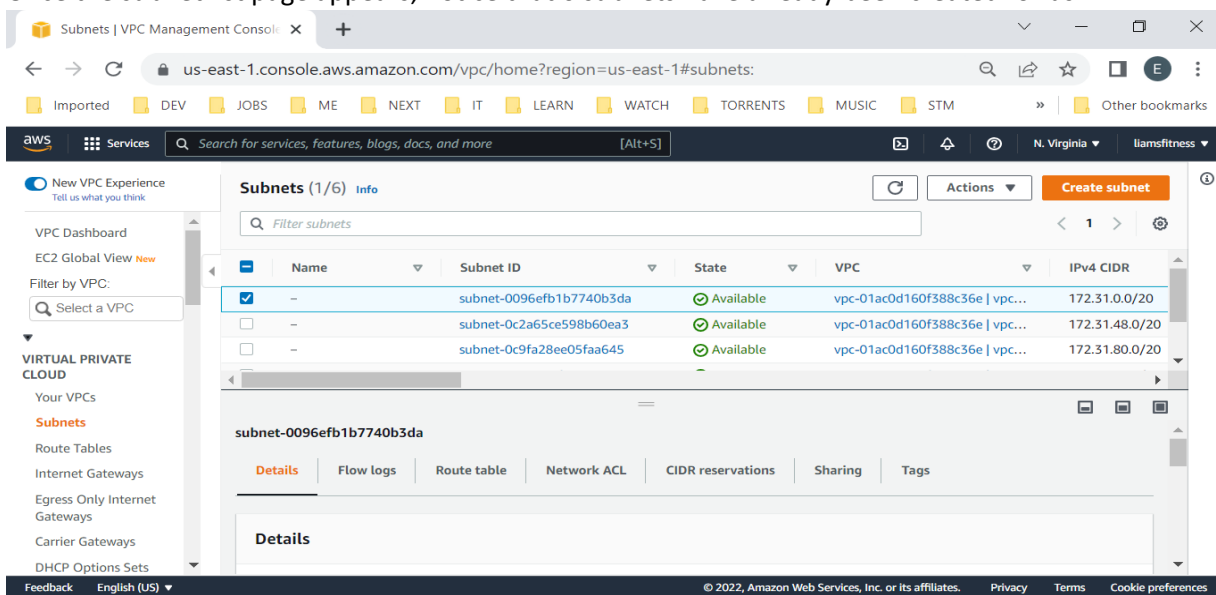
Let's set the name to "vpc_default" and click save.



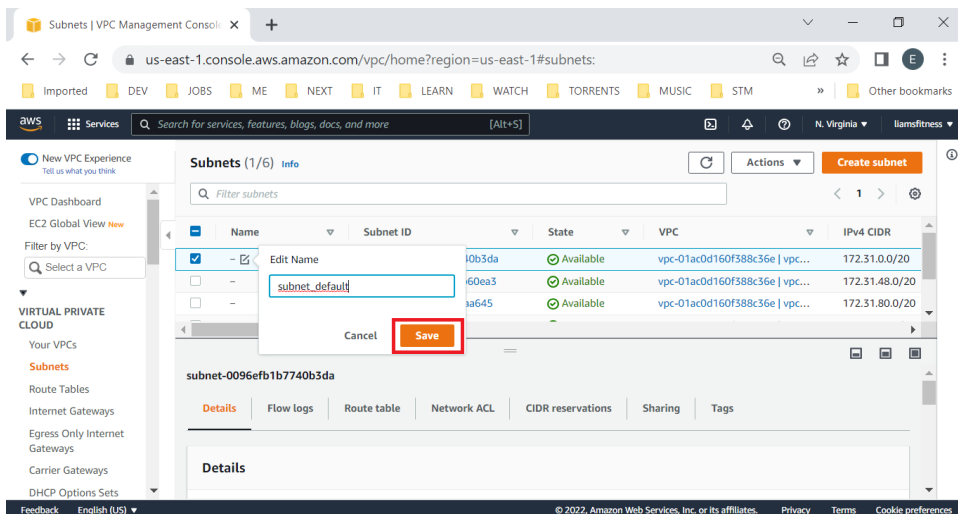
Now, on the left hand side of the screen click "Subnets"

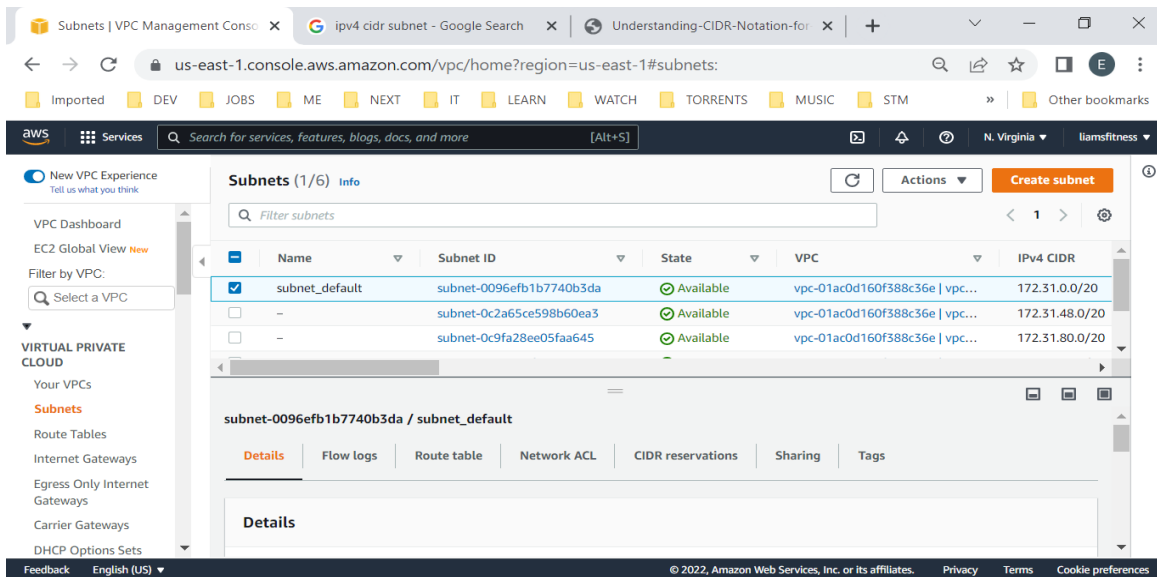


Once the subnet list page appears, notice that 6 subnets have already been created for us.



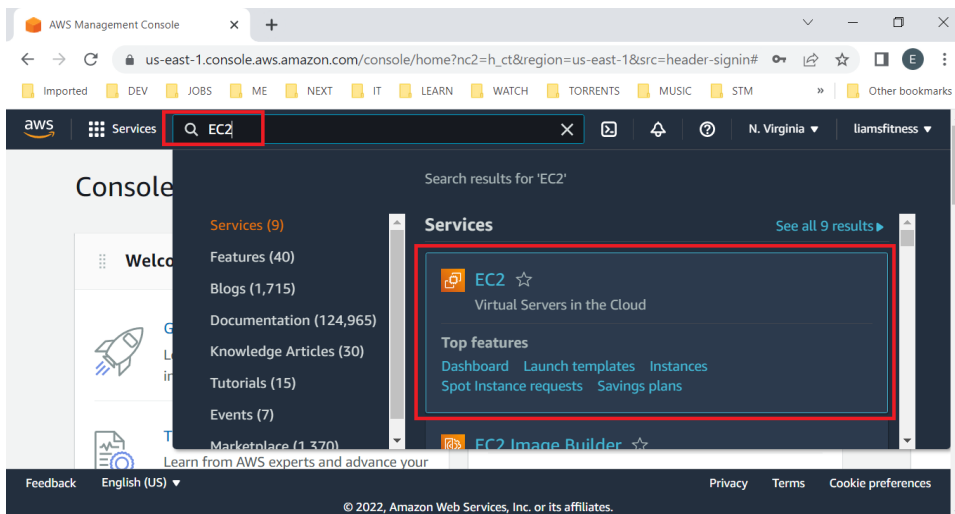
Set the name of the first subnet to "subnet_default" and click save. Also note that the CIDR IPv4 subnet is 172.31.0.0/20.





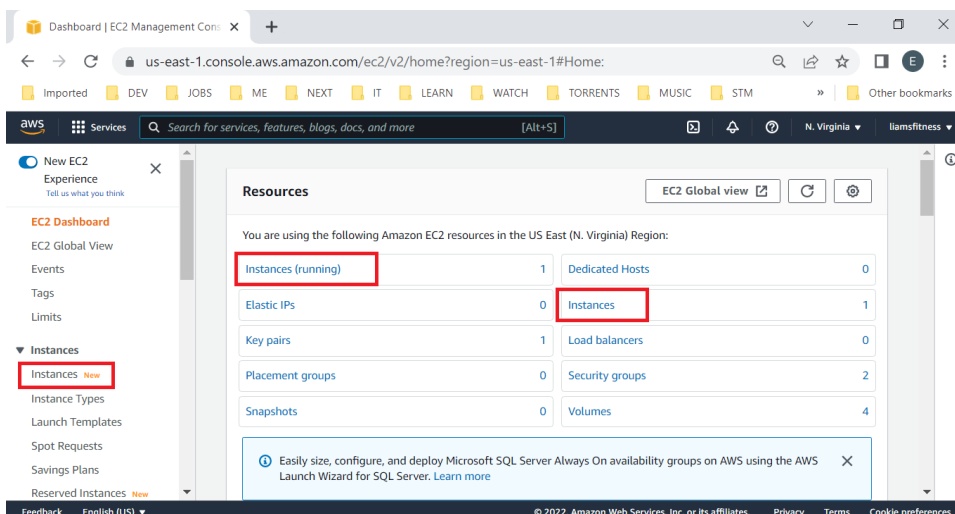
Create RHEL 8 EC2 Instance

Now we can proceed to create our instance, enter EC2 in the search bar and select the 1st EC2 listing.

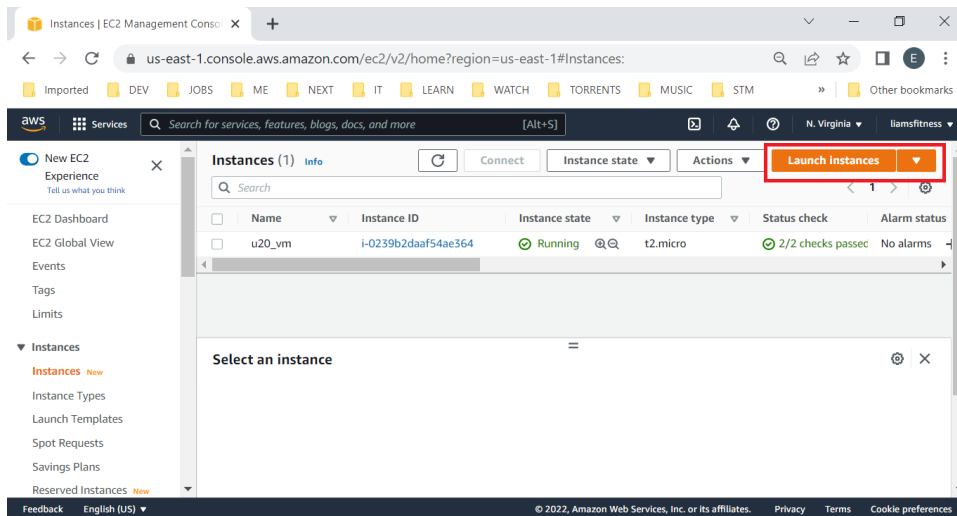


You will be brought to the EC2 Dashboard. It contains links to the resources being used in the selected AWS region. In my case it's US East (N. Virginia).

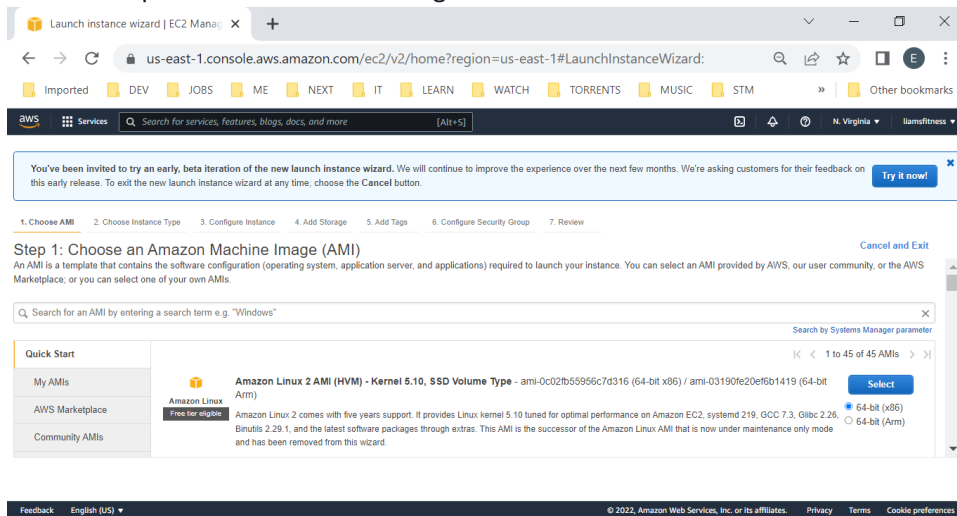
From the EC2 dashboard, click "Instances" (all links will work, your choice).



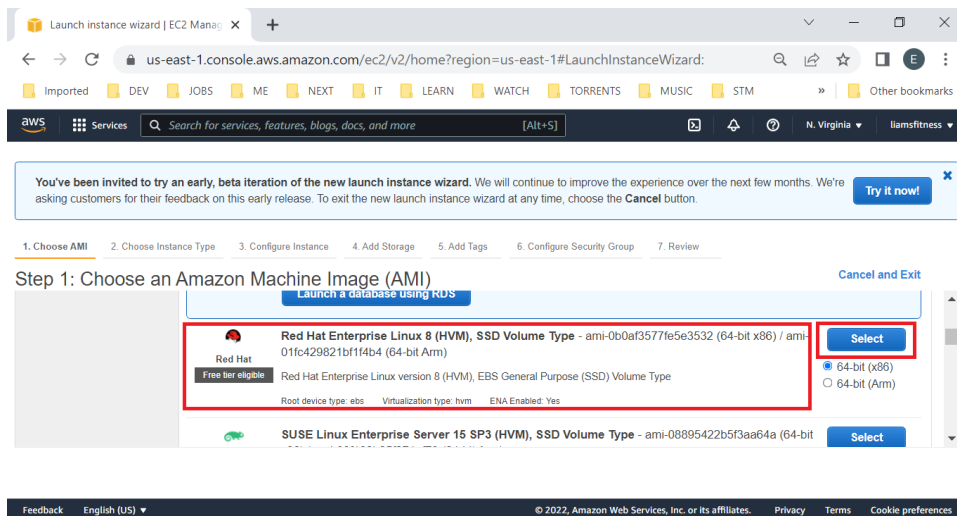
Next, click "Launch Instances".



The first step will be to select the image we want to use.



Scroll down the page until you locate "Red Hat Enterprise Linux 8" and click the "Select" button next to the listing.



In the second step, we choose the instance type. Since we want a free instance, select "t2.micro" and click "Next: Configure Instance Details".

Launch instance wizard | EC2 Manager Console

us-east-1.console.aws.amazon.com/ec2/v2/home?region=us-east-1#LaunchInstanceWizard:

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1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 2: Choose an Instance Type

Amazon EC2 provides a wide selection of instance types optimized to fit different use cases. Instances are virtual servers that can run applications. They have varying combinations of CPU, memory, storage, and networking capacity, and give you the flexibility to choose the appropriate mix of resources for your applications. [Learn more](#) about instance types and how they can meet your computing needs.

Filter by: All instance families Current generation Show/Hide Columns

Currently selected: t2.micro (~ ECUs, 1 vCPUs, 2.5 GHz, ~, 1 GiB memory, EBS only)

	Family	Type	vCPUs	Memory (GiB)	Instance Storage (GiB)	EBS-Optimized Available	Network Performance	IPv6 Support
<input type="checkbox"/>	t2	t2.nano	1	0.5	EBS only	-	Low to Moderate	Yes
<input checked="" type="checkbox"/>	t2	t2.micro	1	1	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	t2	t2.small	1	2	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	t2	t2.medium	2	4	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	t2	t2.large	2	8	EBS only	-	Low to Moderate	Yes

Cancel Previous Review and Launch Next: Configure Instance Details

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The third step allows us to select the VPC (**vpc_default**) and subnet (**subnet_default**) that we named earlier. After making those changes, click **"Next: Add Storage"**.

Launch instance wizard | EC2 Manager Console

us-east-1.console.aws.amazon.com/ec2/v2/home?region=us-east-1#LaunchInstanceWizard:

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1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 3: Configure Instance Details

Configure the instance to suit your requirements. You can launch multiple instances from the same AMI, request Spot instances to take advantage of the lower pricing, assign an access management role to the instance, and more.

Number of instances: 1 Launch into Auto Scaling Group

Purchasing option: ☐ Request Spot instances

Network: vpc-01ac0d160f388c36e | vpc_default (default) Create new VPC

Subnet: subnet-00956af61b7740b3da | subnet_default (Default) Create new subnet

Auto-assign Public IP: ☒ Use subnet setting (Enable)

Hostname type: ☒ Use subnet setting (IP name)

DNS Hostname: ☒ Enable IP name IPv4 (A record) DNS requests
☒ Enable resource-based IPv4 (A record) DNS requests
☐ Enable resource-based IPv6 (AAAA record) DNS requests

Cancel Previous Review and Launch Next: Add Storage

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The fourth step allows us to set the storage size and add volumes if we wish. The root volume of 10GB is enough for RHEL 8. In a future tutorial, I will be demonstrating disk partitioning, as well as, LVM management, so I will also add 3 additional volumes.

Launch instance wizard | EC2 Manager Console

us-east-1.console.aws.amazon.com/ec2/v2/home?region=us-east-1#LaunchInstanceWizard:

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1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 4: Add Storage

Your instance will be launched with the following storage device settings. You can attach additional EBS volumes and instance store volumes to your instance, or edit the settings of the root volume. You can also attach additional EBS volumes after launching an instance, but not instance store volumes. [Learn more](#) about storage options in Amazon EC2.

Volume Type	Device	Snapshot	Size (GiB)	Volume Type	IOPS	Throughput (MB/s)	Delete on Termination	Encryption
Root	/dev/sda1	snap-03a3ad00558b4d17c	10	General Purpose SSD (gp2)	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypt

Add New Volume

Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage. [Learn more](#) about free usage tier eligibility and

Cancel Previous Review and Launch Next: Add Tags

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After clicking the **"Add New Volume"** button, I set the size to 1GB and checked **"Delete on Termination"**.

Launch instance wizard | EC2 Manager

us-east-1.console.aws.amazon.com/ec2/v2/home?region=us-east-1#LaunchInstanceWizard:

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Volume Type	Device	Snapshot	Size (GiB)	Volume Type	IOPS	Throughput (MB/s)	Delete on Termination	Encryption
Root	/dev/sda1	snap-03a3ad00558b4d17c	10	General Purpose SSD (gp2)	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypted
EBS	/dev/sdb	Search (case-insensit)	1	General Purpose SSD (gp2)	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypted

[Add New Volume](#)

[Cancel](#) [Previous](#) [Review and Launch](#) [Next: Add Tags](#)

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I repeated these steps 3 times total. After setting the storage, click **"Next: Add Tags"**.

Launch instance wizard | EC2 Manager

us-east-1.console.aws.amazon.com/ec2/v2/home?region=us-east-1#LaunchInstanceWizard:

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Volume Type	Device	Snapshot	Size (GiB)	Volume Type	IOPS	Throughput (MB/s)	Delete on Termination	Encryption
Root	/dev/sda1	snap-03a3ad00558b4d17c	10	General Purpose SSD (gp2)	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypted
EBS	/dev/sdb	Search (case-insensit)	1	General Purpose SSD (gp2)	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypted
EBS	/dev/sdc	Search (case-insensit)	1	General Purpose SSD (gp2)	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypted
EBS	/dev/sdd	Search (case-insensit)	1	General Purpose SSD (gp2)	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypted

[Add New Volume](#)

[Cancel](#) [Previous](#) [Review and Launch](#) [Next: Add Tags](#)

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*****Note:** There is a 30GB max volume size for all your instances combined throughout the month. If you go over it, you will pay the cost.

The fifth step allows us to tag our instance. Tagging helps categorize our resources. We will keep it simple by adding a name tag. To do this click the **"click to add a Name tag"** link and set the name to whatever you desire (rh8_vm).

Launch instance wizard | EC2 Manager

us-east-1.console.aws.amazon.com/ec2/v2/home?region=us-east-1#LaunchInstanceWizard:

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1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 5: Add Tags

A tag consists of a case-sensitive key-value pair. For example, you could define a tag with key = Name and value = Webserver. A copy of a tag can be applied to volumes, instances or both. Tags will be applied to all instances and volumes. [Learn more](#) about tagging your Amazon EC2 resources.

Key (128 characters maximum)	Value (256 characters maximum)	Instances	Volumes	Network Interfaces
This resource currently has no tags				
Choose the Add tag button click to add a Name tag . Make sure your IAM policy includes permissions to create tags.				

[Add Tag](#) (Up to 50 tags maximum)

[Cancel](#) [Previous](#) [Review and Launch](#) [Next: Configure Security Group](#)

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Once finished, click **"Next: Configure Security Group"**.

Launch instance wizard | EC2 Manag x +

us-east-1.console.aws.amazon.com/ec2/v2/home?region=us-east-1#LaunchInstanceWizard:

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Key	Value	Instances	Volumes	Network Interfaces
Name	rh8_vm	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Add another tag (Up to 50 tags maximum)

Cancel Previous **Review and Launch** Next: Configure Security Group

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In the sixth step, before launching, we will create a security group named **"security-group2"**. Note that only port 22 is open and that we are only allowing SSH connections to our instance. I also provided a small description, **"Limit access to instance"**. After you've set the security group name, click **"Review and Launch"**.

Launch instance wizard | EC2 Manag x +

us-east-1.console.aws.amazon.com/ec2/v2/home?region=us-east-1#LaunchInstanceWizard:

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1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 6: Configure Security Group

A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a web server and allow Internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one below. [Learn more](#) about Amazon EC2 security groups.

Assign a security group: ☒ Create a new security group ☐ Select an existing security group

Security group name: security-group2

Description: Limit access to instance

Type	Protocol	Port Range	Source	Description
SSH	TCP	22	Custom 0.0.0.0/0	e.g. SSH for Admin Desktop

Add Rule

Cancel Previous **Review and Launch**

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This final step allows you to review your selections. After you've finished reviewing, click **"Launch"**.

Launch instance wizard | EC2 Manag x +

us-east-1.console.aws.amazon.com/ec2/v2/home?region=us-east-1#LaunchInstanceWizard:

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1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 7: Review Instance Launch

Please review your instance launch details. You can go back to edit changes for each section. Click **Launch** to assign a key pair to your instance and complete the launch process.

Improve your instances' security. Your security group, security-group2, is open to the world.

Your instances may be accessible from any IP address. We recommend that you update your security group rules to allow access from known IP addresses only. You can also open additional ports in your security group to facilitate access to the application or service you're running, e.g., HTTP (80) for web servers. [Edit security groups](#)

AMI Details [Edit AMI](#)

Red Hat Enterprise Linux 8 (HVM), SSD Volume Type - ami-0b0af3577fe5e3532

Free tier eligible

Red Hat Enterprise Linux version 8 (HVM), EBS General Purpose (SSD) Volume Type

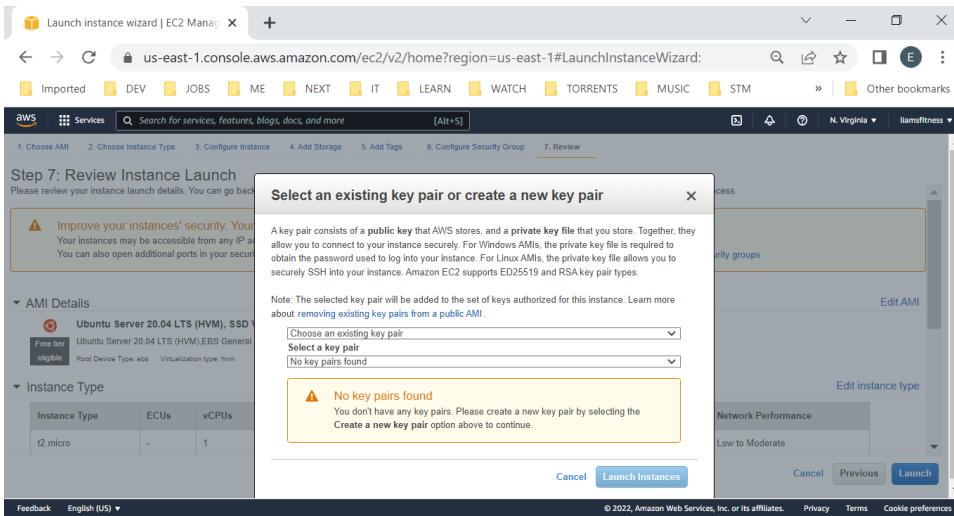
Root Device Type: ebs Virtualization type: hvm

Instance Type [Edit instance type](#)

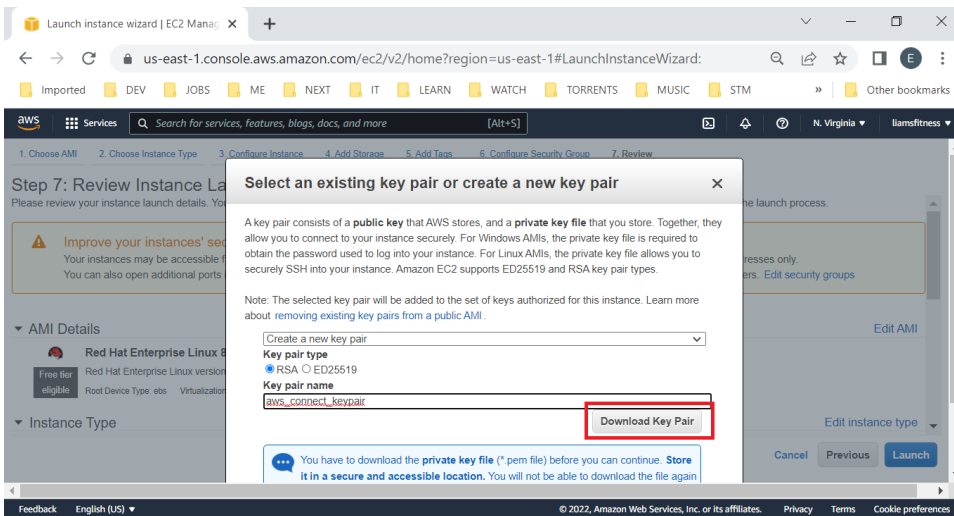
Cancel Previous **Launch**

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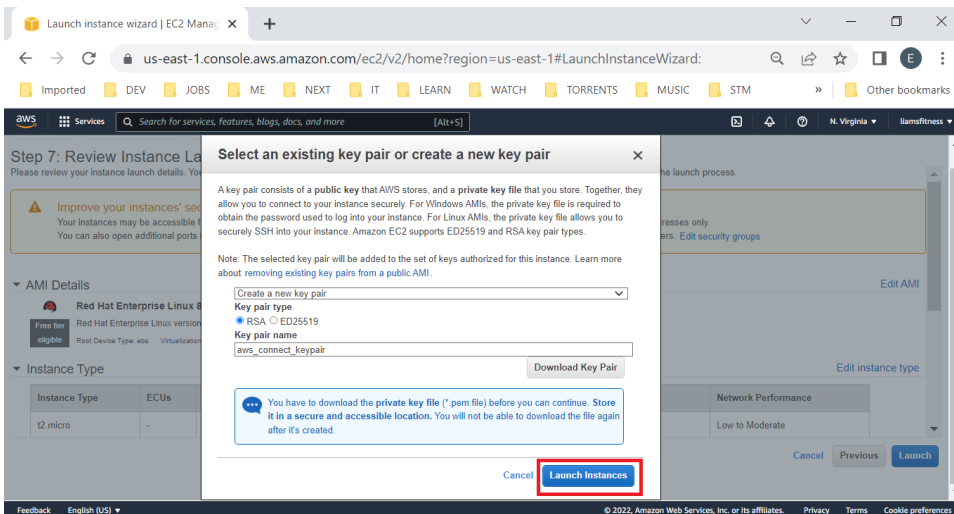
Prior to launch, we must create a key pair that can be used with an SSH connection to access our newly created instance.



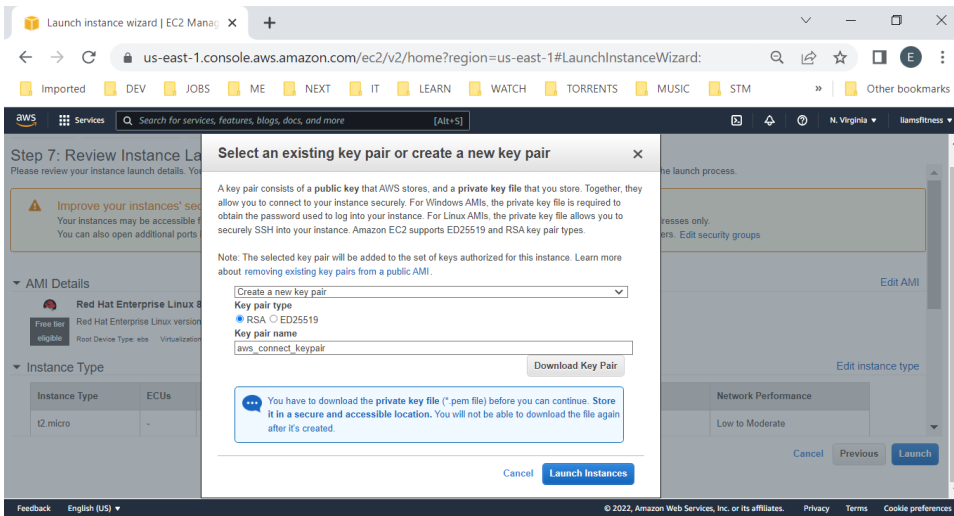
Ensure "Create a new key pair" is selected. Also, ensure that "Key pair type" is set to "RSA". Then, give it a name (aws_connect_keypair). Finally, click "Download Key Pair" and save it somewhere on your PC.



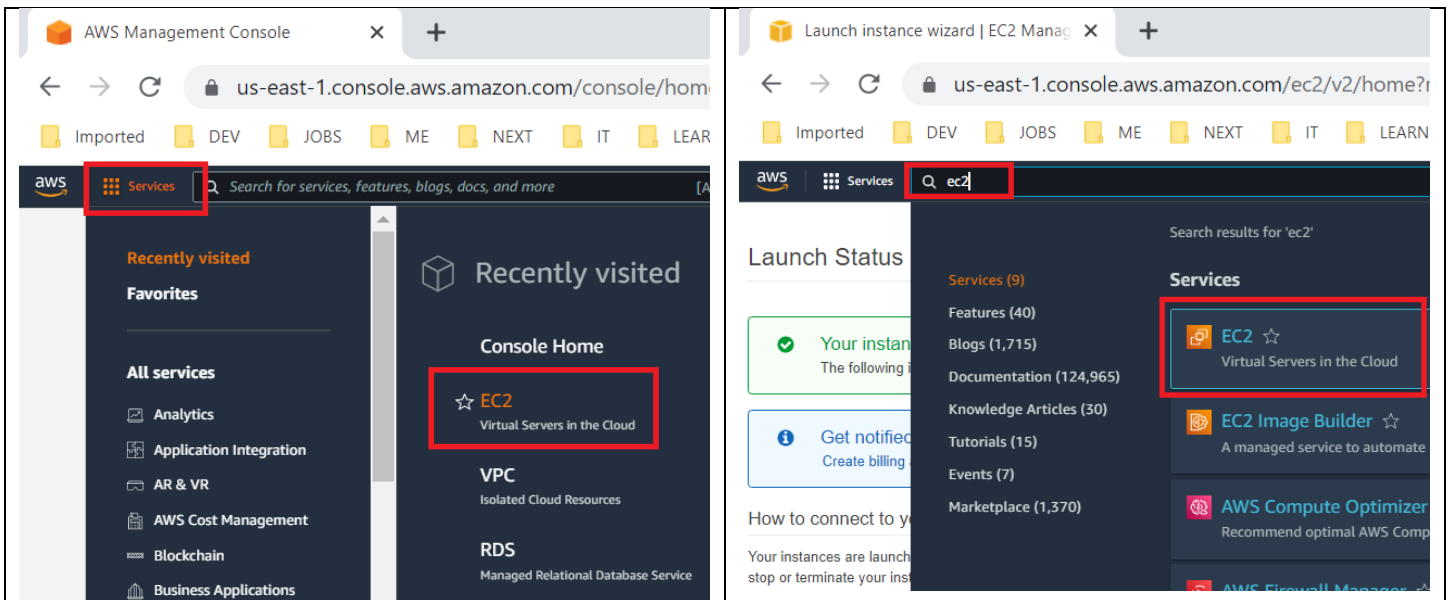
After you download the key pair (named "aws_connect_keypair.pem"), you will be able to click "Launch Instances" to bring up our RHEL 8 instance.



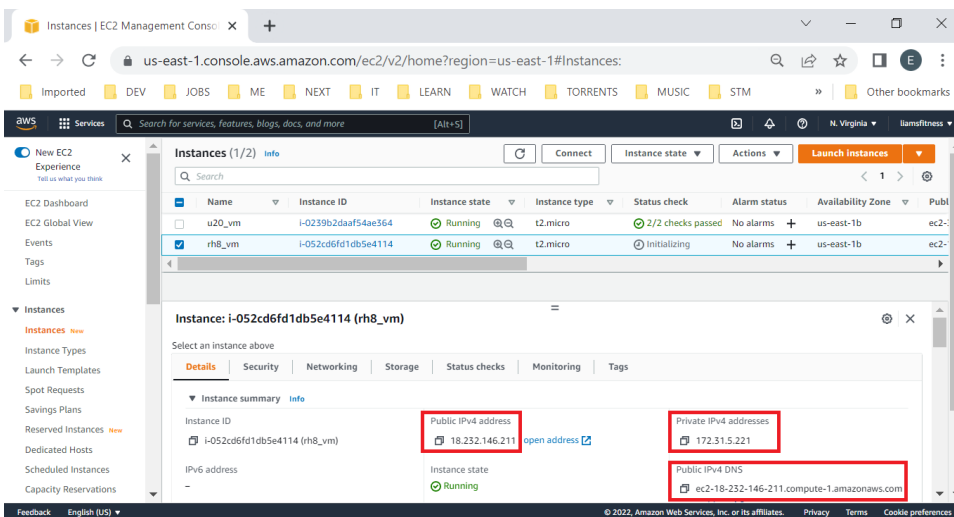
As you can see, it can take up to a minute, or two, for the instance to be brought up.



Now, you can click on **"Services"** at the top left of the screen and then select **"EC2"** under **"Recently visited"**. Or, you enter **"EC2"** in the search bar to access your running instance (both methods work).

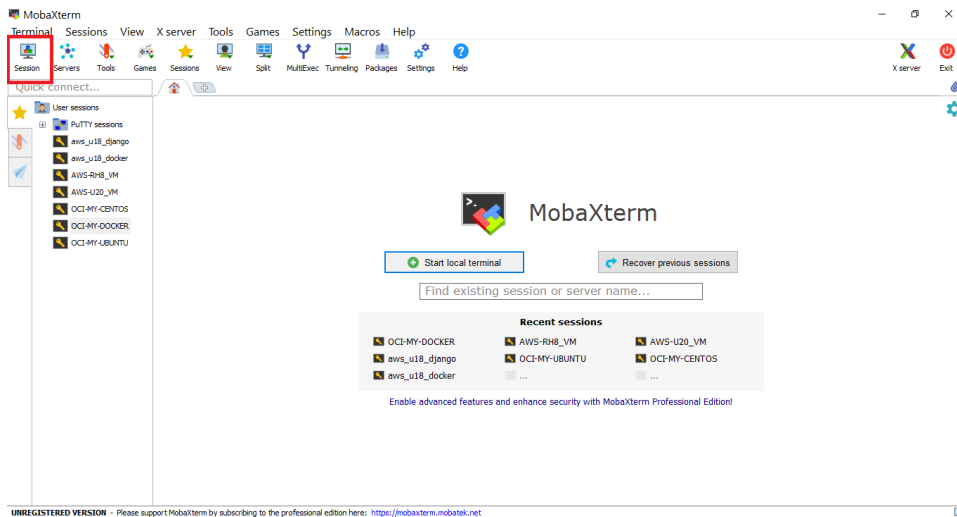


Ensure your new instance is selected (**rh8_vm**), then on the **"Details"** tab, note the value for **"Public IPv4 DNS"**. I usually keep the instance's name, public IP, private IP and public IPv4 DNS stored for easy access. We will need this to connect to the instance.

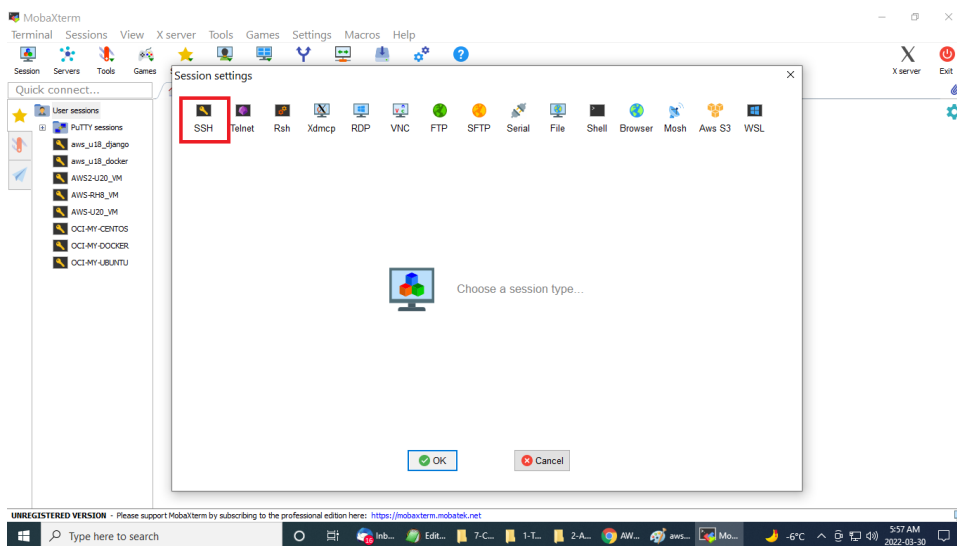


Connect to RHEL 8

Now you will need an SSH client to connect to your instance. I am on Windows 10 and have installed "[GitBash](#)" which includes an SSH client. If you do not want to install GitBash, I also use "[MobaXterm Portable](#)" and I find it to be a great tool and easy to use. Using **MobaXterm**, I would first create a session by clicking the "**Session**" button in the top left corner:

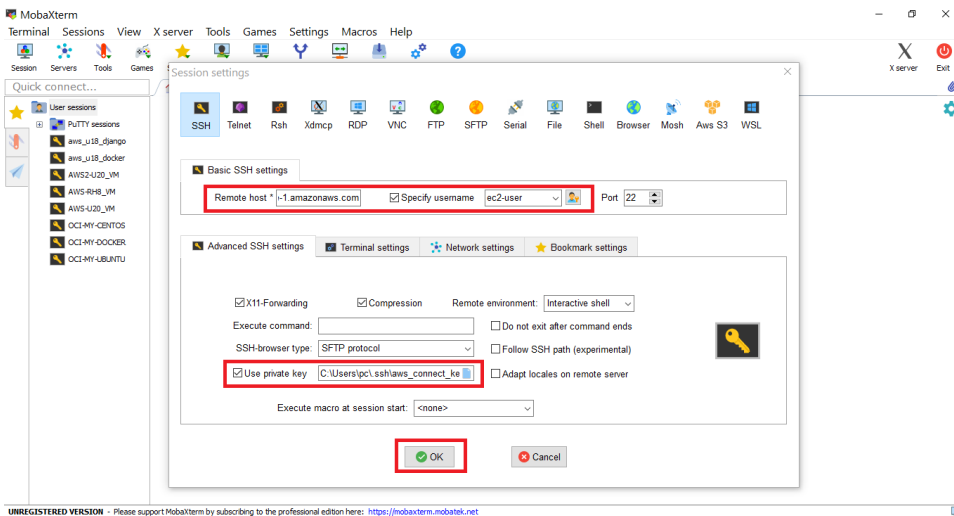


Followed by clicking the "**SSH**" button.

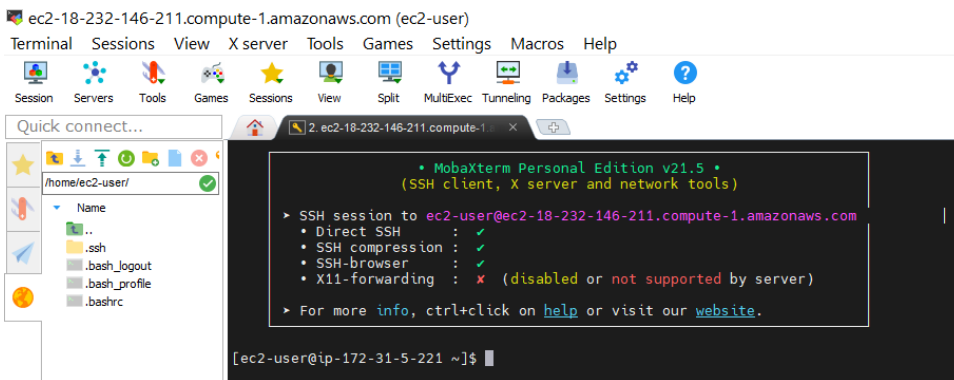


For "**Remote host:**", enter your "**Public IPv4 DNS**" from your instance's "**Details**" tab. Also specify the username of "**ec2-user**". That is the default username for every RHEL instance created on AWS.

Then, under "**Advanced SSH Settings**" select the key that you downloaded earlier (**aws_connect_keypair.pem**). Finally, click **OK**.



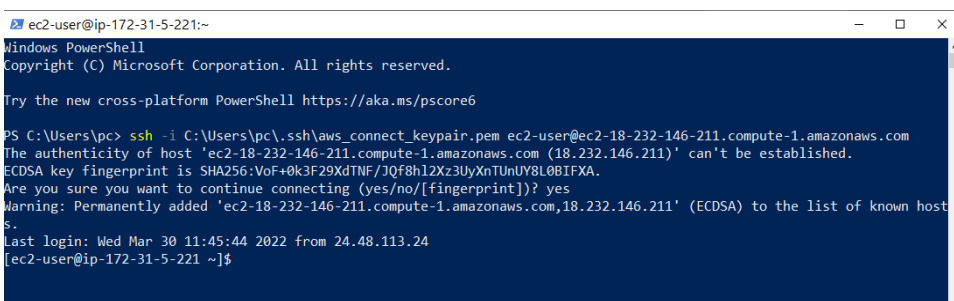
Your session should open to your newly created EC2 instance running RHEL 8.



If you installed "[GitBash](#)", or have another SSH client, you can open either PowerShell or a Windows command prompt. Then, from the command line, enter the following (**NOTE**: make sure you enter your connection details):

ssh -i /path/my-key-pair.pem my-instance-user-name@my-instance-public-dns-name

ssh -i C:\Users\pc\.ssh\aws_connect_keypair.pem ec2-user@ec2-18-232-146-211.compute-1.amazonaws.com



I hope you've enjoyed this tutorial.

Please note that the free tier allows for 750 hours per month of Amazon EC2. You can create many EC2 instances but beware of the limit. If you go over that limit, you will pay the cost. My advice to you is to shutdown your instance/s after you've done your work.

If you want to become more proficient in a Linux environment you can see my other tutorials [here](#).