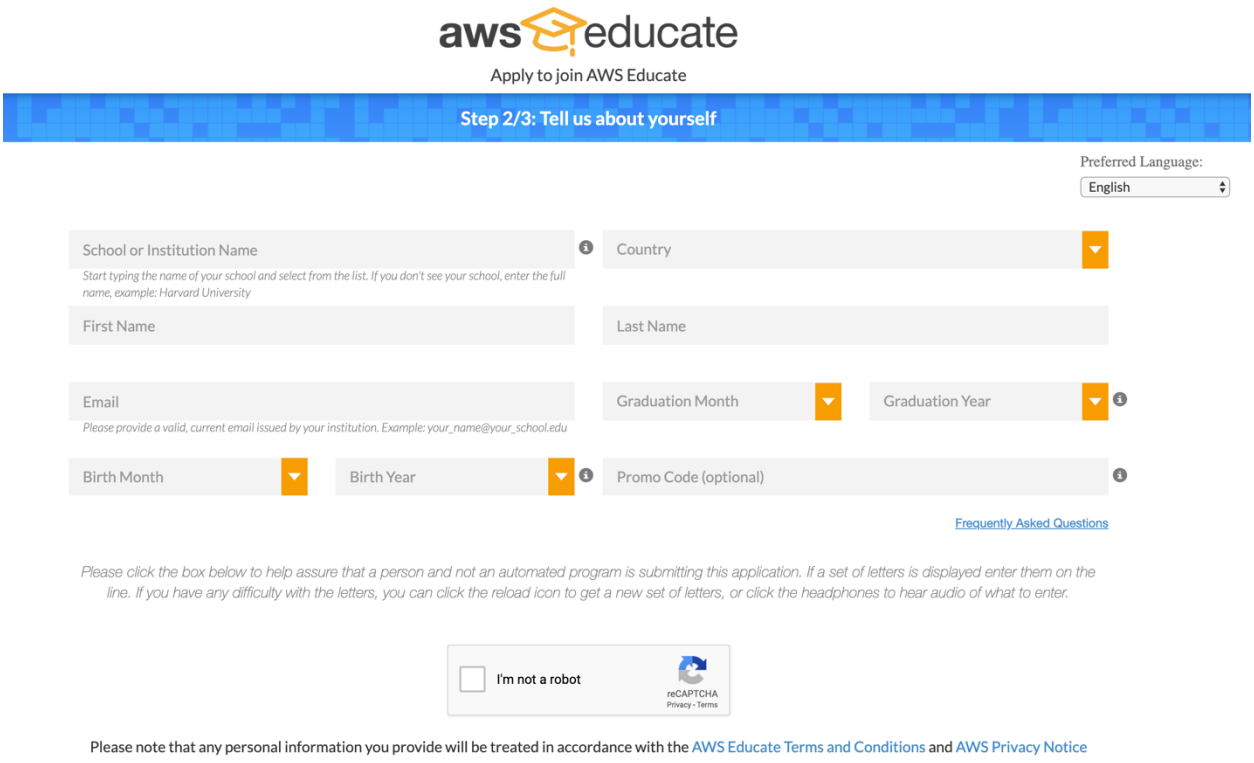
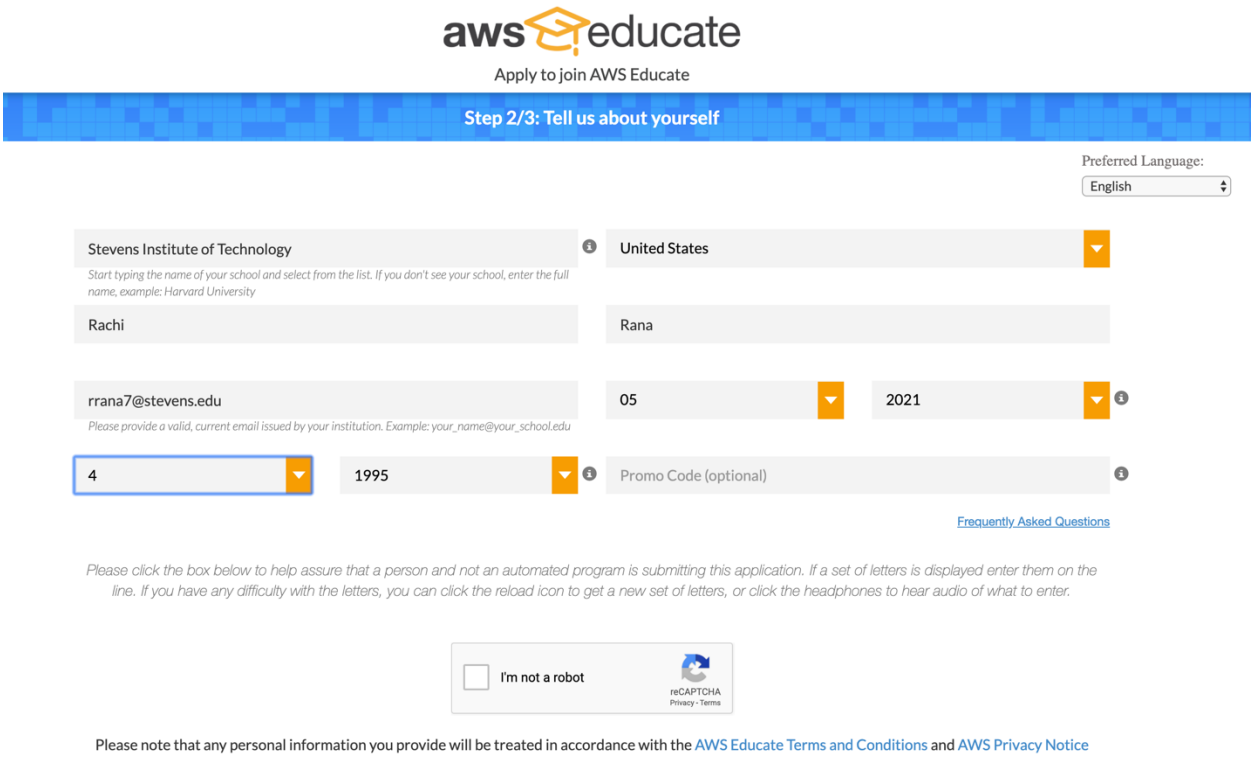
Create AWS Account ->





Welcome to the AWS Educate Community

Set Your Password

Your Login Credential	rrana7@stevens.edu
New Password	••••••••••••••
Verify New Password	••••••••••••••

Set Password

The password you enter here will be used for access to the AWS Educate Community. It is always more secure to not use the same password that you use on other sites.

Please ensure your password meets the following requirements:

i. **Password must be at least 8 characters long**

ii. **Password must contain at least one letter**

iii. **Password must contain at least one number**

iv. **Password cannot equal or contain your user name**

v. **Password must contain at least one of the following characters ! # $ % - _ = + < >**

AWS Educate Starter Account

Your cloud journey has only just begun. Use your AWS Educate Starter Account to access the AWS Console and resources, and start building in the cloud!

AWS Educate Starter Account

Your account has an estimated **100** credits remaining and access will end on **Feb 15, 2021**.

Note: Clicking this button will take you to a third party site managed by Vocareum, Inc. ("Third Party Servicer"). In addition to the AWS Educate terms of service, your use of the AWS Educate Starter Account is governed by the Third Party Servicer's terms, including its Privacy Policy. AWS assumes no responsibility or liability and makes no representations or warranties regarding services provided by a Third Party Servicer.

vocareum My Classes Help rrana7@stevens.edu

Welcome to your AWS Educate Account

AWS Educate provides you with access to a wide variety of AWS Services for you to get your hands on and build on AWS! To get started, click on the AWS Console button to log in to your AWS console.

Please read the FAQ below to help you get started on your Starter Account.

- What are the list of services supported?
- What regions are supported with Starter Accounts or Classroom Accounts?
- I can't start any resources. What happened?
- Can I create users within my Starter or Classroom Account for others to access?
- Can I create my own IAM policy within Starter Account or Classroom?
- Can I use marketplace software with my Starter Account or Classrooms?
- Are there any restrictions on AWS services in my AWS Educate Account?
- Are FPGA Instances Supported?
- How do I share image with my students?

Your AWS Account Status

Active
full access (rrana7@stevens.edu)

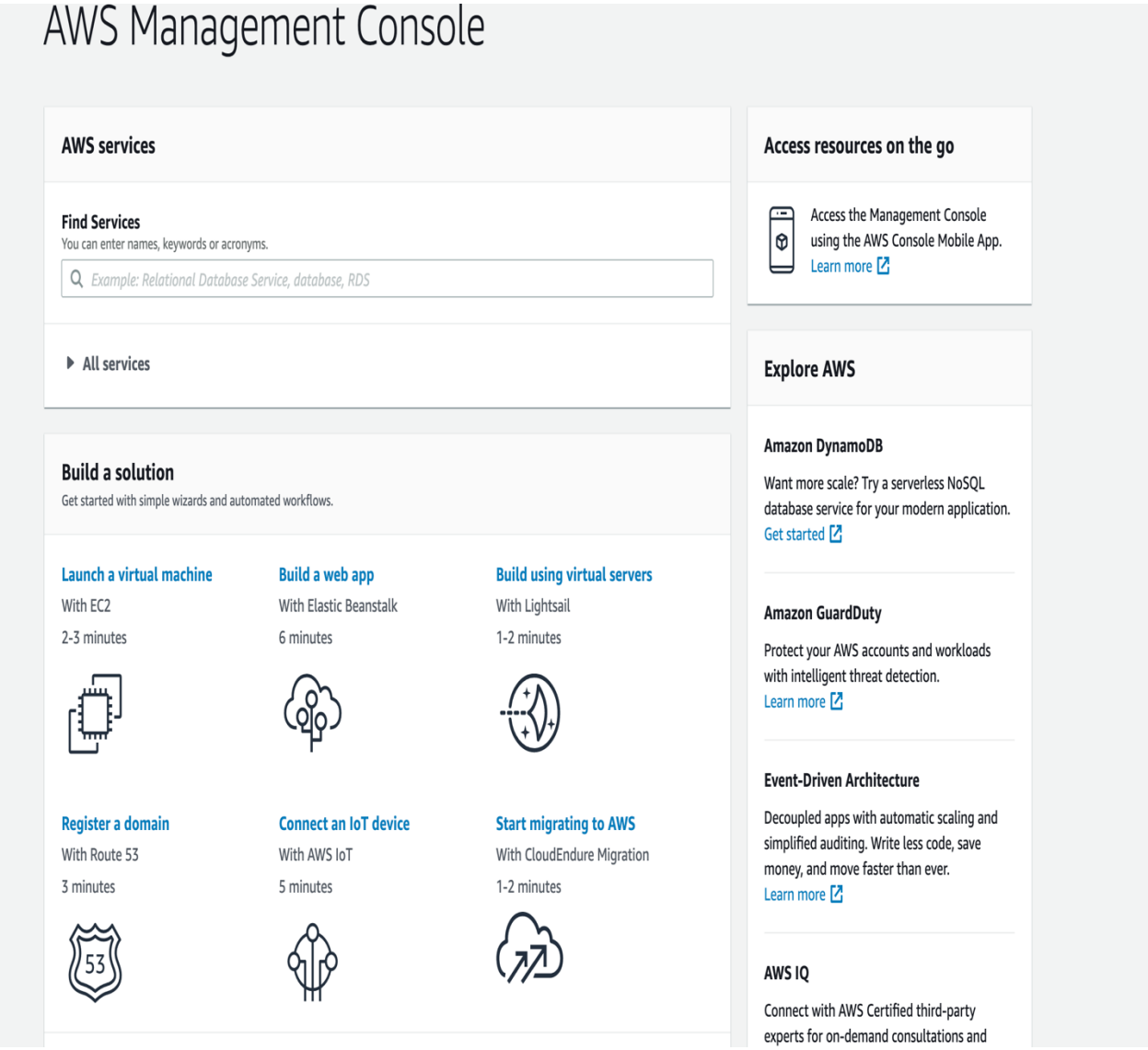
$100
remaining credits (estimated)

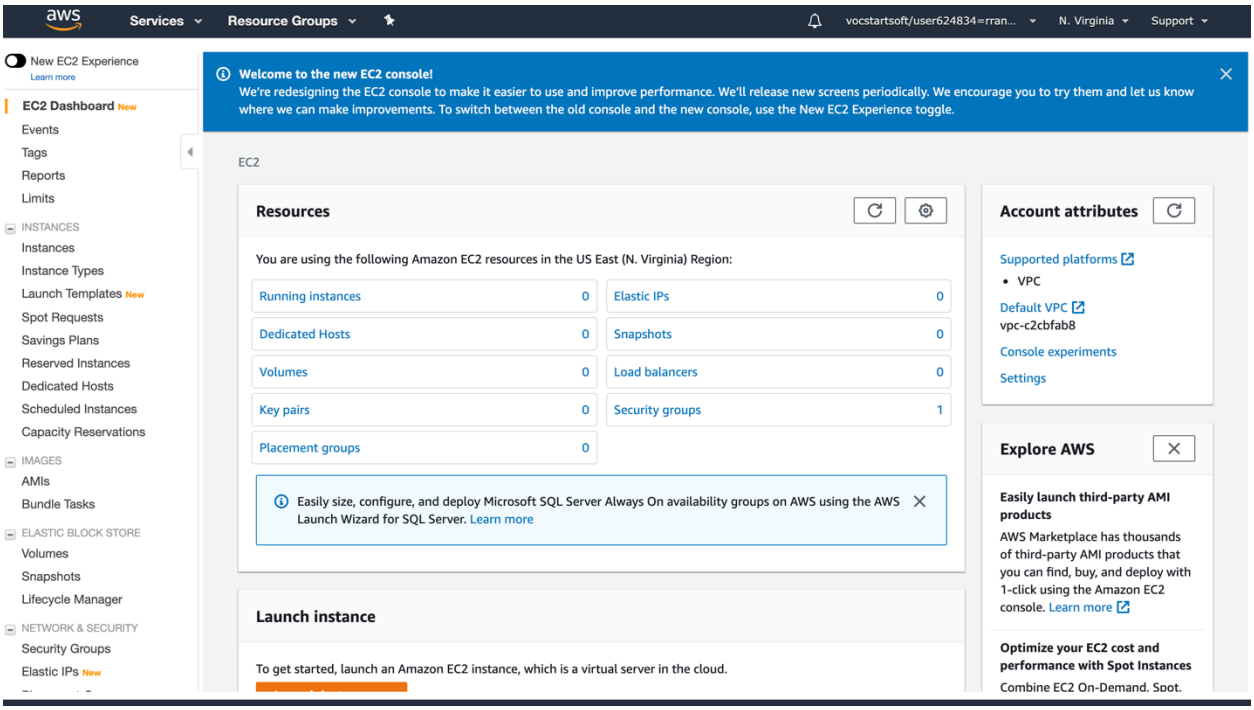
2:60
session time

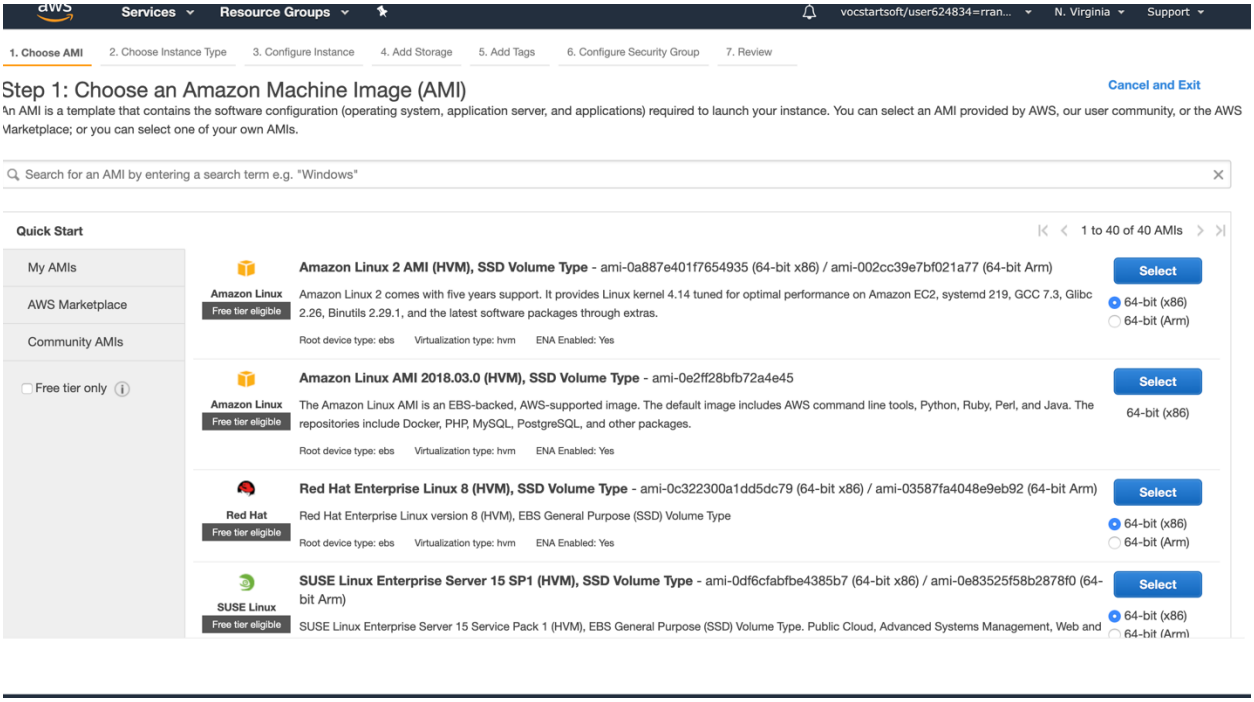
Account Details AWS Console

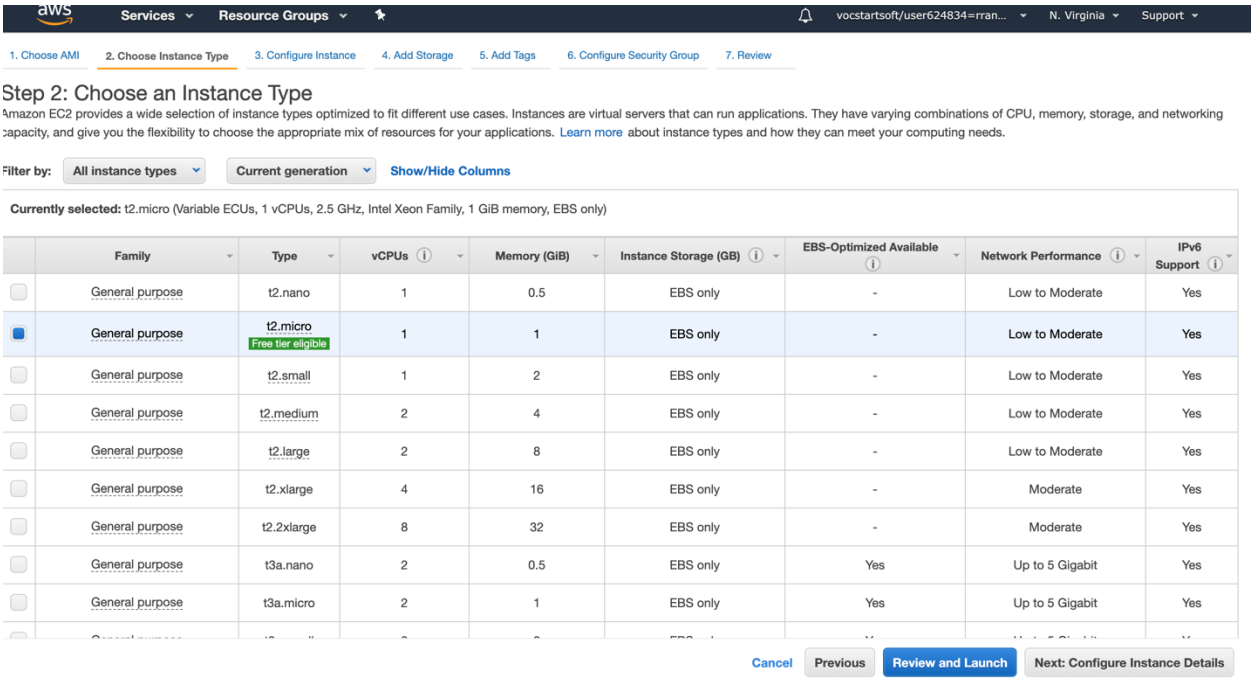
Please use AWS Educate Account responsibly. Remember to shut down your instances when not in use to make the best use of your credits. And, don't forget to logout once you are done with your work!

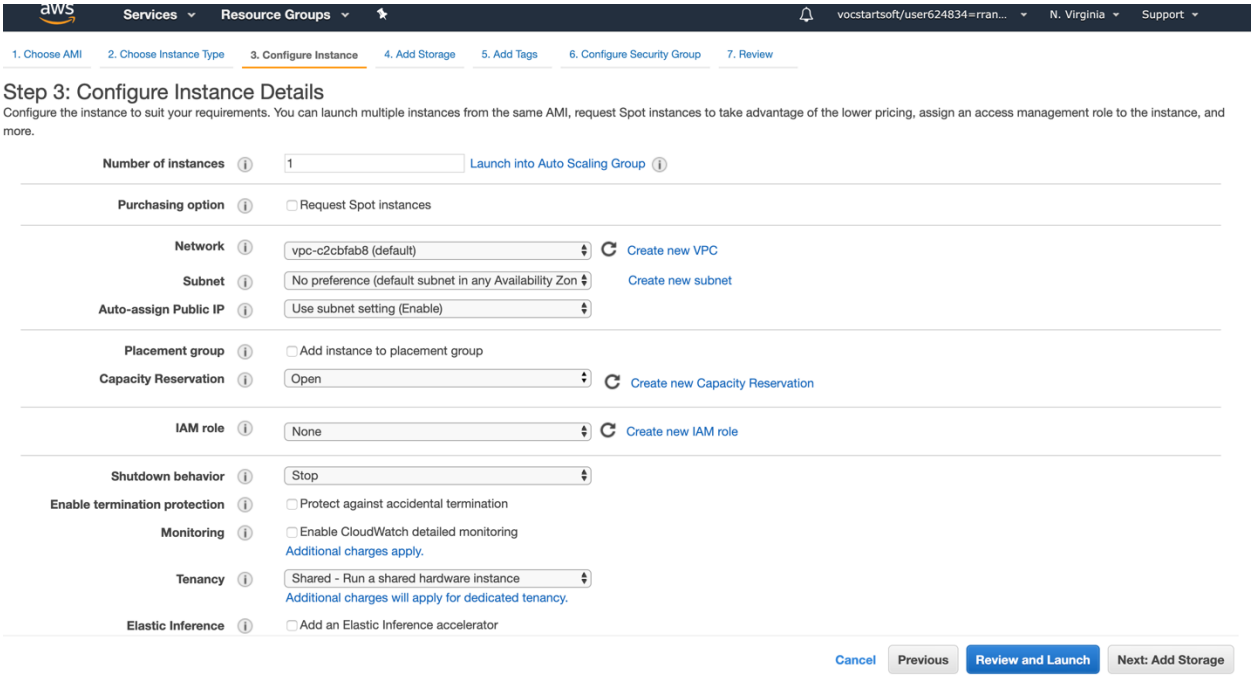
Create and Launch AWS Instance->

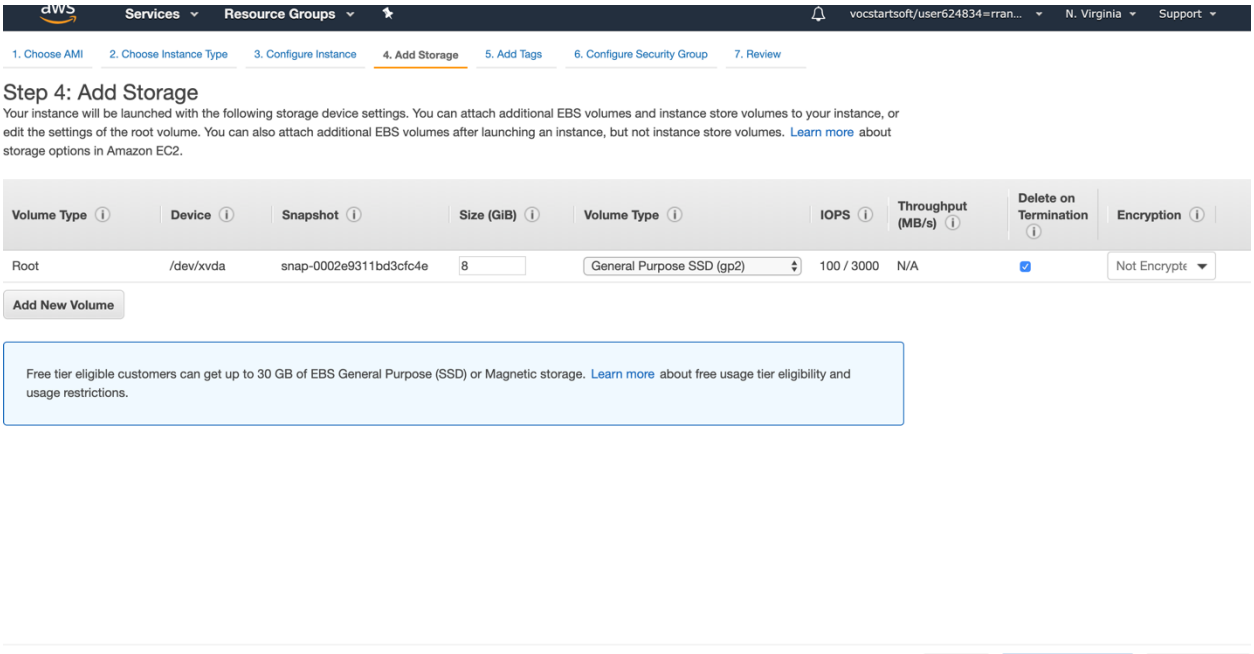


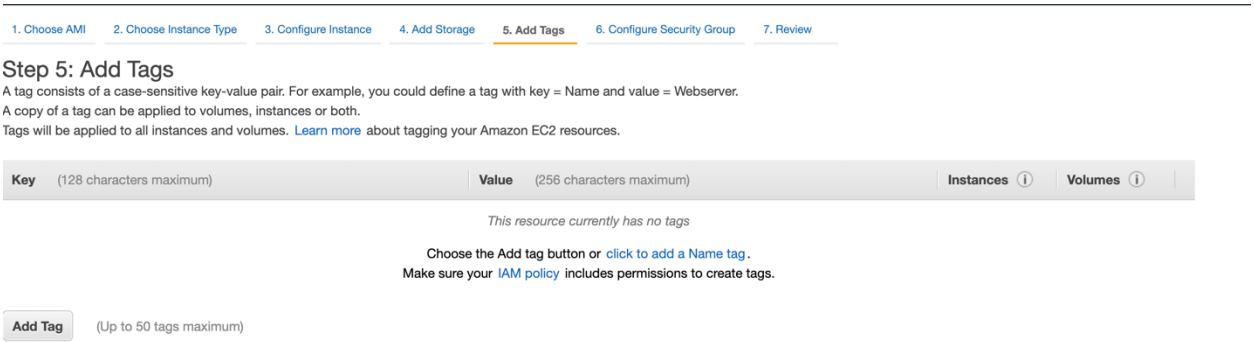

Services
Resource Groups
vocstartsoft/user624834=rran...
N. Virginia
Support
New EC2 Experience
Learn more
EC2 Dashboard New
Events
Tags
Reports
Limits
INSTANCES
Instances
Instance Types
Launch Templates New
Spot Requests
Savings Plans
Reserved Instances
Dedicated Hosts
Scheduled Instances
Capacity Reservations
IMAGES
AMIs
Bundle Tasks
ELASTIC BLOCK STORE
Volumes
Snapshots
Lifecycle Manager
NETWORK & SECURITY
Security Groups
Elastic IPs New
Welcome to the new EC2 console!
We're redesigning the EC2 console to make it easier to use and improve performance. We'll release new screens periodically. We encourage you to try them and let us know where we can make improvements. To switch between the old console and the new console, use the New EC2 Experience toggle.
EC2
Resources
You are using the following Amazon EC2 resources in the US East (N. Virginia) Region:
Running instances 0
Elastic IPs 0
Dedicated Hosts 0
Snapshots 0
Volumes 0
Load balancers 0
Key pairs 0
Security groups 1
Placement groups 0
Easily size, configure, and deploy Microsoft SQL Server Always On availability groups on AWS using the AWS Launch Wizard for SQL Server. Learn more
Launch instance
To get started, launch an Amazon EC2 instance, which is a virtual server in the cloud.
Account attributes
Supported platforms
VPC
Default VPC
vpc-c2cbfab8
Console experiments
Settings
Explore AWS
Easily launch third-party AMI products
AWS Marketplace has thousands of third-party AMI products that you can find, buy, and deploy with 1-click using the Amazon EC2 console. Learn more
Optimize your EC2 cost and performance with Spot Instances
Combine EC2 On-Demand, Spot,

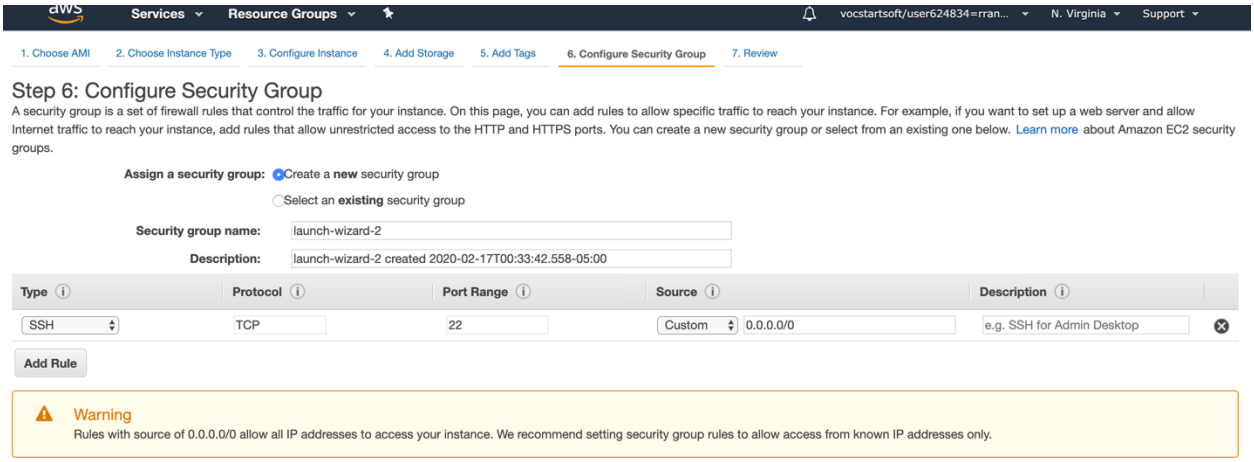

Services
Resource Groups
vocstartsoft/user624834=rran...
N. Virginia
Support
1. Choose AMI
2. Choose Instance Type
3. Configure Instance
4. Add Storage
5. Add Tags
6. Configure Security Group
7. Review
Step 1: Choose an Amazon Machine Image (AMI)
Cancel and Exit
An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. You can select an AMI provided by AWS, our user community, or the AWS Marketplace; or you can select one of your own AMIs.
Search for an AMI by entering a search term e.g. "Windows"
Quick Start
My AMIs
AWS Marketplace
Community AMIs
Free tier only
1 to 40 of 40 AMIs
Amazon Linux 2 AMI (HVM), SSD Volume Type - ami-0a887e401f7654935 (64-bit x86) / ami-002cc39e7bf021a77 (64-bit Arm)
Amazon Linux
Free tier eligible
Amazon Linux 2 comes with five years support. It provides Linux kernel 4.14 tuned for optimal performance on Amazon EC2, systemd 219, GCC 7.3, Glibc 2.26, Binutils 2.29.1, and the latest software packages through extras.
Root device type: ebs Virtualization type: hvm ENA Enabled: Yes
Select
64-bit (x86)
64-bit (Arm)
Amazon Linux AMI 2018.03.0 (HVM), SSD Volume Type - ami-0e2ff28bfb72a4e45
Amazon Linux
Free tier eligible
The Amazon Linux AMI is an EBS-backed, AWS-supported image. The default image includes AWS command line tools, Python, Ruby, Perl, and Java. The repositories include Docker, PHP, MySQL, PostgreSQL, and other packages.
Root device type: ebs Virtualization type: hvm ENA Enabled: Yes
Select
64-bit (x86)
Red Hat Enterprise Linux 8 (HVM), SSD Volume Type - ami-0c322300a1dd5dc79 (64-bit x86) / ami-03587fa4048e9eb92 (64-bit Arm)
Red Hat
Free tier eligible
Red Hat Enterprise Linux version 8 (HVM), EBS General Purpose (SSD) Volume Type
Root device type: ebs Virtualization type: hvm ENA Enabled: Yes
Select
64-bit (x86)
64-bit (Arm)
SUSE Linux Enterprise Server 15 SP1 (HVM), SSD Volume Type - ami-0df6cfabfbe4385b7 (64-bit x86) / ami-0e83525f58b2878f0 (64-bit Arm)
SUSE Linux
Free tier eligible
SUSE Linux Enterprise Server 15 Service Pack 1 (HVM), EBS General Purpose (SSD) Volume Type. Public Cloud, Advanced Systems Management, Web and
Select
64-bit (x86)
64-bit (Arm)

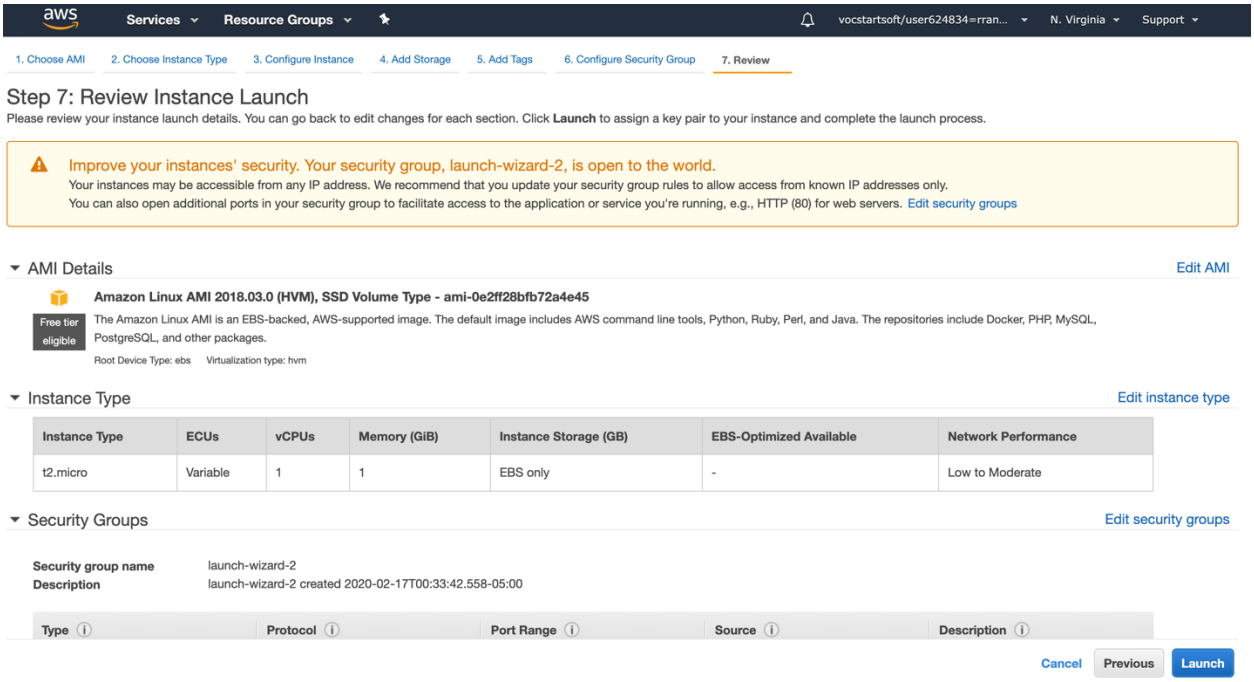

Services
Resource Groups
vocstartsoft/user624834=rran...
N. Virginia
Support
1. Choose AMI
2. Choose Instance Type
3. Configure Instance
4. Add Storage
5. Add Tags
6. Configure Security Group
7. Review
Step 2: Choose an Instance Type
Amazon EC2 provides a wide selection of instance types optimized to 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 types
Current generation
Show/Hide Columns
Currently selected: t2.micro (Variable ECUs, 1 vCPUs, 2.5 GHz, Intel Xeon Family, 1 GiB memory, EBS only)
Family
Type
vCPUs
Memory (GiB)
Instance Storage (GB)
EBS-Optimized Available
Network Performance
IPv6 Support
General purpose t2.nano 1 0.5 EBS only - Low to Moderate Yes
General purpose t2.micro Free tier eligible 1 1 EBS only - Low to Moderate Yes
General purpose t2.small 1 2 EBS only - Low to Moderate Yes
General purpose t2.medium 2 4 EBS only - Low to Moderate Yes
General purpose t2.large 2 8 EBS only - Low to Moderate Yes
General purpose t2.xlarge 4 16 EBS only - Moderate Yes
General purpose t2.2xlarge 8 32 EBS only - Moderate Yes
General purpose t3a.nano 2 0.5 EBS only Yes Up to 5 Gigabit Yes
General purpose t3a.micro 2 1 EBS only Yes Up to 5 Gigabit Yes
Cancel
Previous
Review and Launch
Next: Configure Instance Details

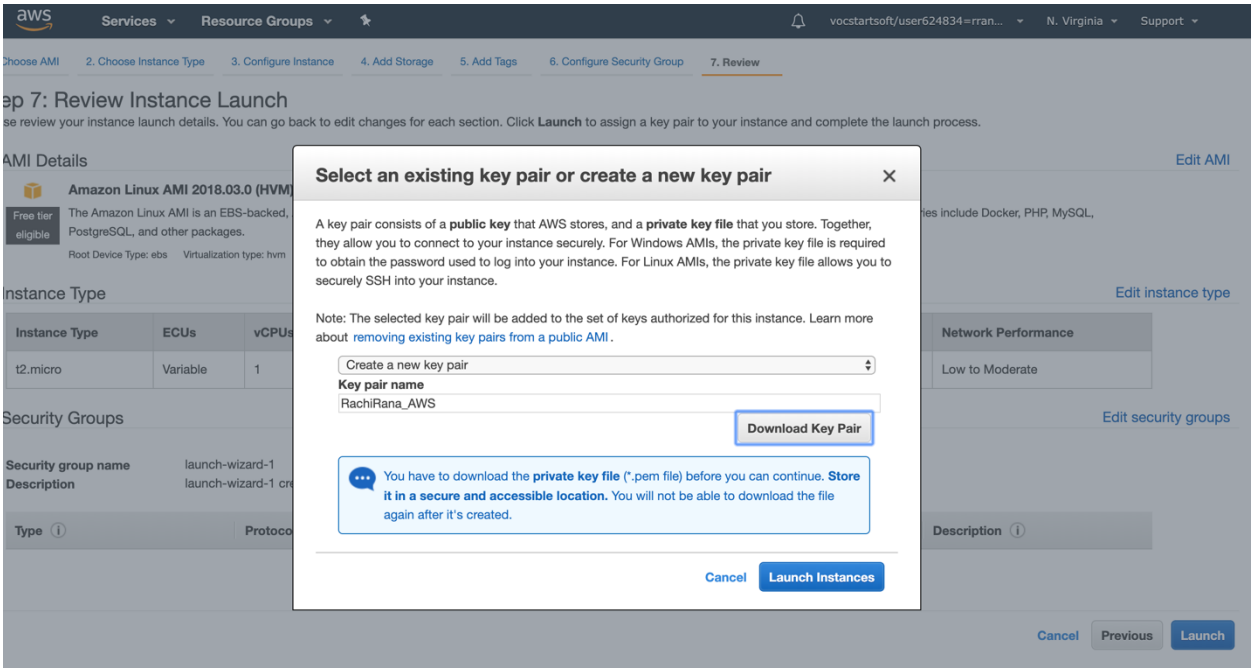

Services
Resource Groups
vocstartsoft/user624834=rran...
N. Virginia
Support
1. Choose AMI
2. Choose Instance Type
3. Configure Instance
4. Add Storage
5. Add Tags
6. Configure Security Group
7. Review
Step 3: Configure Instance Details
Configure the instance to suit your requirements. You can launch 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-c2cbfab8 (default)
Create new VPC
Subnet
No preference (default subnet in any Availability Zon
Create new subnet
Auto-assign Public IP
Use subnet setting (Enable)
Placement group
Add instance to placement group
Capacity Reservation
Open
Create new Capacity Reservation
IAM role
None
Create new IAM role
Shutdown behavior
Stop
Enable termination protection
Protect against accidental termination
Monitoring
Enable CloudWatch detailed monitoring
Additional charges apply.
Tenancy
Shared - Run a shared hardware instance
Additional charges will apply for dedicated tenancy.
Elastic Inference
Add an Elastic Inference accelerator
Cancel
Previous
Review and Launch
Next: Add Storage

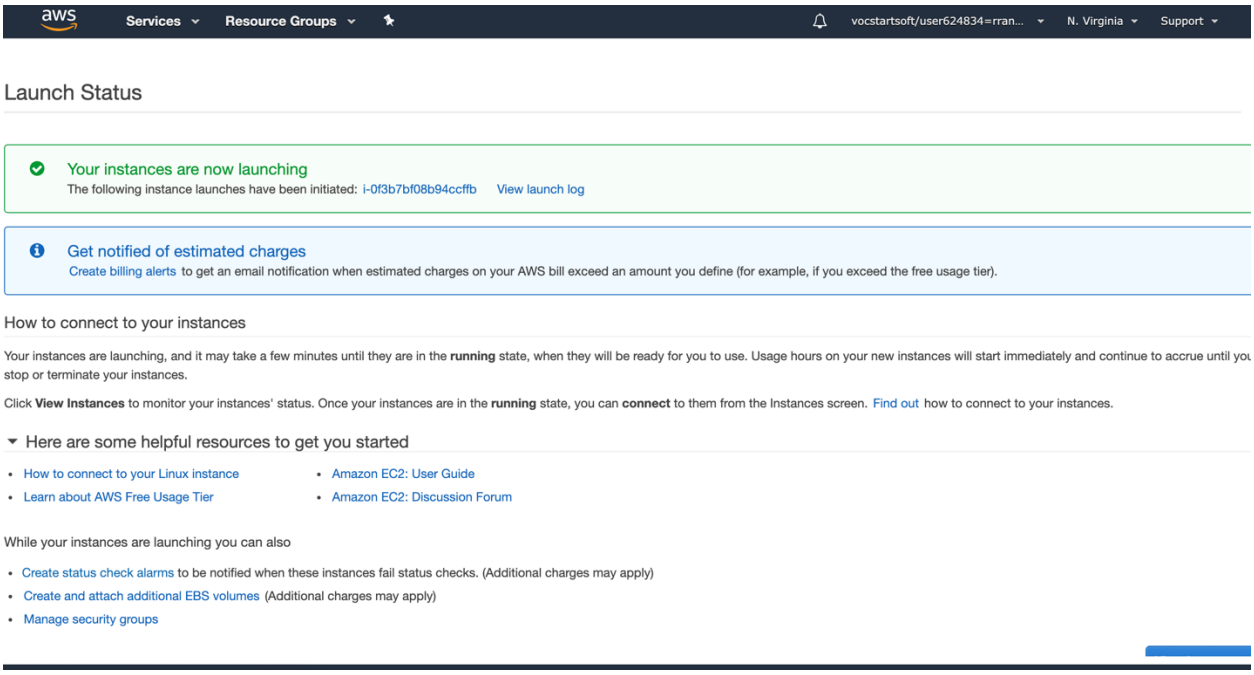

Services
Resource Groups
vocstartsoft/user624834=rran...
N. Virginia
Support
1. Choose AMI
2. Choose Instance Type
3. Configure Instance
4. Add Storage
5. Add Tags
6. Configure Security Group
7. Review
Step 4: Add Storage
Your instance will be launched with the following storage device settings. You 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/xvda
snap-0002e9311bd3cfc4e
8
General Purpose SSD (gp2)
100 / 3000
N/A
Not Encrypte
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 usage restrictions.

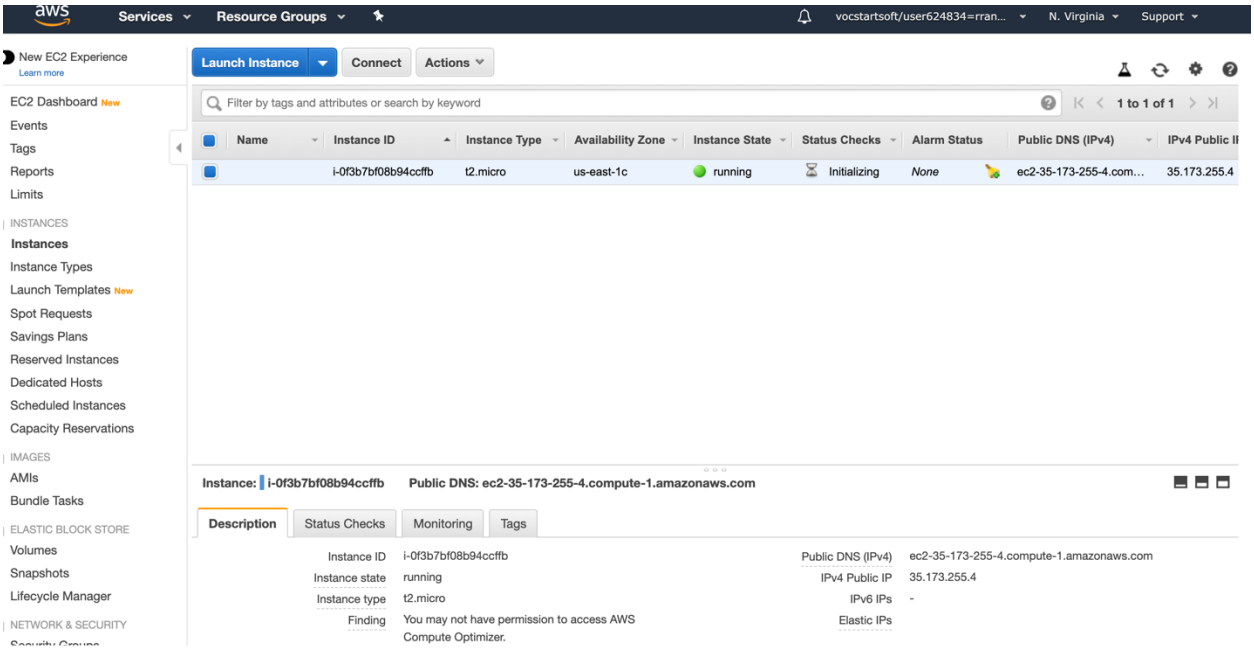

1. Choose AMI
2. Choose Instance Type
3. Configure Instance
4. Add Storage
5. Add Tags
6. Configure Security Group
7. Review
Step 5: Add Tags
A tag consists of a case-sensitive key-value pair. For example, you could define a tag with key = Name and value = Webserver.
A copy of a tag can be applied to 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
This resource currently has no tags
Choose the Add tag button or click to add a Name tag.
Make sure your IAM policy includes permissions to create tags.
Add Tag
(Up to 50 tags maximum)

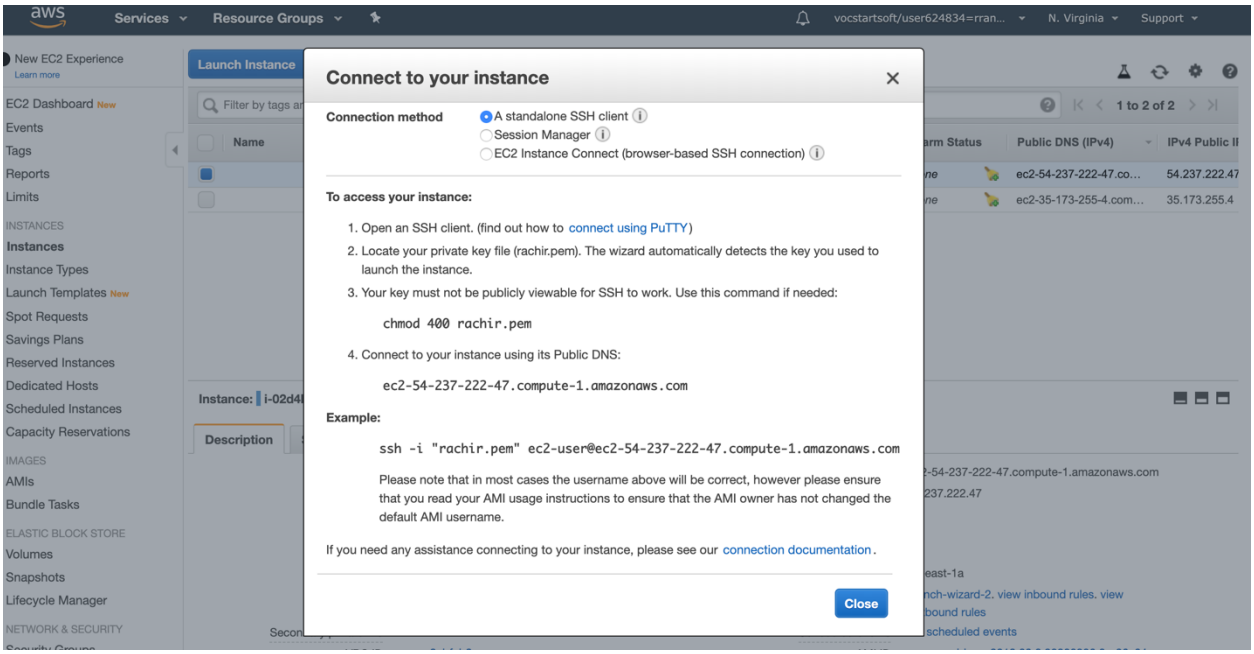

Services
Resource Groups
vocstartsoft/user624834=rran...
N. Virginia
Support
1. Choose AMI
2. Choose Instance Type
3. Configure Instance
4. Add Storage
5. Add Tags
6. Configure Security Group
7. Review
Step 6: Configure Security Group
A security group is a set of firewall rules that control the traffic 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: launch-wizard-2
Description: launch-wizard-2 created 2020-02-17T00:33:42.558-05:00
Type
Protocol
Port Range
Source
Description
SSH
TCP
22
Custom
0.0.0.0/0
e.g. SSH for Admin Desktop
Add Rule
Warning
Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.


aws
Services
Resource Groups
vocstartsoft/user624834=rran...
N. Virginia
Support
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, launch-wizard-2, 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
Amazon Linux AMI 2018.03.0 (HVM), SSD Volume Type - ami-0e2ff28bfb72a4e45
Free tier eligible
The Amazon Linux AMI is an EBS-backed, AWS-supported image. The default image includes AWS command line tools, Python, Ruby, Perl, and Java. The repositories include Docker, PHP, MySQL, PostgreSQL, and other packages.
Root Device Type: ebs
Virtualization type: hvm
Instance Type
Edit instance type
Instance Type
ECUs
vCPUs
Memory (GiB)
Instance Storage (GB)
EBS-Optimized Available
Network Performance
t2.micro
Variable
1
1
EBS only
-
Low to Moderate
Security Groups
Edit security groups
Security group name
launch-wizard-2
Description
launch-wizard-2 created 2020-02-17T00:33:42.558-05:00
Type
Protocol
Port Range
Source
Description
Cancel
Previous
Launch


Select an existing key pair or create a new key pair
A key pair consists of a public key that AWS stores, and a private key file that you store. Together, they allow you to connect to your instance securely. For Windows AMIs, the private key file is required to obtain the password used to log into your instance. For Linux AMIs, the private key file allows you to securely SSH into your instance.
Note: The selected key pair will be added to the set of keys authorized for this instance. Learn more about removing existing key pairs from a public AMI.
Create a new key pair
Key pair name
RachiRana_AWS
Download Key Pair
You have to download the private key file (*.pem file) before you can continue. Store it in a secure and accessible location. You will not be able to download the file again after it's created.
Cancel
Launch Instances


aws
Services
Resource Groups
vocstartsoft/user624834=rran...
N. Virginia
Support
Launch Status
Your instances are now launching
The following instance launches have been initiated: i-0f3b7bf08b94ccffb
View launch log
Get notified of estimated charges
Create billing alerts to get an email notification when estimated charges on your AWS bill exceed an amount you define (for example, if you exceed the free usage tier).
How to connect to your instances
Your instances are launching, and it may take a few minutes until they are in the running state, when they will be ready for you to use. Usage hours on your new instances will start immediately and continue to accrue until you stop or terminate your instances.
Click View Instances to monitor your instances' status. Once your instances are in the running state, you can connect to them from the Instances screen. Find out how to connect to your instances.
Here are some helpful resources to get you started
How to connect to your Linux instance
Learn about AWS Free Usage Tier
Amazon EC2: User Guide
Amazon EC2: Discussion Forum
While your instances are launching you can also
Create status check alarms to be notified when these instances fail status checks. (Additional charges may apply)
Create and attach additional EBS volumes (Additional charges may apply)
Manage security groups


aws
Services
Resource Groups
vocstartsoft/user624834=rran...
N. Virginia
Support
New EC2 Experience
Learn more
EC2 Dashboard New
Events
Tags
Reports
Limits
INSTANCES
Instances
Instance Types
Launch Templates New
Spot Requests
Savings Plans
Reserved Instances
Dedicated Hosts
Scheduled Instances
Capacity Reservations
IMAGES
AMIs
Bundle Tasks
ELASTIC BLOCK STORE
Volumes
Snapshots
Lifecycle Manager
NETWORK & SECURITY
Launch Instance
Connect
Actions
Filter by tags and attributes or search by keyword
1 to 1 of 1
Name
Instance ID
Instance Type
Availability Zone
Instance State
Status Checks
Alarm Status
Public DNS (IPv4)
IPv4 Public II
i-0f3b7bf08b94ccffb
t2.micro
us-east-1c
running
Initializing
None
ec2-35-173-255-4.com...
35.173.255.4
Instance: i-0f3b7bf08b94ccffb
Public DNS: ec2-35-173-255-4.compute-1.amazonaws.com
Description
Status Checks
Monitoring
Tags
Instance ID
i-0f3b7bf08b94ccffb
Instance state
running
Instance type
t2.micro
Finding
You may not have permission to access AWS Compute Optimizer.
Public DNS (IPv4)
ec2-35-173-255-4.compute-1.amazonaws.com
IPv4 Public IP
35.173.255.4
IPv6 IPs
-
Elastic IPs



Step for accessing AWS Instance->

-Set up SSH in the computer and do **cd downloads**
-Downloaded key from AWS: **chmod 400 rachir.pem**
-Will ask for yes/no, also authentication if needed.

```
rachirana@Rachis-MacBook-Pro ~ % ssh rachirana@192.168.1.12
Password:
Last login: Mon Feb 17 00:21:08 2020 from 192.168.1.12
rachirana@Rachis-MacBook-Pro ~ % cd Downloads
```

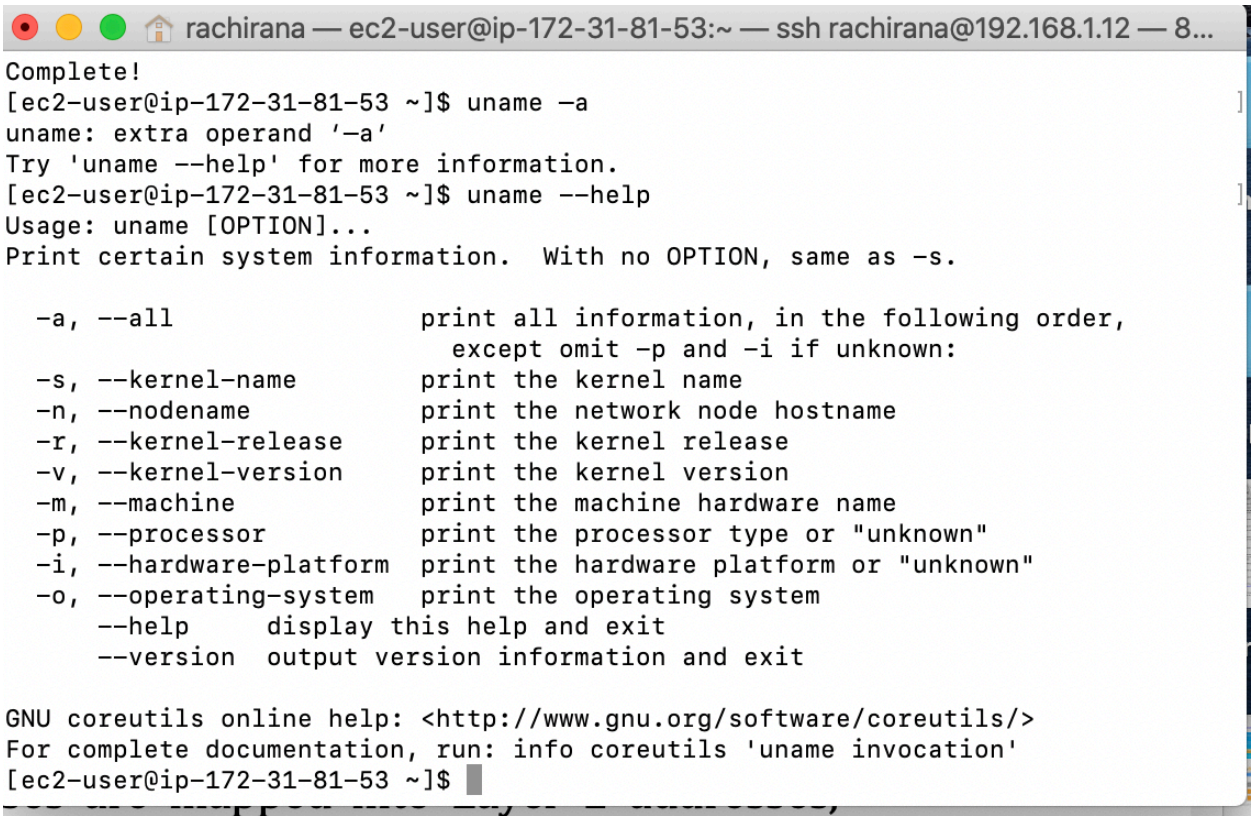
```
rachirana@Rachis-MacBook-Pro Downloads % chmod 400 rachir.pem
rachirana@Rachis-MacBook-Pro Downloads % ssh -i "rachir.pem" ec2-user@ec2-54-237-222-47.compute-1.amazonaws.com
The authenticity of host 'ec2-54-237-222-47.compute-1.amazonaws.com (54.237.222.47)' can't be established.
ECDSA key fingerprint is SHA256:F24wjxEHQnEF2YiiXvk/sssx+hH7DdeAoa3WMqWQMgQ.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added 'ec2-54-237-222-47.compute-1.amazonaws.com,54.237.222.47' (ECDSA) to the list of known hosts.

       __|  __|_  )
       _|  (     /   Amazon Linux AMI
      ___|\___|___|

https://aws.amazon.com/amazon-linux-ami/2018.03-release-notes/
3 package(s) needed for security, out of 5 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-81-53 ~]$ sudo yum update
Loaded plugins: priorities, update-motd, upgrade-helper
Resolving Dependencies
--> Running transaction check
---> Package kernel.x86_64 0:4.14.165-103.209.amzn1 will be installed
---> Package kernel-tools.x86_64 0:4.14.165-102.185.amzn1 will be updated
---> Package kernel-tools.x86_64 0:4.14.165-103.209.amzn1 will be an update
---> Package python27.x86_64 0:2.7.16-1.130.amzn1 will be updated
---> Package python27.x86_64 0:2.7.16-1.131.amzn1 will be an update
---> Package python27-devel.x86_64 0:2.7.16-1.130.amzn1 will be updated
---> Package python27-devel.x86_64 0:2.7.16-1.131.amzn1 will be an update
---> Package python27-libs.x86_64 0:2.7.16-1.130.amzn1 will be updated
---> Package python27-libs.x86_64 0:2.7.16-1.131.amzn1 will be an update
--> Finished Dependency Resolution

Dependencies Resolved

================================================================================
 Package           Arch      Version                       Repository       Size
================================================================================
Installing:
 kernel            x86_64    4.14.165-103.209.amzn1        amzn-updates     22 M
Updating:
 kernel-tools      x86_64    4.14.165-103.209.amzn1        amzn-updates    142 k
 python27          x86_64    2.7.16-1.131.amzn1            amzn-updates    103 k
 python27-devel    x86_64    2.7.16-1.131.amzn1            amzn-updates    525 k
 python27-libs     x86_64    2.7.16-1.131.amzn1            amzn-updates    6.8 M
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
  Updating   : python27-2.7.16-1.131.amzn1.x86_64                           1/9
  Updating   : python27-libs-2.7.16-1.131.amzn1.x86_64                      2/9
  Updating   : python27-devel-2.7.16-1.131.amzn1.x86_64                     3/9
  Updating   : kernel-tools-4.14.165-103.209.amzn1.x86_64                   4/9
  Installing : kernel-4.14.165-103.209.amzn1.x86_64                         5/9
  Cleanup    : python27-devel-2.7.16-1.130.amzn1.x86_64                     6/9
  Cleanup    : python27-2.7.16-1.130.amzn1.x86_64                           7/9
  Cleanup    : python27-libs-2.7.16-1.130.amzn1.x86_64                      8/9
  Cleanup    : kernel-tools-4.14.165-102.185.amzn1.x86_64                   9/9
intel-06-4f-01: model 'GenuineIntel 06-4f-01', path ' intel-ucode/06-4f-01', kvers ' 4.14.42'
intel-06-4f-01: blacklist ''
intel: model '', path ' intel-ucode/*', kvers ''
intel: blacklist ''
  Verifying  : python27-libs-2.7.16-1.131.amzn1.x86_64                      1/9
  Verifying  : kernel-4.14.165-103.209.amzn1.x86_64                         2/9
  Verifying  : kernel-tools-4.14.165-103.209.amzn1.x86_64                   3/9
  Verifying  : python27-2.7.16-1.131.amzn1.x86_64                           4/9
  Verifying  : python27-devel-2.7.16-1.131.amzn1.x86_64                     5/9
  Verifying  : kernel-tools-4.14.165-102.185.amzn1.x86_64                   6/9
  Verifying  : python27-libs-2.7.16-1.130.amzn1.x86_64                      7/9
  Verifying  : python27-devel-2.7.16-1.130.amzn1.x86_64                     8/9
  Verifying  : python27-2.7.16-1.130.amzn1.x86_64                           9/9

Installed:
  kernel.x86_64 0:4.14.165-103.209.amzn1

Updated:
  kernel-tools.x86_64 0:4.14.165-103.209.amzn1
  python27.x86_64 0:2.7.16-1.131.amzn1
  python27-devel.x86_64 0:2.7.16-1.131.amzn1
  python27-libs.x86_64 0:2.7.16-1.131.amzn1

Complete!
```

AWS Instance Commands->

-uname

- Run: uname – a
uname –help

As seen in the screenshot it displays/prints information about the current system.



-whoami

```
GNU coreutils online help: <http://www.gnu.org/software/coreutils/>
For complete documentation, run: info coreutils 'uname invocation'
[ec2-user@ip-172-31-81-53 ~]$ whoami
ec2-user
```

Printed the userID needed. As seen above it returned the current effective user.

- df-h

Displaying the amount of disk space available on the system containing each file name argument. An argument is the absolute file name of a disk device node containing a mounted file system, df shows the space available on that file as shown below rather than on the file system containing the device node. It cannot however show the space available for the unmounted file systems as it requires very system specific knowledge of file system structures. So, it can be said that **df displays** the amount of disk space available on the file system containing each file name argument.

```
[ec2-user@ip-172-31-81-53 ~]$ df –h
df: '–h': No such file or directory
[ec2-user@ip-172-31-81-53 ~]$ df -h
Filesystem      Size  Used Avail Use% Mounted on
devtmpfs        483M   60K  483M   1% /dev
tmpfs           493M     0  493M   0% /dev/shm
/dev/xda1       7.9G  1.2G  6.6G  16% /
```

- ifconfig -a

It is used to configure the kernel-resident network interfaces, used at boot time to set up interface as necessary also needed after this for debugging or for tuning system. Since argument is given it displays the status of all interfaces even the down ones otherwise configure an interface. It displays the status of the current active interface.

```
–a: error fetching interface information: Device not found
[ec2-user@ip-172-31-81-53 ~]$ ifconfig –a
eth0      Link encap:Ethernet  HWaddr 12:0F:46:17:E7:FD
          inet addr:172.31.81.53  Bcast:172.31.95.255  Mask:255.255.240.0
          inet6 addr: fe80::100f:46ff:fe17:e7fd/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:9001  Metric:1
          RX packets:28179 errors:0 dropped:0 overruns:0 frame:0
          TX packets:5520 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:40092527 (38.2 MiB)  TX bytes:422555 (412.6 KiB)

lo        Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
          inet6 addr: ::1/128 Scope:Host
          UP LOOPBACK RUNNING  MTU:65536  Metric:1
          RX packets:2 errors:0 dropped:0 overruns:0 frame:0
          TX packets:2 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:140 (140.0 b)  TX bytes:140 (140.0 b)
```

-netstat

Network statistics command line tool shows network connections both way incoming and outgoing, routing tables, and a number of network interface and network protocol statistics. This command is used to print network connections, routing tables, interface statistics, masquerade connections, and multicast memberships.

```
[ec2-user@ip-172-31-81-53 ~]$ netstat
Active Internet connections (w/o servers)
Proto Recv-Q Send-Q Local Address               Foreign Address             State
tcp        0    244 ip-172-31-81-53.ec2.int:ssh cpe-98-14-48-211.nyc.:50533 ESTABLISHED
Active UNIX domain sockets (w/o servers)
Proto RefCnt Flags       Type       State         I-Node Path
unix  10     [ ]         DGRAM                    10566  /dev/log
unix  3      [ ]         DGRAM                    9347
unix  3      [ ]         DGRAM                    9346
unix  2      [ ]         DGRAM                    11103
unix  3      [ ]         STREAM     CONNECTED     11202
unix  3      [ ]         STREAM     CONNECTED     11203
unix  2      [ ]         DGRAM                    11869
unix  3      [ ]         STREAM     CONNECTED     11207
unix  3      [ ]         STREAM     CONNECTED     10525
unix  3      [ ]         STREAM     CONNECTED     10524
unix  3      [ ]         STREAM     CONNECTED     11208  /var/run/dbus/system_bus_socket
unix  3      [ ]         STREAM     CONNECTED     12236
unix  3      [ ]         STREAM     CONNECTED     11825
unix  2      [ ]         DGRAM                    12232
unix  3      [ ]         STREAM     CONNECTED     12237
unix  2      [ ]         DGRAM                    11800
unix  3      [ ]         STREAM     CONNECTED     11824
unix  2      [ ]         DGRAM                    11318
unix  2      [ ]         DGRAM                    11889
unix  2      [ ]         DGRAM                    11727
unix  2      [ ]         DGRAM                    11911
[ec2-user@ip-172-31-81-53 ~]$
Broadcast message from root@ip-172-31-81-53
        (unknown) at 5:47 ...
```

References

http://aws.amazon.com/ec2/

http://docs.amazonwebservices.com/AWSEC2/2009-11-30/GettingStartedGuide/

http://aws.amazon.com/ec2/

http://tools.ietf.org/html/rfc4632

https://tools.ietf.org/html/rfc826

https://tools.ietf.org/html/rfc2131