

Setting up an EC2 on AWS

If you do not have an AWS account, please go to...

<https://aws.amazon.com/premiumsupport/knowledge-center/create-and-activate-aws-account/>

... and follow the instructions

EC2s are “Elastic Compute Cloud” provided by Amazon. They are not necessarily Linux based but in this class that’s what we will use. Please use these instructions to set yours up.

Go to website...

<https://aws.amazon.com/console/>

...and log in



Sign in



Root user

Account owner that performs tasks requiring unrestricted access. [Learn more](#)



IAM user

User within an account that performs daily tasks. [Learn more](#)

Root user email address

richard_myers@fdu.edu|

Enter your account's e-mail

Next

Then click

— New to AWS? —



Root user sign in ⓘ

Email: richard_myers@fdu.edu

Password

[Forgot password?](#)

Enter the corresponding e-mail

Sign in

Then click

Drop Down "Services"

aws Services ▼

profrih ▼ Ohio ▼ Support ▼

AWS Management Console

Then Click
on
"EC2"

aws Services ▲

Search for services, f

★ Favorites

Add favorites by clicking on the star next to the service name.

Recently visited

Console Home
Billing
AWS Organizations
EC2

All services

Compute
EC2
Elastic Beanstalk
Lambda
Serverless Application Repository
AWS Outposts
EC2 Image Builder



aws Services

Search for services, features, marketplace products, and docs [Alt+S]

New EC2 Experience Tell us what you think

EC2 Dashboard New

Events

Tags

Limits

▼ Instances

Instances New

Instance Types

Launch Templates

Spot Requests

Savings Plans

Reserved Instances

Dedicated Hosts New

Capacity Reservations

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 console and the new console, use the New EC2 Experience toggle.

Resources

You are using the following Amazon EC2 resources in the US East (Ohio) Region:

| | | | | | |
|-----------|---|-----------------|---|-----------------|---|
| Instances | 0 | Dedicated Hosts | 0 | Elastic IPs | 0 |
| Key pairs | 0 | Load balancers | 0 | Security groups | 1 |
| Snapshots | 0 | Volumes | 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](#)



profrich Ohio Support

Connect Instance state Actions **Launch instances**

Availability Zone Public IPv4 DNS Public IPv4 ... Elastic IP

Step 1: Choose an Amazon Machine Image (AMI)

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"

Search by Systems Manager parameter

1 to 41 of 41 AMIs

Quick Start

- My AMIs
- AWS Marketplace
- Community AMIs
- ☐ Free tier only

| AMI | AMI ID | AMI Name | Root device type | Virtualization type | ENI Enabled | Architecture |
|--|---|--|------------------|---------------------|-------------|------------------------------|
|  Amazon Linux 2 AMI (HVM), SSD Volume Type | ami-0a0ad6b70e61be944 / ami-0f278a714e7f68bd9 | 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. This AMI is the successor of the Amazon Linux AMI that is approaching end of life on December 31, 2020 and has been removed from this wizard. | ebs | hvm | Yes | 64-bit (x86) 64-bit (ARM) |
|  macOS Catalina 10.15.7 | ami-00dab9ab8515606fb | The macOS Catalina AMI is an EBS-backed, AWS-supported image. This AMI includes the AWS Command Line Interface, Command Line Tools for Xcode, Amazon SSM Agent, and Homebrew. The AWS Homebrew Tap includes the latest versions of multiple AWS packages included in the AMI. | ebs | hvm | Yes | 64-bit (Mac) |
|  macOS Mojave 10.14.6 | ami-09c14b55482373b3a | The macOS Mojave AMI is an EBS-backed, AWS-supported image. This AMI includes the AWS Command Line Interface, Command Line Tools for Xcode, Amazon SSM Agent, and Homebrew. The AWS Homebrew Tap includes the latest versions of multiple AWS packages included in the AMI. | ebs | hvm | Yes | 64-bit (Mac) |
|  Red Hat Enterprise Linux 8 (HVM), SSD Volume Type | ami-03d64741867e7bb94 | Red Hat Enterprise Linux version 8 (HVM), EBS General Purpose (SSD) Volume Type | ebs | hvm | Yes | 64-bit (x86) |

Click "Select" for "Red Hat Enterprise Linux 8"

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 <small>Free tier eligible</small> | 1 | 1 | EBS only | - | Low to Moderate | Yes |

Cancel | Previous | **Review and Launch** | Next: Configure Instance Details

Then Click "Review and Launch"

Double check to make sure that a "Free tier eligible" Type is chosen (the blue dot indicates chosen)

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-1`, 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

Red Hat Enterprise Linux 8 (HVM), SSD Volume Type - ami-03d64741867e7bb94

Free tier eligible

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

Root Device Type: ebs Virtualization type: hvm

Edit AMI

Instance Type

| Instance Type | ECUs | vCPUs | Memory (GiB) | Instance Storage (GB) | EBS-Optimized Available | Network Performance |
|---------------|------|-------|--------------|-----------------------|-------------------------|---------------------|
| t2.micro | - | 1 | 1 | EBS only | - | Low to Moderate |

Edit instance type

Security Groups

Security group name

launch-wizard-1

Description

launch-wizard-1 created 2021-01-22T14:11:40-05:00

| Type | Protocol | Port Range | Source | Description |
|------|----------|------------|-----------|-------------|
| SSH | TCP | 22 | 0.0.0.0/0 | |

Edit security groups

Instance Details

Edit instance details

Storage

Edit storage

Cancel

Previous

Launch

No changes Necessary Just Click "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.](#)

Choose an existing key pair

Select a key pair

No key pairs found



No key pairs found

You don't have any key pairs. Please create a new key pair by selecting the

Create a new key pair option above to continue.

Cancel

Launch Instances

Drop Down and Choose "Create New Key Pair"

Will then change to a request for "Key Pair Name"

Select an existing key pair or create a new key pair



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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

profrich

This can be any name of your choosing

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

I chose the name of my key pair to be “profrich” (after my AWS account name)...you can name it whatever you would like. We will use this later.

I received, in my download folder, a file called (in my case) “profrich.pem”

It is critical to **KEEP** in a **SECURE** place (preferably portable).

After downloading, the “Launch Instances” button will be available

Launch Instances

Now that the Button is Active click it

Launch Status

Your instances are now launching

The following instance launches have been initiated: i-07f02c9f5dc8b3b48 [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

Wait a few minutes for your instance to spin up and then and then click

[View instances](#)

Instances (1) info

| Name | Instance ID | Instance state | Instance type | Status check | Alarm status | Availability Zone | Public IPv4 DNS | Public IPv4 ... | Elastic IP |
|------|---------------------|----------------|---------------|--------------|--------------|-------------------|-------------------------|-----------------|------------|
| - | i-07f02c9f5dc8b3b48 | Running | t2.micro | Initializing | No alarms + | us-east-2c | ec2-18-223-143-172.u... | 18.223.143.172 | - |

When it is
"Running"
click the
Instance ID

EC2 > Instances > i-07f02c9f5dc8b3b48

Instance summary for i-07f02c9f5dc8b3b48 info

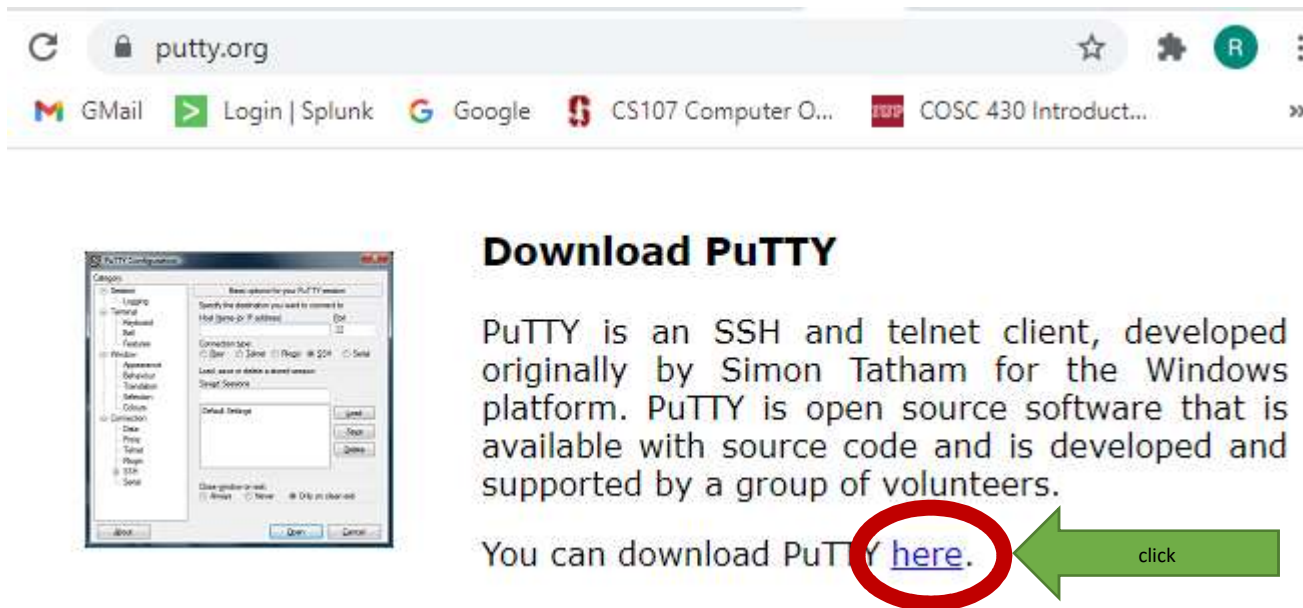
Updated less than a minute ago

| | | |
|--|--|--|
| Instance ID i-07f02c9f5dc8b3b48 | Public IPv4 address 18.223.143.172 open address | Private IPv4 addresses 172.31.44.55 |
| Instance state Running | Public IPv4 DNS ec2-18-223-143-172.us-east-2.compute.amazonaws.com open address | Private IPv4 DNS ip-172-31-44-55.us-east-2.compute.internal |
| Instance type t2.micro | Elastic IP addresses - | VPC ID vpc-18bd3873 open address |
| AWS Compute Optimizer finding Opt-in to AWS Compute Optimizer for recommendations. Learn more | IAM Role - | Subnet ID subnet-a15517ed open address |

Your EC2 instance is now running,

- If you are using Windows, we will need PuTTY to connect to it. Just move onto the next page (page 8)
- If you are using a MAC, move onto page 17

Go to the site... <https://putty.org/>



Download PuTTY

PuTTY is an SSH and telnet client, developed originally by Simon Tatham for the Windows platform. PuTTY is open source software that is available with source code and is developed and supported by a group of volunteers.

You can download PuTTY [here.](#)

Alternative binary files

The installer packages above will provide versions of all of these (except PuTTYtel), but you can download standalone binaries one by one if you prefer.

(Not sure whether you want the 32-bit or the 64-bit version? Read the [FAQ entry](#).)

putty.exe (the SSH and Telnet client itself)

32-bit: [putty.exe](#) (or by FTP) (signature)
64-bit: [putty.exe](#) (or by FTP) (signature)

pscp.exe (an SCP client, i.e. command-line secure file copy)

32-bit: [pscp.exe](#) (or by FTP) (signature)
64-bit: [pscp.exe](#) (or by FTP) (signature)

psftp.exe (an SFTP client, i.e. general file transfer sessions much like FTP)

32-bit: [psftp.exe](#) (or by FTP) (signature)
64-bit: [psftp.exe](#) (or by FTP) (signature)

puttytel.exe (a Telnet-only client)

32-bit: [puttytel.exe](#) (or by FTP) (signature)
64-bit: [puttytel.exe](#) (or by FTP) (signature)

plink.exe (a command-line interface to the PuTTY back ends)

32-bit: [plink.exe](#) (or by FTP) (signature)
64-bit: [plink.exe](#) (or by FTP) (signature)

pageant.exe (an SSH authentication agent for PuTTY, PSCP, PSFTP, and Plink)

32-bit: [pageant.exe](#) (or by FTP) (signature)
64-bit: [pageant.exe](#) (or by FTP) (signature)

puttygen.exe (a RSA and DSA key generation utility)

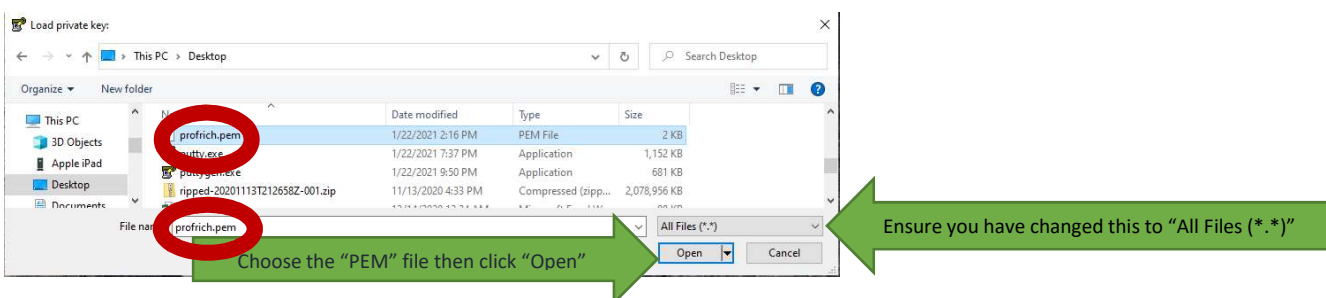
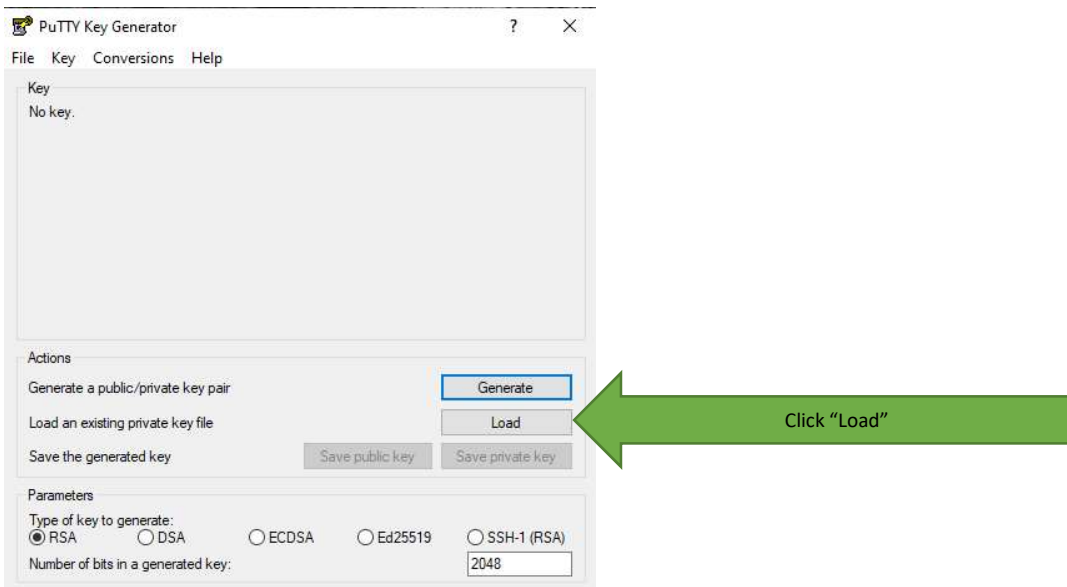
32-bit: [puttygen.exe](#) (or by FTP) (signature)
64-bit: [puttygen.exe](#) (or by FTP) (signature)

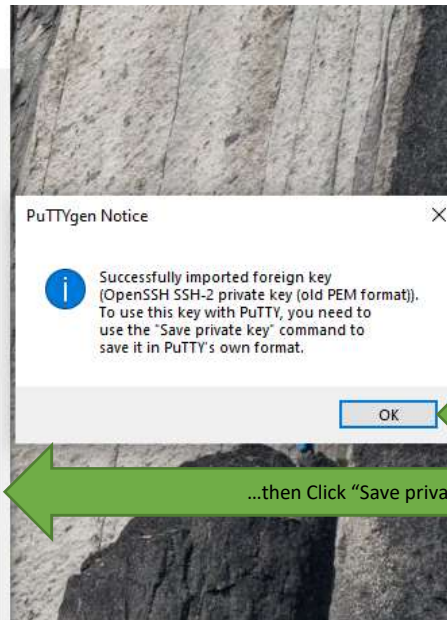
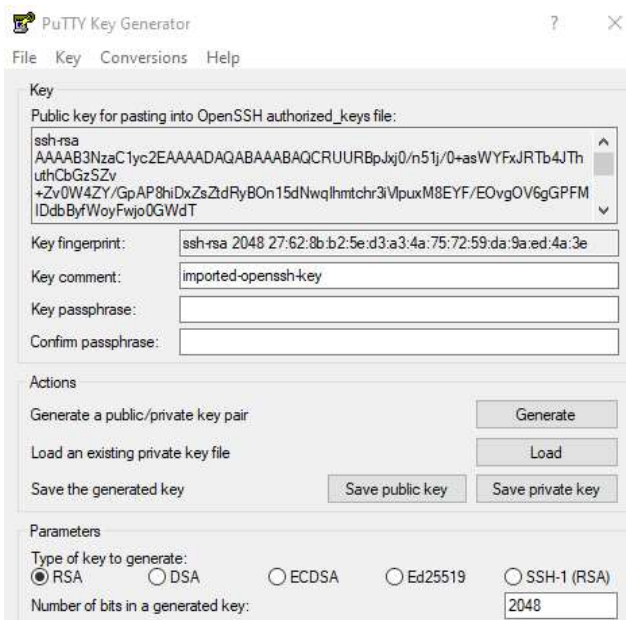
These are standalone files. Copy them from your download folder to your desktop

At this time you will also need your PEM file (mine was called “profrich.pem”). Please copy it from the download directory and move it to your desktop as well so you can find it. NOTE: if you prefer to put both of these in a folder it can be done at your discretion but just remember where they are)



Before we connect, we need to generate a key file based on that PEM file





Click "OK" first...

...then Click "Save private key"

PuTTYgen Warning



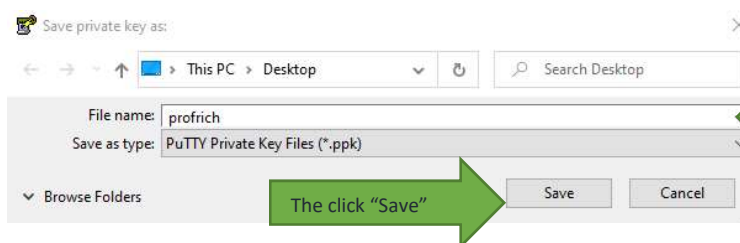
Are you sure you want to save this key without a passphrase to protect it?

Using a passphrase is definitely more secure, but for now just click "Yes"

Yes

No

We will now save the private key file (which will have a "PPK" extension). Again, you can name this whatever you want, but you may want it to match your "PEM" file name. I did here...



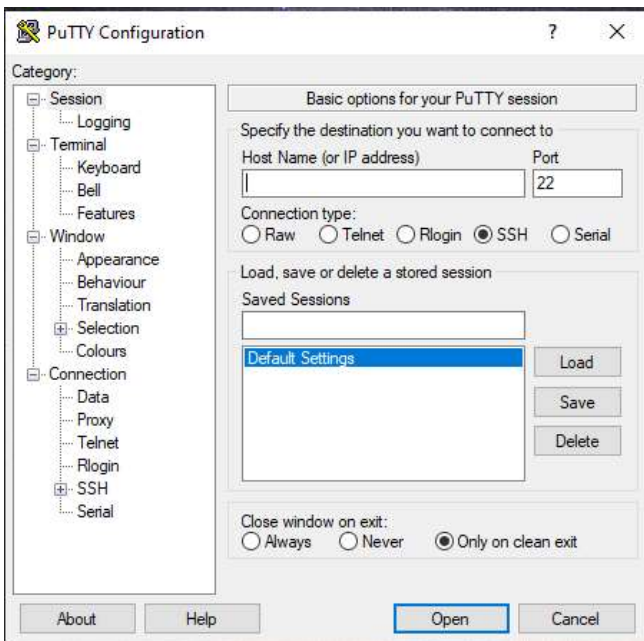
Name the PPK file here

The click "Save"

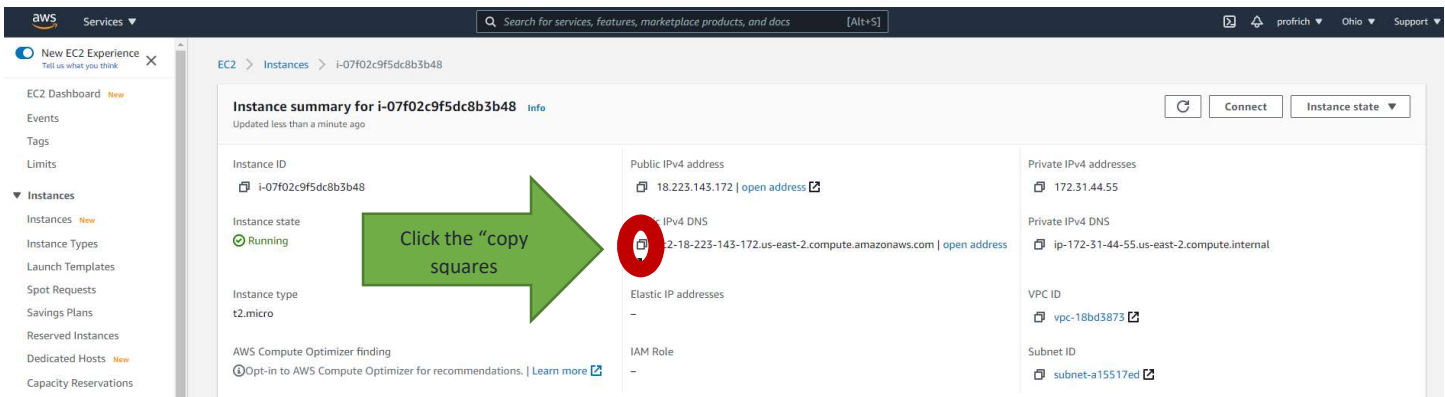


The Private Key file has now been created, so....

... Double Click on putty.exe



Don't do anything yet!!! We must go back to our
Go back to your AWS console

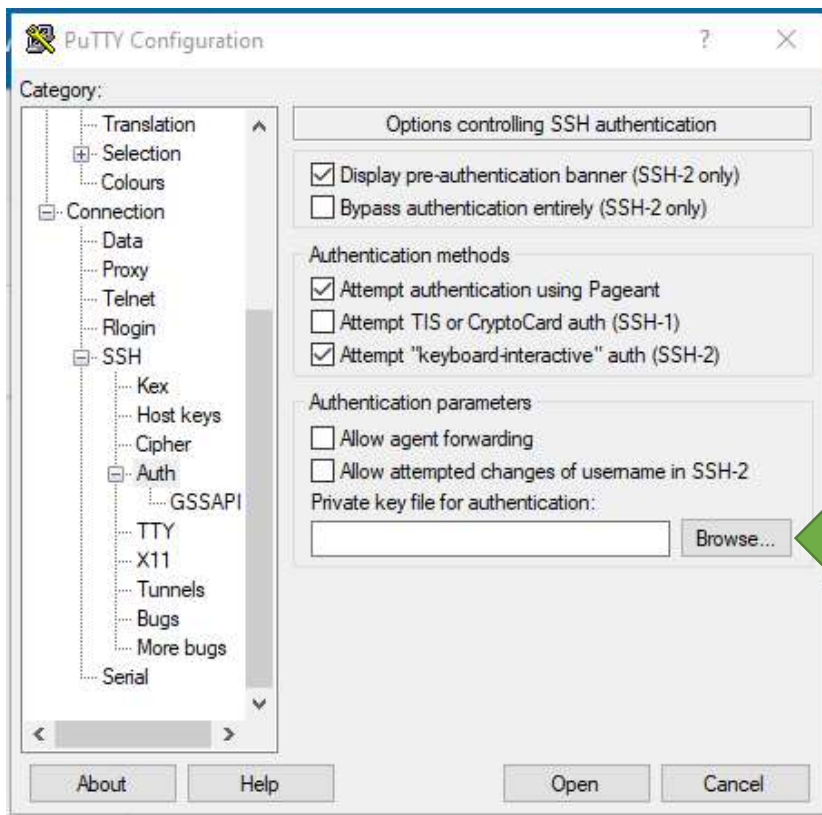
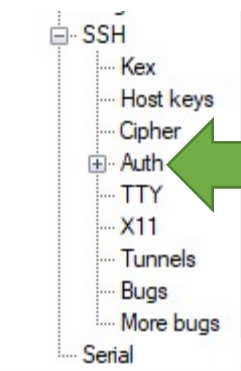
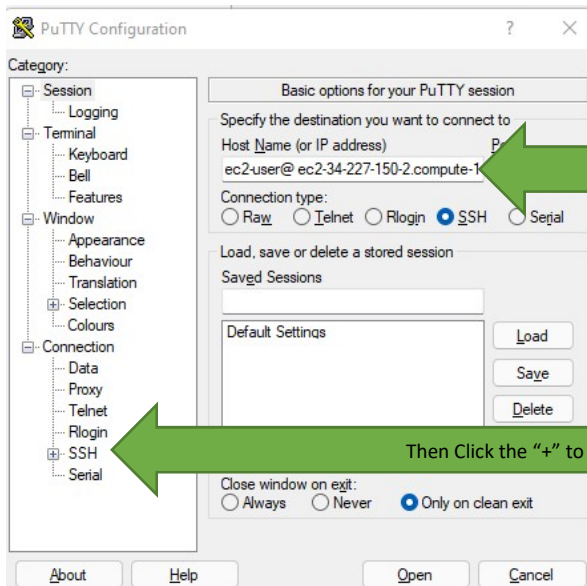


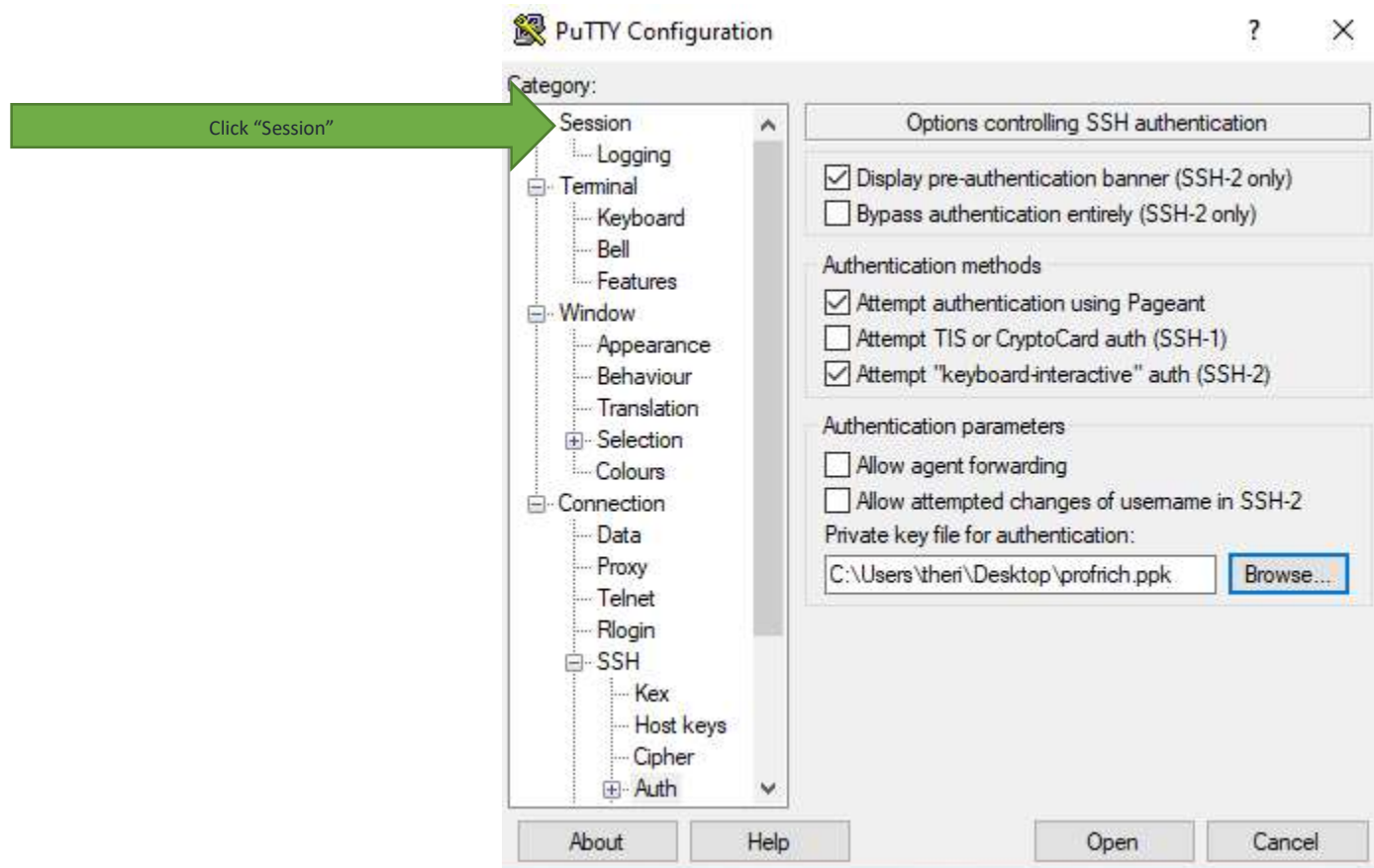
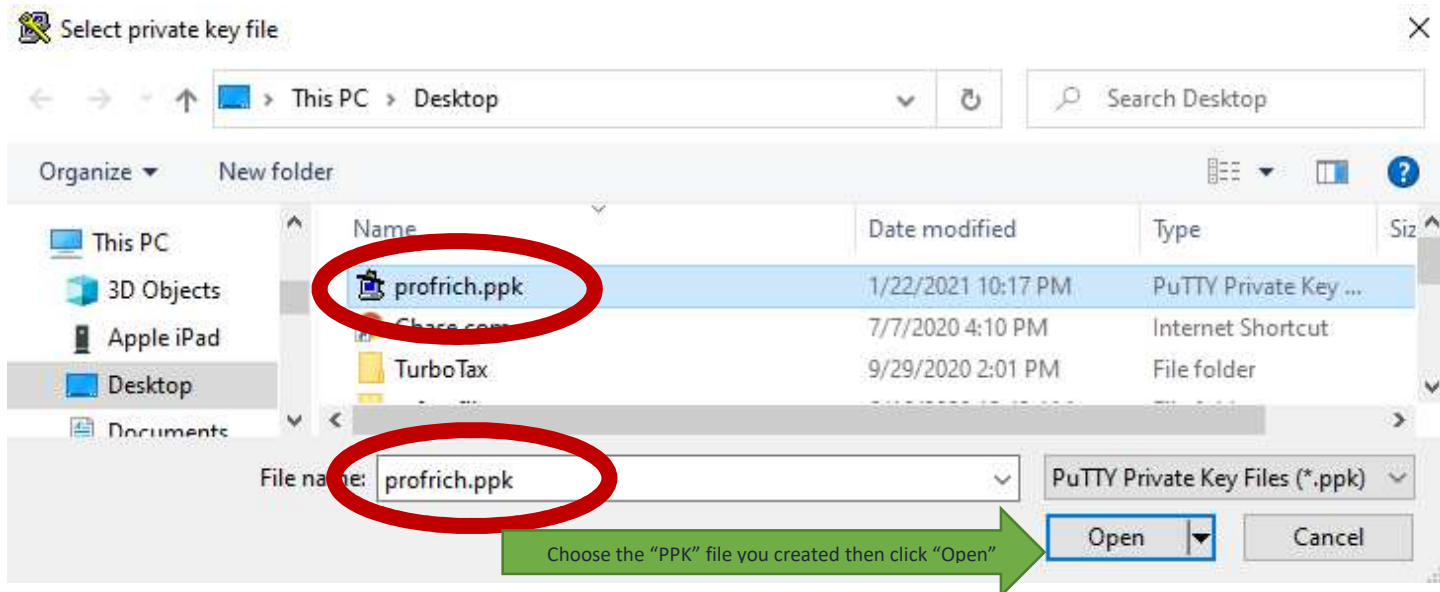
✓ Public IPv4 DNS copied

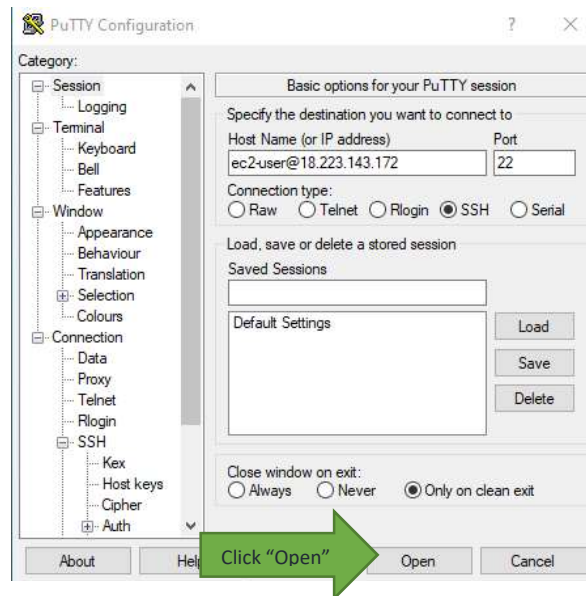
Your public IPv4 DNS name will not be the same as mine but it is now copied to the clipboard and can be

ec2-34-227-150-2.compute-1.amazonaws.com

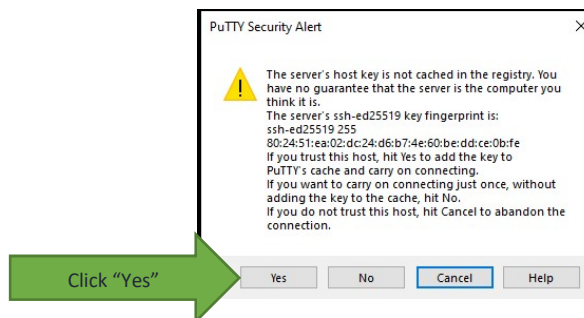
Go back to "PuTTY"



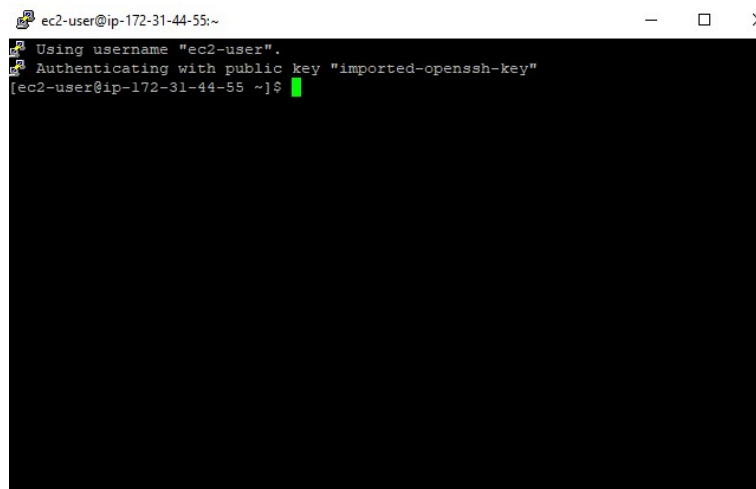




NOTE: Here you can also assign a name under “Saved Sessions” and save your settings for later use by then hitting “Save”



SUCCESS!!!



When you are done with your work every day, please don't forget to shut down your EC2.

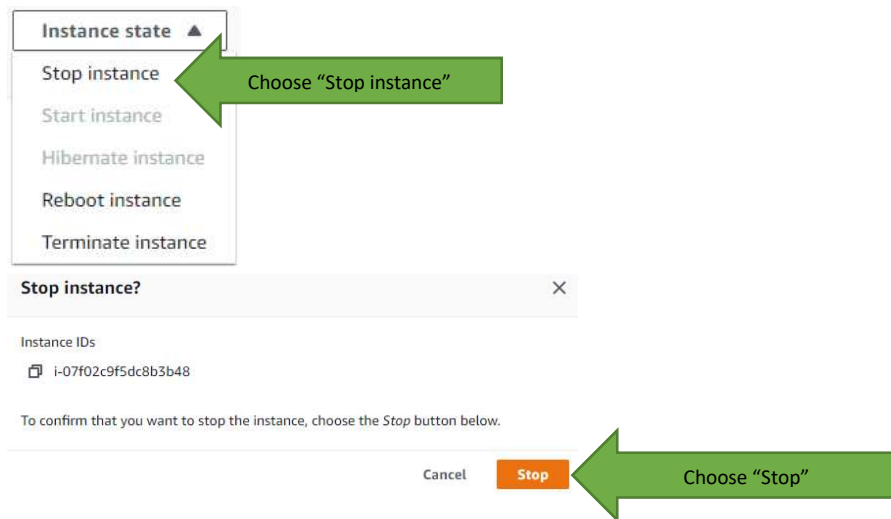
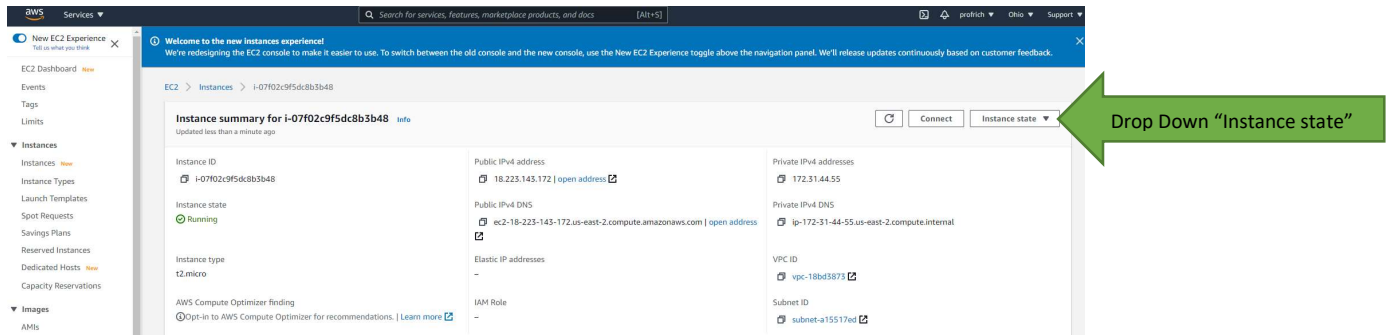
If you leave it up you will eventually be charged!!!

Go to page 16 for instructions

IMPORTANT NOTES!!!!

1. Macs do not use PuTTY. Use the page of this document to dedicated to explaining connecting using a MAC. Do not do any of the instructions referring to “putty.exe” nor “puttygen.exe” on the following pages.
2. **Please save your PEM and PPK file somewhere portable, like in your e-mail.**
When you are on campus it can be shared to your network drive, but for now a good way to make sure you always have these files is to mail them to yourself.
NOTE: this is NOT a good idea normally due to security, but we are in an academic environment with ephemeral resources. DO NOT do this in a professional environment...a KEY (PPK) file should always be stored and transferred encrypted and secure!!!
3. To close your PuTTY session you can just click the “x” in the upper corner or just type “exit”
4. DO NOT leave your EC2 running. If you do, they WILL begin to charge you for its use even before the 12 months they promised. Please see the section regarding “Shutting down your EC2”

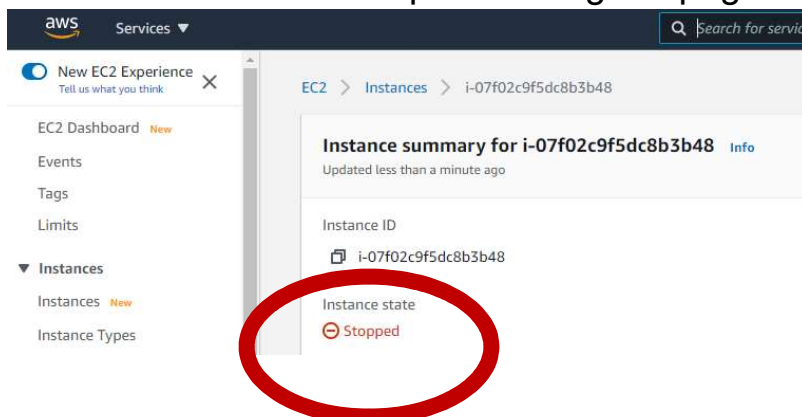
Shutting Down your EC2



Look for this message...



But don't believe it...keep refreshing the page until you see...



If it does not stop, try stopping it again until it does stop.

Macs

Please create your EC2 as instructed, but once you have downloaded your PEM file and have recorded the public IPv4 Domain Name of your new EC2, you can connect by doing the following...

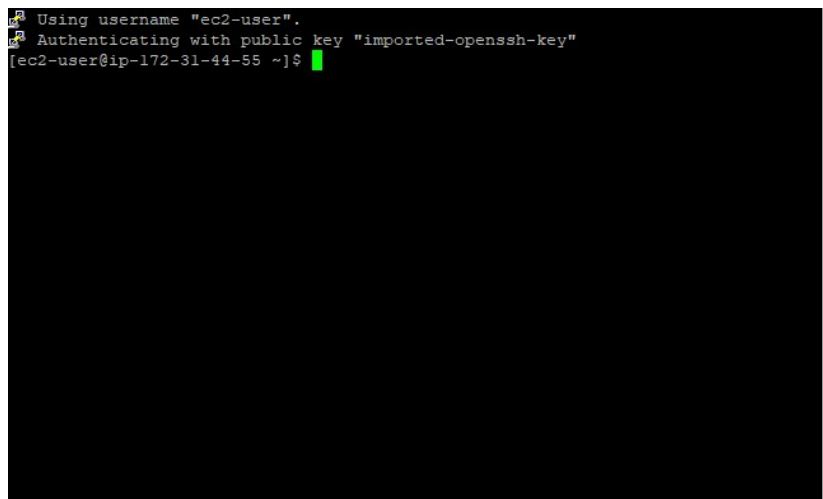
1. Run your terminal app
2. In your home directory run the command `“cd .ssh”`
if you get an error run `“md .ssh”` , then `“cd .ssh”`
3. Copy the PEM file you downloaded when you created your EC2 instance to that directory.
4. Run the command `“chmod 400 nameofyourfile.pem”`

PLEASE REPLACE “nameofyourpemfile” with its actual name!!!!

5. You can now connect to your EC2 using the command
`“ssh -i nameofyourpemfile.pem ec2-user@yourEC2sDomainName”`

WHERE “yourEC2sDomainName” is the “Public IPv4 Domain Name of your EC2”

SUCCESS!!!

A terminal window with a black background and white text. The text shows the process of connecting to an EC2 instance via SSH. It starts with 'Using username "ec2-user".', followed by 'Authenticating with public key "imported-openssh-key"', and finally the prompt '[ec2-user@ip-172-31-44-55 ~]\$' with a green cursor.

```
Using username "ec2-user".
Authenticating with public key "imported-openssh-key"
[ec2-user@ip-172-31-44-55 ~]$
```

When you are done with your work every day, please don't forget to shut down your EC2.

If you leave it up you will eventually be charged!!!