

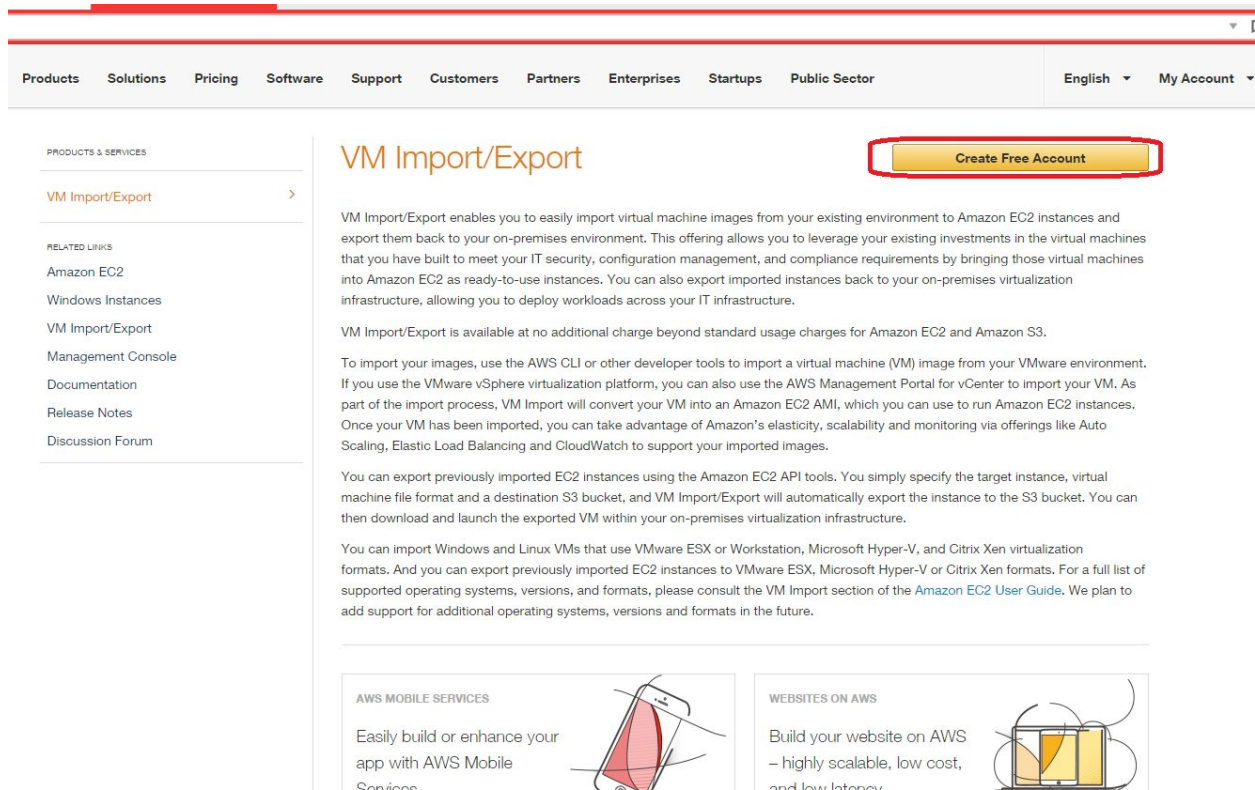
This document will guide you through the process of setting up a Mininet VM on Amazon Web Services. You will need to provide a credit card number, but the Free tier gives you 750 free hours or usage per month. This should be more than enough for the course. You are responsible for any fees you incur from incorrect usage of AWS.

Prerequisites:

- Set up PuTTY/PuTTYgen. This can be obtained at: www.chiark.greenend.org.uk/~sgtatham/putty/download.html (Choose the Windows Installer)

Step 1:

Go to <http://aws.amazon.com/ec2/vm-import> and select “Create Free Account”




The screenshot shows the AWS website's VM Import/Export page. The navigation bar at the top includes links for Products, Solutions, Pricing, Software, Support, Customers, Partners, Enterprises, Startups, and Public Sector, along with language and account options. On the left, a sidebar lists 'PRODUCTS & SERVICES' with 'VM Import/Export' selected, and 'RELATED LINKS' including Amazon EC2, Windows Instances, Management Console, Documentation, Release Notes, and Discussion Forum. The main content area is titled 'VM Import/Export' and features a prominent yellow 'Create Free Account' button circled in red. The text below explains that VM Import/Export allows users to import virtual machine images from their existing environment to Amazon EC2 instances and export them back to their on-premises environment. It also mentions that the service is available at no additional charge beyond standard usage charges for Amazon EC2 and Amazon S3. Further details describe the import process using AWS CLI or developer tools, the conversion of VMs into Amazon EC2 AMIs, and the export process using the Amazon EC2 API tools. The page also includes promotional tiles for 'AWS MOBILE SERVICES' and 'WEBSITES ON AWS' at the bottom.

Step 2:

Go through the application process. (Note: You will need to input a credit card number.)

Step 3:

Select the “Free” plan.


 Contact Information

Payment Information

Identity Verification

Support Plan

Confirmation

Support Plan

All customers receive free support. Choosing a paid support plan will allow you to receive one-on-one technical assistance from experienced engineers and access many other support features. Please see below.

Please Select One

Basic (Free)

Contact Customer Service for account and billing questions, receive help for resources that don't pass system health checks, and access the AWS Community Forums.

Developer (\$49/month)

Get started on AWS - ask technical questions and get a response to your web case within 12 hours during local business hours.

Business (Starting at \$100/month - Pricing Example) - Recommended

24/7/365 real-time assistance by phone and chat, a 1 hour response to web cases, and help with 3rd party software. Access AWS Trusted Advisor to increase performance, fault tolerance, security, and potentially save money. ☐

Enterprise

15 minute response to web cases, an assigned technical account manager (TAM) who is an expert in your use case, and white-glove case handling that notifies your TAM and the service engineering team of a critical issue.

If you select this option, you will not be charged immediately. We will contact you to discuss your needs and finalize the signup.

Continue

AWS Support Features

Step 4:

Configure an Access and Secret Key at

http://console.aws.amazon.com/iam/home?#security_credential

Make sure to copy these down-- you will not be able to retrieve them.

Step 5:

Make sure you are on the Oregon region.

The screenshot shows the AWS Management Console interface. At the top, the navigation bar includes 'AWS', 'Services', and 'Edit'. The region is set to 'Oregon'. The main content area is titled 'Resources' and displays a summary of EC2 resources in the US West (Oregon) region:

- 0 Running Instances
- 0 Elastic IPs
- 0 Dedicated Hosts
- 0 Snapshots
- 0 Volumes
- 0 Load Balancers
- 0 Key Pairs
- 1 Security Groups
- 0 Placement Groups

Below the resource summary, there is a 'Create Instance' section with a blue 'Launch Instance' button highlighted by a red box. The 'Service Health' section shows that the US West (Oregon) service is operating normally across all availability zones (us-west-2a and us-west-2b). The 'Scheduled Events' section shows no events for the US West (Oregon) region.

Step 6: Select Launch Instance

This screenshot is similar to the one above, showing the 'Resources' page for the US West (Oregon) region. The 'Launch Instance' button is highlighted with a red box. The resource counts are the same as in the previous screenshot.

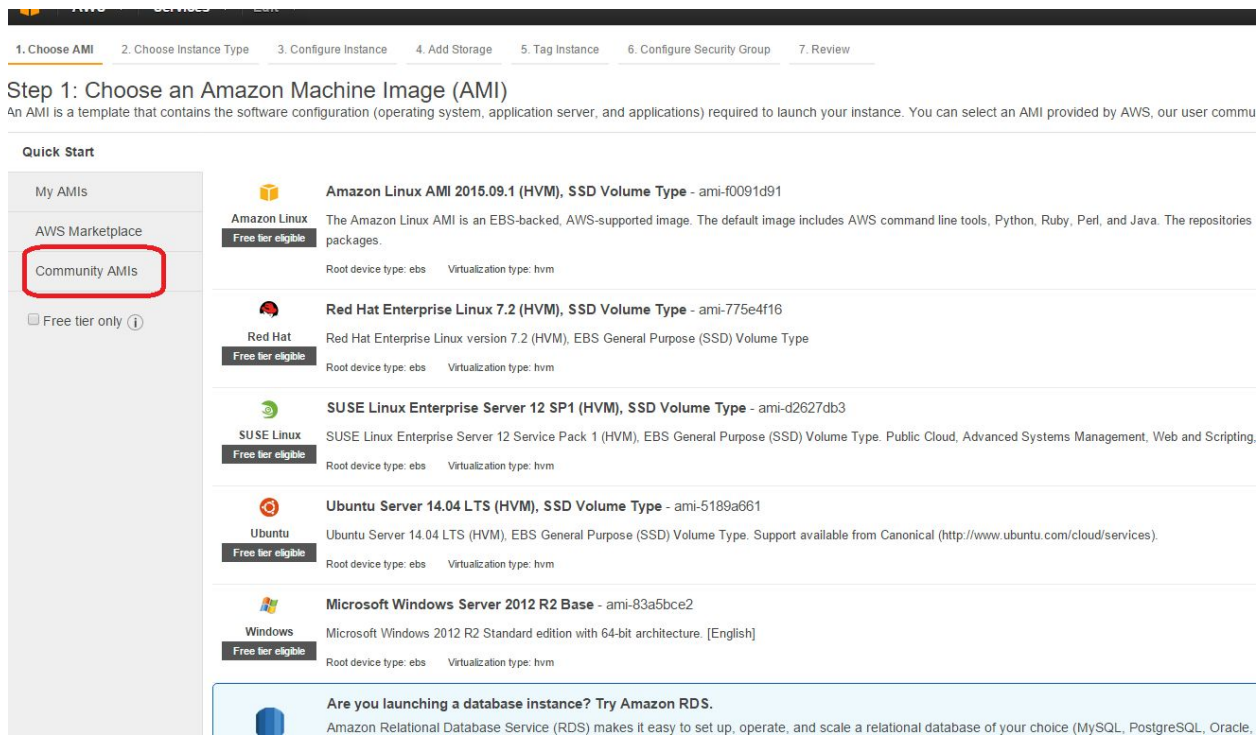
The 'Create Instance' section contains the text: "To start using Amazon EC2 you will want to launch a virtual server, known as an Amazon EC2 instance." Below this text, the 'Launch Instance' button is highlighted with a red box.

The 'Service Health' section shows the following status:

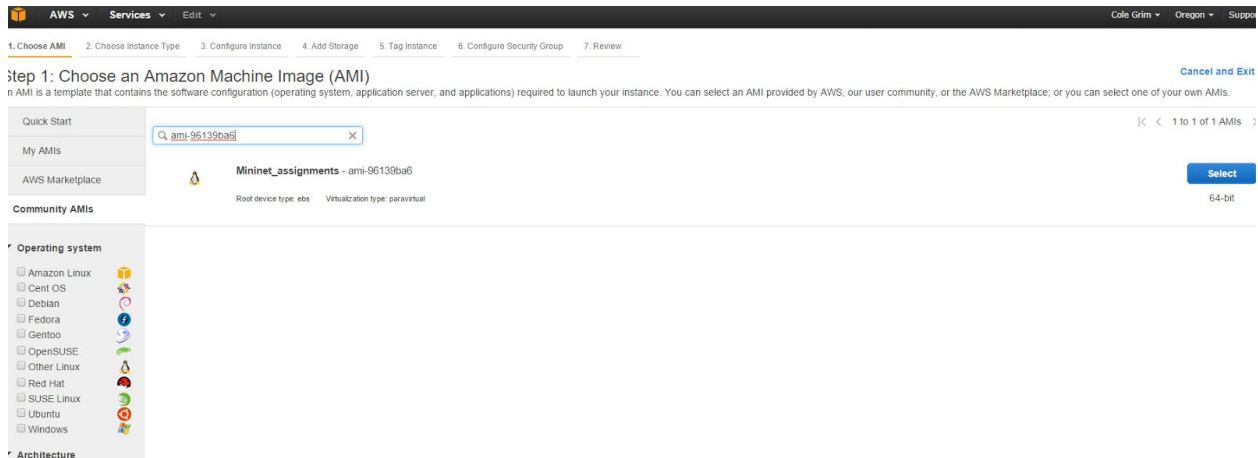
- Service Status:** US West (Oregon): This service is operating normally.
- Availability Zone Status:**
 - us-west-2a: Availability zone is operating normally.
 - us-west-2b: Availability zone is operating normally.

The 'Scheduled Events' section shows "US West (Oregon): No events".

Step 7: Select Community AMIs



Step 8:
Search for “ami-96139ba6”, and press Select.



Step 9:
Click “Review and Launch”

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Tag Instance 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 All generations Show/Hide Columns

Currently selected: t1.micro (Variable ECUs, 1 vCPUs, 0.613 GB memory, EBS only)

	Family	Type	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance
<input checked="" type="checkbox"/>	Micro instances	t1.micro <small>Free tier eligible</small>	1	0.613	EBS only	-	Very Low
<input type="checkbox"/>	General purpose	t2.nano	1	0.5	EBS only	-	Low to Moderate
<input type="checkbox"/>	General purpose	t2.micro <small>Free tier eligible</small>	1	1	EBS only	-	Low to Moderate
<input type="checkbox"/>	General purpose	t2.small	1	2	EBS only	-	Low to Moderate
<input type="checkbox"/>	General purpose	t2.medium	2	4	EBS only	-	Low to Moderate
<input type="checkbox"/>	General purpose	t2.large	2	8	EBS only	-	Low to Moderate
<input type="checkbox"/>	General purpose	m4.large	2	8	EBS only	Yes	Moderate
<input type="checkbox"/>	General purpose	m4.xlarge	4	16	EBS only	Yes	High
<input type="checkbox"/>	General purpose	m4.2xlarge	8	32	EBS only	Yes	High
<input type="checkbox"/>	General purpose	m4.4xlarge	16	64	EBS only	Yes	High
<input type="checkbox"/>	General purpose	m4.10xlarge	40	160	EBS only	Yes	10 Gigabit
<input type="checkbox"/>	General purpose	m3.medium	1	3.75	1 x 4 (SSD)	-	Moderate

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

Step 10:

Select Create a New Key Pair, name the key, and download it.

to update your security group rules to allow access from known IP addresses only.

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

key

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**

Step 11:

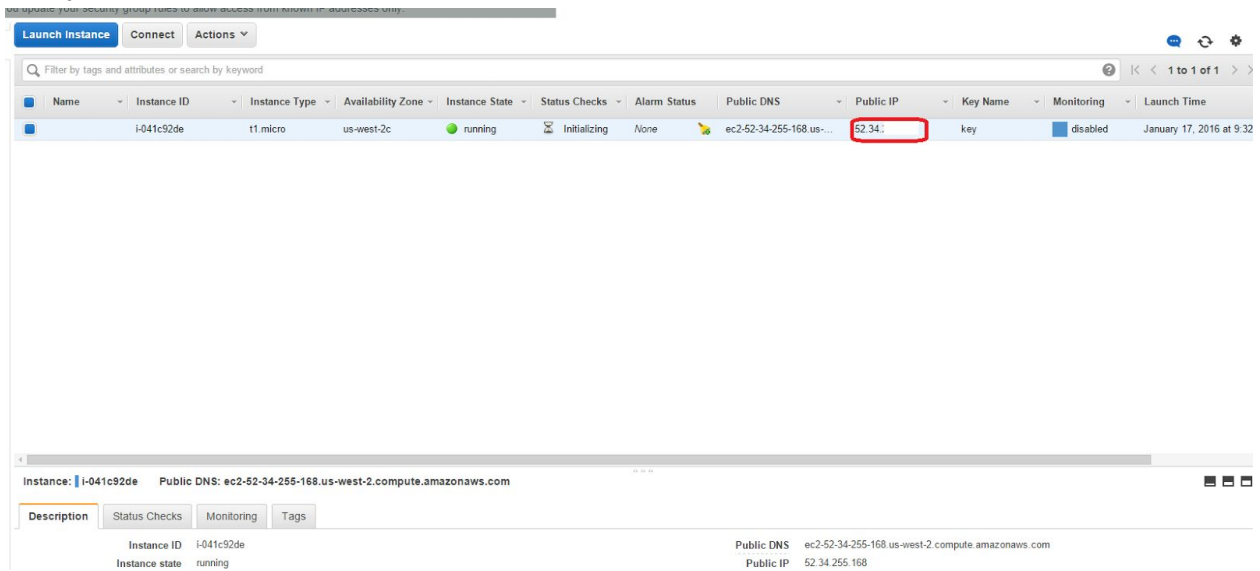
Select Launch Instances

Step 12:

Select View Instances

Step 13:

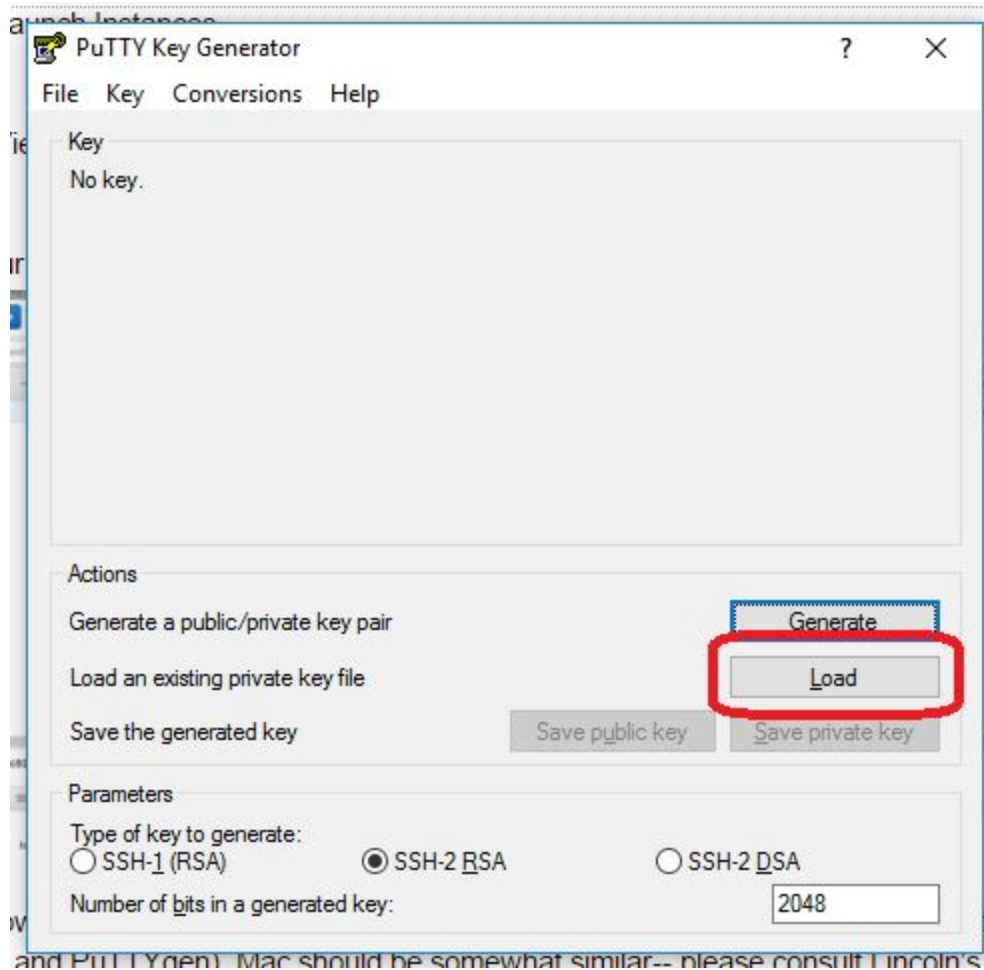
Find your instance's IP. Make a note of this.



The following steps will assume a Windows operating system, and the Putty suite installed (PuTTY and PuTTYgen). Mac should be somewhat similar-- please consult Lincoln's guide for info on setting up X11 forwarding.

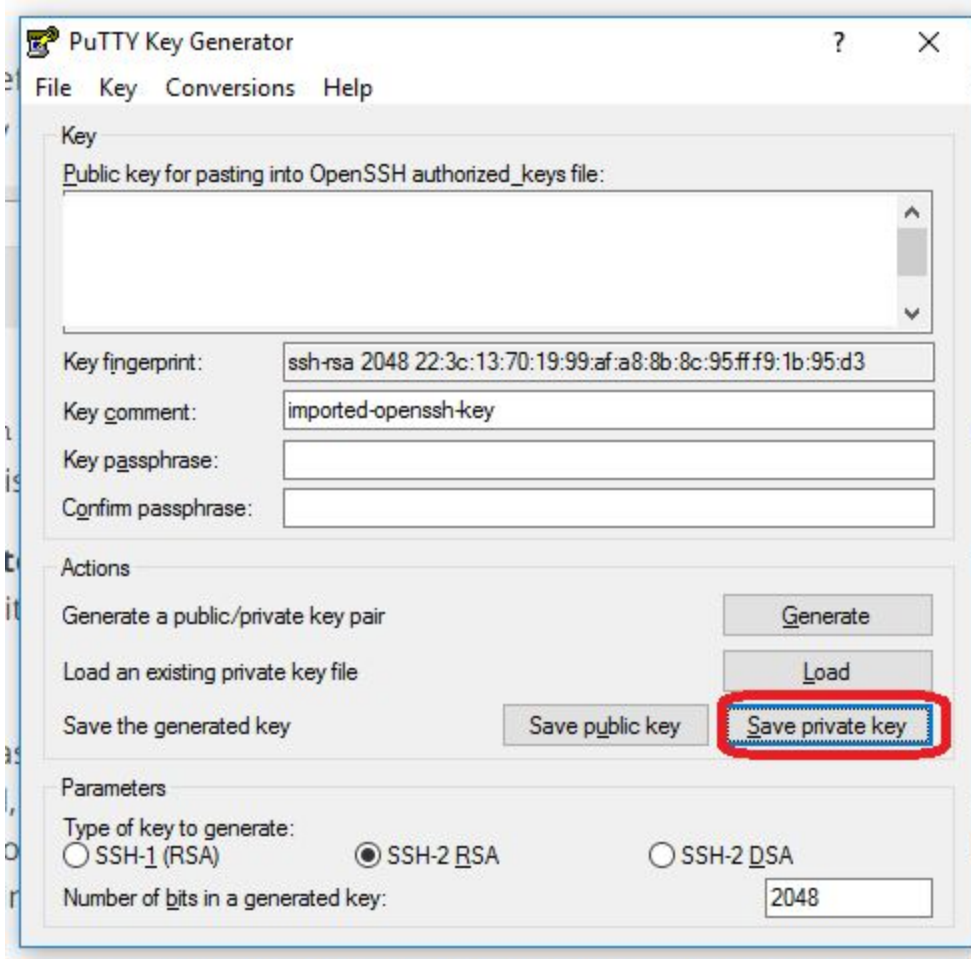
Step 14:

Convert the key pair to a Putty key. Open PuttyGen, click Load, and select the key you downloaded (you'll have to view all files).



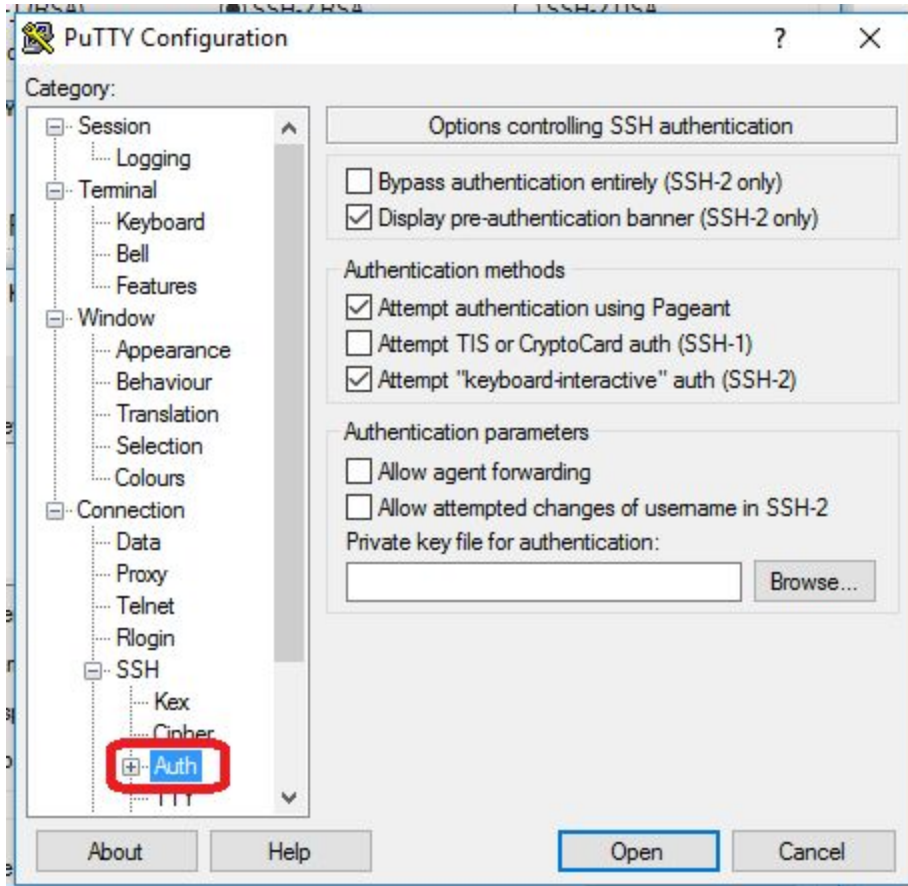
Step 15:

Click Save Private Key, and save it somewhere.



Step 16:

Open PuTTY, type your instance's IP address in the Host Name Field, and navigate to Connection > SSH > Auth



Step 17:

Select Browse, and find the Key you created with PuTTYgen.

Step 18:

Select Open. When prompted for a username, use "ubuntu".