



## First: Configuring AWS for Running the GMT5SAR INSAR Recipe

### *Select AWS Region, AMI, compute & storage resources, security*

*Adapted from instructions prepared by C. Stoner, ASF*

#### In this document you will find:

- A. Background
- B. Steps

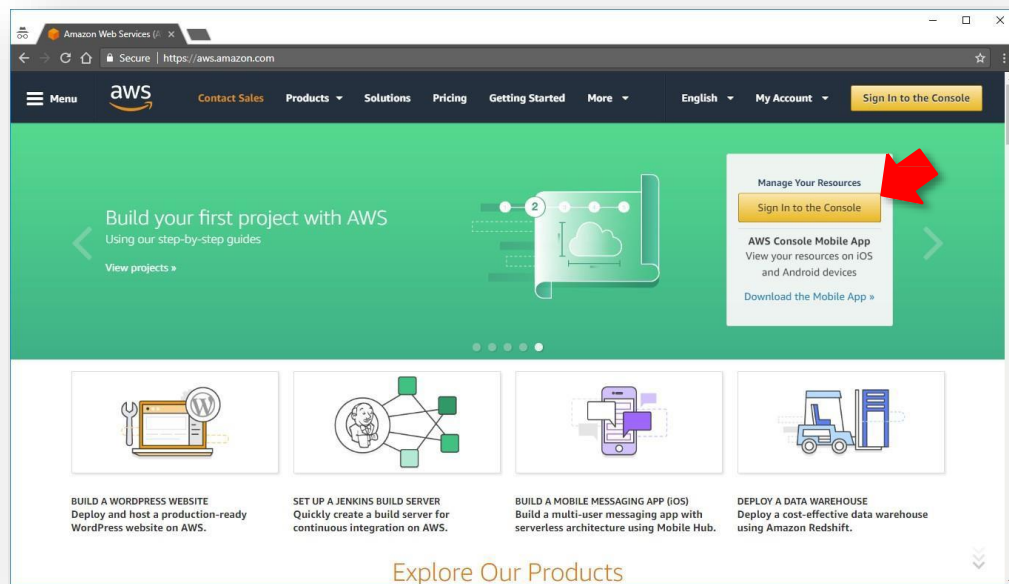
#### A) Background

After logging-in the user must make some choices before creating their INSAR products. These steps guide you through that process, with recommended settings.

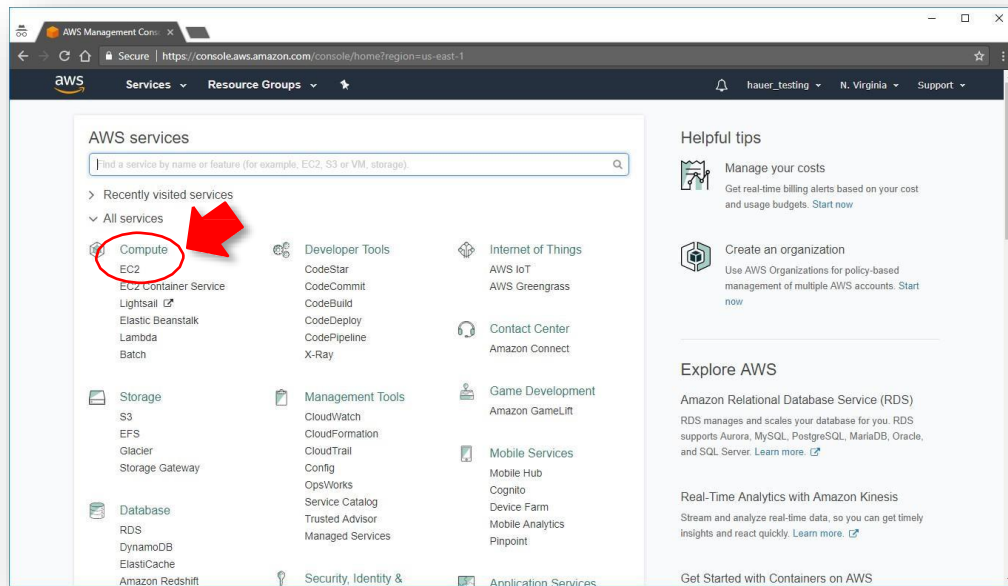
#### B) Steps

##### Start an EC2 Instance

1. Sign in to your AWS account (to create an account, go [HERE](#) and follow the directions)

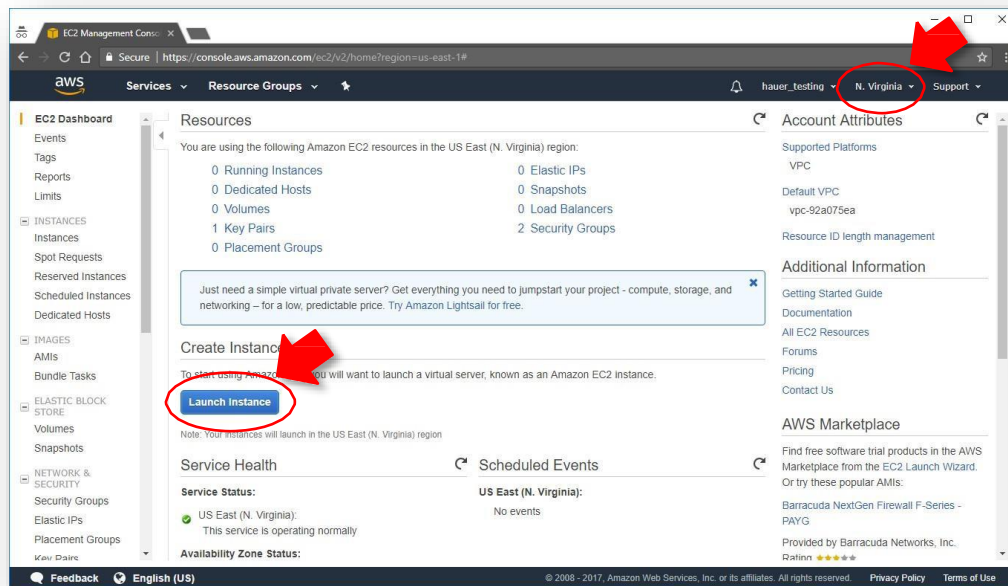


2. In “AWS Services”, under **Compute**, click on **EC2**



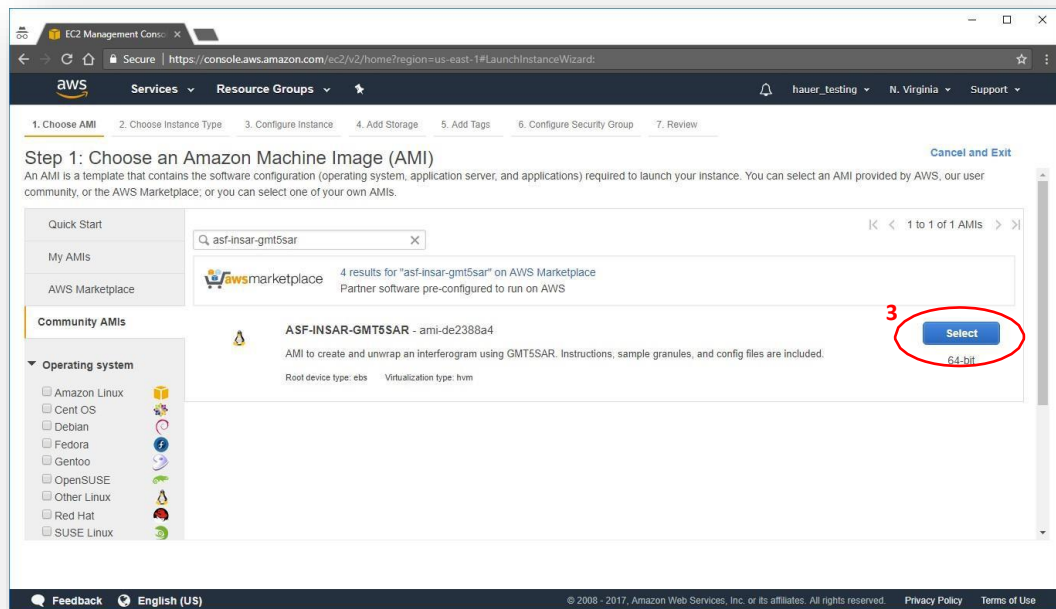
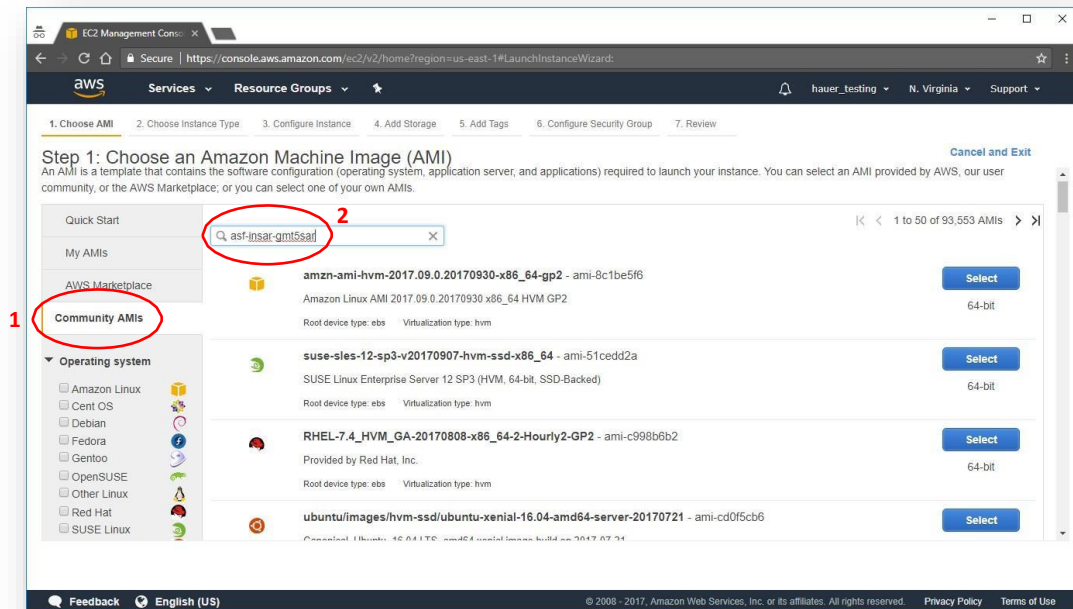
Select an Amazon Machine Image (AMI) – ie the software package you want

3. At the right on the top menu bar, set the Region to “US East (N. Virginia)” by selecting from the drop-down menu.



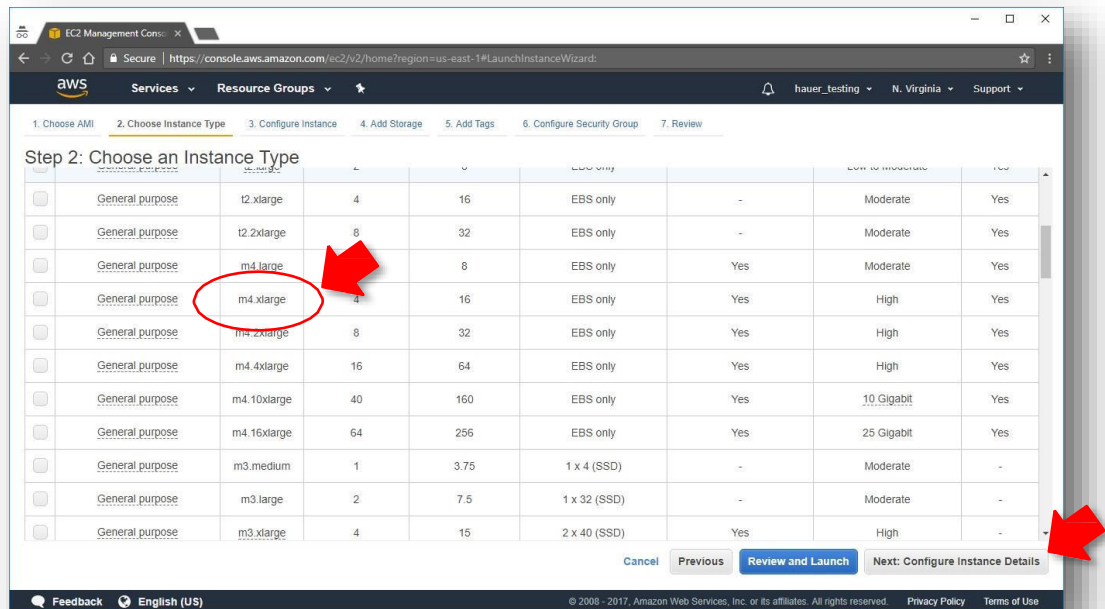
4. Under **Create Instance**, click on the <Launch Instance> button

5. Choose an Amazon Machine Instance (AMI) – Step 1
  - a. (1) Under **Quick Start**, click on **Community AMIs**
  - b. (2) In the **Search community AMIs** box, type **asf-insar-gmt5sar** and press <Enter>
  - c. (3) Click the <Select> button next to the **ASF-INSAR-GMT5SAR**

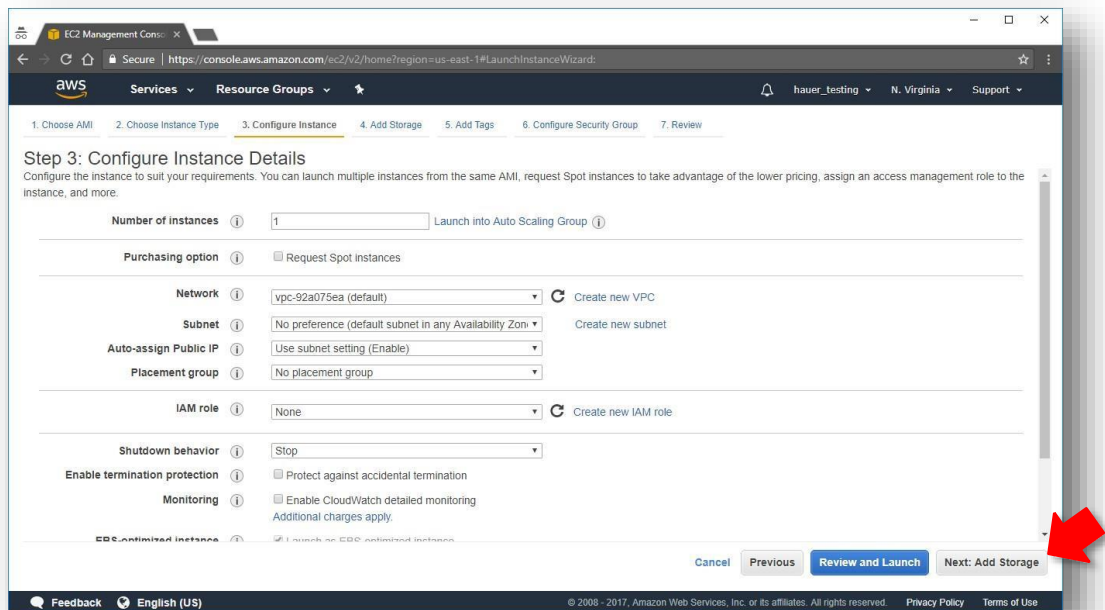


## Configure the EC2 Resources

6. Choose an Instance Type – *Step 2*
  - a. Scroll down the table of available instances and choose: **m4.xlarge**
    - i. Then click on the **<Next: Configure Instance Details>** button



7. Configure Instance Details- *Step 3*
  - a. Nothing needs to be changed here, so click on the **<Next: Add Storage>** button



## 8. Add Storage – Step 4

- The volume storage size is preset, so confirm that the **Size (GiB)** value is **230** and then click on the **<Next: Add Tags>** button

The screenshot shows the AWS Management Console interface for the 'Add Storage' step of the EC2 instance launch wizard. The breadcrumb trail at the top indicates the steps: 1. Choose AMI, 2. Choose Instance Type, 3. Configure Instance, 4. Add Storage (current step), 5. Add Tags, 6. Configure Security Group, and 7. Review. The main heading is 'Step 4: Add Storage'. Below this, a table lists the storage configuration for the 'Root' volume. The 'Size (GiB)' field is set to '230' and is circled in red. A red arrow points to this field. Another red arrow points to the 'Next: Add Tags' button at the bottom right of the console. The table also shows the 'Device' as '/dev/sda1', 'Snapshot' as 'snap-03444934e6b23b0e6', 'Volume Type' as 'General Purpose SSD (GP2)', 'IOPS' as '690 / 3000', 'Throughput (MB/s)' as 'N/A', 'Delete on Termination' as checked, and 'Encrypted' as 'Not Encrypted'. There is an 'Add New Volume' button and a note about free tier eligibility.

Volume Type	Device	Snapshot	Size (GiB)	Volume Type	IOPS	Throughput (MB/s)	Delete on Termination	Encrypted
Root	/dev/sda1	snap-03444934e6b23b0e6	230	General Purpose SSD (GP2)	690 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypted

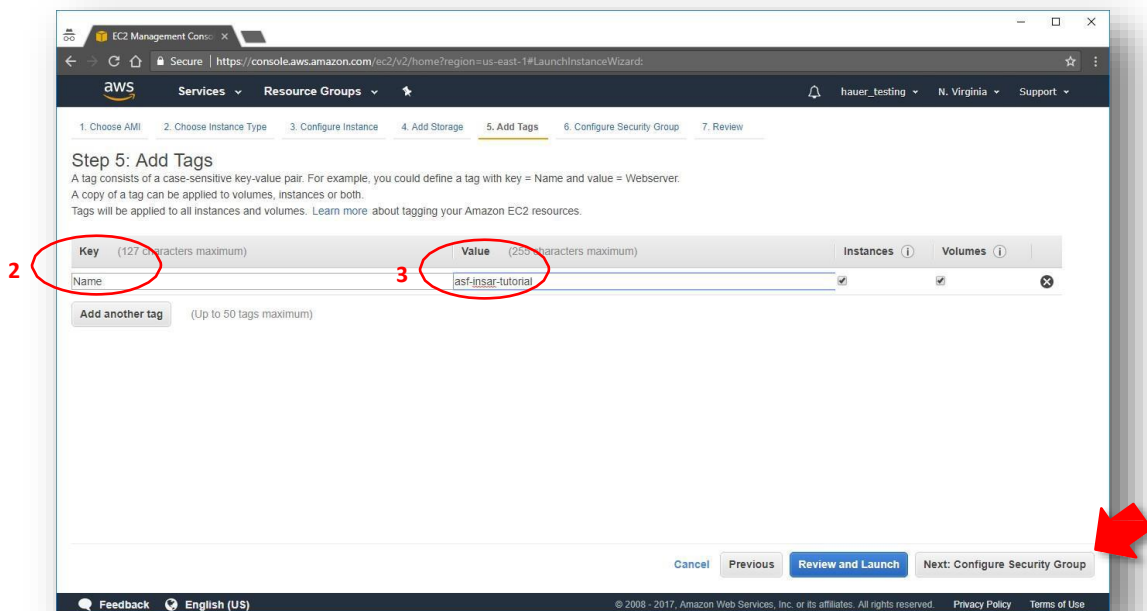
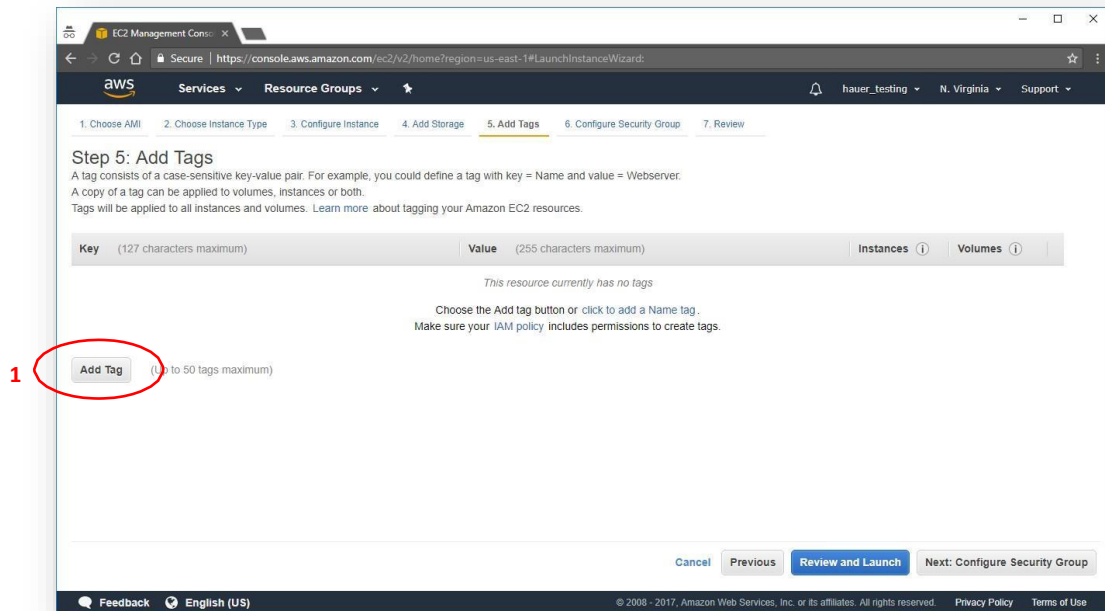
[Add New Volume](#)

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.

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

## 9. Add Tags – Step 5

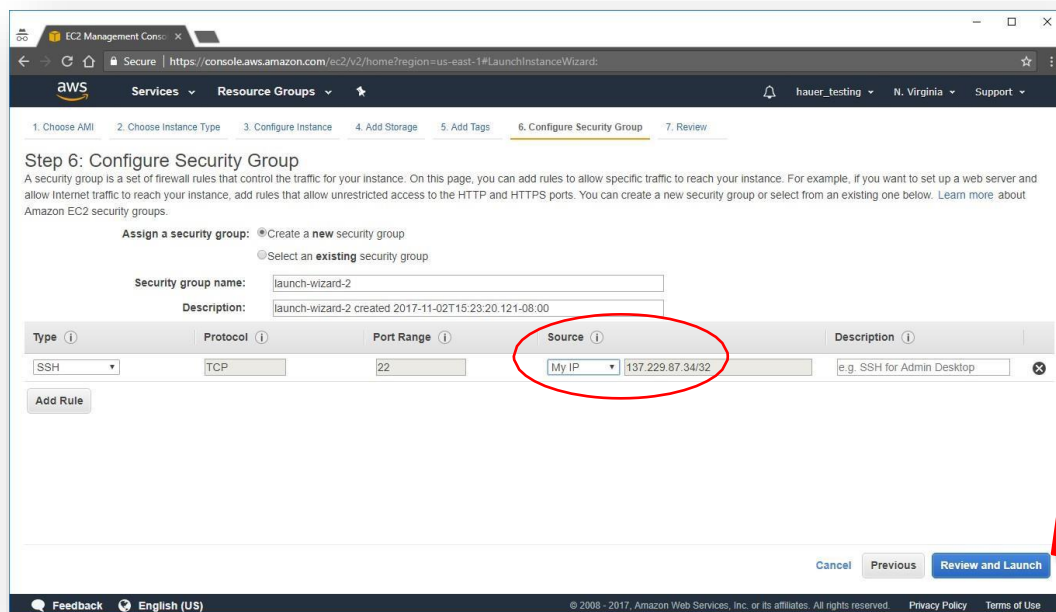
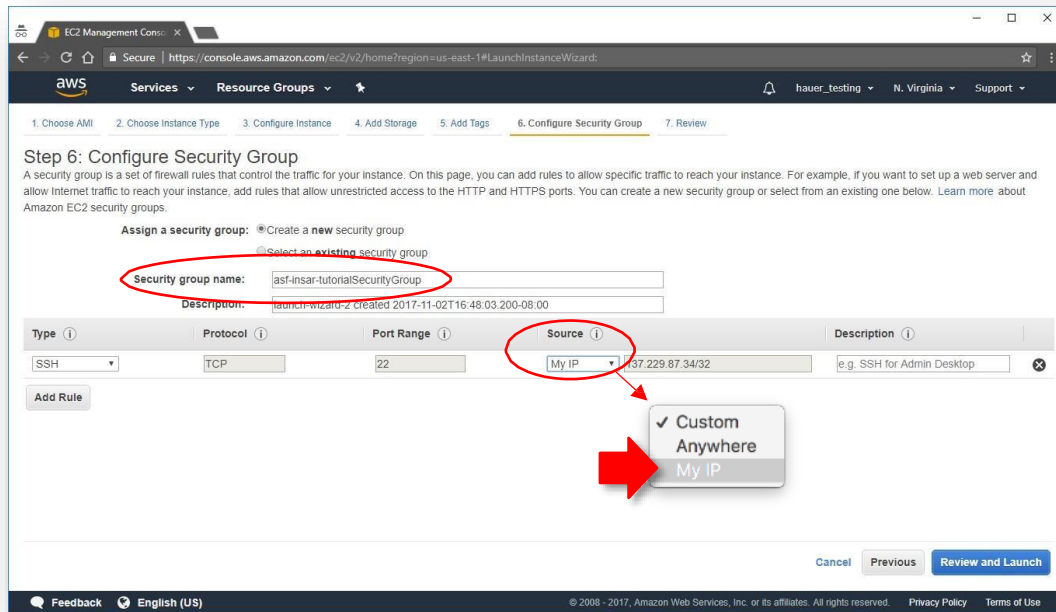
- a. (1) Click on the <Add Tag> button
- b. (2) Under **Key**, type *Name*
- c. (3) Under **Value**, type a description; for example, *asf-insar-tutorial*
- d. Click on the <Next: Configure Security Group> button





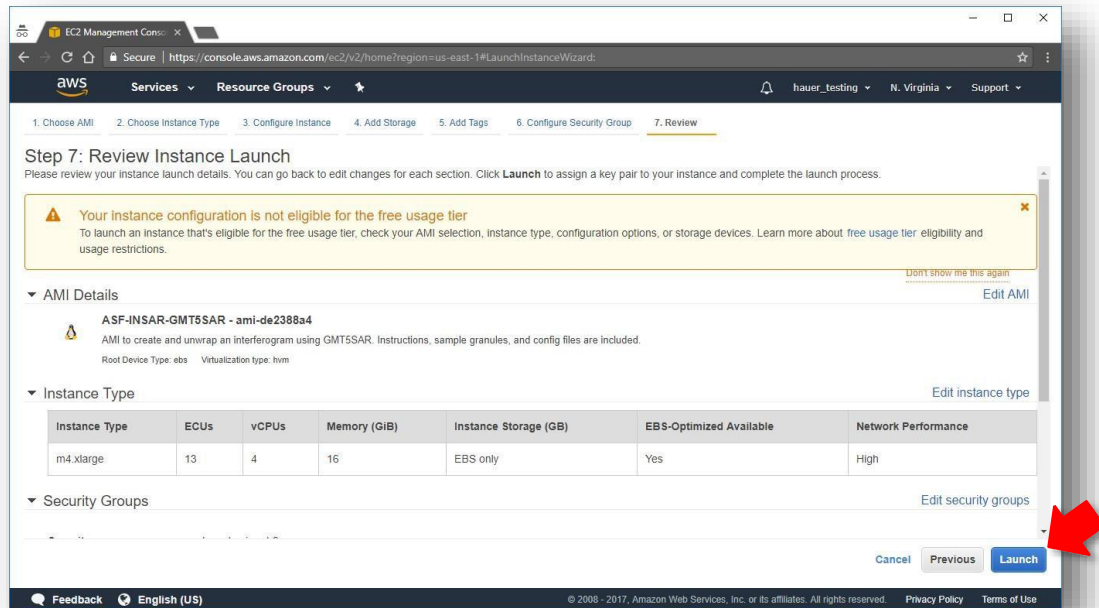
## 10. Configure Security Group – Step 6

- This step allows you to set access permissions for your instance. We will create a setting so that only your computer can access your instance.
- In the **Security group name** box, type a name
- Under **Source**, click on **Custom** and select and click on **My IP**
- The IP address of your computer is automatically selected
- Click on the **<Review and Launch>** button



## 11. Review Instance Launch – Step 7

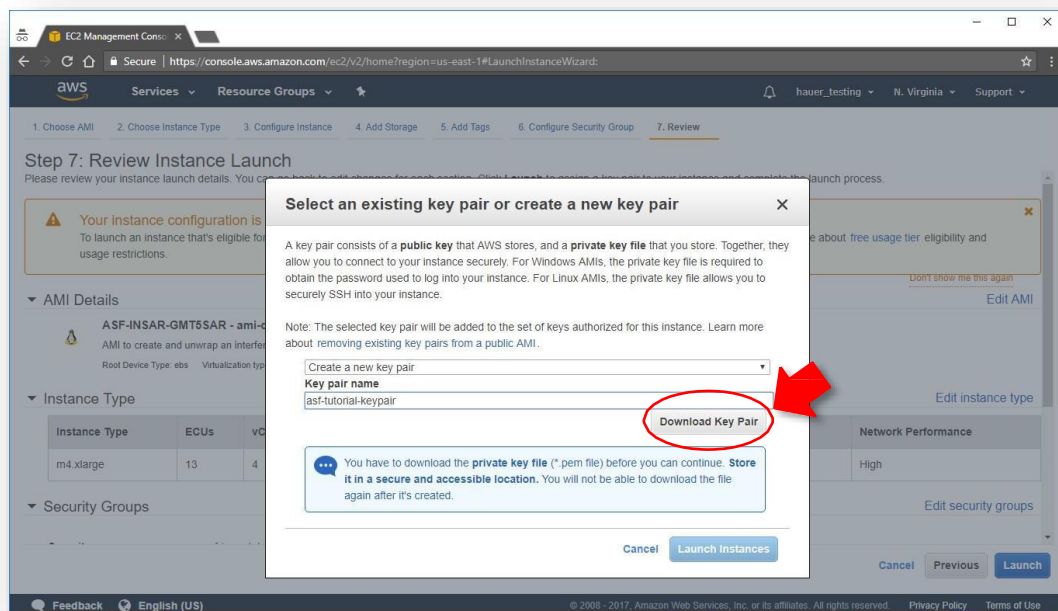
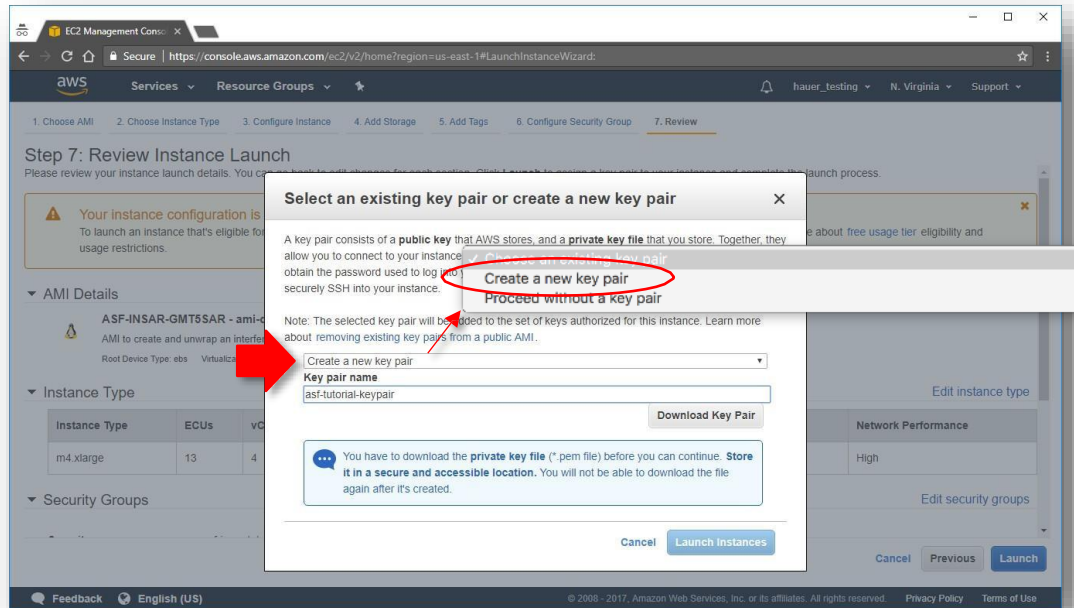
- a. This last step allows you to review the details of your configuration before activating your new instance
  - i. A warning is displayed at the top of the screen that can be ignored. The “free usage tier” AMIs offered in AWS are not powerful enough to process the GMT5SAR InSAR recipe.
- b. Click on the <Launch> button





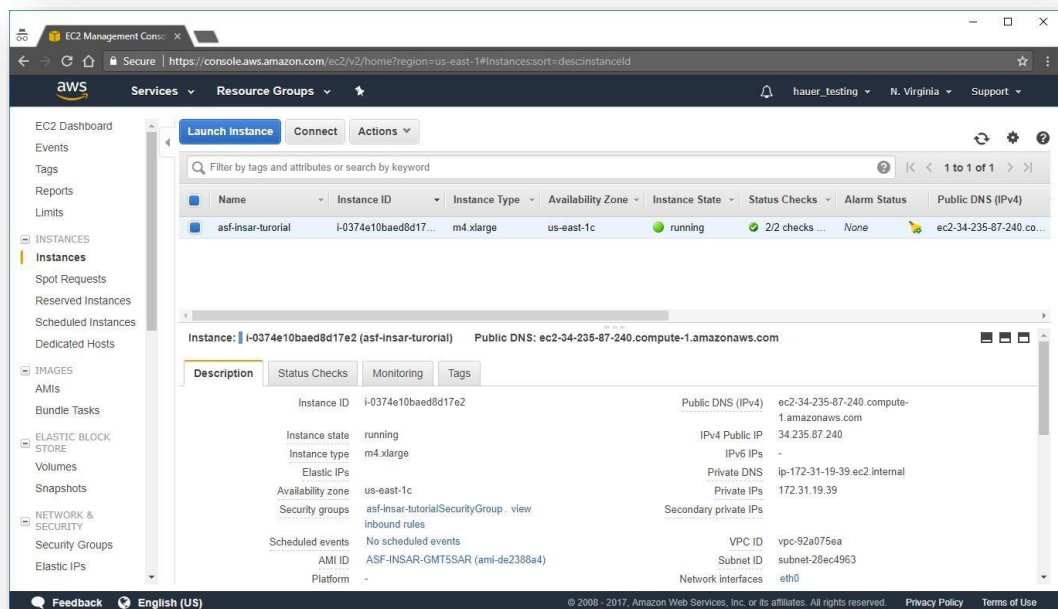
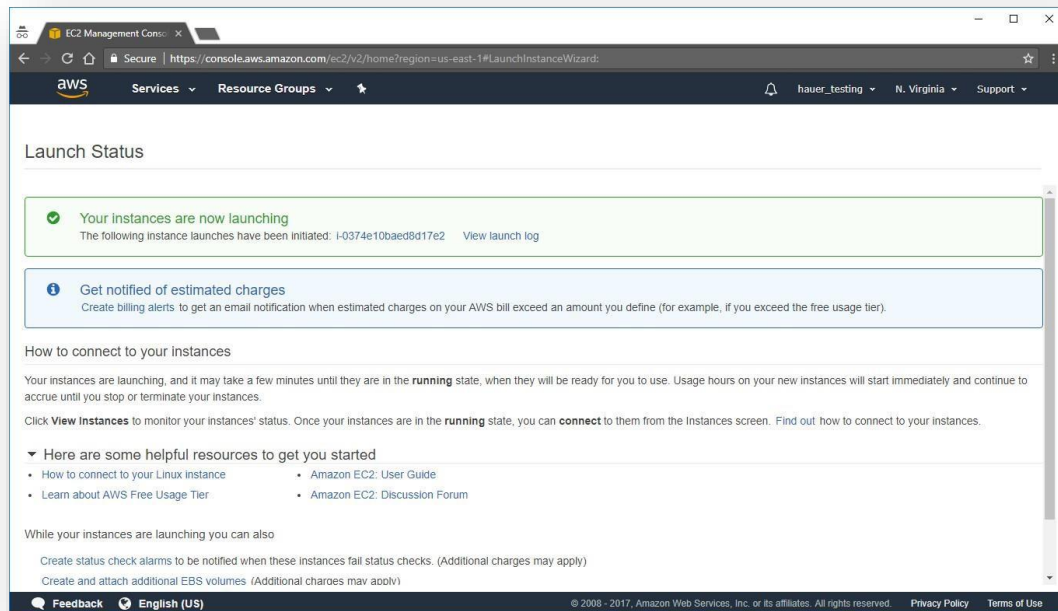
## Create a key pair (.pem file)

12. Create a key pair for authentication and encryption when connecting to your running EC2 instance. See [https://en.wikipedia.org/wiki/Public-key\\_cryptography](https://en.wikipedia.org/wiki/Public-key_cryptography) for information on key pairs.
  - a. Click on “Choose an existing key pair” and select “Create a new key pair”
  - b. Name the key pair; for example, *asf\_tutorial\_keypair*
  - c. Click on the <Download Key Pair> button



## Launch the Instance

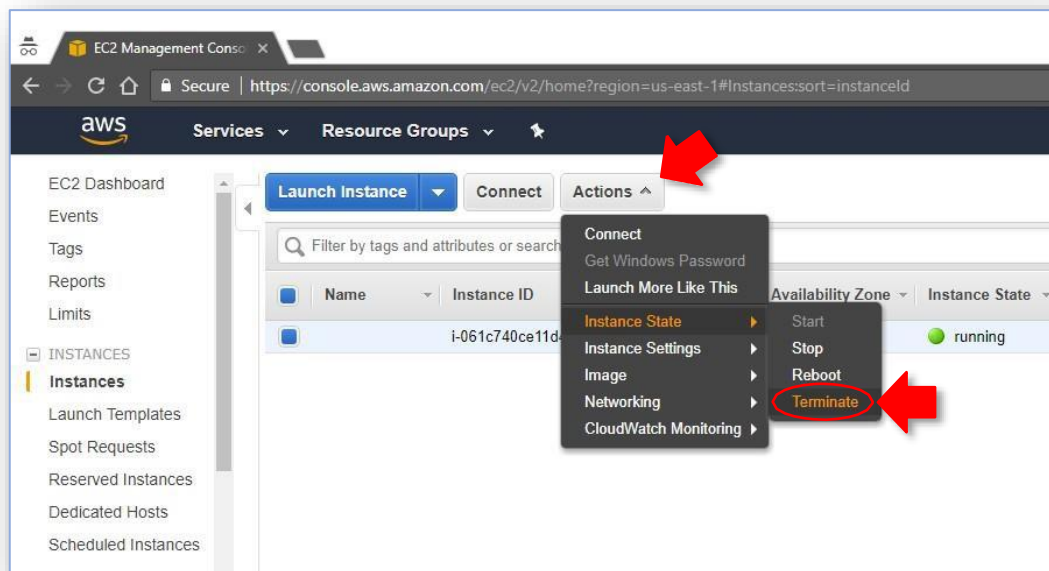
13. After creating the key pair, click on the <Launch Instances> button
14. The Launch Status widow provides information on your new EC2 instance. To view your instance, scroll to the bottom of the page and click on the <View Instances> button.



## Terminate the Instance

**Important:** Do not terminate your EC2 instance until you have finished processing and moved any files you want to save from your instance to your computer. To connect to your EC2 instance and move files in or out, refer to the ASF Data Recipe: *“Connecting to an AWS EC2 Instance – Windows”*

15. Once you have launched your instance, you will start incurring charges on your account
16. When you have finished processing, you need to terminate the EC2 instance to avoid incurring additional charges
  - a. From the *EC2 Dashboard*, navigate to **Actions > Instance State**
    - i. Click on **Terminate** and confirm
    - ii. This deletes the instance and all data stored on the instance; a new AMI will need to be configured for any future processing



**Important:** Selecting **Stop** will shut the instance down and stop further EC2 charges from accruing. But you will continue to be charged for the data left in the instance EBS storage volume (e.g., the GMT5SAR script, granule files, PRODUCT files, etc.). The advantage of this option is that you can restart the instance and avoid configuring a new one for additional processing.

**Note:** Each time an instance is started, a minimum one minute is charged. After one minute, you are charged by the seconds used.

**Note:** The key pair file will download to your default Download directory as *filename.pem* and can be moved to a directory of your choice. The .pem file is required to connect to your EC2 instance and to transfer data between your computer and your EC2 instance.