1. Launch EC2 Instance:

Step 1: Choose an Amazon Machine Image (AMI)

Cancel and Exit

○ 64-bit (Arm)

and Legacy modules enabled.

Root device type: ebs   Virtualization type: hvm   ENA Enabled: Yes

Ubuntu Server 18.04 LTS (HVM), SSD Volume Type - ami-0fc20dd1da406780b (64-bit x86) / ami-0959e8feedaf156bf (64-bit Arm)

Ubuntu Server 18.04 LTS (HVM),EBS General Purpose (SSD) Volume Type. Support available from Canonical (http://www.ubuntu.com/cloud/services).

Free tier eligible

Root device type: ebs   Virtualization type: hvm   ENA Enabled: Yes

Select

◉ 64-bit (x86)
○ 64-bit (Arm)

| | General purpose | t2.2xlarge | 8 | 32 | EBS only | - | Moderate | Yes |

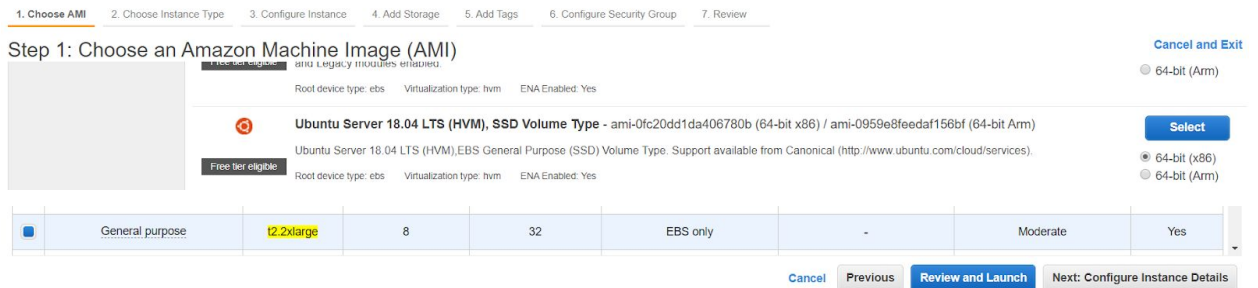Cancel   Previous   **Review and Launch**   **Next: Configure Instance Details**

2. Copy your hpl-2.3.tar.gz file to the host:

```
pscp -i C:\[...]\.ssh\CS205-key.ppk C:\[...]\hpl-2.3.tar.gz
ubuntu@ec2-xxx-xxx-xxx-xxx.us-east-2.compute.amazonaws.com:/home/ubuntu/
```

3. Unzip and rename the directory:

```
gunzip hpl-2.3.tar.gz; tar -xvf hpl-2.3.tar
mv hpl-2.3 hpl
```

4. Install the following packages:

```
sudo apt-get update
sudo apt-get install make
sudo apt-get install libblas-dev liblapack-dev
sudo apt-get install libatlas-base-dev
sudo apt-get install libcr-dev mpich mpich-doc
```

5. Edit the /etc/hosts file:
You will need to add the internal hostname and IP address for your AWS virtual to the /etc/hosts file on the virtual machine. You can find the internal hostname and IP address on the ECS instance manager. The /etc/hosts file is write restricted, so you will need to use sudo. For example,

```
sudo emacs /etc/hosts
```

```
127.0.0.1 localhost
xxx.xxx.xxx.xxx ip-xxx-xxx-xxx-xxx

# The following lines are desirable for IPv6 capable hosts
::1 ip6-localhost ip6-loopback
fe00::0 ip6-localnet
ff00::0 ip6-mcastprefix
ff02::1 ip6-allnodes
ff02::2 ip6-allrouters
ff02::3 ip6-allhosts
```

6. Create Make.UNKNOWN as following:

```
cd hpl/setup
chmod +x make_generic
./make_generic
```

7. Move Make.UNKNOWN to the top directory and install hpl:

```
cd ..
mv ./setup/Make.UNKNOWN ./Make.UNKNOWN
make arch=UNKNOWN
```

8. See if it runs!

```
cd bin/UNKNOWN
mpirun -np 4 ./xhpl
```

9. Use the parameters in HPL.dat to tune the benchmark
   (More info in the TUNING file… I'll let YOU read!)