Set up an EC2 instance

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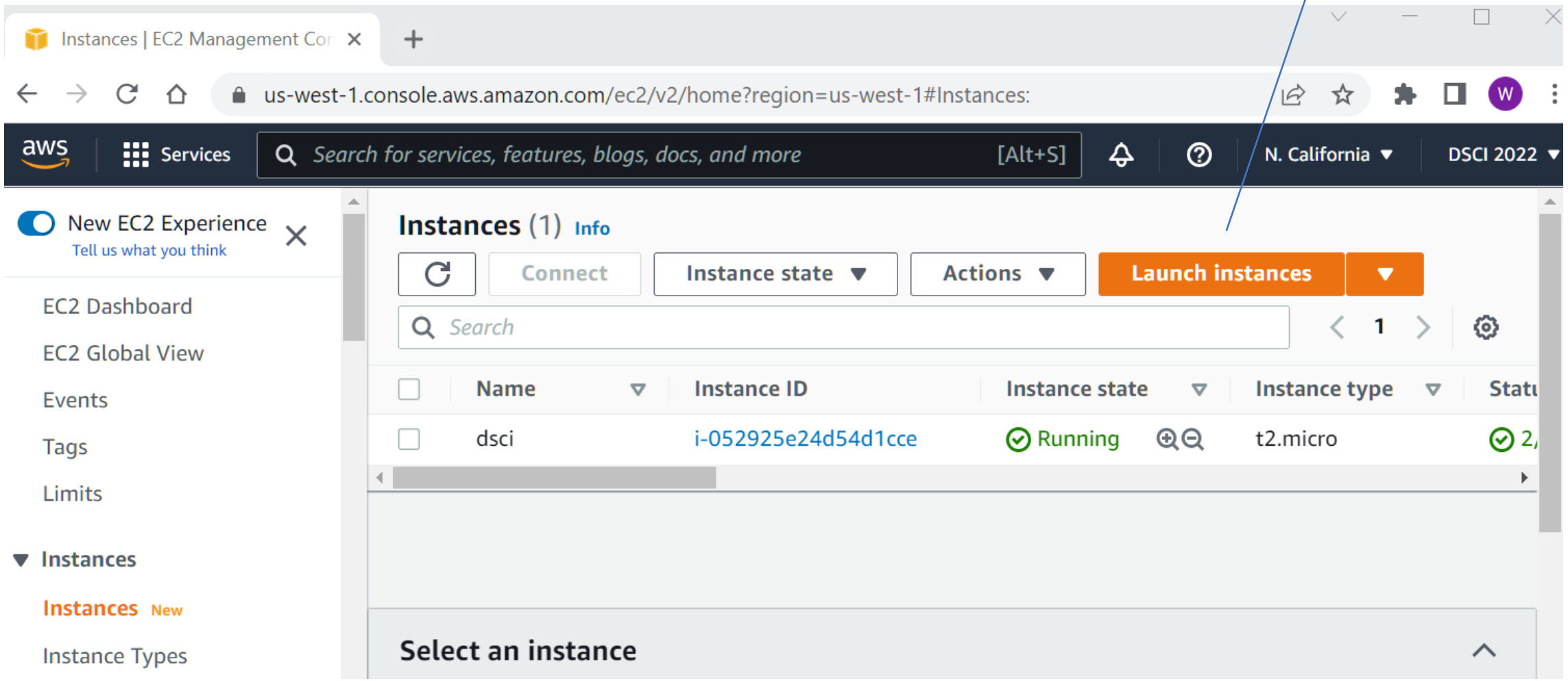
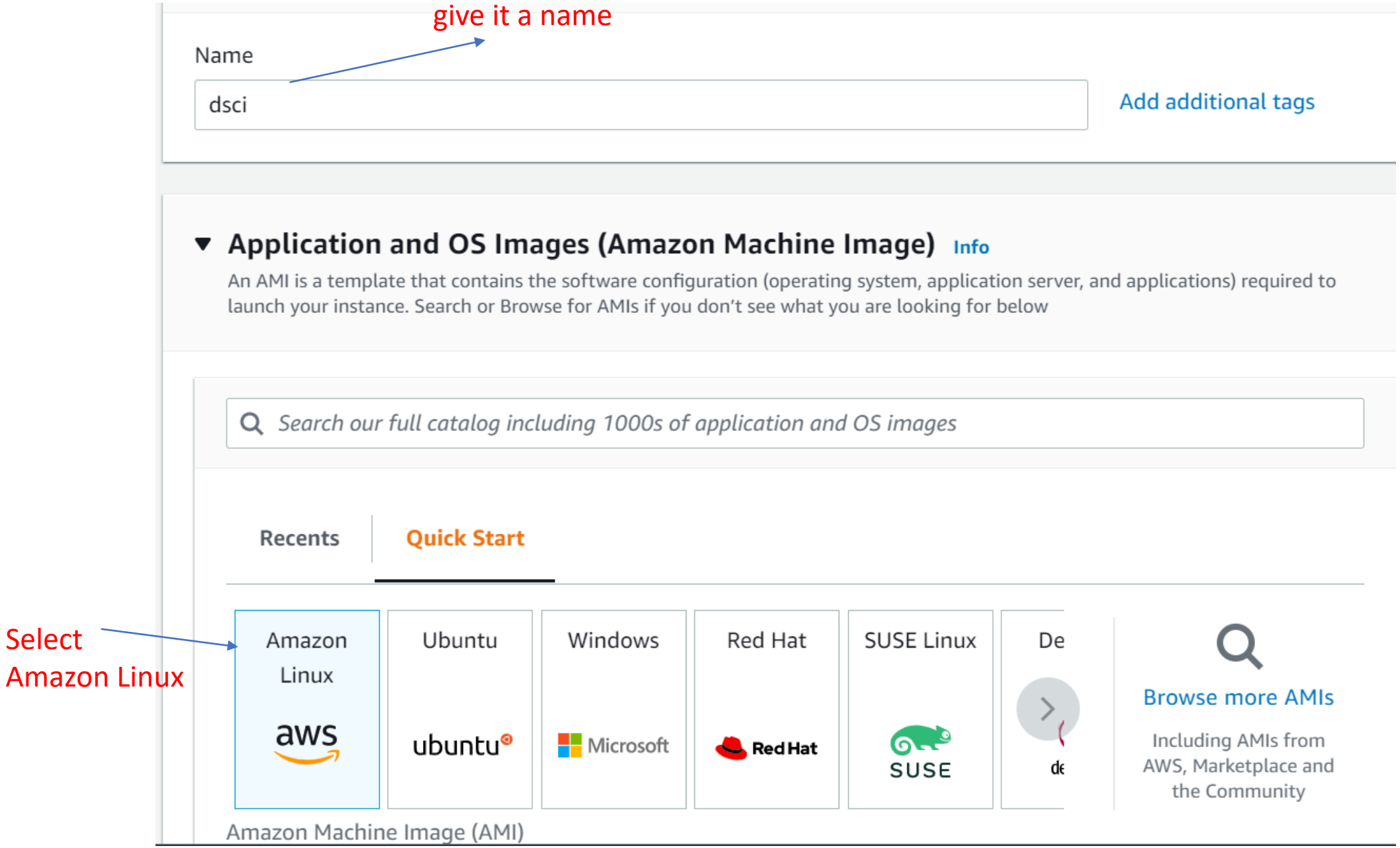
DSCI 351/551

click: Launch instances




give it a name
Name
dsci
Add additional tags
Application and OS Images (Amazon Machine Image) Info
An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below
Search our full catalog including 1000s of application and OS images
Recents
Quick Start
Select Amazon Linux
Amazon Linux
Ubuntu
Windows
Red Hat
SUSE Linux
De
Browse more AMIs
Including AMIs from AWS, Marketplace and the Community
Amazon Machine Image (AMI)

Instance type

t2.micro — Free tier eligible

Family: t2 1 vCPU 1 GiB Memory

On-Demand Linux pricing: 0.0138 USD per Hour

On-Demand Windows pricing: 0.0184 USD per Hour

Compare instance types

Key pair (login) Info

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

select this if you don't have one yet

Key pair name - *required*

Select

Create new key pair

Network settings Get guidance

Edit

Key pairs allow you to connect to your instance securely.

Enter the name of the key pair below. When prompted, store the private key in a secure and accessible location on your computer. **You will need it later to connect to your instance.** Learn more

give it a name

Key pair name

dsci

The name can include upto 255 ASCII characters. It can't include leading or trailing spaces.

Key pair type

- (•) RSA
  RSA encrypted private and public key pair
- ( ) ED25519
  ED25519 encrypted private and public key pair (Not supported for Windows instances)

Private key file format

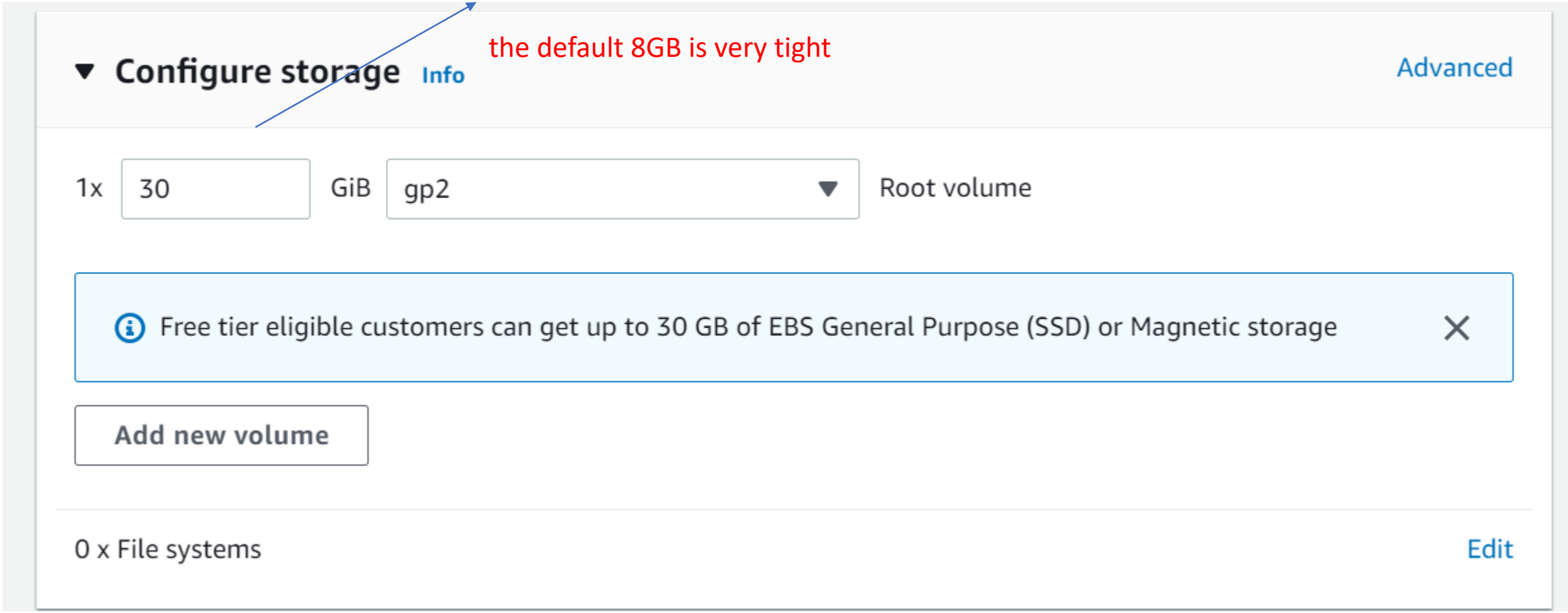
- (•) .pem
  For use with OpenSSH
- ( ) .ppk
  For use with PuTTY

press this
save the key and remember where you save it!
for example, say I save it under my home directory

Cancel | Create key pair

can be up to 30 GB
unless you have a very big data set to explore, 10-15GB should be sufficient for class need

the default 8GB is very tight



Number of instances **Info**

1

t2.micro

Firewall (security group)

New security group

Storage (volumes)

1 volume(s) - 30 GiB

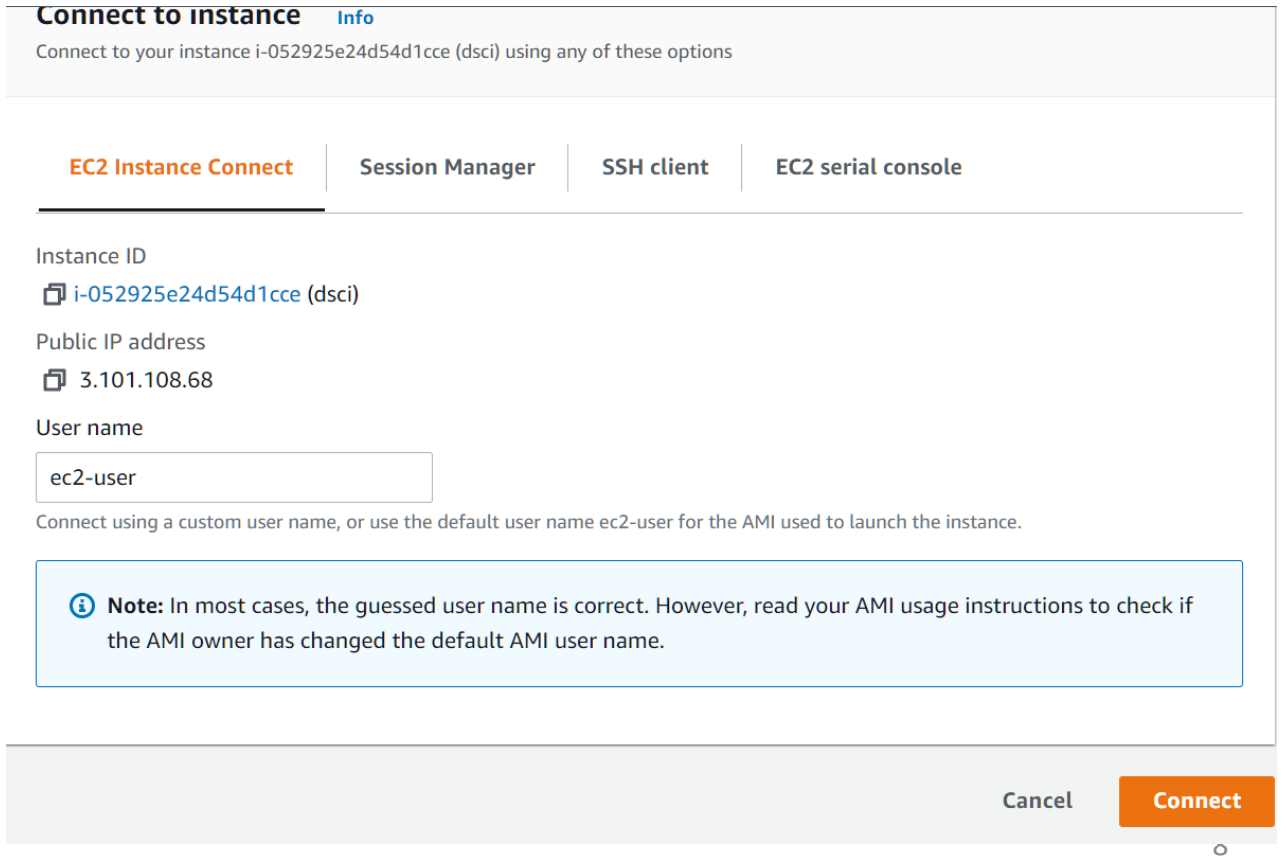
Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 30 GiB of EBS storage, 2 million IOs, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

Cancel

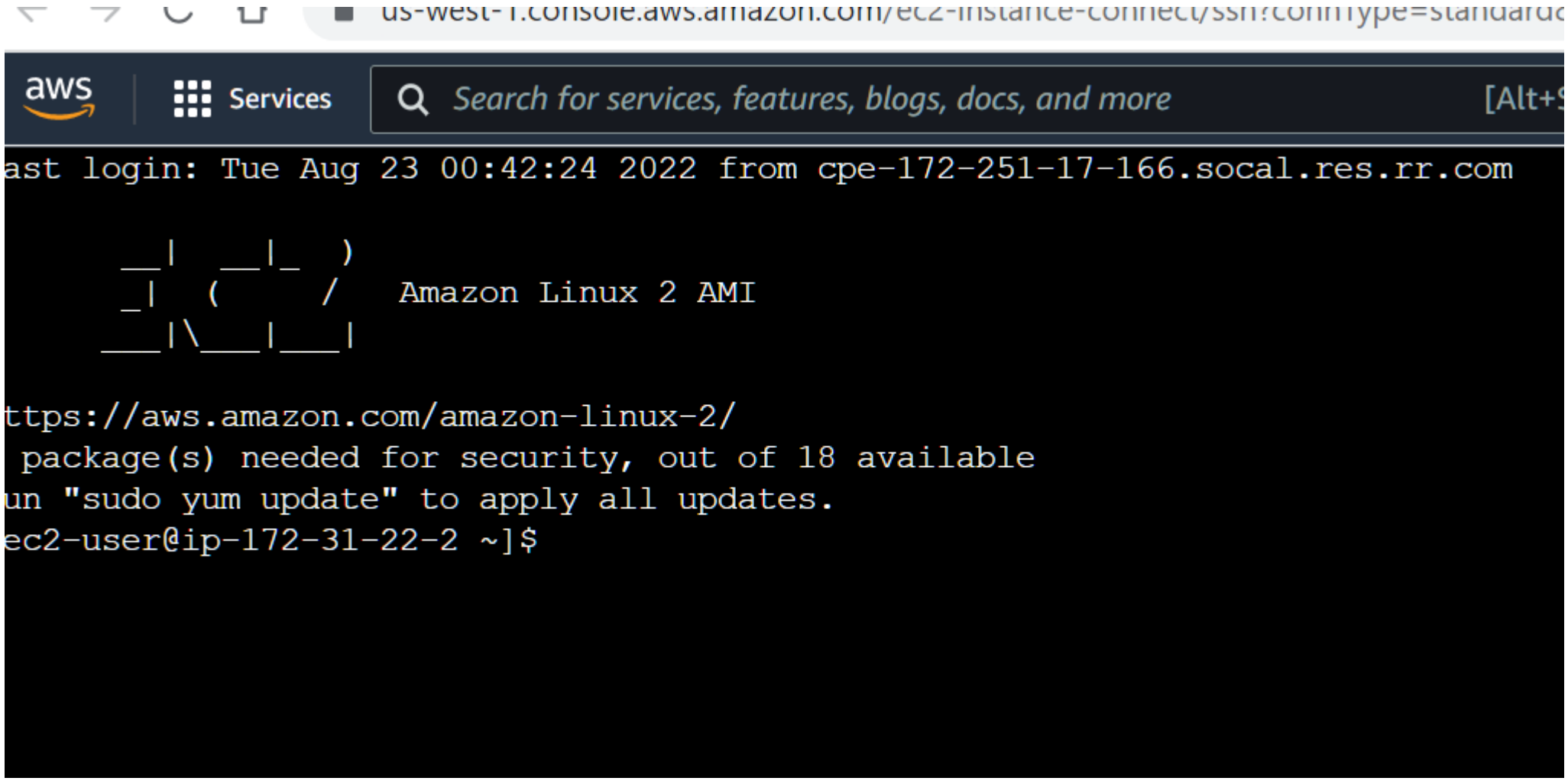
press this! → **Launch instance**

There are several ways of connecting to instance

- you can use EC2 instance connect to talk to your EC2 instance
- but it can not do file transfer
  - for which, we will use sftp
  - see demo in class on this later



but good idea to use this first, before the next option which is more involved



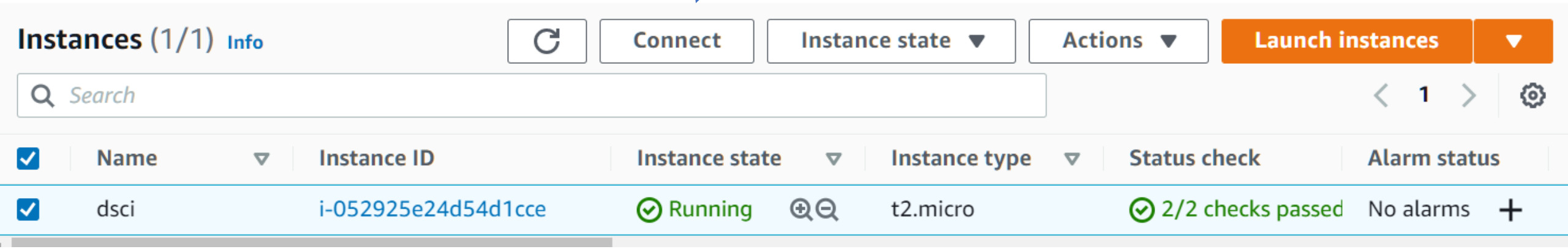
The remaining slides are for connecting to EC2 instance using ssh…

If you are using Macbook…

- open up a terminal

- change directory to the place where you save your key file /* use command cd */
  - e.g., cd ~
  - this will go to your home directory where I saved my pem file, called dsci2022.pem

then go back to AWS console,
click on the instance and then click Connect



EC2 Instance Connect | Session Manager | SSH client | EC2 serial console

Instance ID

i-052925e24d54d1cce (dsci)

1. Open an SSH client.
2. Locate your private key file. The key used to launch this instance is dsci2022.pem
3. Run this command, if necessary, to ensure your key is not publicly viewable.
   chmod 400 dsci2022.pem
4. Connect to your instance using its Public DNS:
   ec2-3-101-108-68.us-west-1.compute.amazonaws.com

copy this and execute on terminal

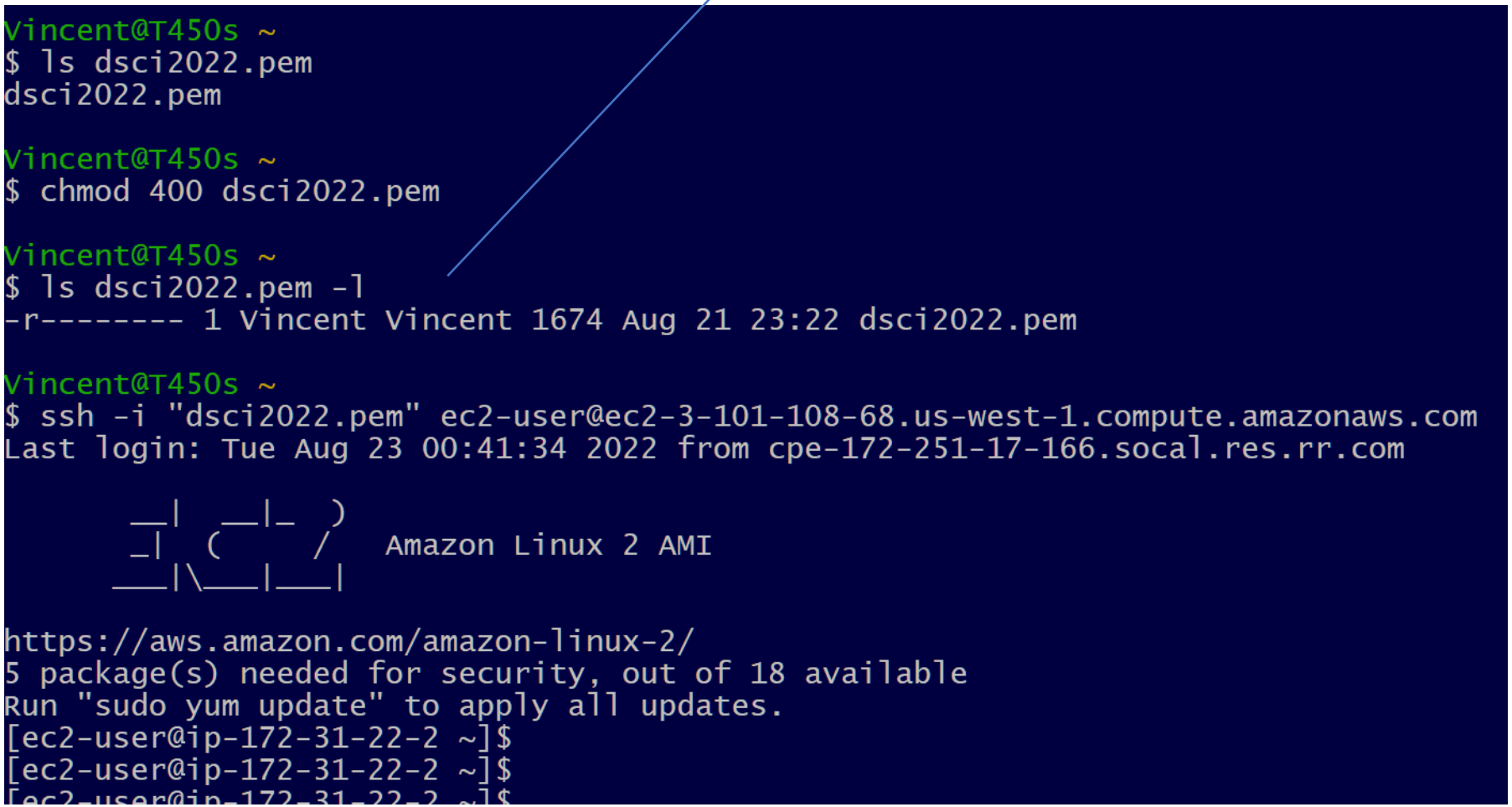
Example:

ssh -i "dsci2022.pem" ec2-user@ec2-3-101-108-68.us-west-1.compute.amazonaws.com

then copy this and execute on terminal

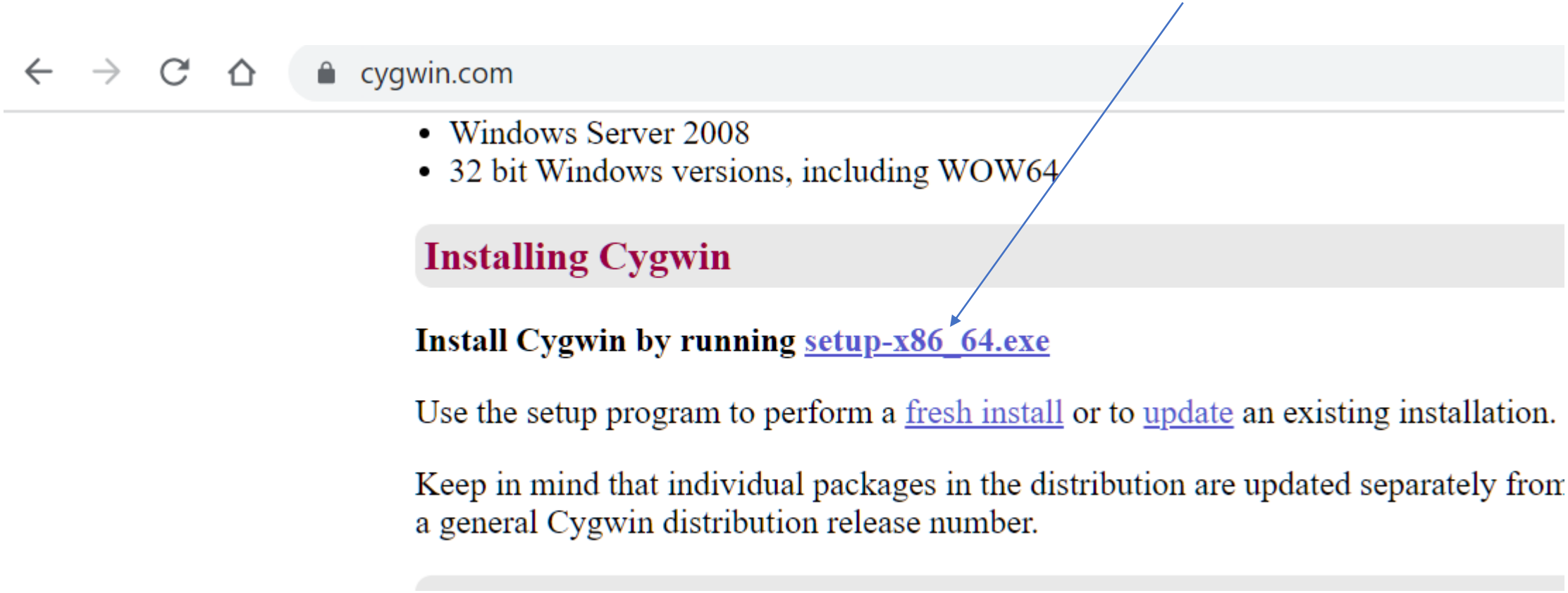
Note: In most cases, the guessed user name is correct. However, read your AMI usage instructions to check if the AMI owner has changed the default AMI user name.

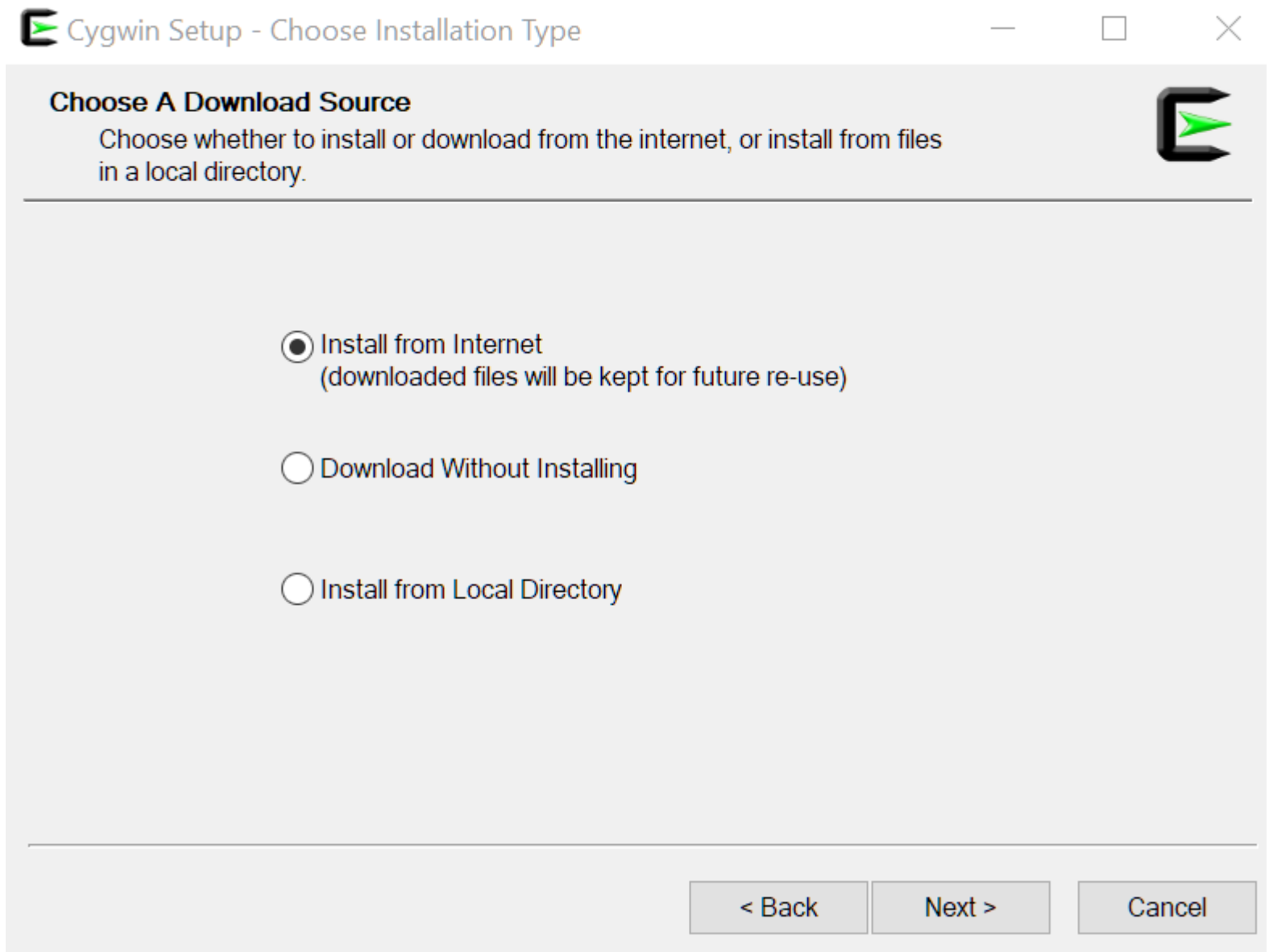
I use ls command to check the permission mode of my pem file
make sure it only has a r in 2nd position, and dash in all other places



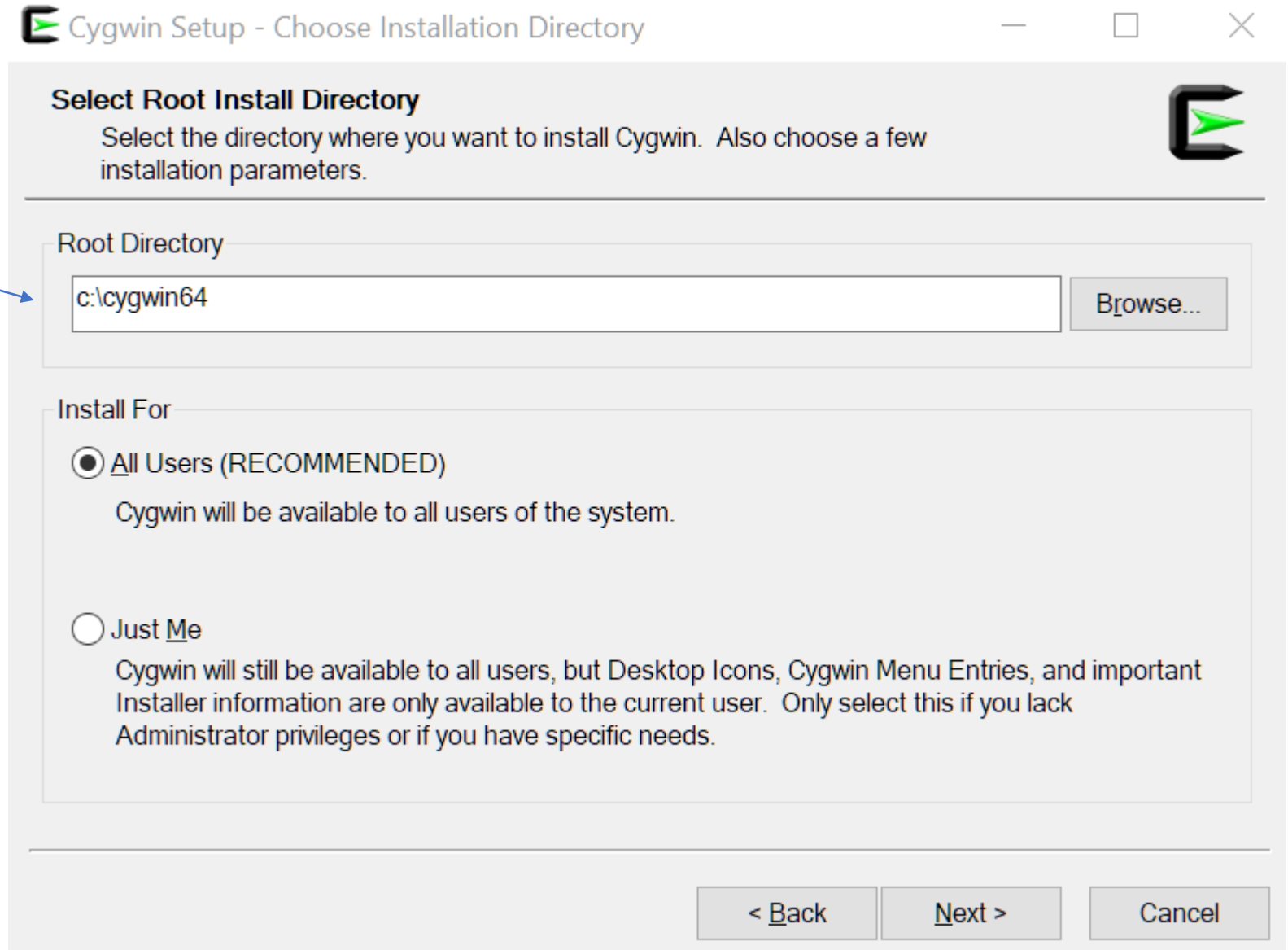
If you are using Windows, good idea to use Cygwin… let's download and install it first

- go to cygwin.com, and then download and execute setup-x86_64.exe

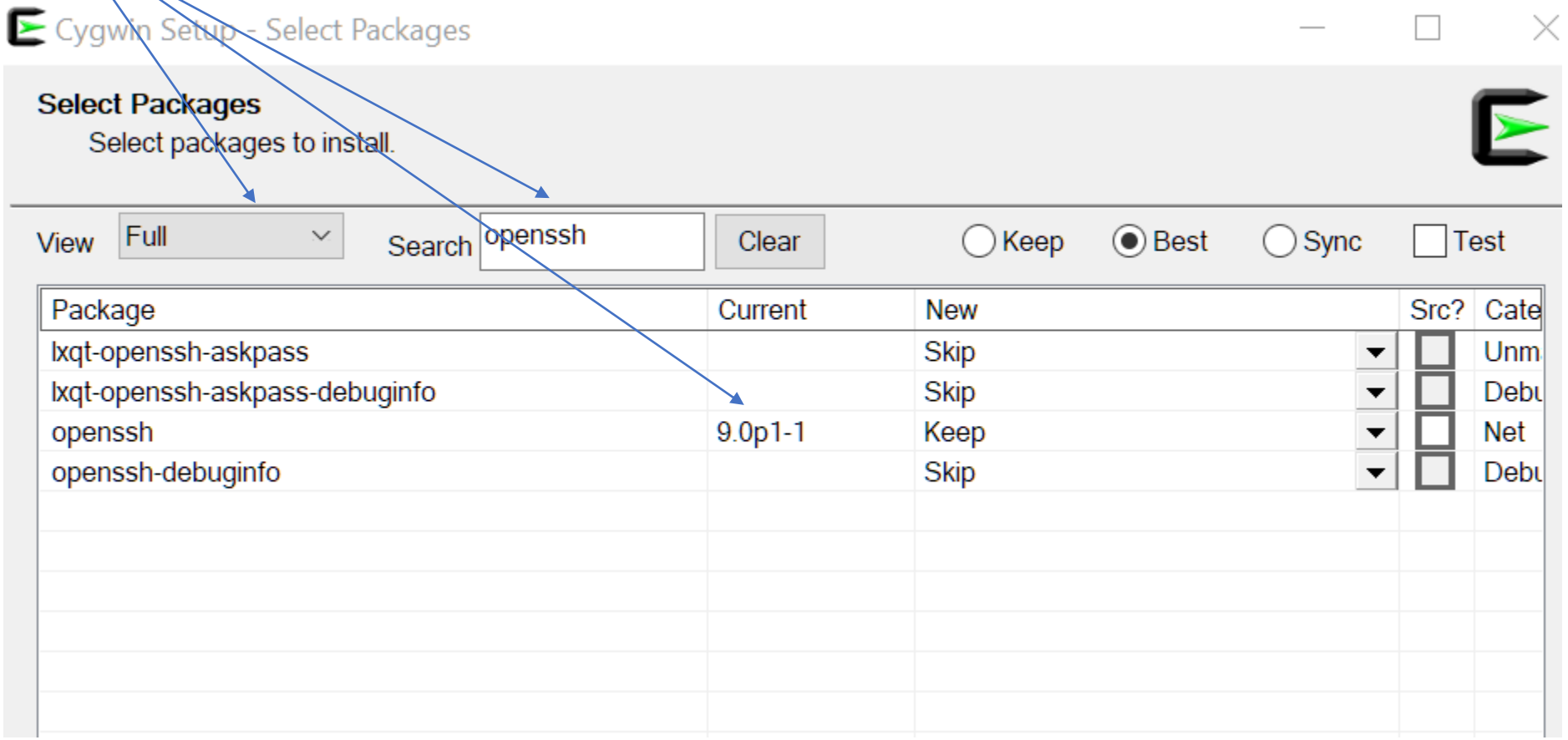



Cygwin Setup - Choose Installation Type
Choose A Download Source
Choose whether to install or download from the internet, or install from files in a local directory.
Install from Internet
(downloaded files will be kept for future re-use)
Download Without Installing
Install from Local Directory
< Back
Next >
Cancel

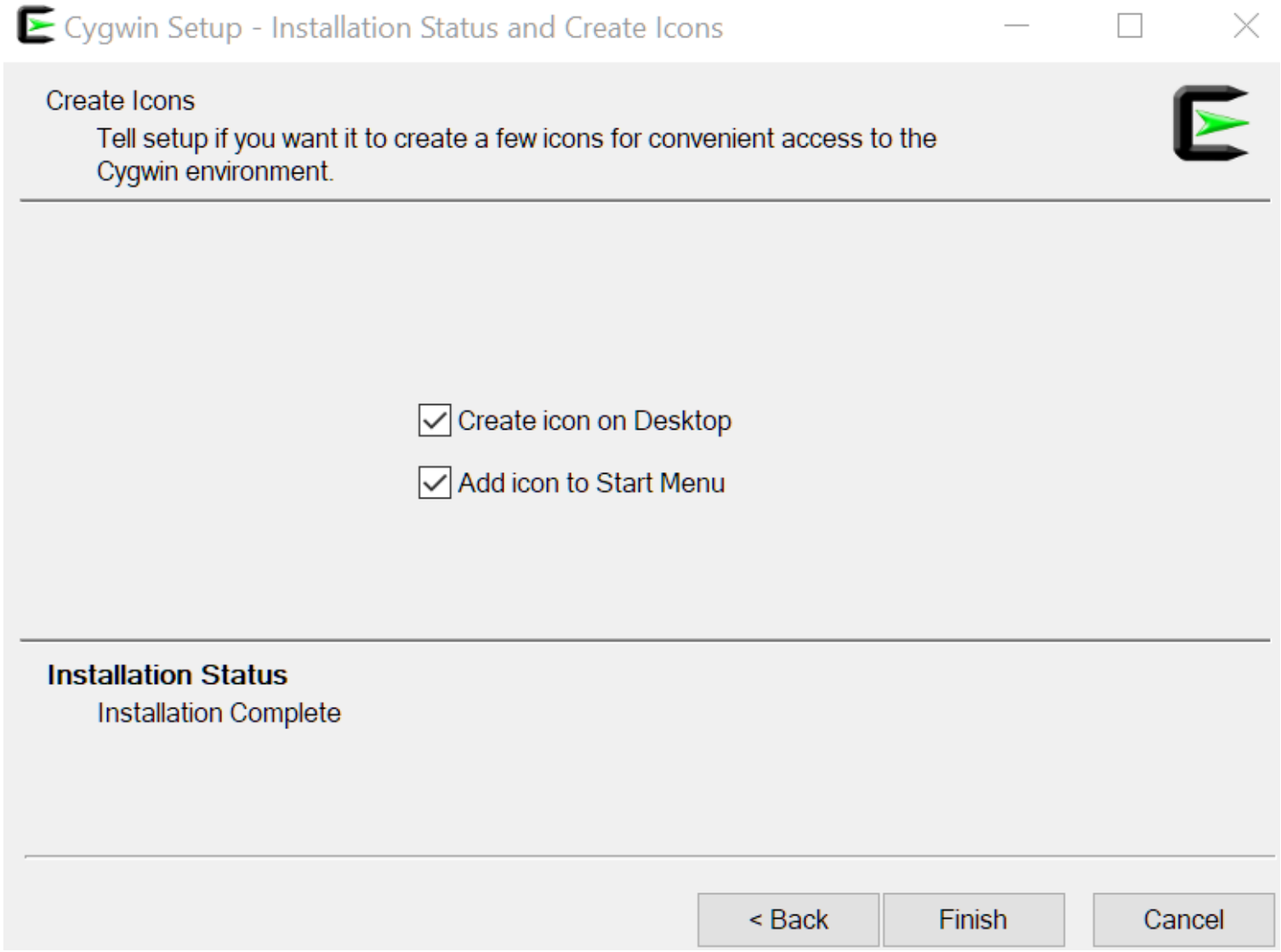
remember where you install
the root directory
here, I am accepting the default
c:\cygwin64



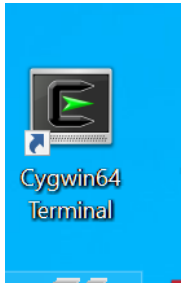
select full in View and search for openssh
make sure you install some version of it
here, my screen said I already have it, 9.0p1-1, from my previous installation



you can select both if you want… then click finish



Look for icon like this on your desktop, double click it…



- then you should see a terminal like this, ~ means your home directory

I used these two commands to see what Windows directory that the home directory in Cygwin refers to. In my case, c:/cygwin64/home/Vincent

first / means root

this is telling me where is the root directory in Cygwin mounted

```
Vincent@T450s ~
$ pwd
/home/Vincent

Vincent@T450s ~
$ mount
C:/cygwin64/bin on /usr/bin type ntfs (binary,auto)
C:/cygwin64/lib on /usr/lib type ntfs (binary,auto)
C:/cygwin64 on / type ntfs (binary,auto)
C: on /cygdrive/c type ntfs (binary,posix=0,user,noumount,auto)
D: on /cygdrive/d type ntfs (binary,posix=0,user,noumount,auto)
E: on /cygdrive/e type ntfs (binary,posix=0,user,noumount,auto)

Vincent@T450s ~
$
```

Next, follow the same steps as for Mac to connect to EC2

```
Vincent@T450s ~
$ ls dsci2022.pem
dsci2022.pem

Vincent@T450s ~
$ chmod 400 dsci2022.pem

Vincent@T450s ~
$ ls dsci2022.pem -l
-r-------- 1 Vincent Vincent 1674 Aug 21 23:22 dsci2022.pem

Vincent@T450s ~
$ ssh -i "dsci2022.pem" ec2-user@ec2-3-101-108-68.us-west-1.compute.amazonaws.com
Last login: Tue Aug 23 00:41:34 2022 from cpe-172-251-17-166.socal.res.rr.com

       __|  __|_  )
       _|  (     /   Amazon Linux 2 AMI
      ___|\___|___|

https://aws.amazon.com/amazon-linux-2/
5 package(s) needed for security, out of 18 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-22-2 ~]$
[ec2-user@ip-172-31-22-2 ~]$
[ec2-user@ip-172-31-22-2 ~]$
```

Conclusion

- Cygwin is an app that gives you a Linux-like terminal on top of Windows, similar to that on Mac
  - note that you can also use Powershell on Win 10 or above, if you decide to adventure on that route
  - but keep in mind Powershell has more of Windows flavor than Linux

- Mac users are lucky, since you already have the Linux-like terminal app!