Chicago R User Group Beginner Night AWS Info

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During the CRUG meeting, we will be demonstrating how to setup an AWS server with RStudio. If you are interested in creating such a server for your own use during the meeting, please register with AWS before the meeting. This will allow us to save some extra time for creating the virtual server, and keep the topic interesting for audience members not following along with the demonstration.

Sign up for AWS (Do before CRUG!)

Amazon offers a free 'trial' period for their web services. This free tier allows for an equivalent of one full year of constant usage of a small virtual server. Go to Amazon Web Services and click on "Create Free Account". Follow the directions to set up AWS. If you have a general Amazon account, you can use the same user id and password, but you will still need to register for the AWS service as this is distinct from the web store.

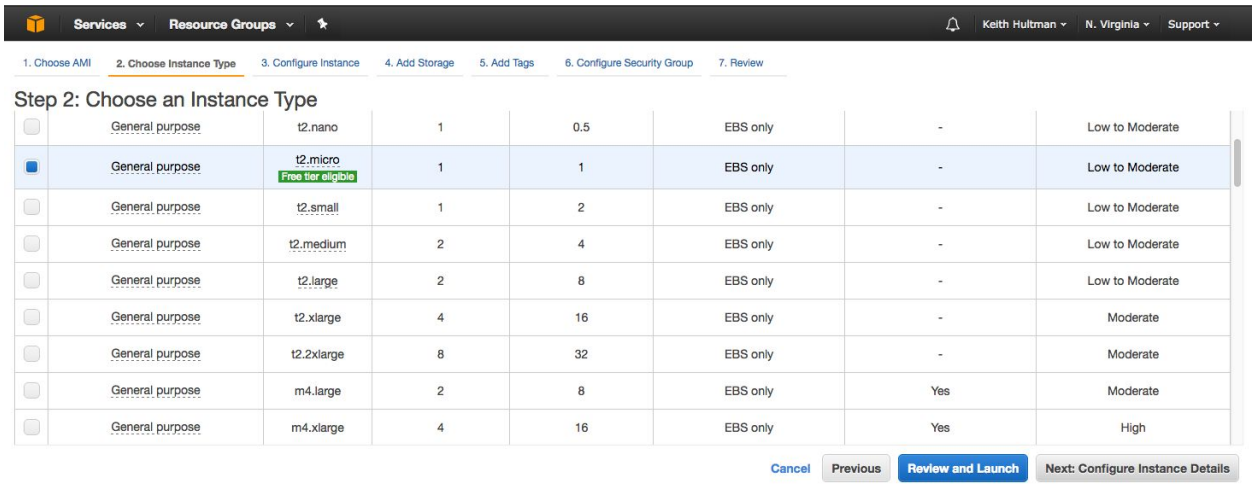
While we will only be using services that are eligible with the free tier, you will still be required to enter a valid credit card and billing address to AWS during registration. You might also need a mobile phone for verification.

Launch an RStudio AMI instance

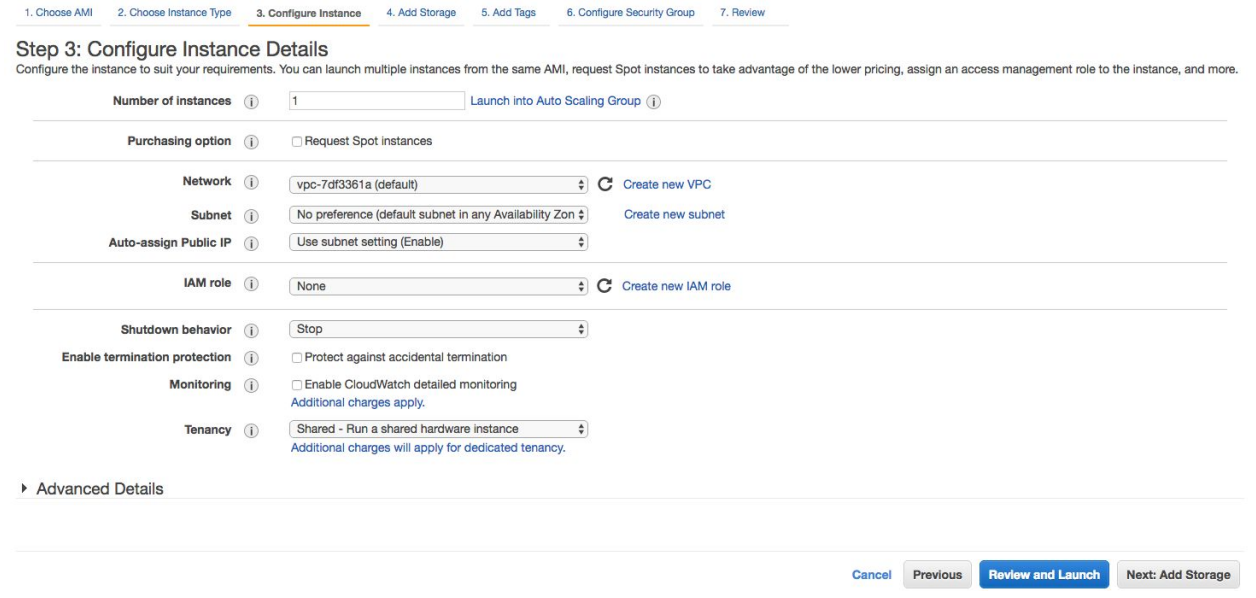
We will be doing the following steps at the meeting, but I've included these steps if you would like to use them either before/during/after the meeting.

While it's possible to install R and RStudio from scratch, we will be using an AMI maintained by Louis Aslett which can be found on his webpage or by searching community AMI's on Amazon. It's faster and easier, but it also comes with some nice extras we'll talk about at the Meetup. Scroll down and select the RStudio 0.99.903, R 3.3.1, Julia 0.4.6 release for the US East (Virginia) region.

After signing in to AWS, this link will direct you to setting up an instance on AWS Elastic Compute (EC) service.

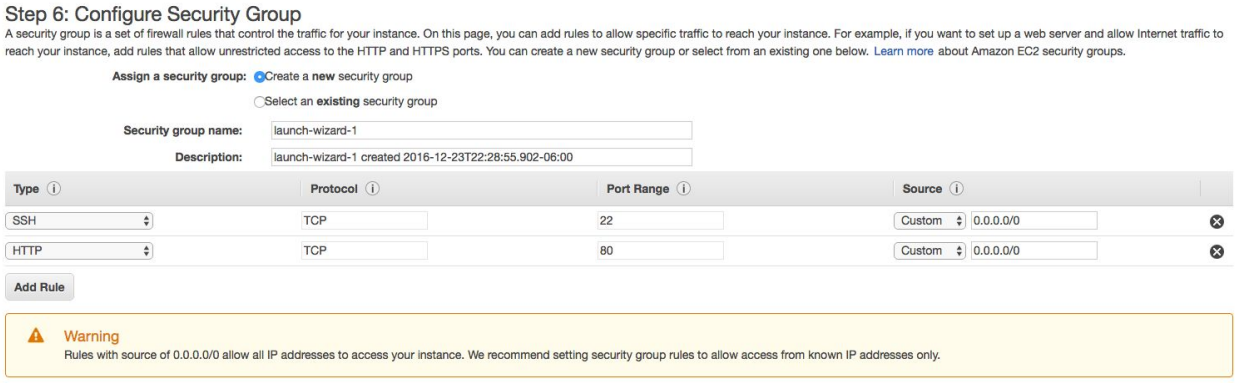


Select the t2.micro instance and click Next: Configure Instance Details.

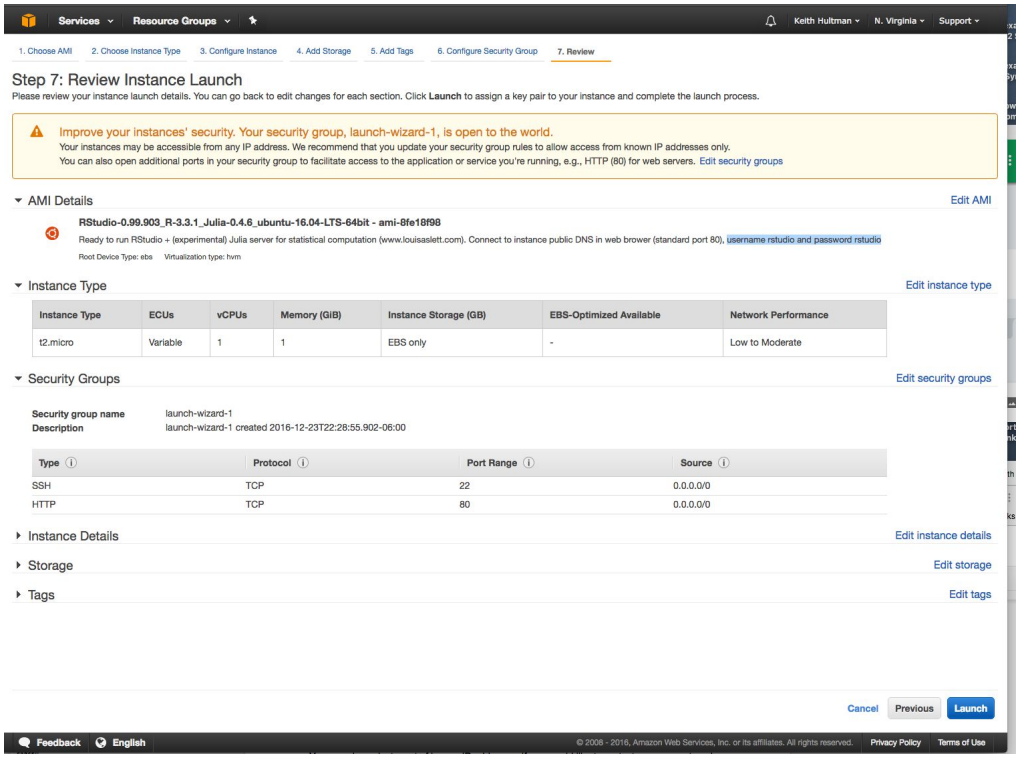


Click Next: Add Storage. Here you can increase the size of your storage. The AMI comes with a pretty streamlined 10GB of storage so if you suspect you will need more storage you can increase it here. It's also possible to increase this at a later time. You can use up to 30 GB in the free tier.

We will keep most of the default settings, so click through until you get to the Configure Securitiy Group tab. Here you want to add a new rule to the security group, click Add Rule. From the dropdown menu select "HTTP" for type. Protocol should be TCP and Port Range should be 80. You can also select a set of known IP addresses if you would like to protect your server to only being available from your computer. One option is to restrict the ssh type to "My IP" but leave the http type open to the world. I leave this set to 0.0.0.0/0 which allows me to login from everywhere, but is less secure. If you are going to store / analyze sensitive data, this is how you can increase security. Optional: Rename the security group to something human readable like RStudio.



Review your selections. Note under the AMI details here is where the username / password are for this once it is activated: username rstudio and password rstudio. You will want to change these asap once you start your server.

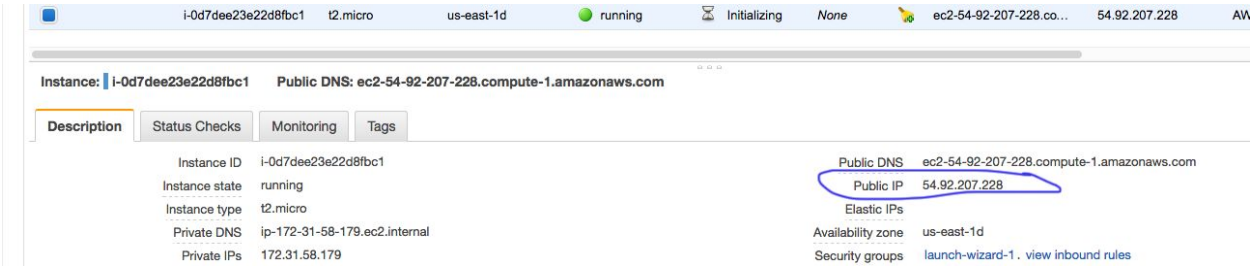


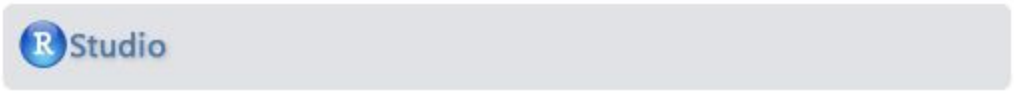
Launch Server

After clicking Launch you will be prompted to select or create a key pair. This is used for ssh connections with the server and will download a text file that will be stored on your computer to act as a password. Select create a new key pair and then enter a descriptive name for this key pair. “AWS-RStudio” would be appropriate.

After the key pair .pem file is downloaded to your computer, you can launch your instance. Click on View Instances to open up the AWS console to view all of your running instances (just one right now).

Once the Instance state says ‘running’ you can connect to your server by entering the public IP address in your web browser. Log in using the rstudio/rstudio username/password.





Change password

Instructions on changing the password should be in the Welcome.R script message that should be open when you first log in to RStudio. In the console type:

```
> library(“RStudioAMI”)
> passwd()
```

That’s it!

For our purposes we are all set up to start working in R. You might want to make additional changes to the server, like setting up git for your projects or linking to Dropbox, or upgrading to the more recent R/RStudio versions.