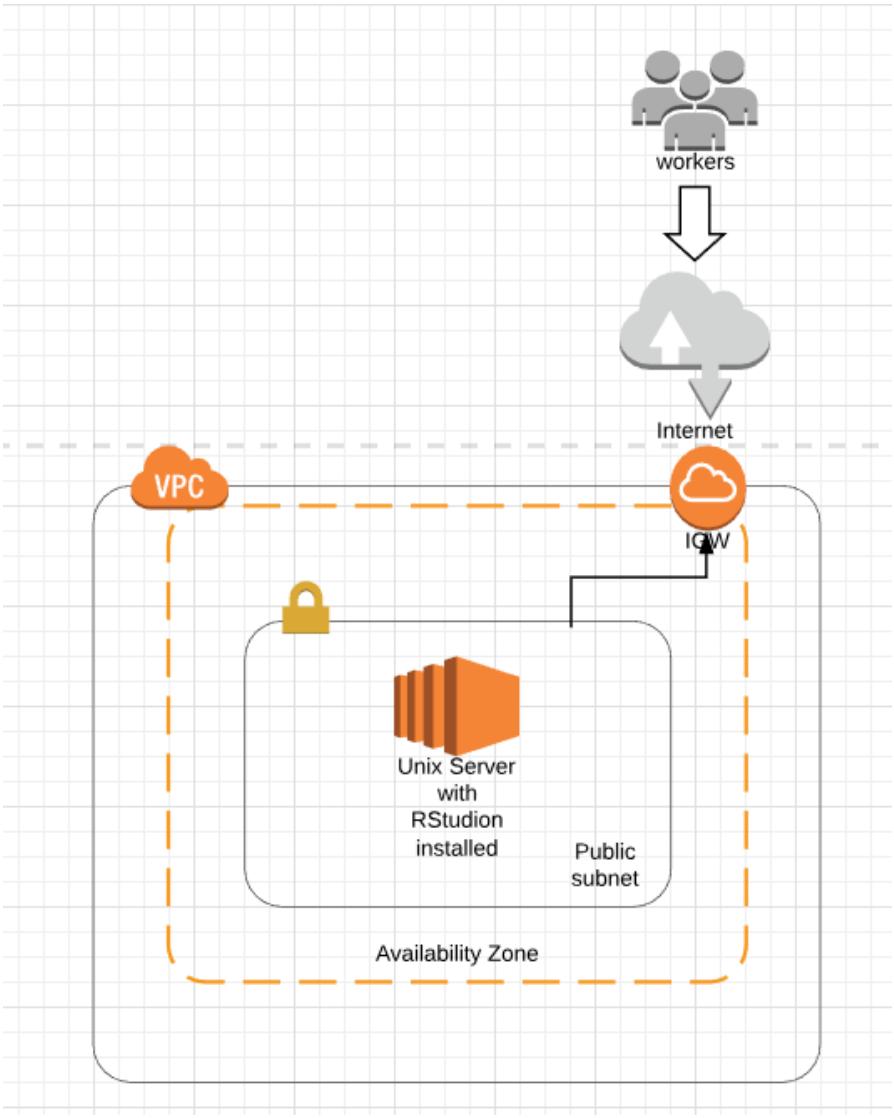
AWS: RStudio Server

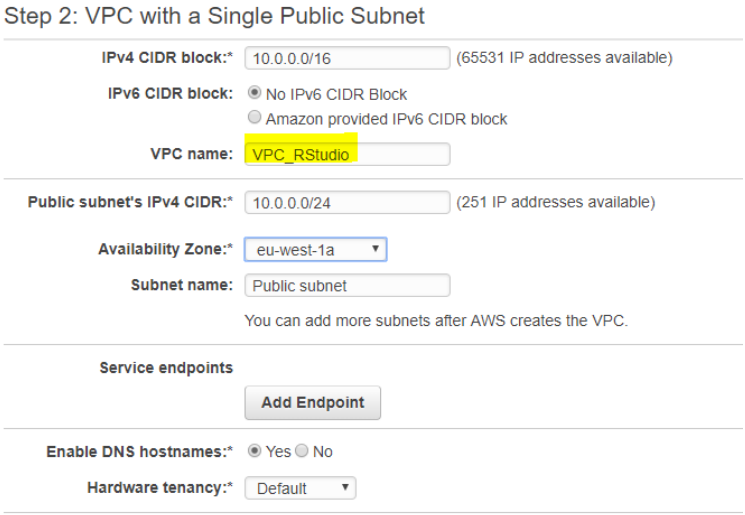
Goal: Setup RStudio server



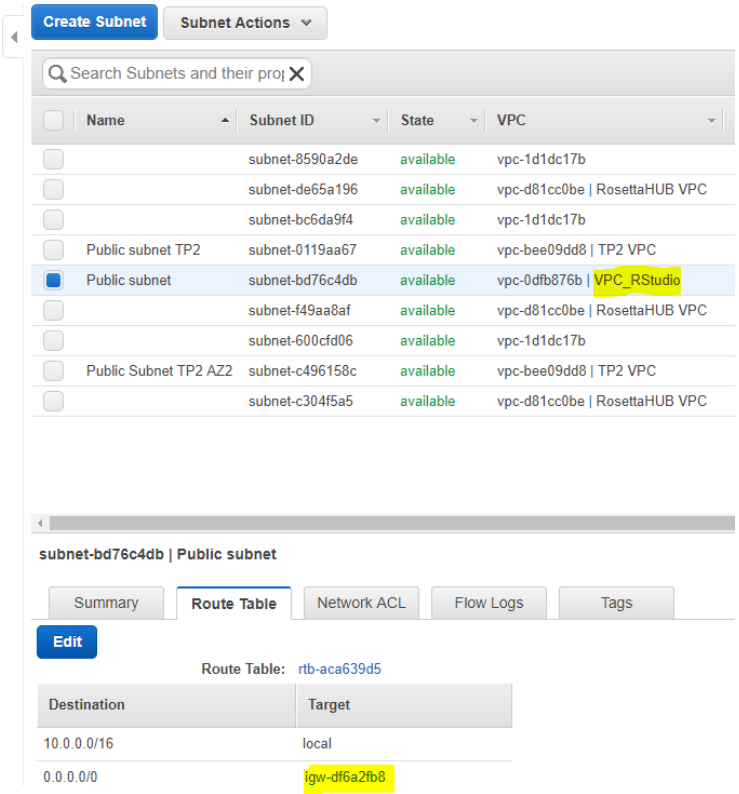
Step 1: Create a VPC with a Public Subnet

- **VPC -> Start VPC Wizard**

  Select VPC Configuration: VPC with a Single Public Subnet

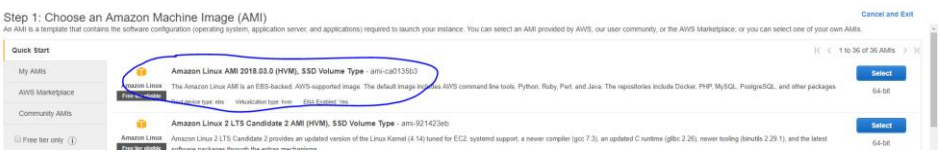


Check that the Public Subnet is routed to the IGW

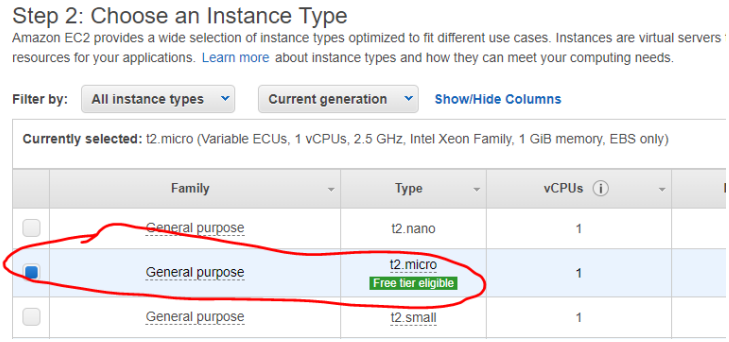


Step 2: Choose an AMI and an Instance

- Choose Amazon Linux AMI (no additional cost)



- Choose Instance Type t2.micro (enough for this demo)



Step3: Configure the Instance Details

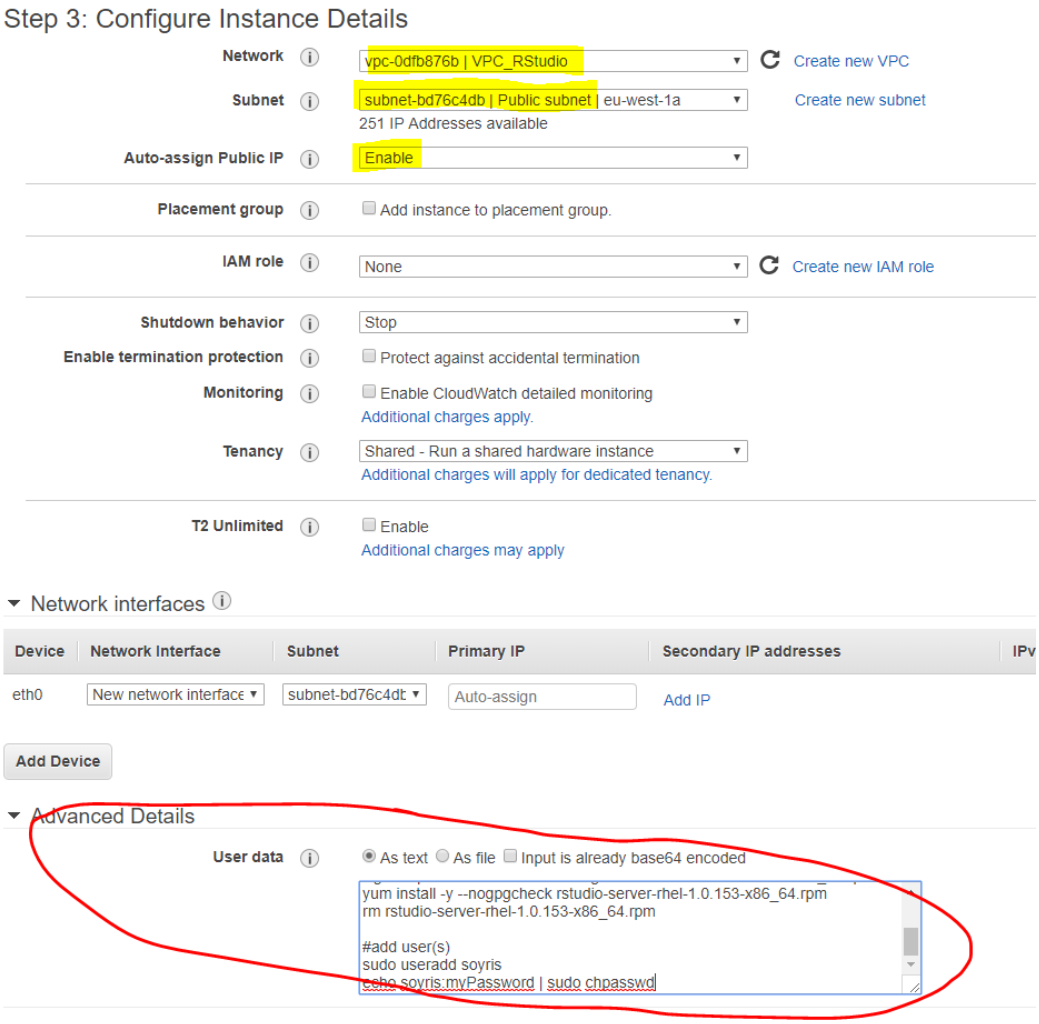
Add in the Advanced Details pane, in "user data" section, following commands in order to download and install RStudio server.

This script also adds a user and password that you use for logging in later to RStudio.

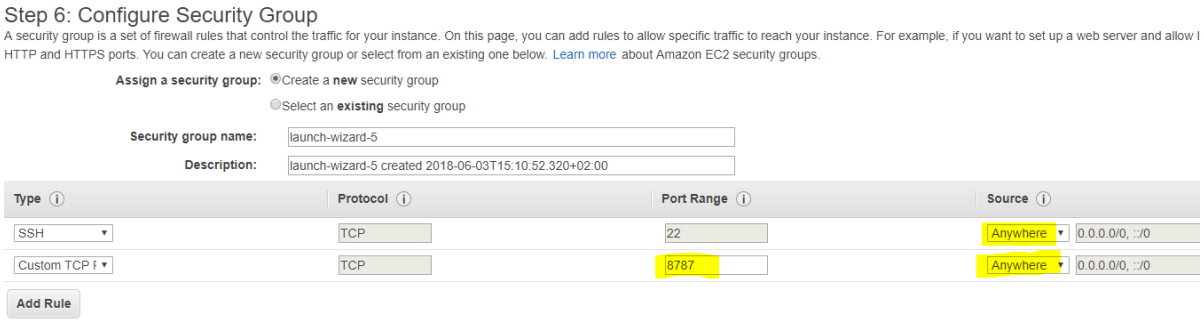
Source: https://aws.amazon.com/fr/blogs/big-data/running-r-on-aws/

```
#!/bin/bash
#install R
yum install -y R

#install RStudio-Server 1.0.153 (2017-07-20)
wget https://download2.rstudio.org/rstudio-server-rhel-1.0.153-x86_64.rpm
yum install -y --nogpgcheck rstudio-server-rhel-1.0.153-x86_64.rpm
rm rstudio-server-rhel-1.0.153-x86_64.rpm

#add user(s)
sudo useradd "username"
echo "username":"password" | sudo chpasswd
```

And configure correctly the other inputs, mainly "Network", "Subnet" and "Auto-assign Public IP" as picture below:



- <u>Configure Security Group</u>
  Configure the Security Group (=Inbound Rule), which acts as a virtual firewall that controls the traffic for the EC2 instance. For this R-based analysis environment, you have to open port 8787 for RStudio Server.



- Select an existing key pair or create a new key pair
- View Instances

Time to create instance and setup RStudio could take few minutes.

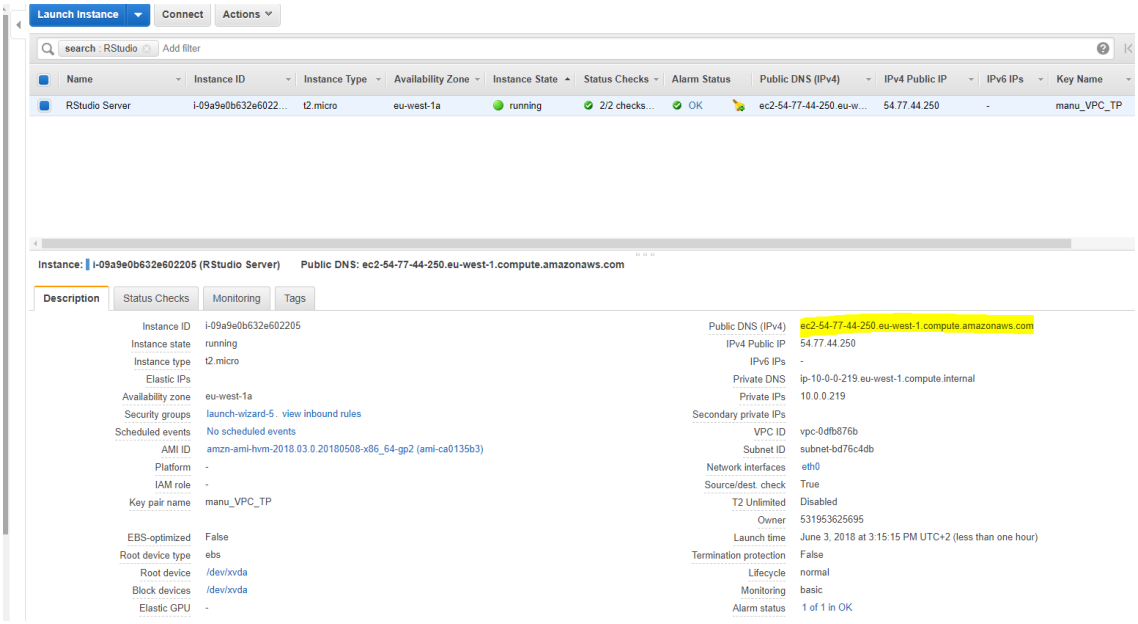
Wait ~5minutes, before to connect.

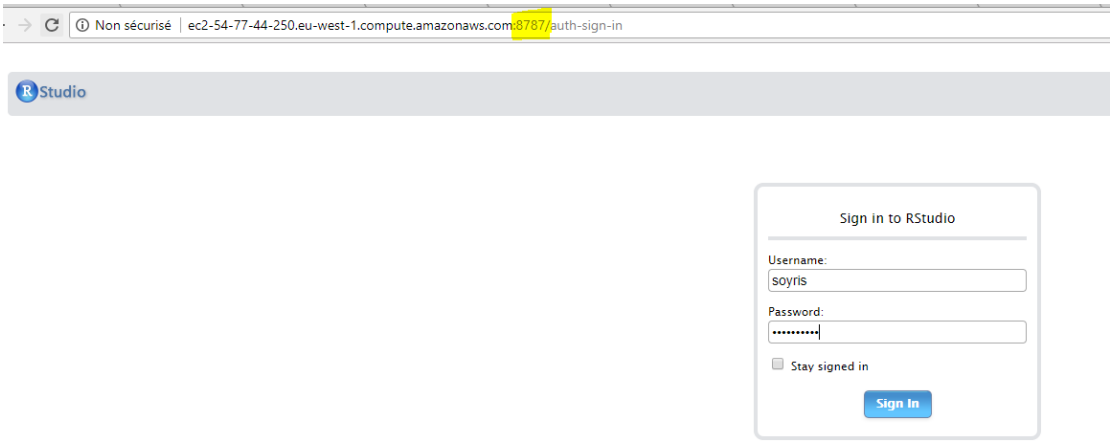
Step 3: Connect to RStudio Server

Copy the Public DNS IP and paste it to a Web browser, adding port 8787.

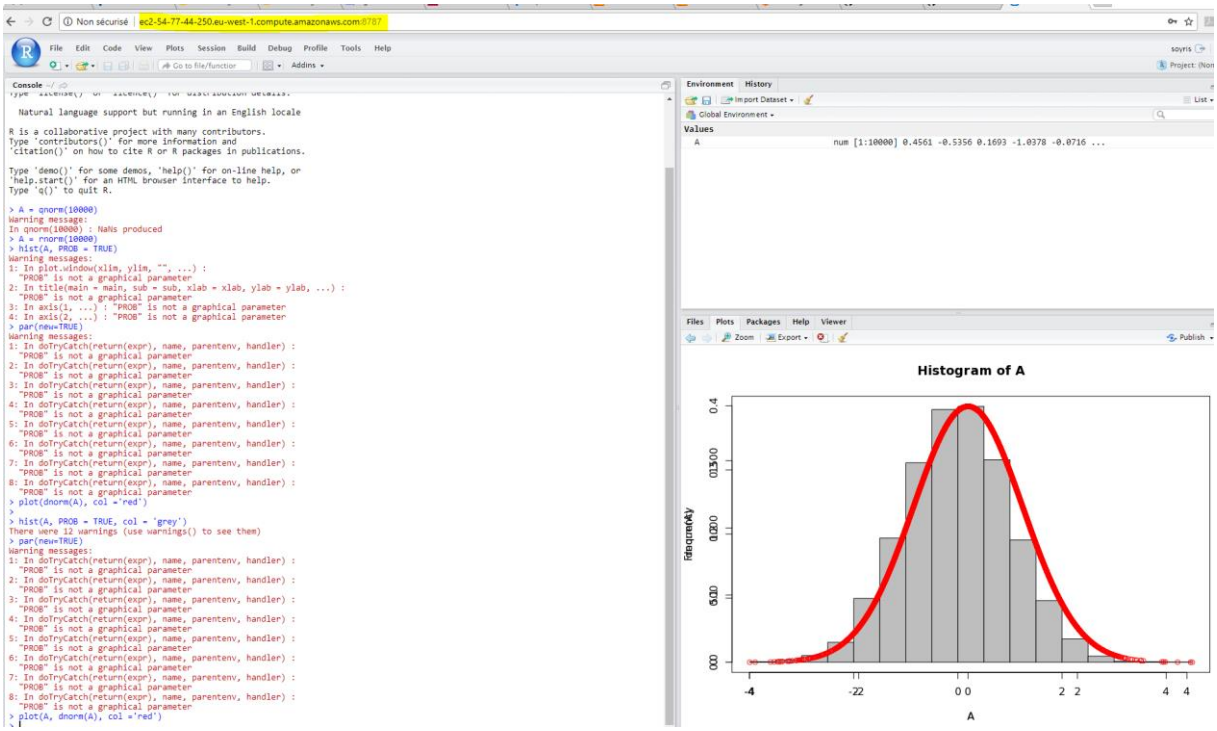
The URL looks like:

http://ec2-54-77-44-250.eu-west-1.compute.amazonaws.com:8787





Here we are:


Non sécurisé
ec2-54-77-44-250.eu-west-1.compute.amazonaws.com:8787
File Edit Code View Plots Session Build Debug Profile Tools Help
Addins
Console
Natural language support but running in an English locale
R is a collaborative project with many contributors.
Type 'contributors()' for more information and
'citation()' on how to cite R or R packages in publications.
Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.
> A = qnorm(10000)
Warning message:
In qnorm(10000) : NaNs produced
> A = rnorm(10000)
> hist(A, PROB = TRUE)
Warning messages:
1: In plot.window(xlim, ylim, "", ...) :
"PROB" is not a graphical parameter
2: In title(main = main, sub = sub, xlab = xlab, ylab = ylab, ...) :
"PROB" is not a graphical parameter
3: In axis(1, ...) : "PROB" is not a graphical parameter
4: In axis(2, ...) : "PROB" is not a graphical parameter
> par(new=TRUE)
Warning messages:
1: In doTryCatch(return(expr), name, parentenv, handler) :
"PROB" is not a graphical parameter
2: In doTryCatch(return(expr), name, parentenv, handler) :
"PROB" is not a graphical parameter
3: In doTryCatch(return(expr), name, parentenv, handler) :
"PROB" is not a graphical parameter
4: In doTryCatch(return(expr), name, parentenv, handler) :
"PROB" is not a graphical parameter
5: In doTryCatch(return(expr), name, parentenv, handler) :
"PROB" is not a graphical parameter
6: In doTryCatch(return(expr), name, parentenv, handler) :
"PROB" is not a graphical parameter
7: In doTryCatch(return(expr), name, parentenv, handler) :
"PROB" is not a graphical parameter
8: In doTryCatch(return(expr), name, parentenv, handler) :
"PROB" is not a graphical parameter
> plot(dnorm(A), col ='red')
>
> hist(A, PROB = TRUE, col = 'grey')
There were 12 warnings (use warnings() to see them)
> par(new=TRUE)
Warning messages:
1: In doTryCatch(return(expr), name, parentenv, handler) :
"PROB" is not a graphical parameter
2: In doTryCatch(return(expr), name, parentenv, handler) :
"PROB" is not a graphical parameter
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"PROB" is not a graphical parameter
8: In doTryCatch(return(expr), name, parentenv, handler) :
"PROB" is not a graphical parameter
> plot(A, dnorm(A), col ='red')
Environment History
Import Dataset
Global Environment
Values
A num [1:10000] 0.4561 -0.5356 0.1693 -1.0378 -0.0716 ...
Files Plots Packages Help Viewer
Zoom Export
Publish
Histogram of A
Frequency
0.4
0.3
0.2
0.1
0.0
-4
-2
0
2
4
A