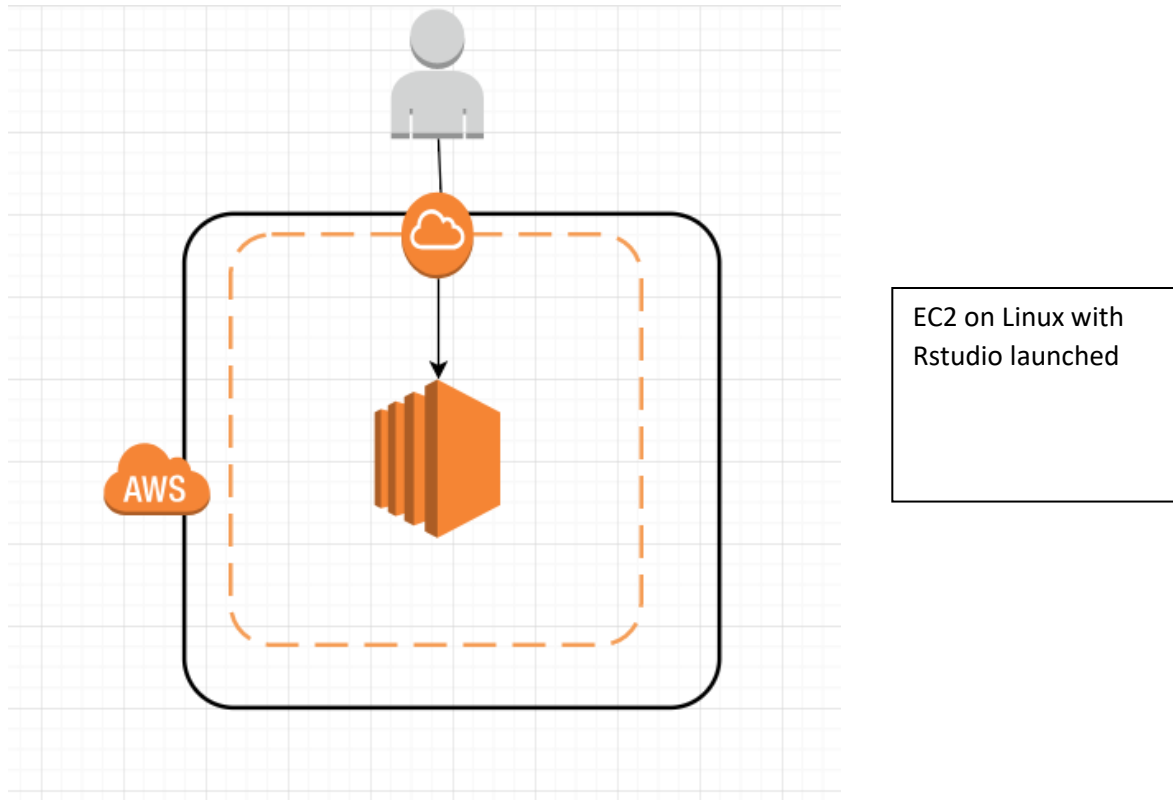


Running R on AWS

Reference on : <https://aws.amazon.com/fr/blogs/big-data/running-r-on-aws/>



TASK 1 VPC Creation

1 In the **Services** console select **VPC Start VPC WIZARD**

Select : **VPC with a Single Public Subnet**

Click **Select**

Change the VPC name aith Rstudio

Step 2: VPC with a Single Public Subnet

IPv4 CIDR block:*10.0.0.0/16(65531 IP addresses available)

IPv6 CIDR block:

No IPv6 CIDR Block

Amazon provided IPv6 CIDR block

VPC name:Rstudio

Public subnet's IPv4 CIDR:*10.0.0.0/24(251 IP addresses available)

Availability Zone:*No Preference

Subnet name:Public subnet

You can add more subnets after AWS creates the VPC.

Service endpoints

Add Endpoint

Enable DNS hostnames:*

Yes

No

Hardware tenancy:*Default

Cancel and Exit

Back

Create

Click **OK**

Check the route table of the public subnet Rstudio (modify the name by clicking on the Name):

Create Subnet

Subnet Actions

Search Subnets and their pro

<< 1 to 8 of 8 Subnets

	Name	Subnet ID	State	VPC	IPv4 CIDR	Available
		subnet-d763a79f	available	vpc-601fc306 RosettaHUB VPC	172.30.2.0/24	250
		subnet-6e97a535	available	vpc-601fc306 RosettaHUB VPC	172.30.0.0/24	250
	Public subnet 2	subnet-1bf10c41	available	vpc-93e39ef5 WEB PAGE	10.0.1.0/24	250
	Public subnet web	subnet-32ef1268	available	vpc-93e39ef5 WEB PAGE	10.0.0.0/24	250
		subnet-9b05f4fd	available	vpc-601fc306 RosettaHUB VPC	172.30.1.0/24	250
	Public subnet	subnet-da14a7bc	available	vpc-91dfa2f7 TRY	10.0.0.0/24	250
	default	subnet-99f60bc3	available	vpc-ddea36bb	172.31.0.0/16	65531
	Public subnet Rstudio	subnet-8639c0dc	available	vpc-8b91eae Rstudio	10.0.0.0/24	251

subnet-8639c0dc | Public subnet

Summary **Route Table** Network ACL Flow Logs Tags


Edit

Route Table: [rtb-f581e48c](#)

Destination	Target
10.0.0.0/16	local
0.0.0.0/0	igw-1ee2a579

Task 2 : lauch the EC2 instance

1/ Go to **Services** console and select **EC2** , on left pane select **instance** then **Launch Instance**.



Amazon Linux AMI 2018.03.0 (HVM), SSD Volume Type - ami-ca0135b3

Amazon Linux
Free tier eligible

The Amazon Linux AMI is an EBS-backed, AWS-supported image. The default image includes AWS command line tools, Python, Ruby, Perl, and Java. The repositories include Docker, PHP, MySQL, PostgreSQL, and other packages.

Select

64-bit

Select the Amazon Linux and then select t2.micro.

Filter by: All instance types Current generation Show/Hide Columns

Currently selected: t2.micro (Variable ECUs, 1 vCPUs, 2.5 GHz, Intel Xeon Family, 1 GiB memory, EBS only)

	Family	Type	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance	IPv6 Support
<input type="checkbox"/>	General purpose	t2.nano	1	0.5	EBS only	-	Low to Moderate	Yes
<input checked="" type="checkbox"/>	General purpose	t2.micro Free tier eligible	1	1	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	General purpose	t2.small	1	2	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	General purpose	t2.medium	2	4	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	General purpose	t2.large	2	8	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	General purpose	t2.xlarge	4	16	EBS only	-	Moderate	Yes

[Cancel](#)
[Previous](#)
[Review and Launch](#)
[Next: Configure Instance Details](#)

2/ Select the VPC as **Rstudio** and auto assign to **Enable**.

Step 3: Configure Instance Details

Configure the instance to suit your requirements. You can launch multiple instances from the same AMI, request Spot instances to take advantage of the lower pricing, assign an access management role to the instance, and more.

Number of instances	<input type="text" value="1"/>	Launch into Auto Scaling Group
Purchasing option	<input type="checkbox"/> Request Spot instances	
Network	<input type="text" value="vpc-8b91eae0 Rstudio"/>	Create new VPC
Subnet	<input type="text" value="subnet-8639c0dc Public subnet Rstudio eu-west-1"/>	Create new subnet
	251 IP Addresses available	
Auto-assign Public IP	<input type="text" value="Enable"/>	
Placement group	<input type="checkbox"/> Add instance to placement group.	
IAM role	<input type="text" value="None"/>	Create new IAM role
Shutdown behavior	<input type="text" value="Stop"/>	
Enable termination protection	<input type="checkbox"/> Protect against accidental termination	
Monitoring	<input type="checkbox"/> Enable CloudWatch detailed monitoring	
	Additional charges apply.	

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

3/ Extend the extend detail and fill it with following line

```
#!/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

#install shiny and shiny-server (2017-08-25)
R -e "install.packages('shiny', repos='http://cran.rstudio.com/')"
wget https://download3.rstudio.org/centos5.9/x86_64/shiny-server-1.5.4.869-rh5-x86_64.rpm
yum install -y --nogpgcheck shiny-server-1.5.4.869-rh5-x86_64.rpm
rm shiny-server-1.5.4.869-rh5-x86_64.rpm

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

4/ add security group the HTTP 8787

Step 6: Configure Security Group

A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a web server and allow Internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one below. [Learn more](#) about Amazon EC2 security groups.

Assign a security group: ☒ Create a new security group

☐ Select an existing security group

Security group name:

Description:

Type	Protocol	Port Range	Source	Description
SSH	TCP	22	Anywhere 0.0.0.0/0, ::/0	e.g. SSH for Admin Desktop
Custom TCP I	TCP	8787	Anywhere 0.0.0.0/0, ::/0	e.g. SSH for Admin Desktop

Add Rule



Warning

Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

5/ load the key

Select an existing key pair or create a new key pair

A key pair consists of a **public key** that AWS stores, and a **private key file** that you store. Together, they allow you to connect to your instance securely. For Windows AMIs, the private key file is required to obtain the password used to log into your instance. For Linux AMIs, the private key file allows you to securely SSH into your instance.

Note: The selected key pair will be added to the set of keys authorized for this instance. [Learn more about removing existing key pairs from a public AMI.](#)

Choose an existing key pair

Select a key pair

☒ I acknowledge that I have access to the selected private key file (mykeypairseta.pem), and that without this file, I won't be able to log into my instance.

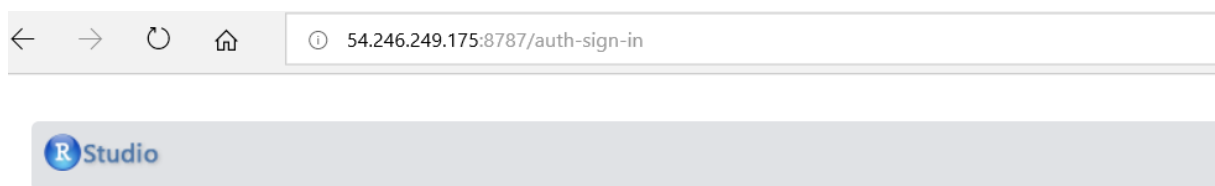
[Cancel](#) [Launch Instances](#)

7/ Change the name of the instance by clicking on name Table

Filter by tags and attributes or search by keyword							
1 to 4 of 4							
<input type="checkbox"/>	Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm S
<input type="checkbox"/>	TRY4	i-01380d0a92a5d00...	t2.micro	eu-west-1b	stopped		None
<input type="checkbox"/>	WEB PAGE 1	i-035130b968312a8...	t2.micro	eu-west-1a	stopped		None
<input checked="" type="checkbox"/>	Rstudio	i-0a142c37a572332ad	t2.micro	eu-west-1a	running	Initializing	OK
<input type="checkbox"/>	WEB PAGE 2	i-0cc4d6c12b98e28a2	t2.micro	eu-west-1a	stopped		None

Task 3 Connection to Rstudio via a web browser :

1/ Go on a web browser on 54.246.249.175:8787



Sign in to RStudio

Username:

Password:

☐ Stay signed in

[Sign In](#)

2/ See that the console is responding and then we see the Rstudio is available :

The screenshot displays the RStudio application window. The top menu bar includes File, Edit, Code, View, Plots, Session, Build, Debug, Profile, Tools, and Help. The top right corner shows the user 'rodaro' and a 'Project: (None)' dropdown. Below the menu bar is a toolbar with icons for file operations and a 'Go to file/function' search bar. The main interface is divided into three panes. The left pane is the 'Console', showing the R startup message and the execution of the command 'a=5'. The right pane is split into two sections: the top section is the 'Environment' pane, showing the 'Global Environment' with a single variable 'a' having the value 5; the bottom section is the 'Files' pane, showing the 'Home' directory with a folder named 'R'. The console output is as follows:

```
R version 3.4.1 (2017-06-30) -- "Single Candle"
Copyright (C) 2017 The R Foundation for Statistical Computing
Platform: x86_64-redhat-linux-gnu (64-bit)

R is free software and comes with ABSOLUTELY NO WARRANTY.
You are welcome to redistribute it under certain conditions.
Type 'license()' or 'licence()' for distribution details.

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=5
> a
[1] 5
> |
```