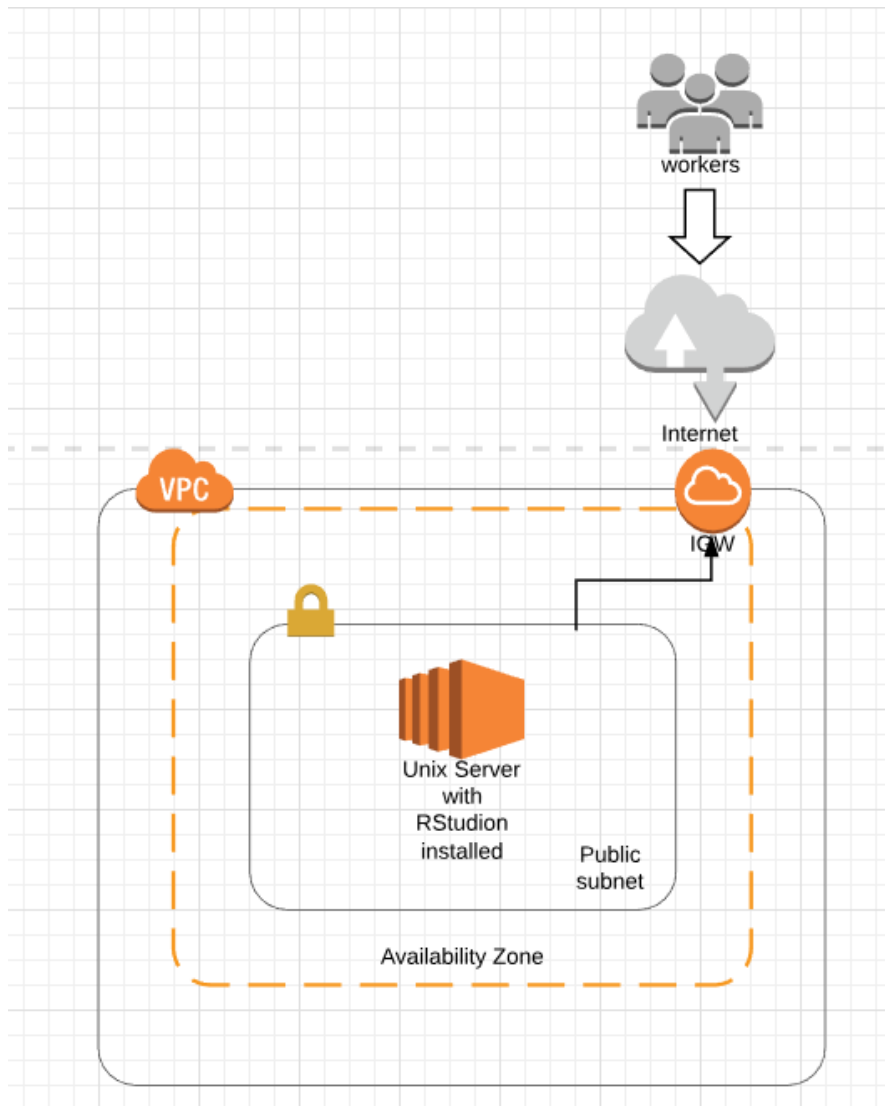


AWS: RStudio Server

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

Step 2: VPC with a Single Public Subnet

IPv4 CIDR block:* (65531 IP addresses available)

IPv6 CIDR block: ☒ No IPv6 CIDR Block
☐ Amazon provided IPv6 CIDR block

VPC name:

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

Availability Zone:*

Subnet name:

You can add more subnets after AWS creates the VPC.

Service endpoints

Enable DNS hostnames:* ☒ Yes ☐ No

Hardware tenancy:*

Check that the Public Subnet is routed to the IGW

Search Subnets and their projects

<input type="checkbox"/>	Name	Subnet ID	State	VPC
<input type="checkbox"/>		subnet-8590a2de	available	vpc-1d1dc17b
<input type="checkbox"/>		subnet-de65a196	available	vpc-d81cc0be RosettaHUB VPC
<input type="checkbox"/>		subnet-bc6da9f4	available	vpc-1d1dc17b
<input type="checkbox"/>	Public subnet TP2	subnet-0119aa67	available	vpc-bee09dd8 TP2 VPC
<input checked="" type="checkbox"/>	Public subnet	subnet-bd76c4db	available	vpc-0dfb876b VPC_RStudio
<input type="checkbox"/>		subnet-f49aa8af	available	vpc-d81cc0be RosettaHUB VPC
<input type="checkbox"/>		subnet-600cf006	available	vpc-1d1dc17b
<input type="checkbox"/>	Public Subnet TP2 AZ2	subnet-c496158c	available	vpc-bee09dd8 TP2 VPC
<input type="checkbox"/>		subnet-c304f5a5	available	vpc-d81cc0be RosettaHUB VPC

subnet-bd76c4db | Public subnet

Route Table: [rtb-aca639d5](#)

Destination	Target
10.0.0.0/16	local
0.0.0.0/0	igw-df6a2fb8

Step 2: Choose an AMI and an Instance

- Choose Amazon Linux AMI (no additional cost)

Step 1: Choose an Amazon Machine Image (AMI)

All AMIs are a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. You can select an AMI provided by AWS, our user community, or the AWS Marketplace, or you can select one of your own AMIs.

Quick Start

My AMIs

AWS Marketplace

Community AMIs

Filter by type only

Amazon Linux

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

Amazon Linux 2 LTS Candidate 2 AMI (HVM), SSD Volume Type - ami-921423eb

Amazon Linux 2 LTS Candidate 2 provides an updated version of the Linux Kernel (4.14), systemd support, a newer compiler (gcc 7.3), an updated C runtime (glibc 2.26), newer tooling (binutils 2.29.1), and the latest software packages through the amazon repositories.

Cancel and Exit

1 to 36 of 36 AMIs

Select

Select

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

Step 2: Choose an Instance Type

Amazon EC2 provides a wide selection of instance types optimized to fit different use cases. Instances are virtual servers' resources for your applications. [Learn more](#) about instance types and how they can meet your computing needs.

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
<input type="checkbox"/>	General purpose	t2.nano	1
<input checked="" type="checkbox"/>	General purpose	t2.micro Free tier eligible	1
<input type="checkbox"/>	General purpose	t2.small	1

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:

Step 3: Configure Instance Details

Network ⓘ [Create new VPC](#)

Subnet ⓘ eu-west-1a [Create new subnet](#)
251 IP Addresses available

Auto-assign Public IP ⓘ

Placement group ⓘ ☐ Add instance to placement group.

IAM role ⓘ [Create new IAM role](#)

Shutdown behavior ⓘ

Enable termination protection ⓘ ☐ Protect against accidental termination

Monitoring ⓘ ☐ Enable CloudWatch detailed monitoring
[Additional charges apply.](#)

Tenancy ⓘ
[Additional charges will apply for dedicated tenancy.](#)

T2 Unlimited ⓘ ☐ Enable
[Additional charges may apply](#)

▼ Network interfaces ⓘ

Device	Network Interface	Subnet	Primary IP	Secondary IP addresses	IPv
eth0	<input type="text" value="New network interface"/>	<input type="text" value="subnet-bd76c4db"/>	<input type="text" value="Auto-assign"/>	<input type="text" value="Add IP"/>	

▼ Advanced Details

User data ⓘ ☒ As text ☐ As file ☐ Input is already base64 encoded

```
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 soyris
echo soyris:myPassword | sudo chpasswd
```

- Configure Security Group

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.

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 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 ⓘ
SSH	TCP	22	Anywhere 0.0.0.0, ::/0
Custom TCP f	TCP	8787	Anywhere 0.0.0.0, ::/0

- 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>

The screenshot shows the AWS Management Console interface. At the top, there's a search bar with 'RStudio' entered. Below it, a table lists instances, with 'RStudio Server' selected. The instance details are shown below the table. The 'Public DNS (IPv4)' is highlighted in yellow: **ec2-54-77-44-250.eu-west-1.compute.amazonaws.com**. Other details include Instance ID: i-09a9e0b632e602205, Instance Type: t2.micro, Availability Zone: eu-west-1a, and Status: running.

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)	IPv4 Public IP	IPv6 IPs	Key Name
RStudio Server	i-09a9e0b632e602205	t2.micro	eu-west-1a	running	2/2 checks...	OK	ec2-54-77-44-250.eu-west-1.compute.amazonaws.com	54.77.44.250	-	manu_VPC_TP

Instance: i-09a9e0b632e602205 (RStudio Server) Public DNS: ec2-54-77-44-250.eu-west-1.compute.amazonaws.com

Description	
Instance ID	i-09a9e0b632e602205
Instance state	running
Instance type	t2.micro
Elastic IPs	-
Availability zone	eu-west-1a
Security groups	launch-wizard-5 view inbound rules
Scheduled events	No scheduled events
AMI ID	amzn-ami-hvm-2018.03.0.20180508-x86_64-gp2 (ami-ca0135b3)
Platform	-
IAM role	-
Key pair name	manu_VPC_TP
EBS-optimized	False
Root device type	ebs
Root device	/dev/xvda
Block devices	/dev/xvda
Elastic GPU	-
Public DNS (IPv4)	ec2-54-77-44-250.eu-west-1.compute.amazonaws.com
IPv4 Public IP	54.77.44.250
IPv6 IPs	-
Private DNS	ip-10-0-0-219.eu-west-1.compute.internal
Private IPs	10.0.0.219
Secondary private IPs	-
VPC ID	vpc-0d8b876b
Subnet ID	subnet-bd76c4db
Network interfaces	eth0
Source/dest check	True
T2 Unlimited	Disabled
Owner	531963625695
Launch time	June 3, 2018 at 3:15:15 PM UTC+2 (less than one hour)
Termination protection	False
Lifecycle	normal
Monitoring	basic
Alarm status	1 of 1 in OK

The screenshot shows a web browser window. The address bar contains the URL: ec2-54-77-44-250.eu-west-1.compute.amazonaws.com:8787/auth-sign-in. The page title is 'RStudio'. Below the title, there's a 'Sign in to RStudio' form.

Sign in to RStudio

Username:

Password:

☐ Stay signed in

Here we are:

