

Create a VM in both public and private subnets. The private subnet instance should be accessible from the public subnet over SSH. Both the instances should be able to communicate to the internet: -

1: - Created a VPC: -

VPC > Your VPCs > vpc-04710deaff94f03ca

vpc-04710deaff94f03ca / MJ-DevOps-VPC

Actions ▼

Details Info

VPC ID vpc-04710deaff94f03ca	State Available	DNS hostnames Disabled	DNS resolution Enabled
Tenancy Default	DHCP option set dopt-0df9df869be88922e	Main route table rtb-059e3eef6129aa41b	Main network ACL acl-0abea4d3429e5ca98
Default VPC No	IPv4 CIDR 10.0.0.0/16	IPv6 pool -	IPv6 CIDR (Network border group) -
Network Address Usage metrics Disabled	Route 53 Resolver DNS Firewall rule groups -	Owner ID 975050349146	

2: - Created an Internet Gateway: -

Internet gateways (1) Info

Search

Actions ▼ Create internet gateway

Name	Internet gateway ID	State	VPC ID	Owner
IGTW-MJ-DevOps-VPC	igw-052b3c6d5da0fa512	Attached	vpc-04710deaff94f03ca MJ-DevOps-V...	975050349146

3: - Created a Subnets: -

Subnets (2) Info

Find resources by attribute or tag

Subnet ID : subnet-0fcf7e2b3f4c6e015 Subnet ID : subnet-09040dfb87e172476 Clear filters

< 1 > ⚙

Name	Subnet ID	State	VPC	IPv4 CI
Public-MJ-DevOps-Subnet	subnet-0fcf7e2b3f4c6e015	Available	vpc-04710deaff94f03ca MJ-D...	10.0.1.0
Private-MJ-DevOps-Subnet	subnet-09040dfb87e172476	Available	vpc-04710deaff94f03ca MJ-D...	10.0.2.0

4: - Created a route table for Public Subnet: -

rtb-07c7653cc6669607b / RT-PUBLIC Actions ▼

Details [Info](#)

Route table ID rtb-07c7653cc6669607b	Main No	Explicit subnet associations -	Edge associations -
VPC vpc-04710deaff94f03ca MJ-DevOps-VPC	Owner ID 975050349146		

Routes | Subnet associations | Edge associations | Route propagation | Tags

Routes (2) Both ▼ Edit routes

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Destination ▼	Target ▼	Status ▼	Propagated ▼
0.0.0.0/0	igw-052b3c6d5da0fa512	Active	No
10.0.0.0/16	local	Active	No

- In the Public Subnet Route table I added the internet gateway

rtb-07c7653cc6669607b / RT-PUBLIC Actions ▼

Details [Info](#)

Route table ID rtb-07c7653cc6669607b	Main No	Explicit subnet associations subnet-0fcf7e2b3f4c6e015 / Public-MJ-DevOps-Subnet	Edge associations -
VPC vpc-04710deaff94f03ca MJ-DevOps-VPC	Owner ID 975050349146		

Routes | **Subnet associations** | Edge associations | Route propagation | Tags

Explicit subnet associations (1) Edit subnet associations

< 1 >

⚙

Name ▼	Subnet ID ▼	IPv4 CIDR ▼	IPv6 CIDR ▼
Public-MJ-DevOps-Subnet	subnet-0fcf7e2b3f4c6e015	10.0.1.0/24	-

- Added the subnet association rule in public route table for public subnet

5: - Created a route table for Private Subnet: -

VPC > Route tables > rtb-09765e59bf3ee8af0

rtb-09765e59bf3ee8af0 / RT-PRIVATE Actions ▼

Details [Info](#)

Route table ID 📄 rtb-09765e59bf3ee8af0	Main 📄 No	Explicit subnet associations subnet-09040dfb87e172476 / Private-MJ-DevOps-Subnet	Edge associations -
VPC vpc-04710deaff94f03ca MJ-DevOps-VPC	Owner ID 📄 975050349146		

Routes | **Subnet associations** | Edge associations | Route propagation | Tags

Explicit subnet associations (1) Edit subnet associations

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Name ▼	Subnet ID ▼	IPv4 CIDR ▼	IPv6 CIDR ▼
Private-MJ-DevOps-Subnet	subnet-09040dfb87e172476	10.0.2.0/24	-

- Added the subnet association rule to private route table

6: - Created a NAT Gateway: -

VPC > NAT gateways > nat-0e8a3827aeb6cfe4c

nat-0e8a3827aeb6cfe4c / NGTW-MJ-DevOps Actions ▼

Details

NAT gateway ID 📄 nat-0e8a3827aeb6cfe4c	Connectivity type Public	State ✅ Available	State message Info -
NAT gateway ARN 📄 arn:aws:ec2:ap-south-1:975050349146:natgateway/nat-0e8a3827aeb6cfe4c	Primary public IPv4 address 13.126.197.244	Primary private IPv4 address 📄 10.0.1.222	Primary network interface ID eni-07f2892281f351ca2 🔗
VPC vpc-04710deaff94f03ca / MJ-DevOps-VPC	Subnet subnet-0fcf7e2b3f4c6e015 / Public-MJ-DevOps-Subnet	Created 📄 Saturday, 3 February 2024 at 01:37:40 GMT+5:30	Deleted -

7: - Updated a route table for private subnet: -

rtb-09765e59bf3ee8af0 / RT-PRIVATE Actions ▾

Details [Info](#)

Route table ID rtb-09765e59bf3ee8af0	Main No	Explicit subnet associations subnet-09040dfb87e172476 / Private-MJ-DevOps-Subnet	Edge associations -
VPC vpc-04710deaff94f03ca MJ-DevOps-VPC	Owner ID 975050349146		

Routes

Subnet associations

Edge associations

Route propagation

Tags

Routes (2)

Both ▾

Edit routes

Filter routes

< 1 > ⚙

Destination ▾	Target ▾	Status ▾	Propagated ▾
0.0.0.0/0	nat-0e8a3827aeb6cfe4c	Active	No
10.0.0.0/16	local	Active	No

- Added the NAT Gateway in the private route table for accessing the Internet through the Nat gateway

8: - Created a Two EC2 instances one for private and one for public :-

Instances (2) [Info](#)

Refresh

Connect

Instance state ▾

Actions ▾

Launch instances ▾

Find Instance by attribute or tag (case-sensitive)

Any state ▾

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<input type="checkbox"/>	Name ↗ ▾	Instance ID	Instance state ▾	Instance type ▾	Status check	Alarm status	Availability 2
<input type="checkbox"/>	MJ-EC2-PUBLIC	i-05a2774953f16d254	Running 🔍 🔍	t2.micro	2/2 checks passed	View alarms +	ap-south-1a
<input type="checkbox"/>	MJ-EC2-PRIVATE	i-0255e6c03bcdd44ad	Running 🔍 🔍	t2.micro	2/2 checks passed	View alarms +	ap-south-1a

- In the public and private EC2 instances we add one security group for HTTP

9: - Connect the public EC2 Instance remotely:-

- Connected Through remotely Public Instance :-

```
C:\Users\mihir.jain\Downloads>ssh -i "Key-Pair-For-demo.pem" ubuntu@13.232.81.76
```

- After Public instance is connect then we have to connect from public to private

```
ubuntu@ip-10-0-1-40:~$ touch access-private.pem
ubuntu@ip-10-0-1-40:~$ vi access-private.pem
ubuntu@ip-10-0-1-40:~$
ubuntu@ip-10-0-1-40:~$ ls -l
total 4
-rw-rw-r-- 1 ubuntu ubuntu 1679 Feb  2 20:37 access-private.pem
ubuntu@ip-10-0-1-40:~$ chmod u=r--,g=---,o=---
chmod: missing operand after 'u=r--,g=---,o=---'
Try 'chmod --help' for more information.
ubuntu@ip-10-0-1-40:~$ chmod u=r--,g=---,o=--- access-private.pem
ubuntu@ip-10-0-1-40:~$ ls -l
total 4
-r----- 1 ubuntu ubuntu 1679 Feb  2 20:37 access-private.pem
ubuntu@ip-10-0-1-40:~$ ssh -i access-private.pem ubuntu@10.0.2.193
Welcome to Ubuntu 22.04.3 LTS (GNU/Linux 6.2.0-1017-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

System information as of Fri Feb  2 20:38:32 UTC 2024

System load:  0.0          Processes:           97
Usage of /:   20.5% of 7.57GB Users logged in:       0
Memory usage: 21%         IPv4 address for eth0: 10.0.2.193
Swap usage:   0%
```

- Then We copy the private key from local private key form public instance.
- Then we create a file public instance
- We create a file and copy the private key
- Then we ssh the private key from public key
- After that we connect the private instance
- Then we can access the internet from private instance

```
ubuntu@ip-10-0-2-193:~$ curl www.google.com
<!doctype html><html itemscope="" itemtype="http://schema.org/WebPage" lang="en-IN"><head><meta content="text/html; char
set=UTF-8" http-equiv="Content-Type"><meta content="/images/branding/googleg/1x/googleg_standard_color_128dp.png" itempr
op="image"><title>Google</title><script nonce="5Mu8MHVo6J6R19LyY2-h0Q">(function(){var _g={kEI:'0VK9ZfzGKfWlvR0P0d0NsAM'
,kEXPI:'0,793108,572359,207,4804,1132070,1963,868573,327164,380791,44798,23792,12319,17580,4998,17075,41316,2891,8349,34
05,606,63304,13721,1014,1,16916,2652,4,59617,27038,6636,7596,1,42154,2,16737,23024,6700,31122,4568,6255,24673,33064,2,2,
1,10956,15676,8155,23351,8702,13733,22194,30044,20199,33564,34492,5122,3030,15816,1804,7734,15103,4257,8174,13449,8840,5
601,3692,22249,15977,5210139,2,377,954,104,36,562,124,5992808,2806666,31746,34,1,98,3,3,1,1,78,17,2,10,5,7443466,1649629
4,2738068,123562,1183087,15665,43887,3,1603,3,262,3,234,3,2121276,2585,22636438,392913,8163,10336,2708,3322,4706,872,280
3,5764,13021,4428,10576,1910,3964,2,2,14606,2849,7650,1,5886,9210,2,1291,2,6,2370,4832,1365,210,2870,7621,3305,49,5521,2
202,435,4795,1359,853,149,517,1553,3140,1,6,2816,4135,591,3190,218,3,2103,2,521,2481,2158,246,2097,5,126,2835,1,4502,2,1
899,1822,174,2591,92,880,2854,2434,289,4020,1643,1261,108,112,668,139,40,4,187,950,1213,487,61,285,75,2,1062,261,6,323,2
13,2978,1,643,4,774,1,2529,507,79,489,36,2,4,96,3555,2,532,1459,4,399,3,1805,2873,655,302,1259,1,3,54,162,323,72,419,867
,1219,1,775,91,375,94,509,526,155,2,1193,280,243,378,388,218,335,1136,173,25,453,1763,54,179,1,651,50,58,280,80,3,89,82,
275,1537,51,4,32,41,394,52,244,8,47,241,1,301,3,5,80,444,4,47,109,318,101,1200,2561,2454,1212,21343804,360645,218,6618,5
31,433,965',kBL:'Ug9t',kOPI:89978449};(function(){var a;(null==(a=window.google)?0:a.stvsc)?google.kEI=_g.kEI:window.goo
gle=_g;}).call(this);})();(function(){google.sn='webhp';google.kHL='en-IN';})();(function(){
var h=this||self;function l(){return void 0!==window.google&&void 0!==window.google.kOPI&&0!==window.google.kOPI?window.
google.kOPI:null;var m,n=[];function p(a){for(var b;a&&(!a.getAttribute||!(b=a.getAttribute("eid")));)a=a.parentNode;re
turn b}|m}function q(a){for(var b=null;a&&(a.getAttribute||!(b=a.getAttribute("leid")));)a=a.parentNode;return b}functi
on r(a){/^http:/i.test(a)&&"https:"===window.location.protocol&&(google.ml&&google.ml(Error("a"),!1,{src:a,gLmm:1}),a="
");return a}
function t(a,b,c,d,k){var e="";-1===b.search("&ei=")&&(e="&ei="+p(d),-1===b.search("&lei=")&&(d=q(d))&&(e+="&lei="+d));d
=""var g=-1===b.search("&cshid=")&&"slh"!==(a,f=[];f.push(["zx",Date.now().toString()]);h._cshid&&g&&f.push(["cshid",h._
cshid]);c=c();null!=c&&f.push(["opi",c.toString()]);for(c=0;c<f.length;c++){if(0===c||0<c)d+="+&";d+=f[c][0]+="+f[c][1]
return"/"+(k||"gen_204")+"?atyp=i&ct="+String(a)+"&cad="+b+e+d});m=google.kEI;google.getEI=p;google.getLEI=q;google.ml=
function(){return null};google.log=function(a,b,c,d,k,e){e=void 0===e?l:e;c||(c=t(a,b,e,d,k));if(c=r(c)){a=new Image;var
q=n.length;n[q]=a;a.onerror=a.onload=a.onabort=function(){delete n[q]};a.src=c};google.logUrl=function(a,b){b=void 0==
```