Route Table Scenario
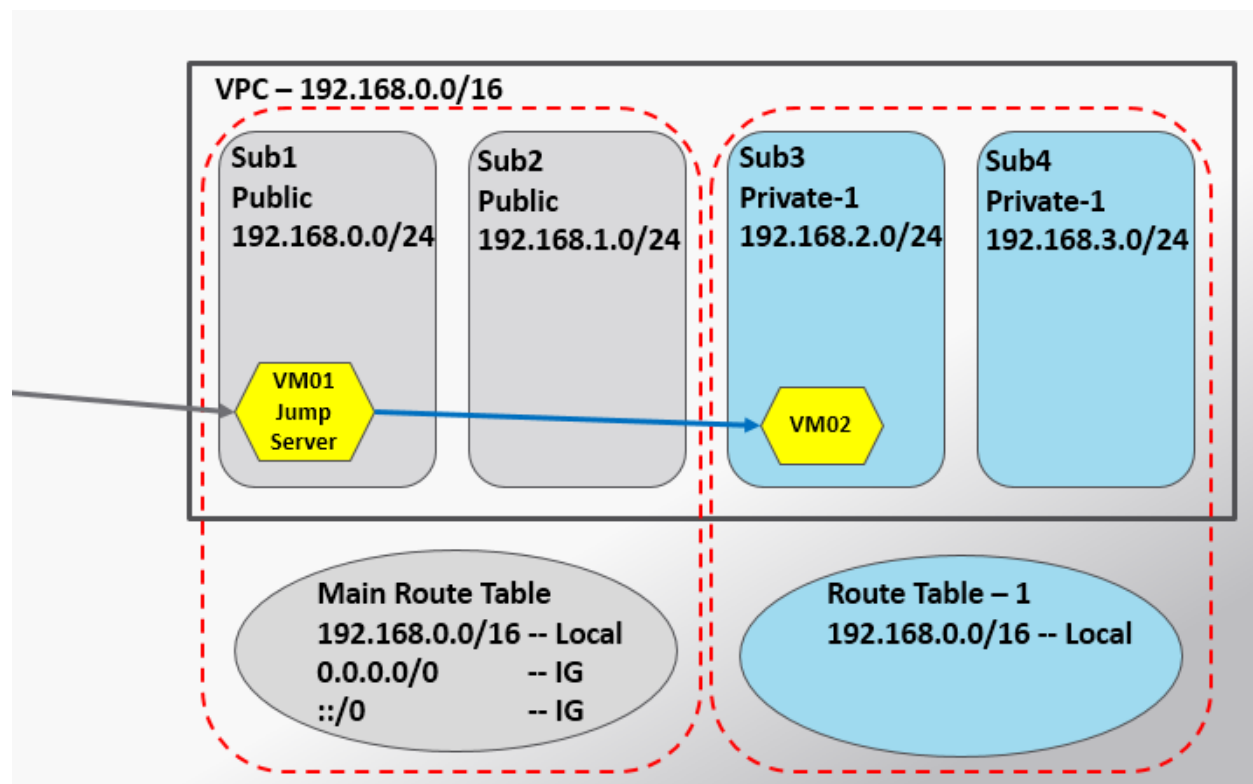
Objective:

Login to EC2 VM02 in the Private Subnet from the VM01 that is in the public Subnet.

Diagram:

Steps:

1. Create a VPC and 4 Subnets with Default Gateway on the MAIN Route Table.

Output of Route Table

2. Assign Sub3 and Sub4 to the new Route Table for the same VPC

Also there is no Route to the Internet in the new Route Table.

3. Create 2 instances

Both the instance needs to be Linux.

First Instance in Subnet1 and Second Instance in Subnet3.

Make sure Public IPv4 and public IPv6 is "ENABLED" on First Instance.

And on the Second Instance it should "DISABLED".

4. **To login to both the Machines.**

Note:-- We cannot login to VM02 from the internet, as it has only private IP and also the Route Table does not have the internet route.

So , first we would login to the VM01.

```
Type "help" to learn how to use Xshell prompt.
[C:\~]$ ssh 34.216.129.76

Connecting to 34.216.129.76:22...
Connection established.
To escape to local shell, press 'Ctrl+Alt+]'.

WARNING! The remote SSH server rejected X11 forwarding request.

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https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-192-168-1-242 ~]$ ping 192.168.3.71
```

Then, Ping the VM02 (if the ICMP is allow in the SG on both the VM's).

Command to be executed "**Ping <VM02 private ip> -c 4**"

```
[ec2-user@ip-192-168-1-242 ]$ ping 192.168.3.71
PING 192.168.3.71 (192.168.3.71) 56(84) bytes of data.
64 bytes from 192.168.3.71: icmp_seq=1 ttl=255 time=0.423 ms
^C
--- 192.168.3.71 ping statistics ---
1 packets transmitted, 1 received, 0% packet loss, time 0ms
rtt min/avg/max/mdev = 0.423/0.423/0.423/0.000 ms
```

5. **Login to VM02 from VM01.**

We need the private key of the VM02 on the VM01 to login successfully.

I.   **$ sudo su**

```
[ec2-user@ip-192-168-1-242 ~]$ sudo su
[root@ip-192-168-1-242 ec2-user]#
```

II. **Create the key1.pem file**
     $ vi key1.pem
     In the blank window , press **"I"** to go into insert mode in editing the file in linux**.**
     Copy the content of the .pem file from the desktop
     And "right clikc" and "paste" it here on the blank screen.

     Note: -- Make sure the pem file starts with "----" and ends with "-----".

     Then press "esc"
     Then ":wq"
     This would save the file and quit the editing window.

     Run the command **$ cat key1.pem**
     To see the output as below screen.

```
[root@ip-192-168-1-242 ec2-user]# vi key1.pem

-----BEGIN RSA PRIVATE KEY-----
MIIEowIBAAKCAQEAzKZ9UECwB3yfgZxl48KBG7IztnLDxh6ddddtbj8PbTpfTMMbPuUC3prxGKnJ
P9+DgKRhTdaBJh/TxsSyQRvhyLf21ZLRaoxWCarTF8n8rp3T03FZudDmFXjFYfJn0xHYRiKYGOJp
IzzaXtr3gdHOJGwHJF4yY3Clm3QK+Cl093vZoTyyTHandmyM8TAlsw3AwSLqUHr3dlRoZsFm02O/
YhyddeJOSV9sEMK9QjAG3ZIVGeYnTRfnJj9Ik8MJPm7DLzuXAip1bJjsQQtqTLCxkbRloTrmrkng
PLj5oN33L2zz8nC6HAdg7LM7fBqfIStVH+8/tXNpL3gjgcrGXNXiQwIDAQABAoIBAA3q8LDJhW8s
6YgeA8vmiXNBvkSVL31Ezb6a5QVPYpQyGRMWXb78QiKzdNwRh+9BGydfhoKNqQDXv0ZQUDMfW06U
PEQwFO/jFWLY7Dw872NMtoA1wD1j2JHzQbE0lB0FpKi4Z5GhrDbKR6uVxqlchGFzu1Sc115t5cVZ
sflIkHzYH0TpqS2fxsLtxN82BFhTvthSYNh021GYz+G8MYj5rMzTYT5bILMw0qIyow8AkEqtahOa
+WGWuWQNHfvcOTjEFUJDrc5aPqs9i3vFNCQ1R6Wmh5qGfS17bTbSATgHK0qcCMp2g1QpWEi9tpmD
CVUY8HBjiXsWh1nHKTHFnyDPLlECgYEA6GbXsevBn60gts45PXFLiULdBL6mXeA5scyI5Vh4SFdA
/igbQy6Ymkxx4tuAsnalNgmS94aQKmCIiZ9McdKAUPIFn+VRS+DKYtmH6jgP02lY2YEKtEedwNyB
Zxkj5zOCw9SNCHRE7YV7ocrJQLiGEz9pIaVdPc3NLOdTtIi++0kCgYEA4W5DzBfSPnvlqorgL/oS
N7gZmkc8ZyFEuu+vCrBwj6eJp5cL9yfI9GaP2PxjqtT+LJqEaVptJReXRJ0lXqx5VEtJYAy0kr6D
FFQAuDslGQkLPByfLwOOu1zQ0GOEzJ9Oc4UlIKTKo4f08/jKkkRxtHJNYF4WJO5Nr507kePPRSsC
gYEA5nrP4UjhHp2ROxqsU84fToJ8NS9qSOGN9lHVVjZ2G7BE6YoW93qnpya3L3fnW5Yk5MF7+nV+
VjikUHAmXR+ZWC2d/GRtSqYlsQDxNQziTRVGI3dBiWcZAWLuBrQ9EhbY0aPjNoYwsarW4K7/Bmu5
tC8H8XFRVnDa0XSdZAbV+NkCgYAkNrJtduYvY3fhja22B1Yl3U0/m3H4nz+LSDW2YeGzMhbK9VjW
u21s1Y0GLoVUTCMIx0m+IuilrMSAIT5/lvVmtTF0XJYlfLVR7qyu69Fp1CoZ3f80bj3fm2lwEIyk
0nKn3Bu6wr5KxuxyxOTF2njpo/MKKBMmm6GfNIL9TLtfQQKBgC7cCWdDXQ08nyRbdRfA2Nv+GfyH
oay6w7W69YuGZ//d/hIk5SOYDPVjvgouTVz1+c+V+TLOLIPylWFaDkdZafYQBjCZtXg29IUb+VDC
72GYNfIclF0Czz2Wc3NLBrQBWT5qJGAyNn5MgeorWltUkHcIMEhhMvkuLDva0Hb+uEsD
-----END RSA PRIVATE KEY-----
```

The key should be copied from the VM02 Private Key .pem.

III.   **We need to change the permission of the key file (that's the requirement of Linux Machines).**

   $ chmod 600 key1.pem

```
[root@ip-192-168-1-242 ec2-user]# ls -l
total 4
-rw-r--r-- 1 root root 1671 May 20 13:31 key1.pem
[root@ip-192-168-1-242 ec2-user]# chmod 600 key1.pem
[root@ip-192-168-1-242 ec2-user]# ls -l
total 4
-rw------- 1 root root 1671 May 20 13:31 key1.pem
[root@ip-192-168-1-242 ec2-user]#
```

Now login to the VM01 with SSH command

VM01 - Private IP

```
[root@ip-192-168-1-242 ec2-user]# ssh -i key1.pem ec2-user@192.168.3.71
The authenticity of host '192.168.3.71 (192.168.3.71)' can't be established.
ECDSA key fingerprint is SHA256:vNXHzGxdG9hnXKPt81TG7PFi3oGidCmI5yaGeoErRUU.
ECDSA key fingerprint is MD5:87:b4:f7:34:91:c3:d2:3d:8a:ef:b0:0e:dd:71:14:58.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '192.168.3.71' (ECDSA) to the list of known hosts.

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https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-192-168-3-71 ~]$
```

VM02 - Private IP

$ ssh -i key1.pem ec2-user@<private ip of the vm02>

Now we have logged in to the VM02 from VM01.