

# HOL 4 – Instant Client (IC) Clonning and SQLplus queries to ATP



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## Configuración Tablas de Rutas en OCI

Lo primero será configurar las tablas de rutas necesarias para habilitar el tráfico entre las diferentes clouds. Vaya a las tablas de rutas de su Virtual Cloud Network (VCN) **atplabnet** y edite la tabla de rutas por defecto “**Default Route Table for atplabnet**”

Añada una nueva regla que conecte esta red con las rutas con de los otros clouds.

Esta es la red que utilizaremos para salir a otros Clouds.

<b>TARGET TYPE</b>	Dynamic Routing Gateway
<b>DESTINATION CIDR</b>	10.10.0.0/16
<b>DESCRIPTION (OPTIONAL)</b>	To other clouds

**Add Route Rules** [Help](#)

**Important:**  
For a route rule that targets a Private IP, you must first enable "Skip Source/Destination Check" on the VNIC that the Private IP is assigned to.

**Route Rule**

**TARGET TYPE**  
Dynamic Routing Gateway

**DESTINATION CIDR BLOCK**  
10.10.0.0/16  
Specify IP addresses: 10.10.0.0-10.10.255.255 (or CIDR IP addresses)

**TARGET DYNAMIC ROUTING GATEWAY**  
**Name:** atplabdrg  
**Compartment:** atplab

**DESCRIPTION - OPTIONAL**  
to other clouds  
Maximum 255 characters

[+ Additional Route Rule](#)

[Add Route Rules](#) [Cancel](#)

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Una vez hecho esto, cree una nueva tabla de rutas para conectar el DRG con el Service Gateway.

Desde el menú de la izquierda seleccionamos **Network** → **VCN**, seleccionamos la VCN **atplabnet** y pulsamos el botón **Create Route Table**:

Resources

Route Tables in atplab Compartment

Create Route Table

Name	State	Number of Rules	Created
routetablefordrg	Available	2	Mon, May 11, 2020, 11:13:18 UTC
Default Route Table for atplabnet	Available	4	Wed, Apr 22, 2020, 07:02:59 UTC

Showing 3 Items < Page 1 >

atplabnet

VCN Information

CIDR Block: 10.10.31.0/24

OCID: ovcia Show Copy

Compartment: atplab

Default Route Table: Default Route Table for atplabnet

DNS Domain Name: atplabnet.oraclecloud.com

Route Tables in atplab Compartment

Create Route Table

Name	State	Number of Rules	Created
routetablefordrg	Available	2	Mon, Ma
Default Route Table for atplabnet	Available	4	Wed, Ap

Creamos la Route Table con los siguientes valores:

- Nombre: **RouteTableDRGtoSG**
- Create In Compartment: **atplab**

Create Route Table

NAME

RouteTableDRGtoSG

CREATE IN COMPARTMENT

atplab

workshop20200505a (root)/atplab

Route Rules

Important: For a route rule that targets a Private IP, you must first enable "Skip Source/Destination Check" on the VNIC that the Private IP is assigned to.

+ Additional Route Rule

Tagging is a metadata system that allows you to organize and track resources within your tenancy. Tags are composed of keys and values that can be attached to resources.

Pulsar botón + **Additional Route Rule**, e informamos los siguientes campos:

- Target Type: **Service Gateway**
- Destination Service: **All FRA Services in Oracle Service Network**
- Compartment: **atplab**
- Target Service Gateway: **atplabsg**



### Route Rules

**Important:** For a route rule that targets a Private IP, you must first enable "Skip Source/Destination Check" on the VNIC that the Private IP is assigned to.

TARGET TYPE

Service Gateway

DESTINATION SERVICE ⓘ

All FRA Services In Oracle Services Network

COMPARTMENT

atplab

workshop20200505a (root)/atplab

TARGET SERVICE GATEWAY

atplabsg

DESCRIPTION OPTIONAL

Maximum 255 characters

+ Additional Route Rule

Pulsamos el botón **Create Route Table**:

### Create Route Table

[Help](#) [Cancel](#)

NAME

RouteTableDRGtoSG

CREATE IN COMPARTMENT

atplab

workshop20200505a (root)/atplab

#### Route Rules

**Important:** For a route rule that targets a Private IP, you must first enable "Skip Source/Destination Check" on the VNIC that the Private IP is assigned to.

TARGET TYPE

Service Gateway

DESTINATION SERVICE ⓘ

All FRA Services In Oracle Services Network

COMPARTMENT

atplab

workshop20200505a (root)/atplab

TARGET SERVICE GATEWAY

atplabsg

DESCRIPTION OPTIONAL

Maximum 255 characters

+ Additional Route Rule

Tagging is a metadata system that allows you to organize and track resources within your tenancy. Tags are composed of keys and values that can be attached to resources.

[Learn more about tagging](#)

TAG NAMESPACE

None (add a free-form tag)

TAG KEY

VALUE

+ Additional Tag

**Create Route Table** [Cancel](#)

Así quedarían las tablas de rutas desde el lado de Oracle



Resources	Route Tables <i>in atplab Compartment</i>			
Subnets (1)	<a href="#">Create Route Table</a>			
<b>Route Tables (3)</b>	Name	State	Number of Rules	Created
Internet Gateways (0)	<a href="#">RouteTableDRGtoSG</a>	Available	1	Mon, May 11, 2020, 15:58:40 UTC
Dynamic Routing Gateways (1)	<a href="#">routeTablefordrg</a>	Available	2	Mon, May 11, 2020, 11:13:18 UTC
Network Security Groups (0)	<a href="#">Default Route Table for atplabnet</a>	Available	4	Wed, Apr 22, 2020, 07:02:59 UTC
Security Lists (1)	Showing 3 Items < Page 1 >			
DHCP Options (1)				

A continuación, desde el menú de la izquierda dentro de la VCN *atplabnet* seleccionamos la opción **Dynamic Routing Gateway**:

Oracle Cloud console showing the 'atplabnet' VCN details. The left sidebar has 'Dynamic Routing Gateways (1)' highlighted with a red box. The main area shows the 'atplabnet' VCN with a green 'AVAILABLE' status. Below, the 'Dynamic Routing Gateways' section shows a table with one entry: 'atplabdrdg' with state 'Attached' and associated route table 'RouteTableDRGtoSG'.

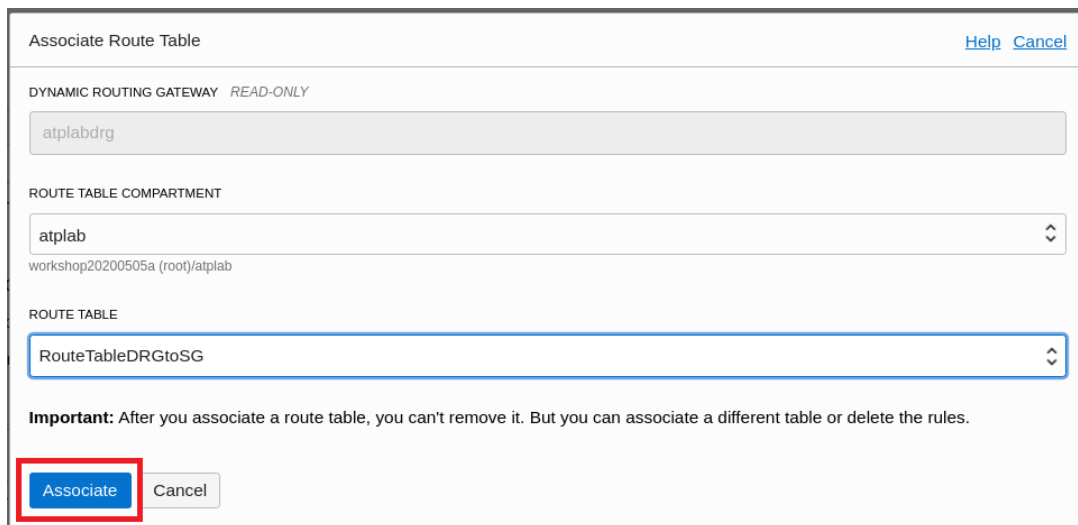
Pulsamos en el link al menú (⋮) del Dynamic Routing Gateway *atplabdrdg*, y seleccionamos la opción **Associate Route Table**:

Service Gateways *in atplab Compartment*

<a href="#">Create Service Gateway</a>				
Name	State	Services	Route Table ⓘ	Created
atplabsg	Available	<a href="#">All FRA Services In Oracle Services Netwo</a>		Mon, Mar 23, 2020
<div> <div>Block Traffic</div> <div>Edit</div> <div><b>Associate Route Table</b></div> <div>Move Resource</div> <div>Copy OCID</div> <div>View Tags</div> <div>Add Tags</div> <div>Terminate</div> </div>				



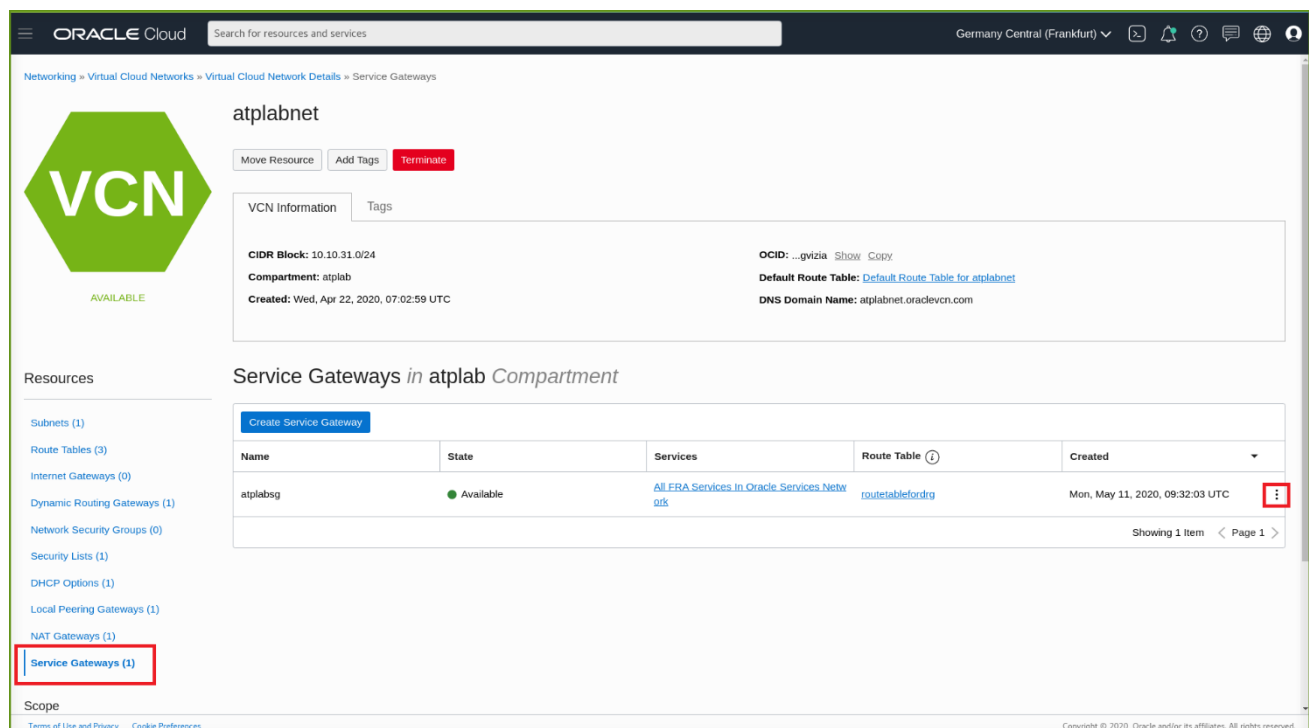
Seleccionamos como Route Table Compartment *atplab*, y como Route Table la *RouteTableDRGtoSG*:



The dialog box titled "Associate Route Table" has a "Help" and "Cancel" link in the top right. It contains three main sections: "DYNAMIC ROUTING GATEWAY" with a dropdown showing "atplabdrdg", "ROUTE TABLE COMPARTMENT" with a dropdown showing "atplab" and the path "workshop20200505a (root)/atplab", and "ROUTE TABLE" with a dropdown showing "RouteTableDRGtoSG". Below these sections is an "Important" note: "After you associate a route table, you can't remove it. But you can associate a different table or delete the rules." At the bottom are "Associate" and "Cancel" buttons, with the "Associate" button highlighted by a red rectangle.

Pulsamos el botón *Associate*.

De la misma forma tenemos que asociar la tabla de rutas *routeablefordrg* al Service Gateway de nuestra VCN. Esto lo haremos seleccionando desde el menú de la izquierda dentro de la VCN *atplabnet* la opción *Service Gateway*:

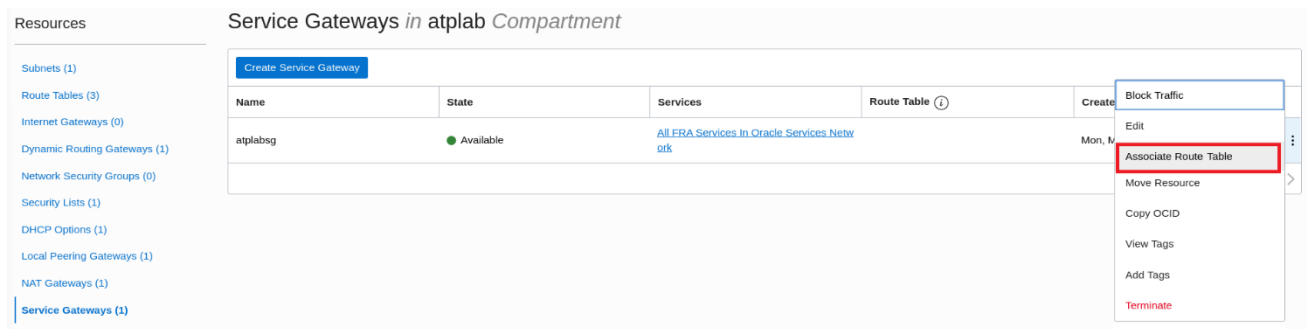


The screenshot shows the Oracle Cloud console for the VCN "atplabnet". The left sidebar has a "Service Gateways (1)" link highlighted with a red rectangle. The main content area shows the "Service Gateways in atplab Compartment" table. The table has columns: Name, State, Services, Route Table, and Created. One row is visible with Name "atplabsg", State "Available", Services "All FRA Services in Oracle Services Netw ork", Route Table "routeablefordrg", and Created "Mon, May 11, 2020, 09:32:03 UTC". A red rectangle highlights the row's details icon.

Name	State	Services	Route Table	Created
atplabsg	Available	<a href="#">All FRA Services in Oracle Services Netw ork</a>	<a href="#">routeablefordrg</a>	Mon, May 11, 2020, 09:32:03 UTC



Pulsamos en el link al menu (⋮) del Service Gateway *atplabsg*, y seleccionamos la opción *Associate Route Table*:



Resources

Service Gateways in atplab Compartment

Create Service Gateway

Name	State	Services	Route Table ⓘ	Create
atplabsg	Available	<a href="#">All FRA Services In Oracle Services Network</a>		Mon, M

Block Traffic

Edit

Associate Route Table

Move Resource

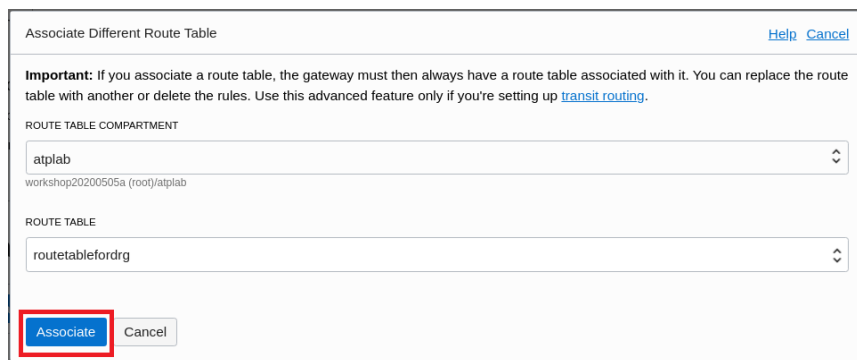
Copy OCID

View Tags

Add Tags

Terminate

Asociamos el Service Gateway a la Route Table *rutetablefordrg*:



Associate Different Route Table [Help](#) [Cancel](#)

**Important:** If you associate a route table, the gateway must then always have a route table associated with it. You can replace the route table with another or delete the rules. Use this advanced feature only if you're setting up [transit routing](#).

ROUTE TABLE COMPARTMENT

atplab  
workshop20200505a (root)/atplab

ROUTE TABLE

rutetablefordrg

Associate Cancel

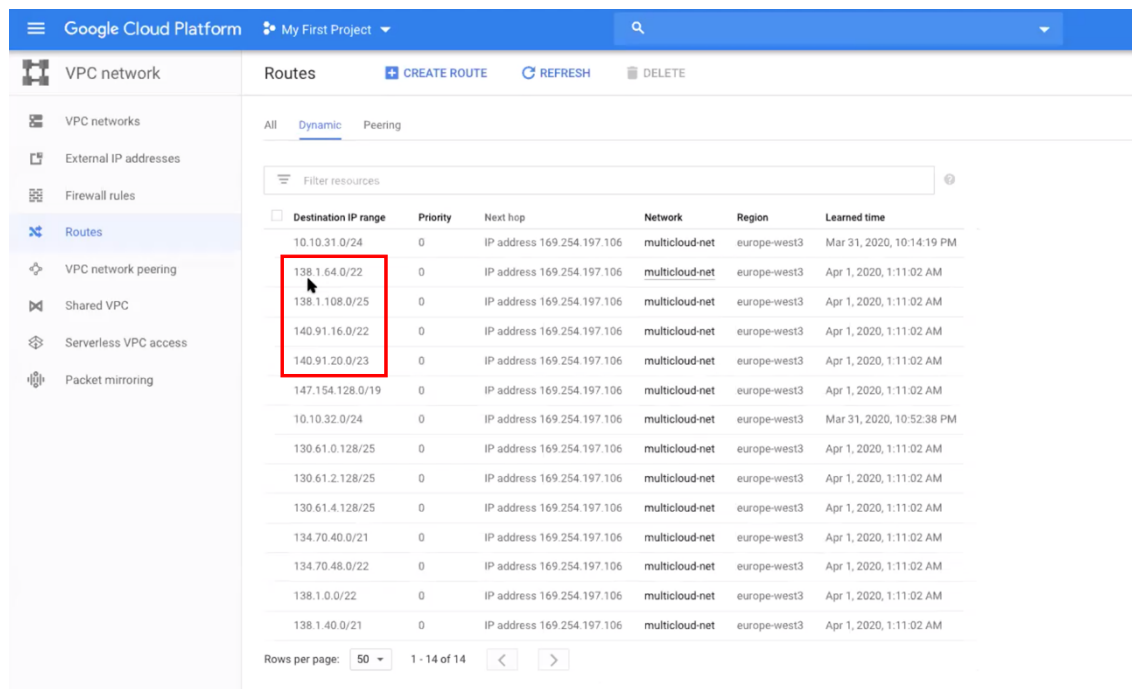
Pulsamos el botón *Associate*.





## Comprobación del estado de las rutas desde todos los clouds

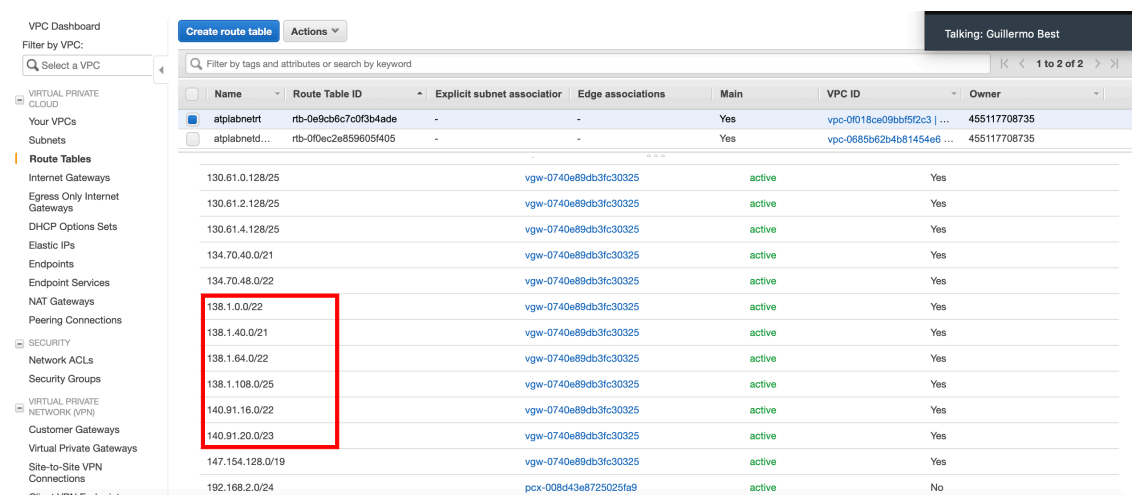
En la **sección de rutas de Google Cloud**, se pueden ver las **rutas que conectan con Oracle Cloud**. Preste atención a las **direcciones que empiezan por 138 y 140**



The screenshot shows the Google Cloud Platform 'Routes' page. The left sidebar lists various VPC network components, with 'Routes' selected. The main area displays a table of routes. A red box highlights four specific routes with destination IP ranges starting with 138 and 140.

Destination IP range	Priority	Next hop	Network	Region	Learned time
10.10.31.0/24	0	IP address 169.254.197.106	multicloud-net	europa-west3	Mar 31, 2020, 10:14:19 PM
138.1.64.0/22	0	IP address 169.254.197.106	multicloud-net	europa-west3	Apr 1, 2020, 1:11:02 AM
138.1.108.0/25	0	IP address 169.254.197.106	multicloud-net	europa-west3	Apr 1, 2020, 1:11:02 AM
140.91.16.0/22	0	IP address 169.254.197.106	multicloud-net	europa-west3	Apr 1, 2020, 1:11:02 AM
140.91.20.0/23	0	IP address 169.254.197.106	multicloud-net	europa-west3	Apr 1, 2020, 1:11:02 AM
147.154.128.0/19	0	IP address 169.254.197.106	multicloud-net	europa-west3	Apr 1, 2020, 1:11:02 AM
10.10.32.0/24	0	IP address 169.254.197.106	multicloud-net	europa-west3	Mar 31, 2020, 10:52:38 PM
130.61.0.128/25	0	IP address 169.254.197.106	multicloud-net	europa-west3	Apr 1, 2020, 1:11:02 AM
130.61.2.128/25	0	IP address 169.254.197.106	multicloud-net	europa-west3	Apr 1, 2020, 1:11:02 AM
130.61.4.128/25	0	IP address 169.254.197.106	multicloud-net	europa-west3	Apr 1, 2020, 1:11:02 AM
134.70.40.0/21	0	IP address 169.254.197.106	multicloud-net	europa-west3	Apr 1, 2020, 1:11:02 AM
134.70.48.0/22	0	IP address 169.254.197.106	multicloud-net	europa-west3	Apr 1, 2020, 1:11:02 AM
138.1.0.0/22	0	IP address 169.254.197.106	multicloud-net	europa-west3	Apr 1, 2020, 1:11:02 AM
138.1.40.0/21	0	IP address 169.254.197.106	multicloud-net	europa-west3	Apr 1, 2020, 1:11:02 AM

Desde la nube de **AWS** dentro de las **tablas de rutas**, compruebe que las rutas que conectan con Oracle están también **activas y en verde**.



The screenshot shows the AWS VPC Dashboard 'Route Tables' page. The left sidebar lists various VPC components, with 'Route Tables' selected. The main area displays a table of route tables. A red box highlights five specific route tables with destination IP ranges starting with 138 and 140, all of which are marked as 'active' in green.


Name	Route Table ID	Explicit subnet association	Edge associations	Main	VPC ID	Owner
atplabneit	rtb-0e9cb6c7c0f3b4ade	-	-	Yes	vpc-0f018ca09bbf5f2c3   ...	455117708735
atplabneid...	rtb-0f0ec2e859605405	-	-	Yes	vpc-0685b62b4b81454e6   ...	455117708735
130.61.0.128/25			vgw-0740e89db3fc30325	active		Yes
130.61.2.128/25			vgw-0740e89db3fc30325	active		Yes
130.61.4.128/25			vgw-0740e89db3fc30325	active		Yes
134.70.40.0/21			vgw-0740e89db3fc30325	active		Yes
134.70.48.0/22			vgw-0740e89db3fc30325	active		Yes
138.1.0.0/22			vgw-0740e89db3fc30325	active		Yes
138.1.40.0/21			vgw-0740e89db3fc30325	active		Yes
138.1.64.0/22			vgw-0740e89db3fc30325	active		Yes
138.1.108.0/25			vgw-0740e89db3fc30325	active		Yes
140.91.16.0/22			vgw-0740e89db3fc30325	active		Yes
140.91.20.0/23			vgw-0740e89db3fc30325	active		Yes
147.154.128.0/19			vgw-0740e89db3fc30325	active		Yes
192.168.2.0/24			pcx-008d43e8725025fa9	active		No



## Conectar a ATP a través de un cliente Oracle desde cualquier cloud

Antes de comenzar, en la **consola de ATP** presione **Scale Up/Down** y ponga las OCPU un valor de 1

Autonomous Database » Autonomous Database Details



AVAILABLE

### atplabpub

DB Connection Performance Hub **Service Console** **Scale Up/Down** More Actions

Autonomous Database Information Tools Tags

#### General Information

**Database Name:** atplabpub  
**Workload Type:** Transaction Processing  
**Compartment:** workshop20200505a (root)/atplab  
**OCID:** ...6wdzqq [Show](#) [Copy](#)

#### Scale Up/Down

[Help](#) [Cancel](#)

**OCPU count**

1

The number of OCPU cores to enable. Available cores are subject to your tenancy's service limits.

**Storage (TB)**

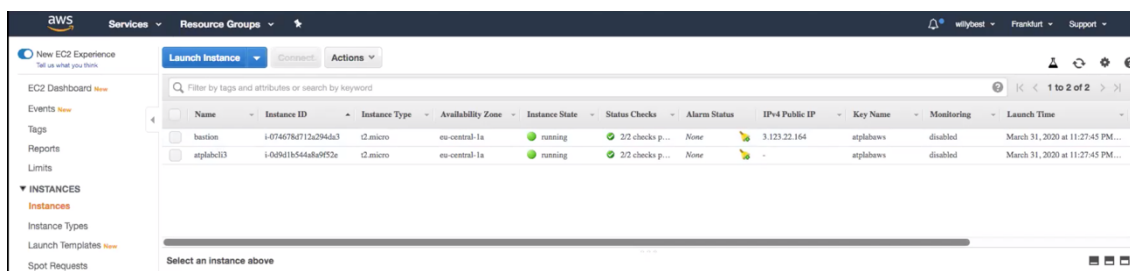
1

The amount of storage to allocate.

☐ **Auto Scaling**  
Enabling auto scaling allows Oracle to use up to three times the number of OCPU's for processing workload if required. [Learn more.](#)

**Update** Cancel

Una vez hecho esto, **compruebe las maquinas virtuales** que estarán conectadas dentro de la red de Amazon que conecta al ATP. En primer lugar, la maquina bastión es la que tiene una IP publica, y a través de esta máquina, conectaremos a la máquina que contiene el cliente de Oracle y esta en la red interna que conecta con los demás Clouds.



Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	IPv4 Public IP	Key Name	Monitoring	Launch Time
bastion	i-074678f712c94dc3	t2.micro	eu-central-1a	running	2/2 checks p...	None	3.123.22.164	atplabaws	disabled	March 31, 2020 at 11:27:45 PM...
atplabcl3	i-049d1b544a8a952e	t2.micro	eu-central-1a	running	2/2 checks p...	None	-	atplabaws	disabled	March 31, 2020 at 11:27:45 PM...

De la misma manera en el **Cloud de Google**



Name	Zone	Recommendation	In use by	Internal IP	External IP	Connect
atplabcli2	eu-west-3-c			10.10.30.3 (nic0)	None	SSH
bastion	eu-west-3-c			192.168.0.2 (nic0)	35.246.153.247	SSH

## Y en el Cloud de Oracle

Name	Status	Public IP	Shape	Availability Domain	Fault Domain	Created
atplabcli1	Running	-	VM.Standard2.1	AD-2	FD-1	Mon, Mar 23, 2020, 17:22:22 UTC
bastion	Running	130.61.119.157	VM.Standard2.1	AD-2	FD-2	Mon, Mar 23, 2020, 17:15:46 UTC

## Conectar desde clientes en los clouds de Amazon y Google

Los pasos a realizar desde el **Cloud de Amazon** son los siguientes:

Conecte desde su máquina a la máquina bastion2 de Amazon, y desde ahí a la maquina cliente atplabcli2 mediante ssh.

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	IPv4 Public IP
bastion2	i-04e1d52bfc384cc44	t2.micro	eu-central-1a	running	2/2 checks p...	None	18.195.124.82
atplabcli2	i-0ad5e1f8ffcd0bd74	t2.micro	eu-central-1a	running	2/2 checks p...	None	

```
ssh -i atplab_aws.pem ec2-user@<ip_bastion2>
```

Copie la **clave de acceso** ssh de la maquina atplabcli1 en OCI a la máquina bastion2, para poder acceder a la máquina atplabcli2

```
$ mkdir .ssh
$ vi .ssh/atplab_aws.pem
<copie la clave en esta sesion de vi>
$ chmod 600 .ssh/atplab_aws.pem
```

Copie su clave privada ssh. Puede encontrarla entre las claves que se dan para este workshop.

```
$ mkdir .ssh
$ vi .ssh/atplab_rsa
<copie la clave en esta sesion de vi>
$ chmod 600 .ssh/atplab_rsa
```

Una vez ahí, ejecute los siguientes comandos **SCP** para importar tanto el directorio con el cliente Oracle como las variables de entorno desde la instancia atplabcli1:



Oracle Cloud

Search for resources and services

Compute » Instances » Instance Details

atplabcli1

Start Stop Reboot Change Shape More Actions

Instance Information Tags

General Information

Availability Domain: AD-1  
Fault Domain: FD-3  
Region: eu-frankfurt-1  
OCID: ...6pmpq [Show](#) [Copy](#)  
Launched: Wed, Apr 22, 2020, 07:03:02 UTC  
Compartment: workshop20200505a (root)/atplab  
Oracle Cloud Agent Management: Enabled

Instance Access

The instance requires a public IP or a reserved public IP to be accessible from the Internet.

Public IP Address: -  
Username: opc

Primary VNIC

Private IP Address: 10.10.31.4

```
$ scp -r -i .ssh/atplab_rsa opc@<ip_atplabcli1>:/home/opc/instantclient_19_6 .
$ scp -r -i .ssh/atplab_rsa opc@<ip_atplabcli1>:/home/opc/.bash_profile .
```

A continuación, cargue el entorno:

```
$ . .bash_profile
```

Ya puede conectar con sqlplus a ATP desde atplabcli2:

```
$ sqlplus hr/hr@atplabpub_medium
```

A continuación cree la tabla lineorder (si no la ha creado en el Lab 0)

```
sql> create table lineorder as
select * from ssb.lineorder
where to_char(lo_orderdate, 'YYYY') = '1994';
```

Ya puede ejecutar una consulta contra ATP desde el cloud de Amazon.

```
select /*AWS*/ sum(lo_extendedprice*lo_discount) as revenue
from lineorder, ssb.dwdate
where lo_orderdate = d_datekey
and d_weeknuminyear = 6
and d_year = 1994
and lo_discount between 5 and 7
and lo_quantity between 26 and 35;
```

Para acceder desde **Google**, se puede acceder directamente a la máquina cliente atplabcli3 pulsando en el **botón SSH** en la consola de GCP.



Compute Engine

VM instances

CREATE INSTANCE

IMPORT VM

REFRESH

START

STOP

RESET

VM instances

Instance groups

Instance templates

Sole-tenant nodes

Filter VM instances

Columns

<input type="checkbox"/> Name ^	Zone	Recommendation	In use by	Internal IP	External IP	Connect
<input type="checkbox"/> atplabcli3	europa-west3-c			10.10.33.2 (nic0)	None	SSH
<input type="checkbox"/> bastion3	europa-west3-c			192.168.3.2 (nic0)	35.234.100.166	SSH

En primer lugar copie su clave privada ssh. Puede encontrarla en su maquina OCI, o entre las claves que se dan para este workshop.

```
$ mkdir .ssh
$ vi .ssh/atplab_rsa
<copie la clave en esta sesion de vi>
$ chmod 600 .ssh/atplab_rsa
```

Una vez ahí, ejecute los siguientes comandos **SCP** para importar tanto el directorio con el cliente Oracle como las variables de entorno desde la instancia atplabcli1:

ORACLE Cloud

Search for resources and services

Compute > Instances > Instance Details

atplabcli1

Start

Stop

Reboot

Change Shape

More Actions

Instance Information

Tags

General Information

Availability Domain: AD-1

Fault Domain: FD-3

Region: eu-frankfurt-1

OCID: ...6pmpq [Show](#) [Copy](#)

Launched: Wed, Apr 22, 2020, 07:03:02 UTC

Compartment: workshop20200505a (root)/atplab

Oracle Cloud Agent Management: Enabled

Instance Access

The instance requires a public IP a [public IP](#) or a [reserved public IP](#) to

Public IP Address: -

Username: opc

Primary VNIC

Private IP Address: 10.10.31.4

```
$ scp -r -i .ssh/atplab_rsa opc@<ip_atplabcli1>:/home/opc/instantclient_19_6 .
$ scp -r -i .ssh/atplab_rsa opc@<ip_atplabcli1>:/home/opc/.bash_profile .
```

A continuación, cargue el entorno:

```
$ . .bash_profile
```

Ya puede conectar con sqlplus a ATP desde atplabcli3:

```
$ sqlplus hr/hr@atplabpub_medium
```

A continuación, cree la tabla lineorder (si no la ha creado antes en este Lab o en el Lab 0)

```
sql> create table lineorder as
select * from ssb.lineorder
where to_char(lo_orderdate,'YYYY') = '1994';
```

Ya puede ejecutar una consulta contra ATP desde el cloud de Google.



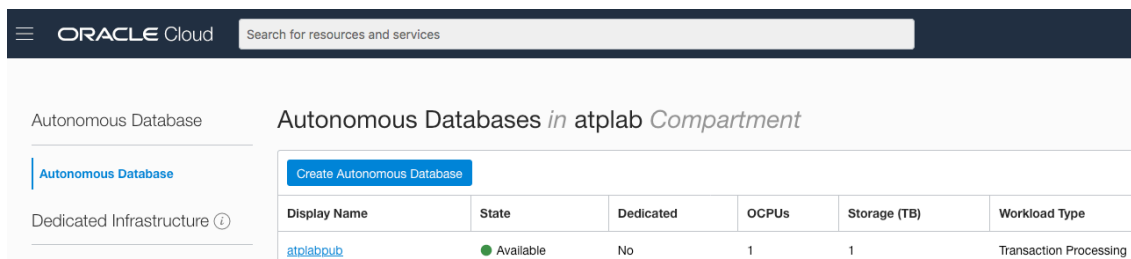
```
select /*GCP*/ sum(lo_extendedprice*lo_discount) as revenue
from lineorder, ssb.dwddate
where lo_orderdate = d_datekey
and d_weeknuminyear = 6
and d_year = 1994
and lo_discount between 5 and 7
and lo_quantity between 26 and 35;
```

Del mismo modo, también tendrá que ejecutar una consulta contra ATP desde atplabcli1 en el cloud de Oracle.

```
select /*OCI*/ sum(lo_extendedprice*lo_discount) as revenue
from lineorder, ssb.dwddate
where lo_orderdate = d_datekey
and d_weeknuminyear = 6
and d_year = 1994
and lo_discount between 5 and 7
and lo_quantity between 26 and 35;
```

Ahora ejecute (Enter) las 3 sentencias que ha preparado en atplabcli1, atplabcli2 y atplabcli3, todas casi al mismo tiempo (para que haya concurrencia).

Vaya a la consola de ATP en el navegador:



Autonomous Database

Autonomous Databases in atplab *Compartment*


Create Autonomous Database

Display Name	State	Dedicated	OCPU	Storage (TB)	Workload Type
<a href="#">atolabpub</a>	Available	No	1	1	Transaction Processing

Entre en la instancia atplabpub



Autonomous Database » Autonomous Database Details



AVAILABLE

## atplabpub

DB Connection
**Performance Hub**
Service Console
Scale Up/Down
More Actions ▼

Autonomous Database Information
Tools
Tags

### General Information

**Database Name:** atplabpub  
**Workload Type:** Transaction Processing  
**Compartment:** workshop20200505a (root)/atplab  
**OCID:** ...6wdzqq [Show](#) [Copy](#)  
**Created:** Tue, May 5, 2020, 09:54:01 UTC  
**OCPU Count:** 1  
**Storage:** 1 TB  
**License Type:** Bring Your Own License (BYOL)  
**Database Version:** 19c  
**Auto Scaling:** Disabled ⓘ  
**Lifecycle State:** Available  
**Instance Type:** Paid

Pulse el botón **Performance Hub** y luego pulse en **SQL Monitoring** más abajo en la parte de debajo de la pantalla.

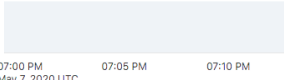
### Performance Hub

atplabpub

Time Range ⓘ

Active Sessions in **Last Hour** ▼

May 7, 2020 6:58:44 PM - 7:58:44 PM UTC



07:00 PM 07:05 PM 07:10 PM  
May 7, 2020 UTC

ASH Analytics
**SQL Monitoring**
Workload

Verá las consultas ejecutadas una a una con los tiempos de Duración y tiempos de Base de Datos correspondientes a cada una de ellas:

✓	13.00s	2	1k0m20cctb8ty	3002741515	HR@QLZLWMQRWSRRIKD_ATPLABPUB	13.30s	105K	select /*GCP*/ sum(io_extended...
✓	13.00s	2	44z8schf9azmyh	3002741515	HR@QLZLWMQRWSRRIKD_ATPLABPUB	13.22s	105K	select /*OCI*/ sum(io_extended...
✓	13.00s	2	f77zujbdk1f8c	3002741515	HR@QLZLWMQRWSRRIKD_ATPLABPUB	13.25s	105K	select /*AWS*/ sum(io_extended...

Vuelva a ejecutarlas con el comando “r” en cada cliente atplabcliN al mismo tiempo y verá los nuevos tiempos con concurrencia luego de dar al botón **Refresh** arriba a la derecha en la pantalla del Performance Hub:



Status	Duration	Inst ID	SQL ID	SQL Plan Hash	User Name	Parallel	Database Time	I/O Requests	SQL Text
✓	37.00s	2	44z8sqHqazmyh	3002741515	HR@QLZLWMQRW5RRKD_ATPLABPUB		36.84s	105K	select /*OCI*/ sum(io_extended...
✓	34.00s	2	f77ujhskf16c	3002741515	HR@QLZLWMQRW5RRKD_ATPLABPUB		34.80s	105K	select /*AWS*/ sum(io_extended...
✓	37.00s	2	1k0m20cctb8y	3002741515	HR@QLZLWMQRW5RRKD_ATPLABPUB		37.41s	105K	select /*GCP*/ sum(io_extended...

Observe que en ambos casos, **sin Parallel**, puesto que la instancia de ATP sólo tiene 1 OCPU aumentan considerablemente.

Cierre esta ventana con el botón abajo a la izquierda. De regreso en la consola de ATP presione **Scale Up/Down** y **aumente las OCPU a 3**

Autonomous Database » Autonomous Database Details

## atplabpub

DB Connection Performance Hub Service Console **Scale Up/Down** More Actions ▼

Autonomous Database Information Tools Tags

### General Information

**Database Name:** atplabpub  
**Workload Type:** Transaction Processing  
**Compartment:** workshop20200505a (root)/atplab  
**OCID:** ...6wdzqq [Show](#) [Copy](#)  
**Created:** Tue, May 5, 2020, 09:54:01 UTC  
**OCPU Count:** 1  
**Storage:** 1 TB  
**License Type:** Bring Your Own License (BYOL)  
**Database Version:** 19c  
**Auto Scaling:** Disabled ⓘ  
**Lifecycle State:** Available  
**Instance Type:** Paid

Scale Up/Down [Help](#) [Cancel](#)

**OCPU count** 3 **Storage (TB)** 1

The number of OCPU cores to enable. Available cores are subject to your tenancy's service limits. The amount of storage to allocate.

☐ **Auto Scaling**  
 Enabling auto scaling allows Oracle to use up to three times the number of OCPU's for processing workload if required. [Learn more.](#)


Update Cancel

Cuando esté listo vuelva a ejecutar las sentencias SQL desde los clientes con el comando “r”. Aunque puede ejecutar las sentencias mientras está escalando las OCPU, no hay problema, sólo tendrá que repetirlas cuando haya terminado para tomar tiempo limpios.





Autonomous Database » Autonomous Database Details



AVAILABLE

## atplabpub

DB Connection Performance Hub Service Console Scale Up/Down More Actions

Autonomous Database Information Tools Tags

### General Information

**Database Name:** atplabpub  
**Workload Type:** Transaction Processing  
**Compartment:** workshop20200505a (root)/atplab  
**OCID:** ...6wdzqq [Show](#) [Copy](#)  
**Created:** Tue, May 5, 2020, 09:54:01 UTC  
**OCPU Count:** 3  
**Storage:** 1 TB  
**License Type:** Bring Your Own License (BYOL)  
**Database Version:** 19c  
**Auto Scaling:** Disabled ⓘ  
**Lifecycle State:** Available  
**Instance Type:** Paid

Ahora que las OCPU son 3, vuelva a entrar al **Performance Hub** y ejecute las sentencias todas juntas una vez más.

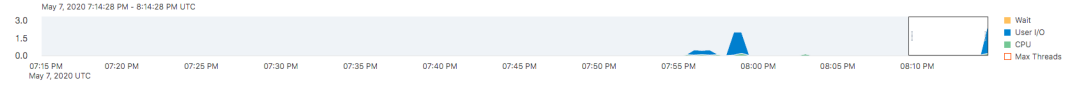
Performance Hub

atplabpub [Refresh](#)

Time Range ⓘ

Active Sessions in **Last Hour**

May 7, 2020 7:14:28 PM - 8:14:28 PM UTC



ASH Analytics **SQL Monitoring** Workload

Top 100 by **Last Active Time** [Filter by Status, SQL ID or User Name](#)

Status	Duration	Inst ID	SQL ID	SQL Plan Hash	User Name	Parallel	Database Time	I/O Requests	SQL Text
✓	8.00s	2	<a href="#">1x0m20c0th8v</a>	3313491567	HR@QLZLWMQWRWRRKID_ATPLABPUB	3	24.27s	105K	select /*GCP*/ sum(lo_extended...
✓	10.00s	2	<a href="#">f77zujhdkf16c</a>	3313491567	HR@QLZLWMQWRWRRKID_ATPLABPUB	3	30.03s	105K	select /*AWS*/ sum(lo_extended...
✓	8.00s	2	<a href="#">44x8sohfoqmyh</a>	3313491567	HR@QLZLWMQWRWRRKID_ATPLABPUB	3	23.60s	105K	select /*OCI*/ sum(lo_extended...

Observe que ahora el Parallel es 3 en cada sentencia y que el tiempo es 1/3 del anterior y aún menor que los tiempos iniciales para cada una.

Esto demuestra una escalabilidad casi lineal y una capacidad elástica sin costes adicionales. Pregunte a su instructor si tiene dudas para que se lo explique.

Vuelva a poner la OCPU en 1 y aquí **termina el HOL4**.

