

Conectar clientes Oracle desde cualquier cloud a Autonomous Transaction Processing a través de Equinix



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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.

TARGET TYPE	Dynamic Routing Gateway
DESTINATION CIDR	10.10.0.0/16
DESCRIPTION (OPTIONAL)	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

TARGET DYNAMIC ROUTING GATEWAY
Name: atplabdr
Compartment: atplab

DESCRIPTION (OPTIONAL)
to other clouds

+ 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

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
Compartment: atplab
Created: Wed, Apr 22, 2020, 07:02:59 UTC

OCID: :gvzia Show Copy
Default Route Table: [Default Route Table for atplabnet](#)
DNS Domain Name: atplabnet.oraclecloud.com

Resources

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

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)	Create Route Table			
Route Tables (3)				
Internet Gateways (0)				
Dynamic Routing Gateways (1)				
Network Security Groups (0)				
Security Lists (1)				
DHCP Options (1)				

Name	State	Number of Rules	Created
RouteTableDRGtoSG	● Available	1	Mon, May 11, 2020, 15:58:40 UTC
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 >

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 shows 'Dynamic Routing Gateways (1)' selected. The main area shows the 'atplabnet' VCN with a 'Dynamic Routing Gateways' section containing a table with one entry: 'atplabdrdg' with state 'Attached' and route table 'RouteTableDRGtoSG'.

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

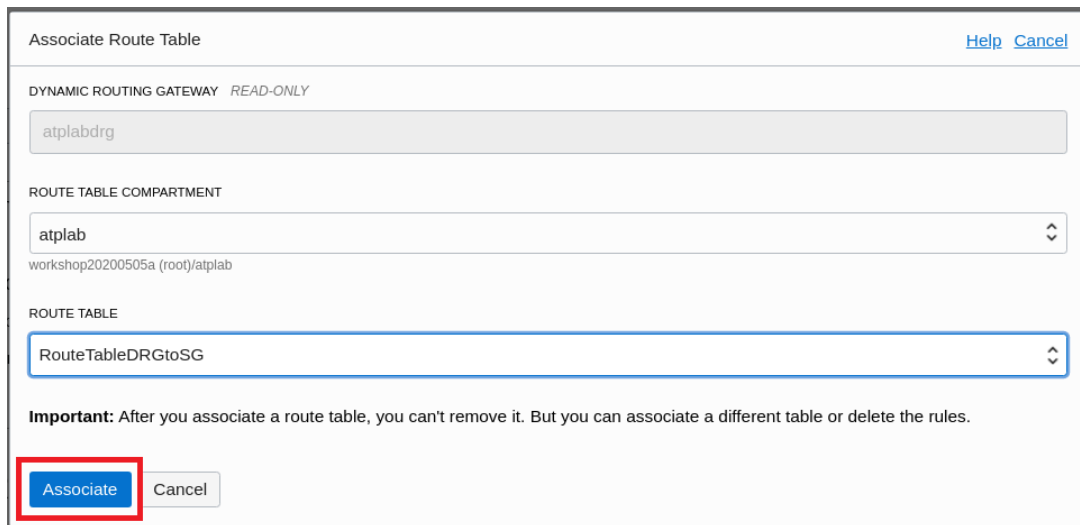
Dynamic Routing Gateways

Attach Dynamic Routing Gateway				
Name	State	Compartment	Route Table ⓘ	Created
atplabdrdg	● Attached	DevOps		Wed, C

View Details
Associate Route Table
Copy OCID
Detach



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



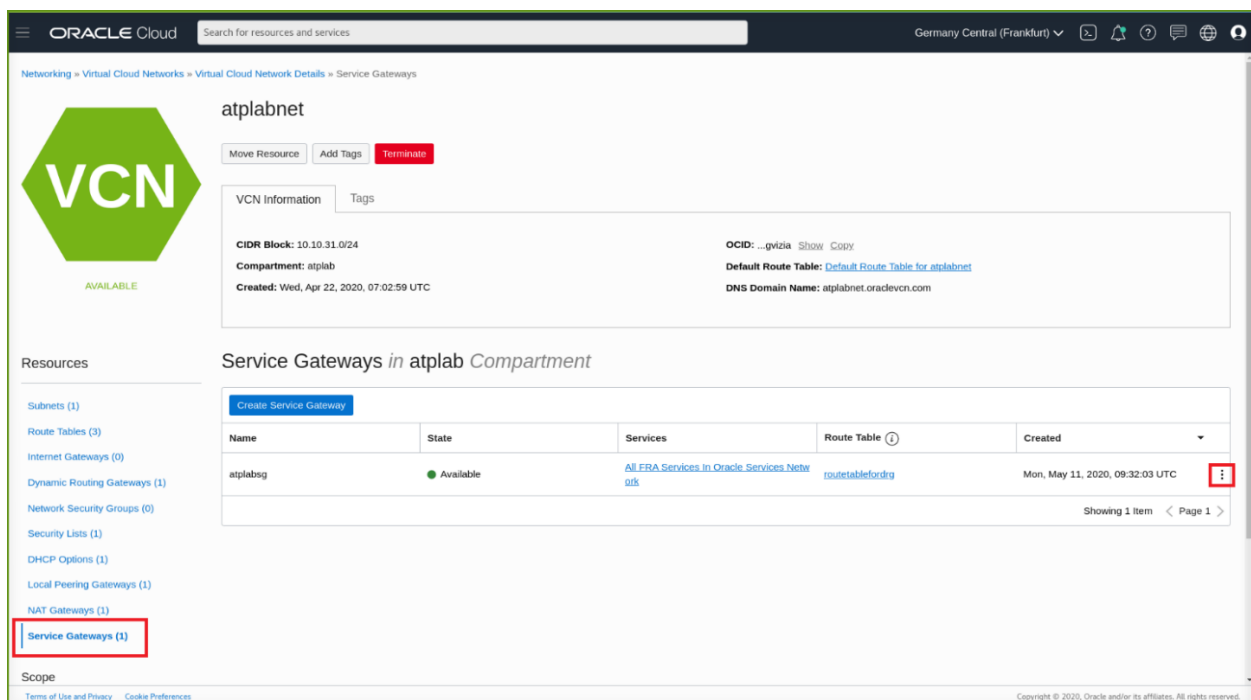
The dialog box titled "Associate Route Table" contains the following fields:

- DYNAMIC ROUTING GATEWAY** (READ-ONLY): atplabdrg
- ROUTE TABLE COMPARTMENT**: atplab (with a dropdown arrow and the text "workshop20200505a (root)/atplab" below it)
- ROUTE TABLE**: RouteTableDRGtoSG (with a dropdown arrow)

Below the fields, there 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, there are two buttons: **Associate** (highlighted with a red box) and **Cancel**.

Pulsamos el botón **Associate**.

De la misma forma tenemos que asociar la tabla de rutas **routetablefordrg** 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 shows the navigation menu with **Service Gateways (1)** highlighted. The main content area shows the VCN details and a table of Service Gateways.

VCN Information

- CIDR Block: 10.10.31.0/24
- Compartment: atplab
- Created: Wed, Apr 22, 2020, 07:02:59 UTC
- OCID: ...gv42ia
- Default Route Table: Default Route Table for atplabnet
- DNS Domain Name: atplabnet.oraclecloud.com

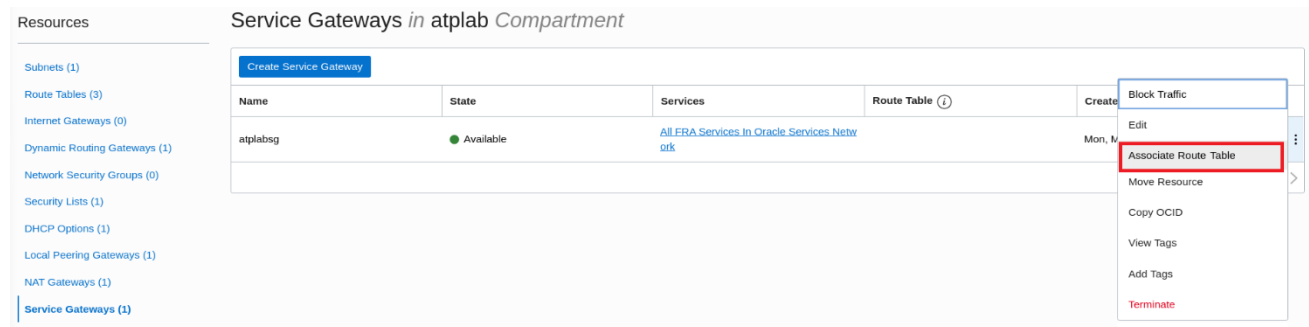
Service Gateways in atplab Compartment

Name	State	Services	Route Table	Created
atplabsg	Available	All FRA Services in Oracle Services Network	routetablefordrg	Mon, May 11, 2020, 09:32:03 UTC

The table shows one Service Gateway, **atplabsg**, which is **Available** and associated with the **routetablefordrg** Route Table. A red box highlights the three-dot menu icon in the **Created** column of the first row.



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



Resources

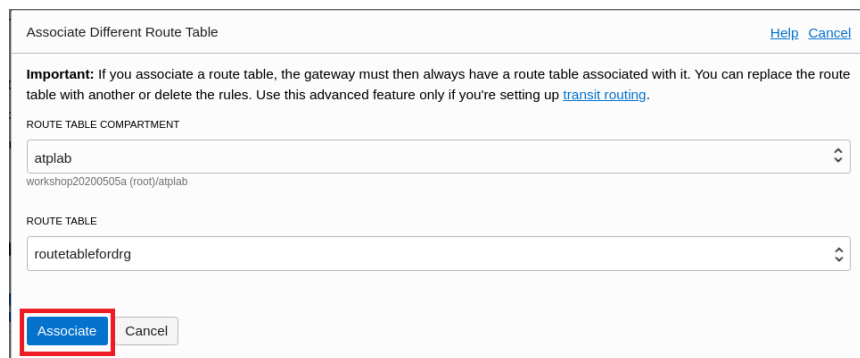
Service Gateways in atplab Compartment

Create Service Gateway

Name	State	Services	Route Table ⓘ	Create
atplabsg	Available	All FRA Services In Oracle Services Netw ork		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 *routetablefordrg*:



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

routetablefordrg

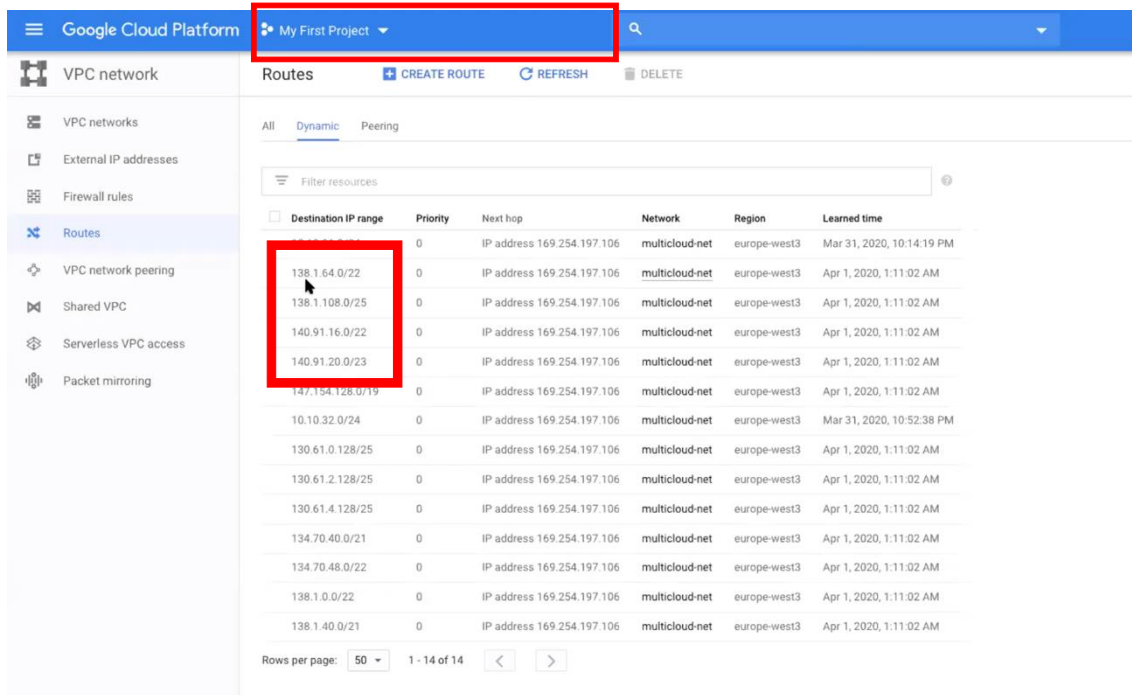
[Associate](#) [Cancel](#)

Pulsamos el botón **Associate**.



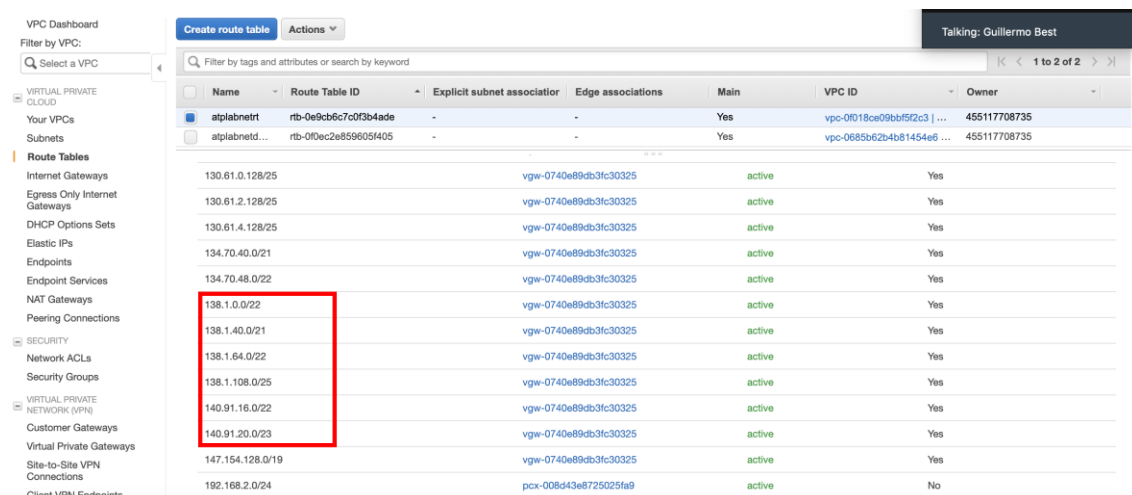
Comprobación del estado de las rutas desde todos los clouds

Compruebe que está en su proyecto asignado dentro de GCP, antes de continuar con las pruebas. 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**



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




Name	Route Table ID	Explicit subnet association	Edge associations	Main	VPC ID	Owner
atplabnetrt	rtb-0e9cb6c7c0f3b4ade	-	-	Yes	vpc-0f018ce09bbf592c3 ...	455117708735
atplabnetd...	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**. Si ya creó su ATP con valor 1 no hace falta hacer Scale Down.

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

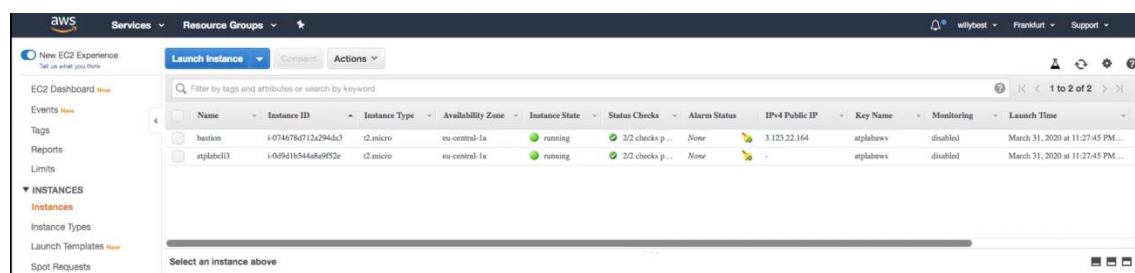
The amount of storage to allocate.

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

Update Cancel

Una vez hecho esto, **compruebe las máquinas virtuales** que estarán conectadas dentro de la red de Amazon que conecta al ATP. En primer lugar, la máquina bastión es la que tiene una IP pública, y a través de esta máquina, conectaremos a la máquina que contiene el cliente de Oracle y está en la red interna que conecta con los demás Clouds. Verifique que todas las máquinas están arrancadas y si no lo están por favor arránquelas (normalmente mediante el menú contextual y comando start).

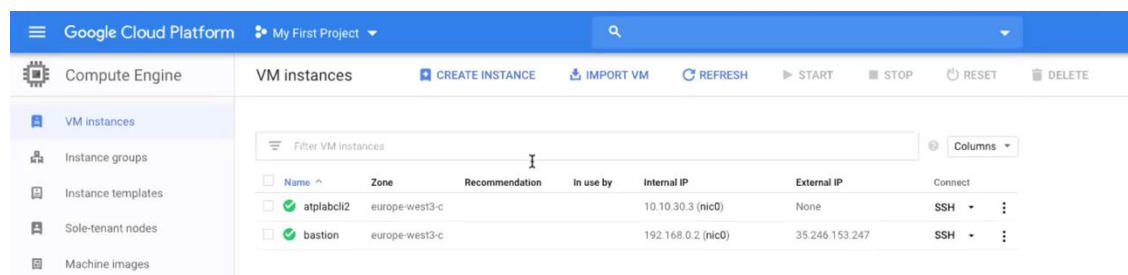
AWS cloud instances:



Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	IP-v4 Public IP	Key Name	Monitoring	Launch Time
bastion	i-074678d712a294da3	t2.micro	eu-central-1a	running	3/2 checks p...	None	3.123.22.164	atplabaws	disabled	March 31, 2020 at 11:27:45 PM...
atplabcl3	i-0a9d1b544a8a9f52e	t2.micro	eu-central-1a	running	3/2 checks p...	None	-	atplabaws	disabled	March 31, 2020 at 11:27:45 PM...



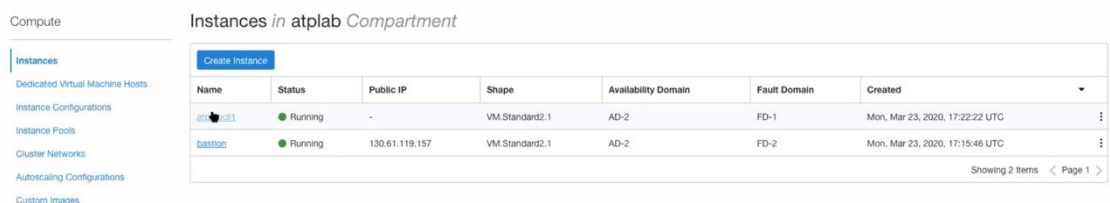
De la misma manera en el **Cloud de Google**



The screenshot shows the Google Cloud Platform interface for VM instances. The left sidebar lists 'VM instances' as the selected option. The main area displays a table of VM instances with columns: Name, Zone, Recommendation, In use by, Internal IP, External IP, and Connect. Two instances are listed: 'atplabcli2' and 'bastion', both in the 'europe-west3-c' zone and running on 'VM.Standard2.1' hardware. The 'atplabcli2' instance has an internal IP of 10.10.30.3 and no external IP. The 'bastion' instance has an internal IP of 192.168.0.2 and an external IP of 35.246.153.247. Both instances have an SSH connection option available.

Name	Zone	Recommendation	In use by	Internal IP	External IP	Connect
atplabcli2	europe-west3-c			10.10.30.3 (nic0)	None	SSH
bastion	europe-west3-c			192.168.0.2 (nic0)	35.246.153.247	SSH

Y en el Cloud de Oracle



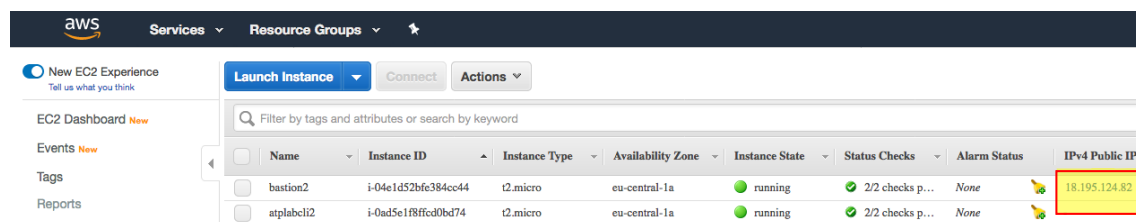
The screenshot shows the Oracle Cloud 'Instances' page. The left sidebar lists 'Instances' as the selected option. The main area displays a table of instances with columns: Name, Status, Public IP, Shape, Availability Domain, Fault Domain, and Created. Two instances are listed: 'atplabcli2' and 'bastion', both in the 'AD-2' availability domain and running on 'VM.Standard2.1' hardware. The 'atplabcli2' instance has a public IP of 130.61.119.157. The 'bastion' instance has a public IP of 130.61.119.157. Both instances have a 'Running' status. The 'Created' column shows the creation time for both instances as 'Mon, Mar 23, 2020, 17:22:22 UTC'.

Name	Status	Public IP	Shape	Availability Domain	Fault Domain	Created
atplabcli2	Running	130.61.119.157	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 **Amazon AWS** son los siguientes:

Conecte desde su máquina a la máquina bastion2 de AWS, y desde ahí a la maquina cliente atplabcli2 mediante ssh. Para ello siga estos pasos.



The screenshot shows the Amazon AWS 'EC2 Dashboard' page. The left sidebar lists 'EC2 Dashboard' as the selected option. The main area displays a table of EC2 instances with columns: Name, Instance ID, Instance Type, Availability Zone, Instance State, Status Checks, Alarm Status, and IPv4 Public IP. Two instances are listed: 'bastion2' and 'atplabcli2', both in the 'eu-central-1a' availability zone and running on 't2.micro' hardware. The 'bastion2' instance has an instance ID of 'i-04e1d52bfc384cc44' and a public IP of 18.195.124.82. The 'atplabcli2' instance has an instance ID of 'i-0ad5e1f8ffcd0bd74' and a public IP of 18.195.124.82. Both instances have a 'running' state and '2/2 checks passed' status.

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 passed	None	18.195.124.82
atplabcli2	i-0ad5e1f8ffcd0bd74	t2.micro	eu-central-1a	running	2/2 checks passed	None	18.195.124.82

Use la clave atplab_aws.pem que puede encontrar entre las claves que se dan para este workshop.

```
ssh -i atplab_aws.pem ec2-user@<ip_publica_bastion2>
```

Copie la misma clave ssh **privada** aws **atplab_aws.pem**, para poder acceder a la máquina **atplabcli2** a través del **bastion2**.

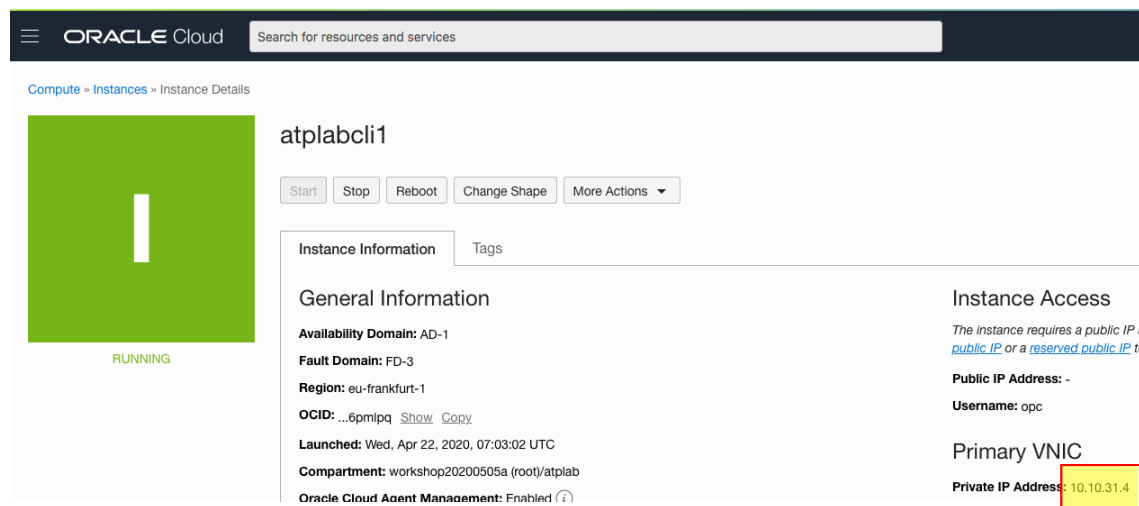
```
$ mkdir .ssh
$ vi .ssh/atplab_aws.pem
<copie la clave en esta sesion de vi>
$ chmod 600 .ssh/atplab_aws.pem
$ ssh -i .ssh/atplab_aws.pem ec2-user@<ip_privada_atplabcli2>
```



Una vez en la máquina **atplabcli2**, copie la clave privada ssh **atplab_rsa**, para poder acceder a la máquina **atplabcli1** que está en OCI.

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

Una vez que tiene la clave privada de acceso a **atplabcli1**, ejecute los siguientes comandos **SCP** desde **atplabcli2**, para importar tanto el directorio con el cliente Oracle como las variables de entorno desde la instancia de OCI:



```
$ 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)

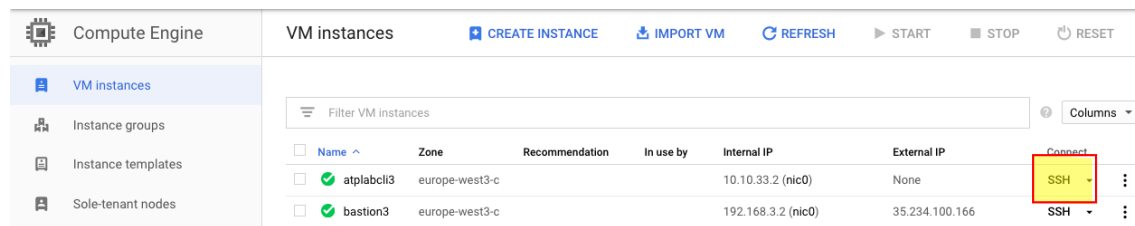
```
sql> create table lineorder as
select * from ssb.lineorder
where to_char(lo_orderdate,'YYYY') = '1994';
```

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

```
select /*AWS*/ sum(lo_extendedprice*lo_discount) as revenue
from lineorder, ssb.dwdte
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.

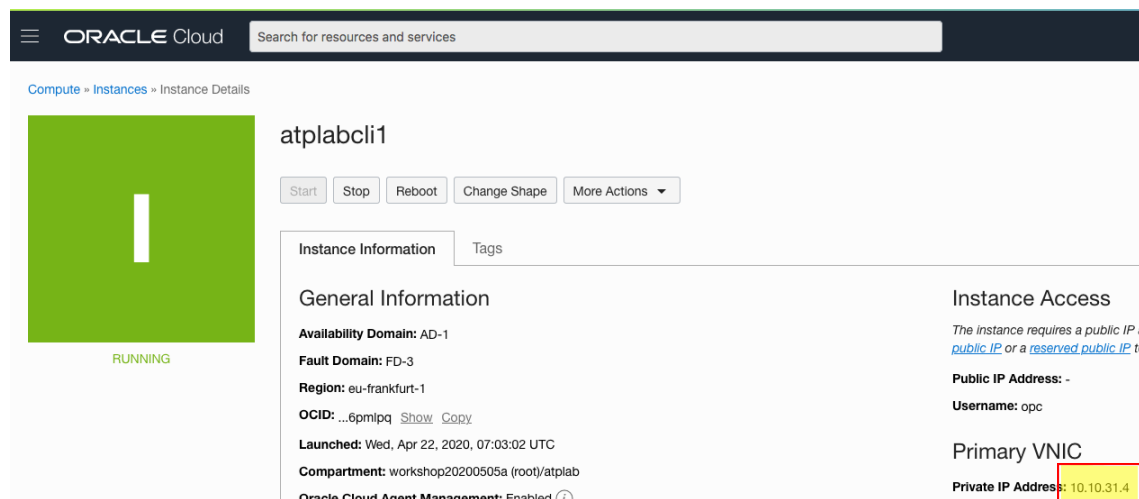


Name	Zone	Recommendation	In use by	Internal IP	External IP	Connect
atplabcli3	europe-west3-c			10.10.33.2 (nic0)	None	SSH
bastion3	europe-west3-c			192.168.3.2 (nic0)	35.234.100.166	SSH

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:



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: ...6pmipq [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 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.

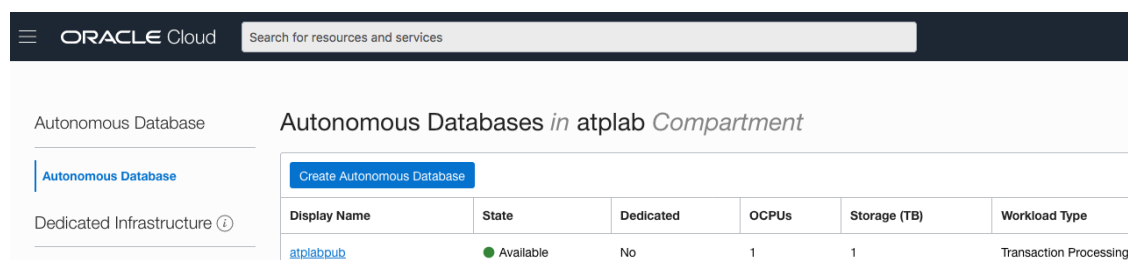
```
select /*GCP*/ sum(lo_extendedprice*lo_discount) as revenue
from lineorder, ssb.dwdate
where lo_orderdate = d_datekey
and d_weeknuminyear = 6
and d_year = 1994
and lo_discount between 5 and 7
and lo_quantity between 26 and 35;
```

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.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;
```

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:




The screenshot shows the Oracle Cloud console interface. At the top, there's a navigation bar with the Oracle Cloud logo and a search bar. Below this, the main content area is titled "Autonomous Databases in atplab Compartment". On the left, there's a sidebar with "Autonomous Database" and "Dedicated Infrastructure" options. The main area features a "Create Autonomous Database" button and a table listing existing databases.

Display Name	State	Dedicated	OCPUs	Storage (TB)	Workload Type
atplabpub	Available	No	1	1	Transaction Processing

Entre en la instancia atplabpub



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

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

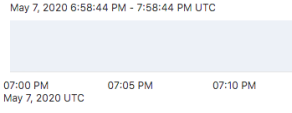
Performance Hub

atplabpub

Time Range ⓘ

Active Sessions in **Last Hour** ▼

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



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	1x0m20octhly	3002741515	HR@QLZLWMQWRSRRIKD_ATPLABPUB	13.30s	105K	select /*GCP*/ sum(io_extended...
✓	13.00s	2	44z8eahfaomh	3002741515	HR@QLZLWMQWRSRRIKD_ATPLABPUB	13.22s	105K	select /*OCI*/ sum(io_extended...
✓	13.00s	2	1f7Zuuhk18c	3002741515	HR@QLZLWMQWRSRRIKD_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 Performace Hub:



Status	Duration	Inst ID	SQL ID	SQL Plan Hash	User Name	Parallel	Database Time	I/O Requests	SQL Text
✓	37.00s	2	44z8sqhfgomrh	3002741515	HRBQLZLWMQRWSRRKID_ATPLABPUB		36.84s	105K	select /*OCPU*/ sum(jo_extended...
✓	34.00s	2	f77vjhdkf16c	3002741515	HRBQLZLWMQRWSRRKID_ATPLABPUB		34.80s	105K	select /*AWS*/ sum(jo_extended...
✓	37.00s	2	1k0m20cctb8tv	3002741515	HRBQLZLWMQRWSRRKID_ATPLABPUB		37.41s	105K	select /*GCP*/ sum(jo_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

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

Storage (TB)

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



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

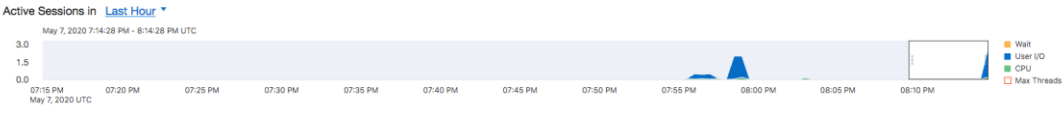
Ahora que las OCPU son 3, vuelva a entrar al **Performance Hub** y ejecute las sentencias todas juntas una vez más.

Performance Hub
atplabpub

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	1k0m20cc8b8v	3313491567	HR@QLZLWMQWRSRRIKD_ATPLABPUB	3	24.27s	105K	select /*GCP*/ sum(io_extended...
✓	10.00s	2	f77zujdkf16c	3313491567	HR@QLZLWMQWRSRRIKD_ATPLABPUB	3	30.03s	105K	select /*AWS*/ sum(io_extended...
✓	8.00s	2	44z8shf0am7h	3313491567	HR@QLZLWMQWRSRRIKD_ATPLABPUB	3	23.60s	105K	select /*OCI*/ sum(io_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**.

