

# HOL 2 - AWS Direct Connect



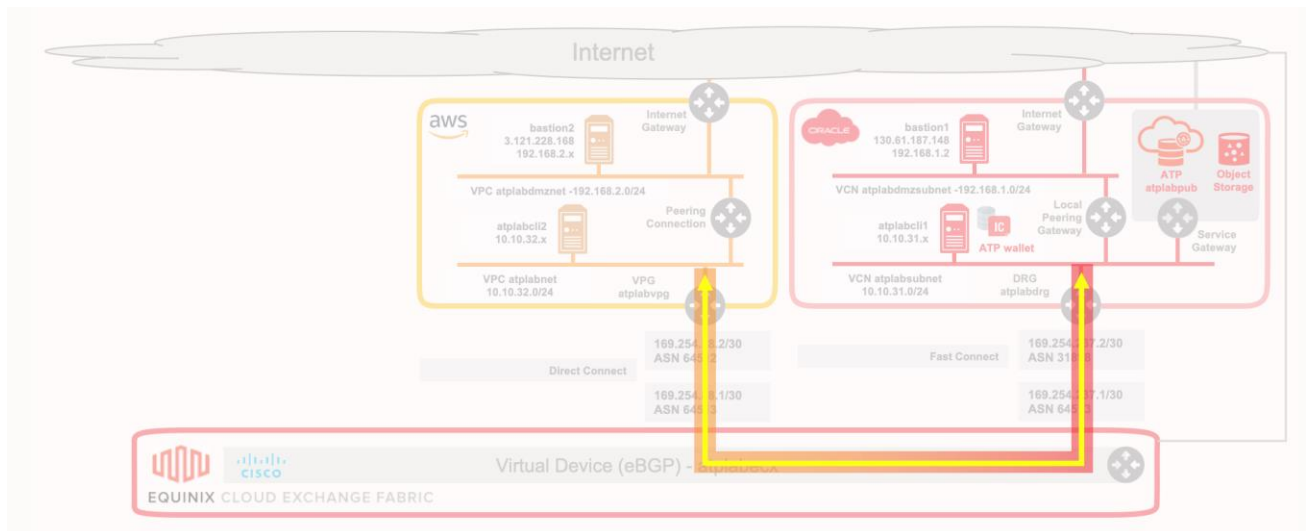
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# Objetivo del Laboratorio

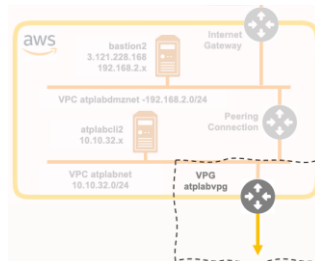
El objetivo del laboratorio es configurar los elementos necesarios para establecer la conectividad entre las nubes de Amazon Web Services (AWS) y Oracle Cloud Infrastructure (OCI):



# Configuración de la interconexión desde el lado de Amazon

## ¿Qué voy a hacer?

Vamos a crear el recurso *Virtual Private Gateway* que permitirá conectar la VPC privada atplabnet ya existente con el DC de Equinix



Datos de conexión para este apartado:

Consola: <https://console.aws.amazon.com>  
Account ID (IAM user): <Your AWS Account ID>  
IAM user name: <Your IAM user name>  
Password: <Your AWS password>

*Nota: Todas las credenciales a las consolas serán proporcionadas individualmente por los instructores al comienzo del curso.*

En primer lugar, abrimos la consola de cloud de AWS (<https://console.aws.amazon.com>) y seleccionamos la opción IAM user:

aws

Sign in

☐ Root user  
Account owner that performs tasks requiring unrestricted access. [Learn more](#)

☒ IAM user  
User within an account that performs daily tasks. [Learn more](#)

Account ID (12 digits) or account alias

Next

aws

Sign in as IAM user

Account ID (12 digits) or account alias

123456789012

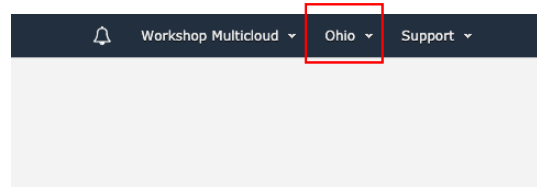
IAM user name

Password

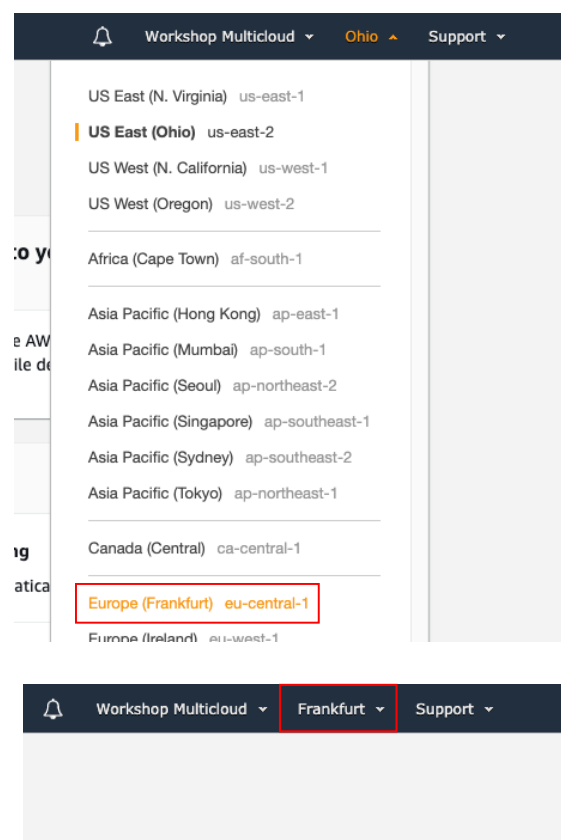
Sign in



Una vez logados, primero debemos comprobar que nos encontramos en la región `Frankfurt` de AWS. Es muy posible que la región por defecto a la que se conecta la consola sea otra. Para ello, en la esquina superior derecha, comprobamos en cuál estamos:



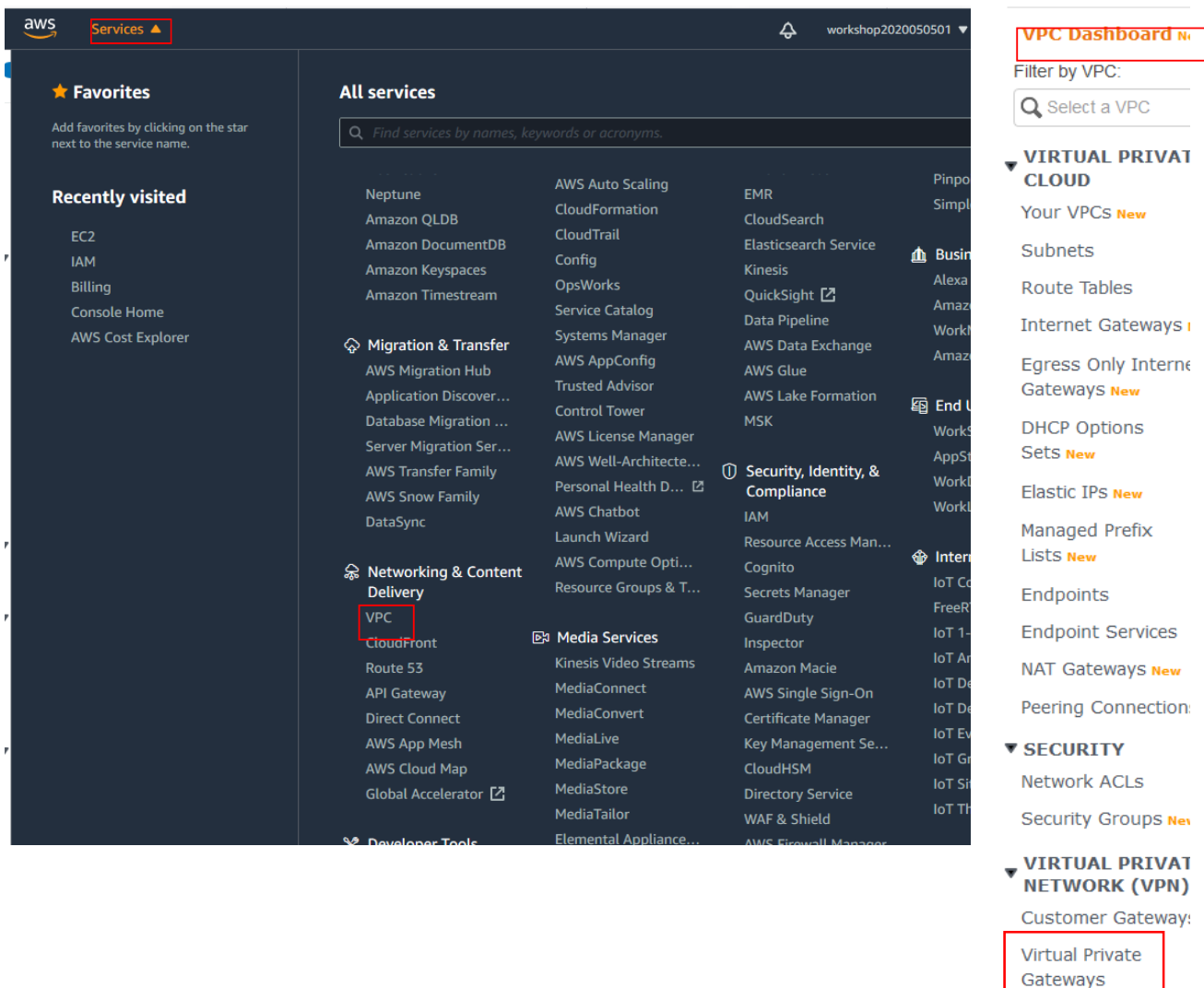
Si no es `Frankfurt` la región actual, desplegamos el menú y seleccionamos `Europe (Frankfurt) eu-central-1`:



Si en algún momento de los laboratorios, observamos que falta algún elemento que debería aparecer en la consola de AWS, comprobaremos de nuevo si la región actual sigue siendo `Frankfurt`.

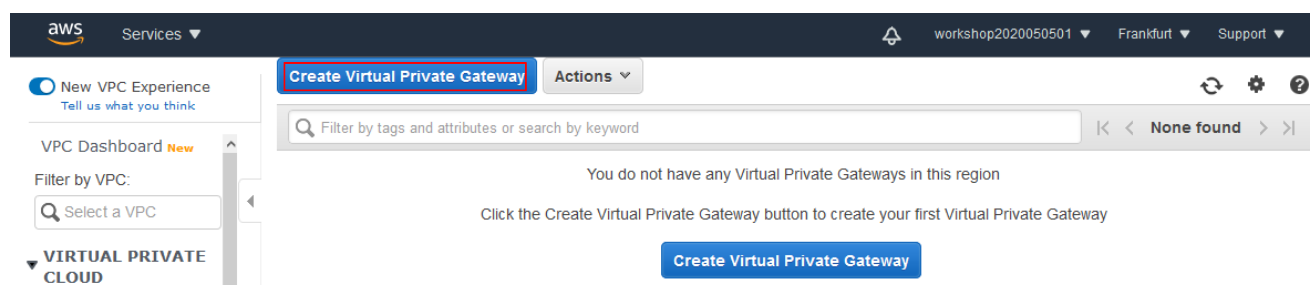


Una vez comprobada la región, abrimos el menú **Services** y nos dirigimos a la sección VPC y una vez dentro vamos a Virtual Private Gateways dentro de la sección Virtual Private Network (VPN):



The screenshot shows the AWS Management Console interface. In the top navigation bar, the 'Services' menu is open, and 'VPC' is highlighted under the 'Networking & Content Delivery' category. On the right-hand sidebar, the 'VIRTUAL PRIVATE NETWORK (VPN)' section is expanded, and 'Virtual Private Gateways' is highlighted. The main content area shows a list of services, with 'VPC' also visible in the 'Networking & Content Delivery' group.

Una vez en la sección Virtual Private Gateways, pulsamos **Create Virtual Private Gateway**:



The screenshot shows the AWS Virtual Private Gateways console. At the top, there is a 'Create Virtual Private Gateway' button. Below it, a message states: 'You do not have any Virtual Private Gateways in this region. Click the Create Virtual Private Gateway button to create your first Virtual Private Gateway.' A large blue button labeled 'Create Virtual Private Gateway' is prominently displayed in the center of the page.

Especificamos `atplabvpg` como Name Tag, seleccionamos la opción Amazon default ASN y pulsamos el botón **Create Virtual Private Gateway** para crear el recurso:



aws Services ▾

workshop2020050501 ▾ Frankfurt ▾ Support ▾

Virtual Private Gateways > Create Virtual Private Gateway

## Create Virtual Private Gateway

A virtual private gateway is the router on the Amazon side of the VPN tunnel.

Name tag

ASN ☒ Amazon default ASN ☐ Custom ASN

\* Required

Cancel **Create Virtual Private Gateway**

Cerramos la ventana de confirmación pulsando `Close`:

Virtual Private Gateways > Create Virtual Private Gateway

## Create Virtual Private Gateway

✔ Create Virtual Private Gateway succeeded

Virtual Private Gateway ID [vgw-025d3c716c4368b0c](#)

Close

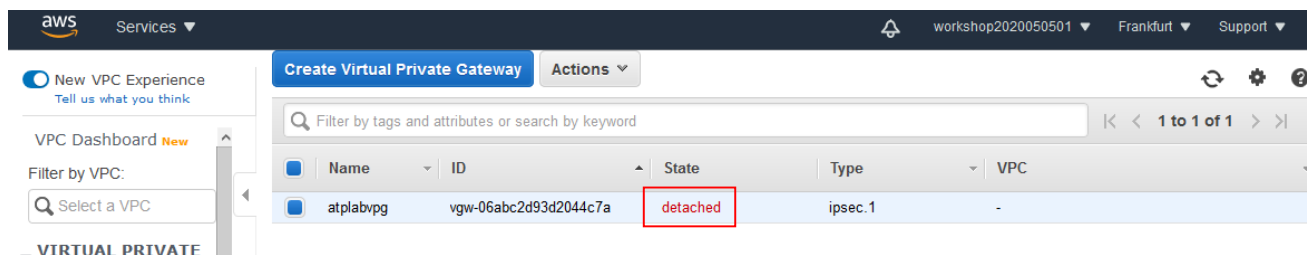


Una vez creado aparecerá en la lista de la consola:



Hemos creado el VPG, pero aún no está *conectado* a la red VPC atplabnet

Podemos observar, no obstante, que el VPG aun no está conectado a ninguna red VPC:



Para ello, dentro del menú **Actions** seleccionamos **Attach to VPC** para conectarlo a una red virtual:





Seleccionamos una VPC existente, en este caso seleccionaremos `atplabnet` y pulsaremos `Yes, Attach`:

Virtual Private Gateways > Attach to VPC

## Attach to VPC

Select the VPC to attach to the virtual private gateway.

Virtual Private Gateway Id vgw-06abc2d93d2044c7a

VPC\* vpc-0cdd4310c5cc83799

Filter by attributes

vpc-0cdd4310c5cc83799	atplabnet
vpc-0d2f5912080afb7c	atplabdmznet

\* Required

Cancel

Yes, Attach

*Nota: la VPC `atplabnet` es una red creada previamente a este laboratorio*

Ahora el VPG aparecerá en naranja un mensaje diciendo que se está conectando la VPC con la VPG:

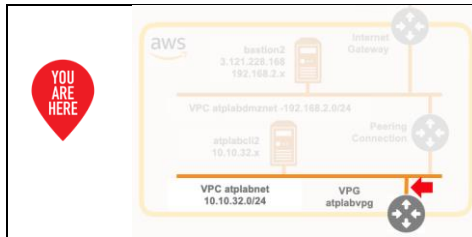
Create Virtual Private Gateway					
Actions					
Filter by tags and attributes or search by keyword					
1 to 1 of 1					
	Name	ID	State	Type	VPC
<input checked="" type="checkbox"/>	atplabvpg	vgw-06abc2d93d2044c7a	attaching	ipsec.1	vpc-0cdd4310c5cc83799   atplabnet

La consola en AWS no actualiza los estados automáticamente, hay que hacerlo mediante el botón de refresco que tenemos en la parte superior izquierda:

Create Virtual Private Gateway					
Actions					
Filter by tags and attributes or search by keyword					
1 to 1 of 1					
	Name	ID	State	Type	VPC
<input checked="" type="checkbox"/>	atplabvpg	vgw-06abc2d93d2044c7a	attached	ipsec.1	vpc-0cdd4310c5cc83799   atplabnet

Cuando haya acabado, aparecerá como `attached` en verde.





Hemos conectado la red atplabnet con el VPG atplabvpg. Pero aun hemos de notificar a la red atplabnet que sus rutas deben ser propagadas a través del VPG, para que así las otras cloud sepan de su existencia.

Volvemos a la lista de redes VPC en el menú principal y seleccionamos la red privada atplabnet. Pinchamos en el enlace del nombre de la Route table.

The screenshot shows the AWS Management Console interface. On the left, the 'VIRTUAL PRIVATE CLOUD' menu is expanded, and 'Your VPCs' is selected. The main panel displays 'Your VPCs (1/2)' with a table listing VPCs. The 'atplabnet' VPC is selected. Below the table, the 'Details' tab for 'vpc-0cdd4310c5cc83799 / atplabnet' is shown. The 'Route table' link is highlighted in the 'Details' section.

Name	VPC ID	State	IPv4 CIDR
atplabnet	vpc-0cdd4310c5cc83799	Available	10.10.32.0/24
atplabdmznet	vpc-0d2ff5912080afb7c	Available	192.168.2.0/24

Details			
VPC ID vpc-0cdd4310c5cc83799	State Available	DNS hostnames Disabled	DNS resolution Enabled
Tenancy Default	DHCP options set dopt-c9a777a3	Route table rtb-0e33c603ec9089ed4	Network ACL acl-0fbb813075897d2b5
Default VPC No	IPv4 CIDR 10.10.32.0/24	IPv6 pool -	IPv6 CIDR -
Owner ID 267111821888			

Seleccionamos la pestaña Route Propagation y pulsamos el botón Edit route propagation:



The screenshot shows the AWS Management Console interface. On the left, there's a navigation menu with 'Route Tables' selected. The main area displays the 'Route Table: rtb-0e33c603ec9089ed4'. Below the tabs, the 'Route Propagation' tab is active. It shows a table with one entry for a Virtual Private Gateway (vgw-06abc2d93d2044c7a) with the 'Propagate' checkbox checked. The 'Edit route propagation' button is also highlighted with a red box.

A continuación, marcamos la opción `Propagate` correspondiente a la entrada del VPG creado anteriormente y salvamos con `Save`:

This screenshot shows the 'Edit route propagation' page. It displays the 'Route table' as 'rtb-0e33c603ec9089ed4'. Below, the 'Route propagation' section shows the 'Virtual Private Gateway' 'vgw-06abc2d93d2044c7a' with the 'Propagate' checkbox checked. The 'Save' button at the bottom right is highlighted with a red box.

Comprobamos que la opción de `Propagate` está en `Yes` ahora:

This screenshot shows the 'Route Table: rtb-0e33c603ec9089ed4' with the 'Route Propagation' tab selected. The 'Propagate' checkbox for the VPC gateway is checked and highlighted with a red box, indicating that the propagation is now active.

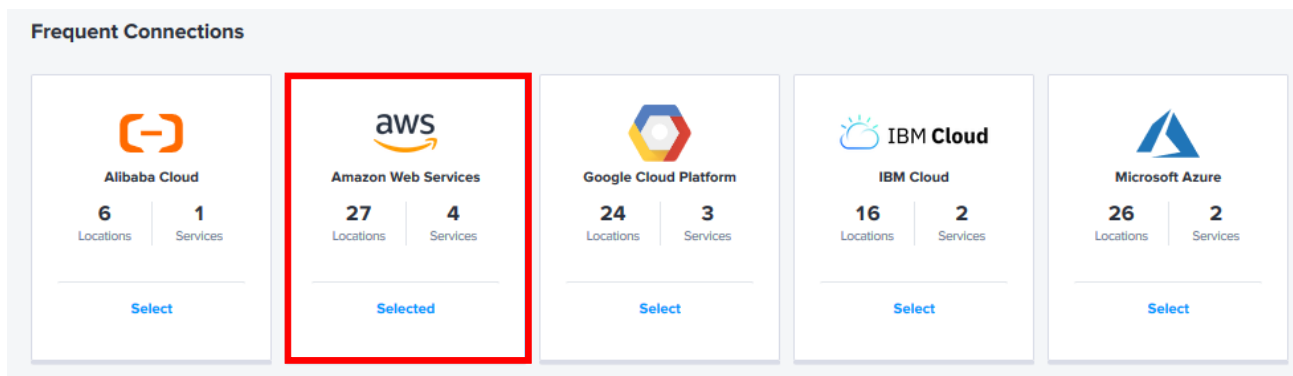


The diagram illustrates an AWS network architecture. It features three VPCs: `atplabdmznet` (192.168.2.0/24), `atplabnet` (10.10.32.0/24), and `atplabvpg`. `atplabdmznet` is connected to an Internet Gateway and a Peering Connection. `atplabnet` is connected to the Peering Connection. `atplabvpg` is connected to the Peering Connection. A red heart icon with the text "YOU ARE HERE" is positioned to the left of the diagram.

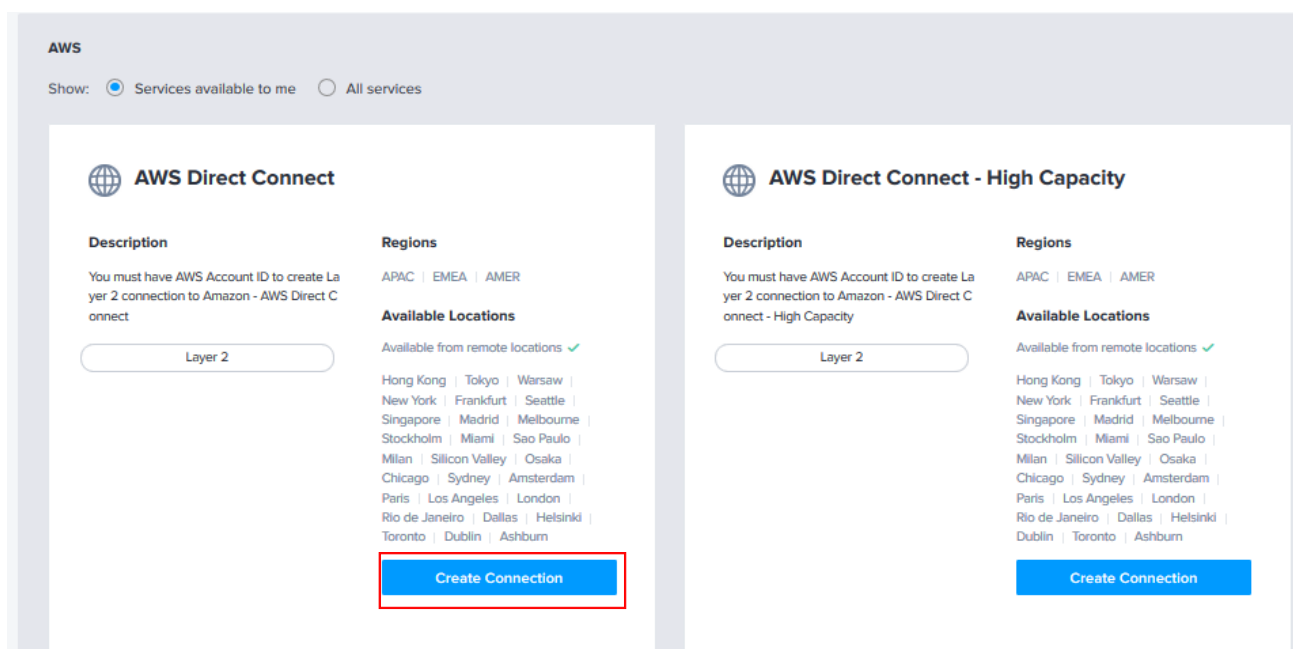
La configuración del lado de AWS ya está lista. El VPG que nos permitirá establecer la conexión con Equinix está creado y asociado con la red privada. También hemos habilitado la propagación de las rutas de la red `atplabnet` hacia el exterior (esto es, hacia Equinix).







A continuación, seleccionamos la de AWS Direct Connect, que incluye la región de Frankfurt, y pulsamos Create Connection:



Una vez seleccionado el tipo de conexión, aparecerá un resumen sobre los pasos a seguir para crear la conexión con el cloud de Amazon. Pulsamos Create a Connection to Amazon Web Services para continuar:



The screenshot shows the Equinix Cloud Exchange Fabric interface. At the top, there's a navigation bar with the Equinix logo, 'EQUINIX CLOUD EXCHANGE FABRIC', and a user profile section. Below this is a secondary navigation bar with links like 'Connections', 'Network Edge', 'Ports', 'Inventory', 'My Company', 'Administration', and 'Support'. A 'Create Connection' button is visible on the right. The main content area is titled 'Steps: Connecting to AWS' and contains three numbered steps:

- 1 Amazon Account Info**  
In the AWS Management Console  
Retrieve your Account ID from the AWS Management Console.
- 2 Create Cloud Exchange Connection**  
In the ECX Fabric portal  
Complete the primary or secondary connection workflow on the ECX Fabric portal. Select Create a Connection to Amazon Web Services below to get started.
- 3 Accept Connection**  
In the AWS management console or ECX Cloud Fabric.  
Accept the hosted connection on either the ECX Fabric dashboard or the AWS Management Console.

At the bottom of the steps, there is a blue button labeled 'Create a Connection to Amazon Web Services' which is highlighted with a red rectangular box.

A continuación, seleccionamos Frankfurt como región de **origen y destino** y también el **dispositivo virtual** atplabecx creado en el laboratorio anterior y pulsamos Next para continuar:



Select Locations

Connection Details

Review

## Select Locations

Preview

Atplabecx  
Frankfurt

Speed  
--

Latency (RTT)  
< 1 ms

Amazon Web Services  
Frankfurt

Origin

Locations with ports or Virtual Devices

Connect Using

Port

Service Token

Virtual Device

EMEA 1

Select Location

Frankfurt

2 Virtual Devices

Select Virtual Device Type

Virtual Devices

Total: 2

Redundant Devices

Total: 0

Clusters

Total: 0

Virtual Devices in Frankfurt:

atplabecxdos  
Frankfurt | Zone 1  
Cisco | CSR1000V\_TRIAL | R...

Atplabecx  
Frankfurt | Zone 1  
Cisco | CSR1000V\_TRIAL | R...

Destination

EQUINIX-ECP-IXP-ETHERNET locations you can connect with

AMER 11

EMEA 11

APAC 7

Suggested:

Frankfurt

EU - Frankfurt

Latency (RTT) < 1 ms

Remote:

<div>Warsaw</div> <div>EU - Frankfurt</div> <div>Latency (RTT) 21 ms</div>	<div>Dubai</div> <div>EU - Ireland</div> <div>Latency (RTT) --</div>	<div>Madrid</div> <div>EU - Frankfurt</div> <div>Latency (RTT) 25 ms</div>
<div>Stockholm</div> <div>EU-Stockholm</div> <div>Latency (RTT) 21 ms</div>	<div>Milan</div> <div>EU - Frankfurt</div> <div>Latency (RTT) 10 ms</div>	<div>Amsterdam</div> <div>EU - Frankfurt</div> <div>Latency (RTT) 8 ms</div>
<div>Paris</div> <div>EU - Paris</div> <div>Latency (RTT) 8 ms</div>	<div>London</div> <div>EU - London</div> <div>Latency (RTT) 15 ms</div>	<div>London</div> <div>EU - Ireland</div> <div>Latency (RTT) 15 ms</div>
<div>Helsinki</div> <div>EU - Frankfurt</div> <div>Latency (RTT) 21 ms</div>	<div>Dublin</div> <div>EU - Ireland</div> <div>Latency (RTT) 25 ms</div>	

Next

Seleccionamos la opción de velocidad de conexión de 50 MBPS.





Connection Speed

Billing Tier  
Up to 50 Mbps

50Mbps

Speed Selected

Monthly Charge  
55.00EUR

Billing Tier  
Up to 200 Mbps

100Mbps

Select Speed

Monthly Charge  
75.00EUR

Billing Tier  
Up to 200 Mbps

200Mbps

Select Speed

Monthly Charge  
75.00EUR

Billing Tier  
Up to 500 Mbps

300Mbps

Select Speed

Monthly Charge  
110.00EUR

Billing Tier  
Up to 500 Mbps

400Mbps

Select Speed

Monthly Charge  
110.00EUR

Billing Tier  
Up to 500 Mbps

500Mbps

Select Speed

Monthly Charge  
110.00EUR

Pricing Overview

Local Connection: 55.00 EUR

Remote Connection: 0.00 EUR

Total: 55.00 EUR

This is a test account. You will not be billed for this order, it will not be displayed on the invoice.

Additional taxes and/or fees may apply, depending on the Metro.

Design Summary

Previous

Next

En los detalles de conexión, introducir `atplab-toAWS` para el nombre del circuito virtual y el `AWS Account ID` (recordemos que el `AWS Account ID` se nos ha proporcionado como parte de las credenciales para la consola de AWS) y pulsamos `Next` para continuar:

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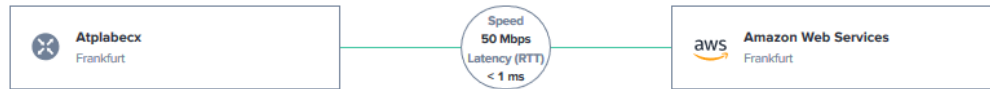
Select Locations

Connection Details

Review

## Connection Details

### Preview



### Connection Information

Virtual Circuit Name

atplab-toAWS

### AWS ACCOUNT ID

267111821888

### Interface Selection

This interface will be reserved for all incoming Connections to this device. It will not be available to create Connections to any other service provider.

- ☒ Automatically select the next available interface on my device(s)
- ☐ I will select the interface on my device

### Purchase Order Number

Optional

The purchase order number will be included in the order confirmation email

e.g. PO1544555



**Interface Selection**

This interface will be reserved for all incoming Connections to this device. It will not be available to create Connections to any other service provider.

☒ Automatically select the next available interface on my device(s)
   
☐ I will select the interface on my device

**Purchase Order Number** Optional

The purchase order number will be included in the order confirmation email

e.g. PO1544555

---

**Connection Speed**

<p>Billing Tier Up to 50 Mbps</p> <p><b>50</b>Mbps</p> <p>Speed Selected</p> <p>Monthly Charge <b>55.00</b>EUR</p>	<p>Billing Tier Up to 200 Mbps</p> <p><b>100</b>Mbps</p> <p>Select Speed</p> <p>Monthly Charge <b>75.00</b>EUR</p>	<p><b>Pricing Overview</b></p> <p>Local Connection: 55.00 EUR</p> <p>Remote Surcharge: 0.00 EUR</p> <hr/> <p><b>Total: 55.00 EUR</b></p> <p><i>This is a test account. You will not be billed for this order, it will not be displayed on the invoice.</i></p> <p><i>Additional taxes and/or fees may apply, depending on the Metro.</i></p>
<p>Billing Tier Up to 200 Mbps</p> <p><b>200</b>Mbps</p> <p>Select Speed</p> <p>Monthly Charge <b>75.00</b>EUR</p>	<p>Billing Tier Up to 500 Mbps</p> <p><b>300</b>Mbps</p> <p>Select Speed</p> <p>Monthly Charge <b>110.00</b>EUR</p>	
<p>Billing Tier Up to 500 Mbps</p> <p><b>400</b>Mbps</p> <p>Select Speed</p> <p>Monthly Charge <b>110.00</b>EUR</p>	<p>Billing Tier Up to 500 Mbps</p> <p><b>500</b>Mbps</p> <p>Select Speed</p> <p>Monthly Charge <b>110.00</b>EUR</p>	

Design Summary

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Previous

Next

Una vez hecho todo esto y revisados los datos, introducimos un mail para recibir notificaciones (puede ser cualquier email, incluso uno inválido) y pulsamos `Submit your Order`:



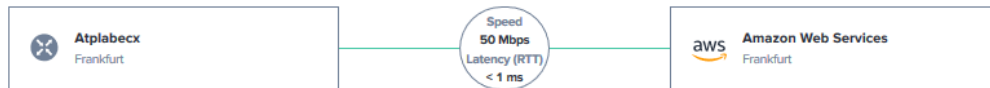
✓  
Select Locations

✓  
Connection Details

✎  
Review

## Review

### Preview



### Connection Summary

Connection Name atplab-toAWS

Virtual Device Name Atplabexx

Speed 50 Mbps

Billing Tier Up to 50 Mbps

Purchase Order Number -

AWS ACCOUNT ID 267111821888

Average last month latency < 1 ms

Billed to

### Pricing Overview

Local Connection 55.00 EUR

Remote Connection 0.00 EUR

Total 55.00 EUR

Additional taxes and/or fees may apply.

### Notifications

1 Recipient(s)

Enter email address(es) that will receive notifications about this connection:

workshop2020101401@mybestdemo.com

Add another email

📄 Design Summary

Previous

Submit your Order



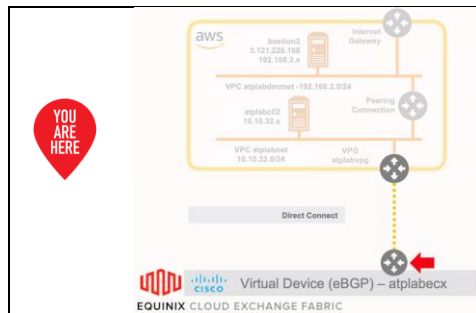
Una vez se haya procesado la orden (inmediato) pulsamos en el botón Go to My Inventory:

The screenshot shows the Equinix Cloud Exchange Fabric dashboard. At the top, there's a navigation bar with 'EQUINIX CLOUD EXCHANGE FABRIC' and a user profile 'Welcome, workshop2020101401'. A notification banner states: 'Update: Equinix status of connection 'atplab-toAWS' is PROVISIONED'. The main content area has a large green checkmark and the text 'Your order was submitted.' followed by 'We've sent a confirmation email to the emails you have provided.' Below this, there are two main sections: 'Next Steps' (green background) and 'Look for your order details in your email' (grey background). The 'Next Steps' section lists three bullet points and includes buttons for 'Go To My Dashboard' and 'Accept hosted connection on AWS'. The 'Look for your order details in your email' section includes an envelope icon and text about receiving an email. At the bottom, there's a 'View your connection in your Inventory' section with a 'Go to My Inventory' button highlighted with a red box. To the right, a preview of the 'atplab-toAWS' connection is shown, indicating it's provisioned with a green checkmark.

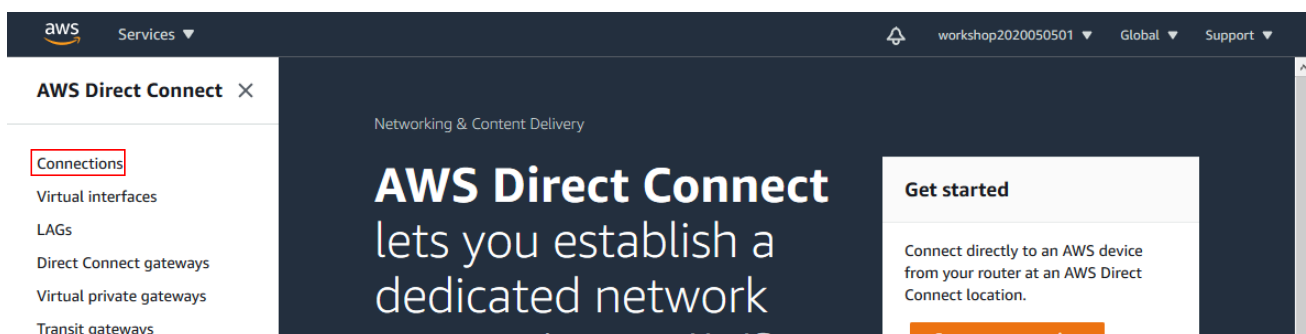
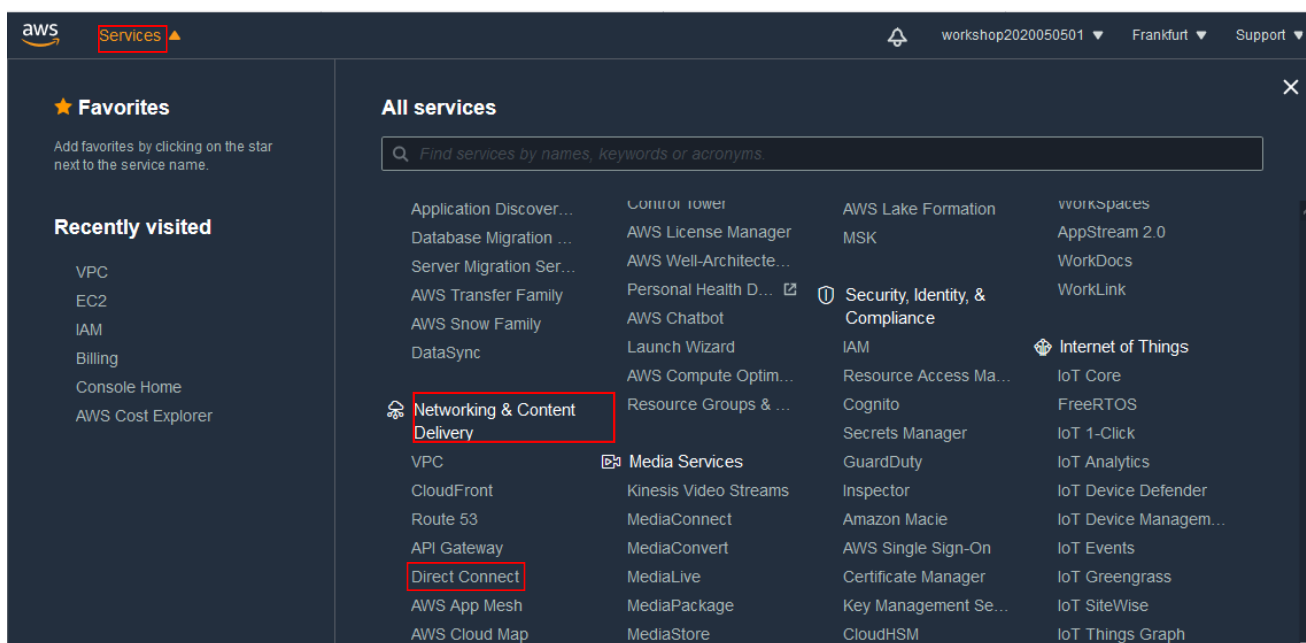
En la siguiente pantalla, podemos ver la nueva conexión Direct Connect de AWS hacia Frankfurt:

The screenshot shows the 'Connections' page in the Equinix Cloud Exchange Fabric. The top navigation bar includes 'Connections', 'Ports', 'Virtual Devices', 'Routing Instances', 'Connectors', 'Subscriptions', and 'IP Blocks'. The 'Connections' section has a filter bar with 'Show: Outgoing Connections' selected, and search filters for 'Search Connections', 'Search Service Key', 'Search Ports by Name', 'Location', 'Provider Status', and 'Status'. Below the filters, it says 'Viewing 2 of 2'. Two connection cards are displayed: 'atplab-toAWS' and 'Atplab-toOCI'. The 'atplab-toAWS' card is highlighted with a red box and shows a diagram of a connection from 'Frankfurt Atplabex Origin' to 'AWS Direct Connect (eu-central-1) Destination'. The 'Atplab-toOCI' card shows a connection from 'Frankfurt Origin' to 'Oracle Cloud Infrastructure -OCI- FastConnect (eu-frankfurt-1) Destination'.





Volvemos a la consola de AWS (<https://console.aws.amazon.com>). Nos dirigimos a la sección Networking & Content Delivery y pinchamos en Direct Connect:



The screenshot shows the AWS Direct Connect console. On the left, there's a sidebar with 'Connections' selected. The main area shows a list of connections. The first connection is 'dxcon-fflr...' with a state of 'ordering'. The 'ordering' link is highlighted with a red box.

ID	Name	Region	Location	Bandwidth	State
dxcon-fflr...	atplab-toA...	eu-central-1	Equinix FR5, F...	50Mbps	ordering

Pinchamos en el enlace del ID de la conexión para ver los detalles de ésta y aceptamos pulsando **Accept**:

The screenshot shows the details of the connection 'DXCON-FFLRGSFC'. The 'Accept' button is highlighted with a red box. Below the title, there's a 'General configuration' section with a table of details.

General configuration			
Connection ID dxcon-fflrgsf	State ordering	Location Equinix FR5, Frankfurt, DEU	Jumbo frame capable true
Connection name atplab-toAWS	Port speed 50Mbps	AWS device EqFA5-bqddwtg6ab1	VLAN 377
AWS account 267111821888	Region eu-central-1	Loa issued at -	Partner name EQUINIX NNI

Nos pedirá confirmación y pulsamos en **Confirm**:

The screenshot shows a dialog box titled 'Accept hosted connection'. It asks 'Are you sure you want to accept the hosted connection dxcon-fflrgsf?'. There are 'Cancel' and 'Confirm' buttons. The 'Confirm' button is highlighted with a red box.

Su estado pasará de `ordering` a `pending`:



aws Services ▼ workshop2020050501 ▼ Global ▼ Support ▼

**AWS Direct Connect** ✕

Connections

- Virtual interfaces
- LAGs
- Direct Connect gateways
- Virtual private gateways
- Transit gateways

Direct Connect > Connections > DXCON-FFLRGSFC

### DXCON-FFLRGSFC

Edit Delete

**General configuration**

Connection ID dxcon-fflrgsfc	State ⌚ pending	Location Equinix FR5, Frankfurt, DEU	Jumbo frame capable true
Connection name atplab-toAWS	Port speed 50Mbps	AWS device EqFA5-bqddwtdg6ab1	VLAN 377
AWS account 267111821888	Region eu-central-1	Loa issued at -	Partner name EQUINIX NNI

Tras unos minutos, cuando el estado cambie a available, pulsamos el botón Create Virtual Interface:

aws Services ▼ workshop2020050501 ▼ Global ▼ Support ▼

**AWS Direct Connect** ✕

Connections

- Virtual interfaces
- LAGs
- Direct Connect gateways
- Virtual private gateways
- Transit gateways

Direct Connect > Connections > DXCON-FFLRGSFC

### DXCON-FFLRGSFC

Edit Delete

**General configuration**

Connection ID dxcon-fflrgsfc	State ✅ available	Location Equinix FR5, Frankfurt, DEU	Jumbo frame capable true
Connection name atplab-toAWS	Port speed 50Mbps	AWS device EqFA5-bqddwtdg6ab1	VLAN 377
AWS account 267111821888	Region eu-central-1	Loa issued at -	Partner name EQUINIX NNI

Virtual interfaces | Monitoring | Tags

**Virtual interfaces** View details Edit Delete Actions ▼ **Create virtual interface**

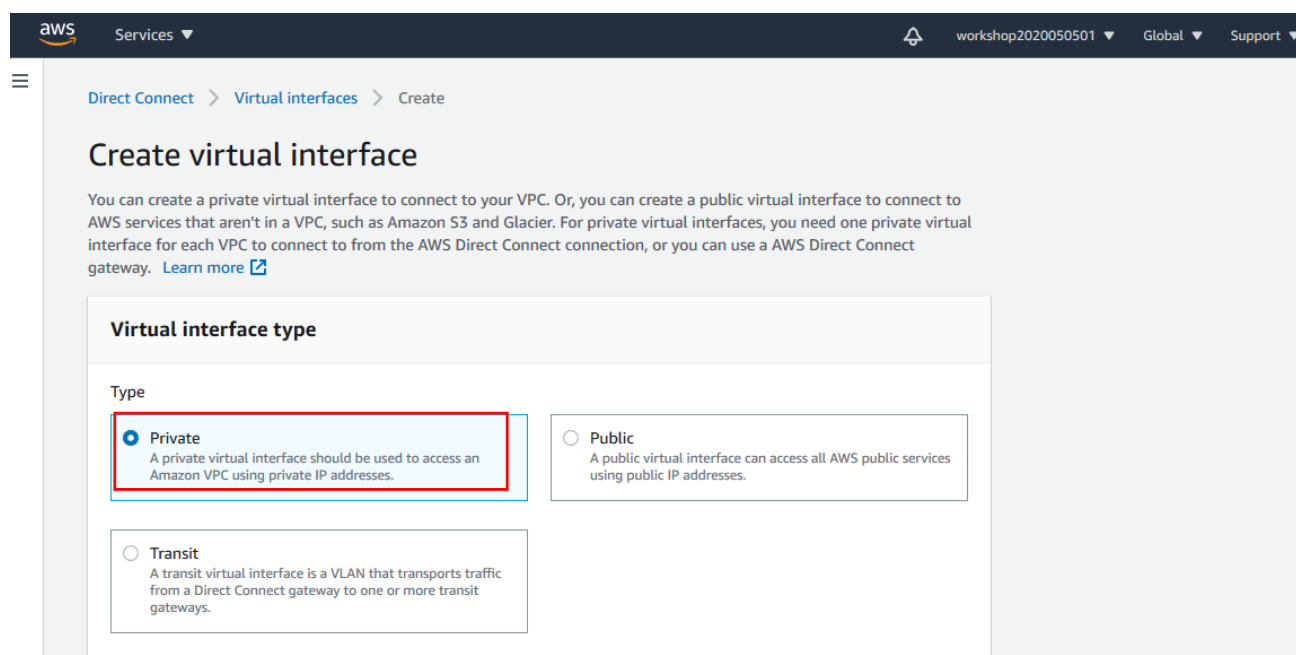
Search virtual interfaces

ID	Name	Region	Connection ...	VLAN	Type
No virtual interfaces					
No virtual interfaces to display					
Create virtual interface					





En el asistente para crear el interfaz, seleccionamos primero el tipo `Private`:



The screenshot shows the AWS Management Console interface for creating a virtual interface. The breadcrumb trail is 'Direct Connect > Virtual interfaces > Create'. The main heading is 'Create virtual interface'. Below this, there is a descriptive paragraph about creating private or public virtual interfaces. The 'Virtual interface type' section contains three radio button options: 'Private' (selected and highlighted with a red box), 'Public', and 'Transit'. Each option has a brief description of its use case.

A continuación, rellenar los campos siguientes con la información que mostramos a continuación. Prestar mucha atención en cada uno de ellos. Si nos equivocamos, la conexión no funcionará correctamente:

Virtual Interface Name	atplabvlan
Connection	atplab-toAWS
Virtual Interface Owner	My AWS account
Gateway Type	Virtual private gateway
Virtual private gateway	atplabvpg
VLAN	(dejamos el nº que aparezca por defecto)
BGP ASN	64513
(desplegamos el menú Additional Settings)	
Address family	IPV4
Your router peer IP	169.254.88.1/30
Amazon router peer IP	169.254.88.2/30
BGP Authentication key	7182KZL
Jumbo MTU	<i>unchecked</i>



## Private virtual interface settings

### Virtual interface name

A name to help you identify the new virtual interface.

Name must contain no more than 100 characters. Valid characters are a-z, 0-9, and – (hyphen)

### Connection

The physical connection on which the new virtual interface will be provisioned.

### Virtual interface owner

The account that will own the virtual interface.

- ☒ My AWS account
- ☐ Another AWS account

### Gateway type

Gateway type for this virtual interface.

- ☐ Direct Connect Gateway - *recommended*  
Allows connections to multiple VPCs and regions
- ☒ Virtual Private Gateway  
Allows connections to a single VPC in the same region

### Virtual private gateway

A virtual private gateway attached to a VPC you wish to connect to.

### VLAN

The Virtual Local Area Network number for the new virtual interface

Valid ranges are 1 - 4094



**BGP ASN**  
The Border Gateway Protocol Autonomous System Number of your gateway for the new virtual interface.

64513

Valid ranges are 1 - 2147483647.

---

▼ **Additional settings**

**Address family - optional**  
Determines whether the virtual interface is created with an IPV4 or IPV6 peering.

☒ IPV4  
☐ IPV6

**Your router peer ip - optional**  
The BGP peer IP configured on your endpoint

169.254.88.1/30

**Amazon router peer ip - optional**  
The BGP peer IP configured on the AWS endpoint.

169.254.88.2/30

**BGP authentication key - optional**  
The password that will be used to authenticate the BGP session.

7182KZL

**Jumbo MTU (MTU size 9001) - optional**  
Allow MTU size of 9001 on virtual interface.

☐ Enabled

**Tags**  
Specified tags to help identify a AWS Direct Connect resource.

No tags associated with the resource

Add tag

---

Cancel Create virtual interface

(Deberemos introducir estos mismos datos más adelante en la configuración BGP de Equinix)

Una vez hayamos rellenado todos los campos, pulsamos `Create virtual interface` y esperamos hasta ver que el estado de la conexión pase de `pending` a `down`:



Virtual interfaces   Monitoring   Tags								
Virtual interfaces (1)								
<input type="text" value="Search virtual interfaces"/> <span>&lt; 1 &gt;</span>								
<input type="checkbox"/>	ID	Name	Region	Connection ...	VLAN	Type	State	
<input type="checkbox"/>	dxvif-fhed6pt3	atplabvlan	eu-central-1	dxcon-fflrgsfc	377	private	🕒 pending	

Virtual interfaces   Monitoring   Tags								
Virtual interfaces (1)								
<input type="text" value="Search virtual interfaces"/> <span>&lt; 1 &gt;</span>								
<input type="checkbox"/>	ID	Name	Region	Connection ID	VLAN	Type	State	
<input type="checkbox"/>	dxvif-fhed6pt3	atplabvlan	eu-central-1	dxcon-fflrgsfc	377	private	🛑 down	

Cuando esté su estado en `down`, pinchamos en el enlace del ID del interfaz para ver los detalles:

Direct Connect

>

Virtual interfaces

>

DXVIF-FHED6PT3

DXVIF-FHED6PT3

Actions

Edit

Delete

General configuration

Virtual interface ID

dxvif-fhed6pt3

Virtual interface name

atplabvlan

AWS account

267111821888

Virtual interface type

private

State

down

Virtual private gateway

vgw-06abc2d93d2044c7a

VLAN

377

Region

eu-central-1

Amazon side ASN

64512

Connection ID

dxcon-fflrgsfc

Location

Equinix FRS, Frankfurt, DEU

AWS device

EqFA5-bqddwtdg6ab1

MTU

1500

Jumbo frame capable

true

Peerings

Monitoring

Tags

Test history

Peerings (1)

Delete

Add peering

ID

Na...

BGP ASN

BGP authentication k...

Your router peer...

Amazon router peer...

AWS device

State

BGP status

dxpeer-fgmm7k...

ipv4

64513

7182KZL

169.254.88.1/30

169.254.88.2/30

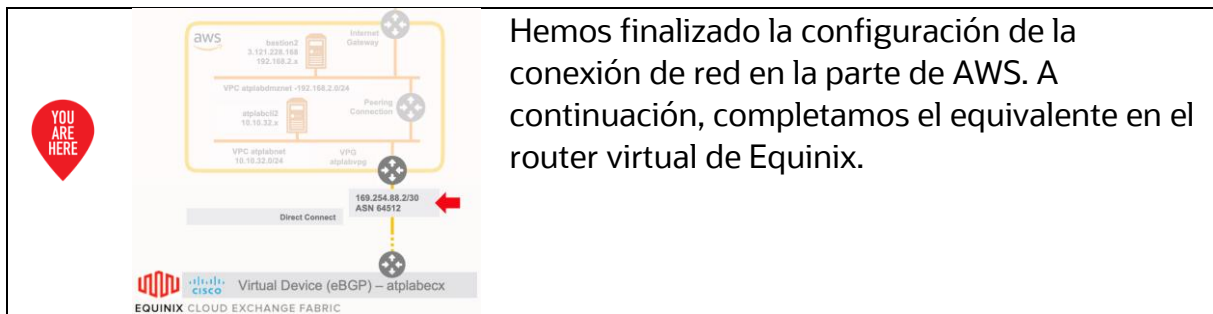
EqFA5-bqddwtdg6a...

available

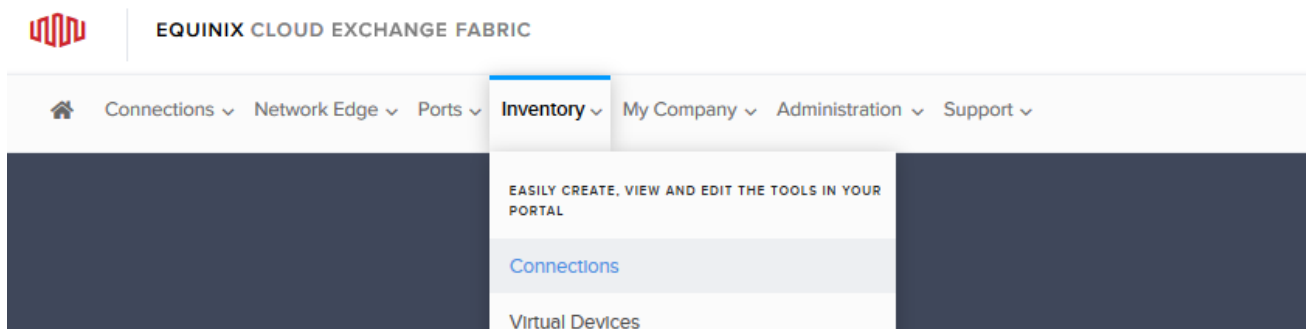
down

Observar cómo, aunque el estado del interfaz es `available`, el estado del BGP es aún `down` porque es necesario configurar el otro extremo de la conexión en Equinix.

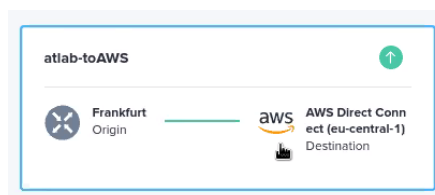




Continuamos volviendo de nuevo a la consola de Equinix (<https://ecxfabric.equinix.com>), abrimos el menú **Inventory** y pulsamos en **Connections**:



Podremos ver todas las conexiones existentes hasta el momento. Abrimos los detalles de la de AWS pinchando sobre ella:




Introducimos los siguientes datos del apartado **Primary BGP Information** de Amazon en Equinix (en la parte inferior de la página):

Local ASN	64513
Local IP Address	169.254.88.1/30
Remote ASN	64512
Remote IP address	169.254.88.2
BGP Authentication Key	7182KZL



**Primary BGP Information** [Learn More](#)

Local ASN	64513	✓
Local IP Address	169.254.88.1/30	✓
Remote ASN 	64512	✓
Remote IP address	169.254.88.2	✓
BGP Authentication Key	7182KZL	✓

[Accept](#)

Pulsamos Accept para continuar.



Una vez hecho esto, el estado del BGP pasará a ser `PROVISIONING`.

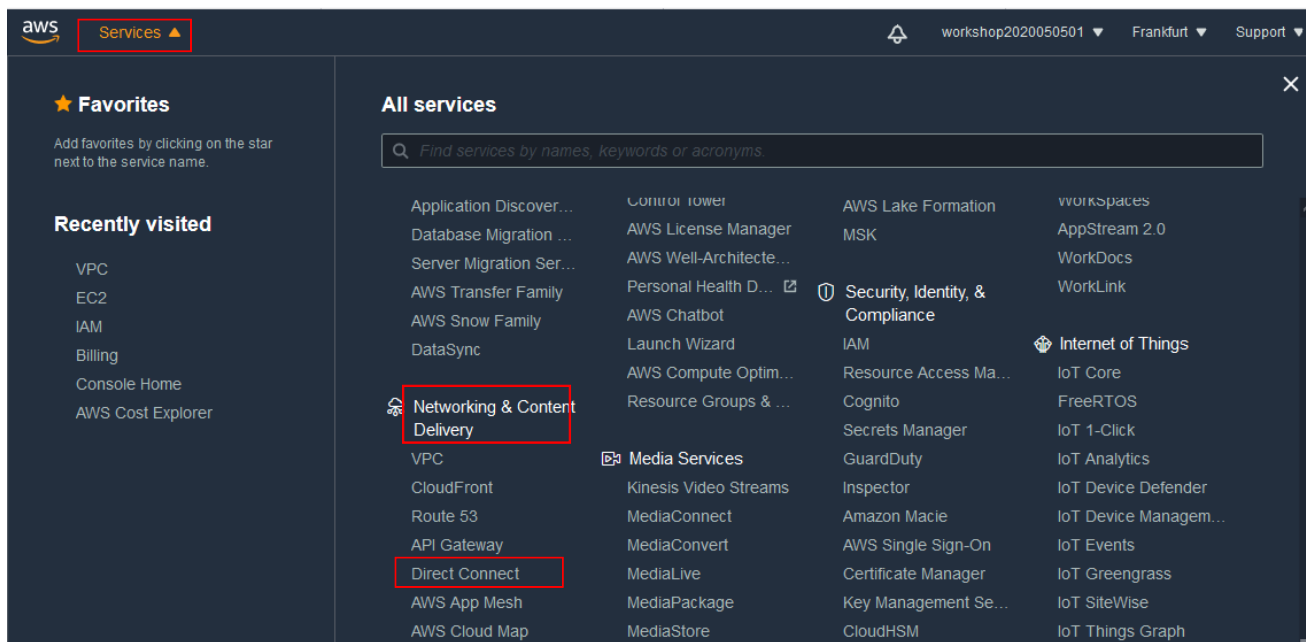
Primary BGP Information <a href="#">Learn More</a>		<a href="#">Edit</a>
Local ASN	64513	
Local IP Address	169.254.88.1/30	
Remote ASN <a href="#">i</a>	64512	
Remote IP address	169.254.88.2	
BGP Authentication Key	7182KZL	
Provisioning Status	Provisioning	

Esperamos unos minutos y cambiará a `PROVISIONED`:

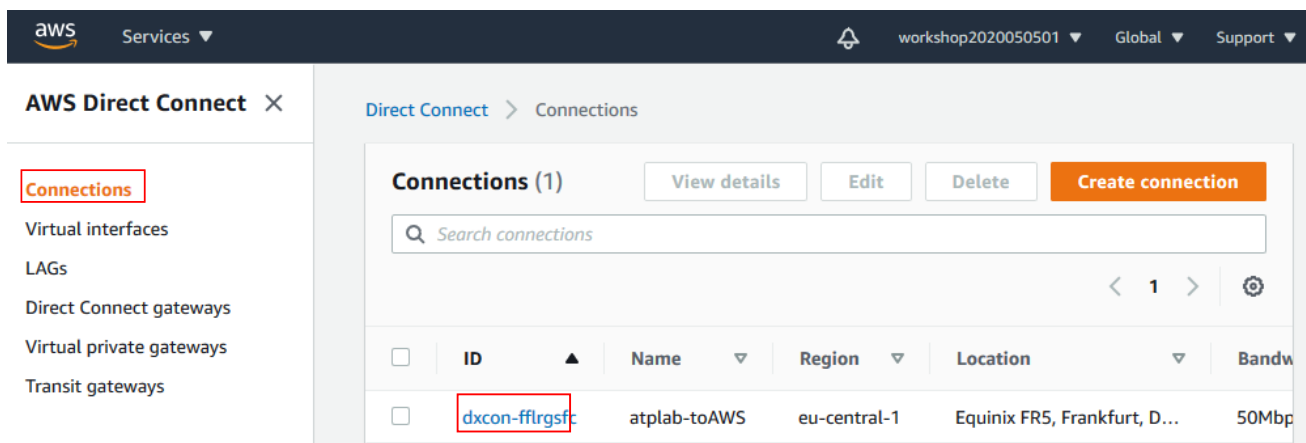
Primary BGP Information <a href="#">Learn More</a>		<a href="#">Edit</a>
Local ASN	64513	
Local IP Address	169.254.88.1/30	
Remote ASN <a href="#">i</a>	64512	
Remote IP address	169.254.88.2	
BGP Authentication Key	7182KZL	
Provisioning Status	Provisioned	

Ahora podemos volver a la consola de AWS (<https://console.aws.amazon.com>) para ver el estado actual del Virtual Interface creado anteriormente. En `Services` abrimos la pantalla de `Direct Connect`:





Abrimos las `Connections` y pinchamos sobre el enlace de nuestra conexión:



Pinchamos sobre nuestro Virtual Interface:





aws Services

workshop2020050501 Global Support

**AWS Direct Connect**

Connections

Virtual interfaces

LAGs

Direct Connect gateways

Virtual private gateways

Transit gateways

Direct Connect > Connections > DXCON-FFLRGSFC

**DXCON-FFLRGSFC** [Edit] [Delete]

**General configuration**

Connection ID dxcon-fflrgsfc	State available	Location Equinix FR5, Frankfurt, DEU	Jumbo frame capable true
Connection name atplab-toAWS	Port speed 50Mbps	AWS device EqFA5-bqddwtdg6ab1	VLAN 377
AWS account 267111821888	Region eu-central-1	Loa issued at -	Partner name EQUINIX NNI

Virtual interfaces | Monitoring | Tags

**Virtual interfaces (1)** [View details] [Edit] [Delete] [Actions] [Create virtual interface]

Search virtual interfaces

	ID	Name	Region	Connection ID	VLAN	Type	State
<input type="checkbox"/>	dxvif-fhed6pt3	atplabvlan	eu-central-1	dxcon-fflrgsfc	377	private	available

Y aquí ya podemos comprobar que el estado del Peering es available y su BGP Status es up, y ambos aparecen en verde:

Peerings | Monitoring | Tags | Test history

**Peerings (1)** [Delete] [Add peering]

	ID	Na...	BGP ASN	BGP authentication k...	Your router peer...	Amazon router peer...	AWS device	State	BGP status
<input type="radio"/>	dxpeer-fgmm7k...	ipv4	64513	7182KZL	169.254.88.1/30	169.254.88.2/30	EqFA5-bqddwtdg6a...	available	up

Podemos comprobar que las rutas para 10.10.31.0/24 se están publicando. En la lista de VPC seleccione atplabnet y en el panel inferior la Route table asociada:



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New VPC Experience Tell us what you think

VPC Dashboard New

Filter by VPC: Select a VPC

**VIRTUAL PRIVATE CLOUD**

Your VPCs New

Subnets New

Route Tables

Internet Gateways New

Egress Only Internet Gateways New

DHCP Options Sets New

Elastic IPs New

Managed Prefix Lists New

Endpoints

Endpoint Services

NAT Gateways New

Peering Connections

**SECURITY**

Network ACLs New

Security Groups New

**Your VPCs (1/2) Info**

Filter VPCs

Name	VPC ID	State	IPv4 CIDR	IPv6 CIDR
<input checked="" type="checkbox"/> atplabnet	vpc-0cccd52fbf167cb622	Available	10.10.32.0/24	-
<input type="checkbox"/> atplabdmznet	vpc-0b8700d1fe29a98af	Available	192.168.2.0/24	-

**vpc-0cccd52fbf167cb622 / atplabnet**

Details CIDRs Flow logs Tags

**Details**

VPC ID vpc-0cccd52fbf167cb622	State Available	DNS hostnames Disabled	DNS resolution Enabled
Tenancy Default	DHCP options set dopt-be3296d4	Route table rtb-0a8141b29146d061c / atplabnetrt	Network ACL acl-068afbe551100ee15
Default VPC No	IPv4 CIDR 10.10.32.0/24	IPv6 pool -	IPv6 CIDR -

En la lista de rutas compruebe que 10.10.31.0/24 aparece con target el Virtual Private Gateway:

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New VPC Experience Tell us what you think

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Filter by VPC: Select a VPC

**VIRTUAL PRIVATE CLOUD**

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**Route Tables**

Internet Gateways New

Egress Only Internet Gateways New

DHCP Options Sets New

Elastic IPs New

Managed Prefix Lists New

Endpoints

Endpoint Services

NAT Gateways New

**Create route table** Actions

Route Table ID : rtb-0a8141b29146d061c Add filter

Name	Route Table ID	Explicit subnet association	Edge associations	Main	VPC ID
<input checked="" type="checkbox"/> atplabnetrt	rtb-0a8141b29146d061c	-	-	Yes	vpc-0cccd52fbf167cb622

**Route Table: rtb-0a8141b29146d061c**

Summary Routes Subnet Associations Edge Associations Route Propagation Tags

Edit routes

View All routes

Destination	Target	Status	Propagated
10.10.32.0/24	local	active	No
10.10.31.0/24	vgw-012c908c2fa9db457	active	Yes
192.168.2.0/24	pcx-013b616621e1d1b9f	active	No



