

HOL 2 - AWS Direct Connect



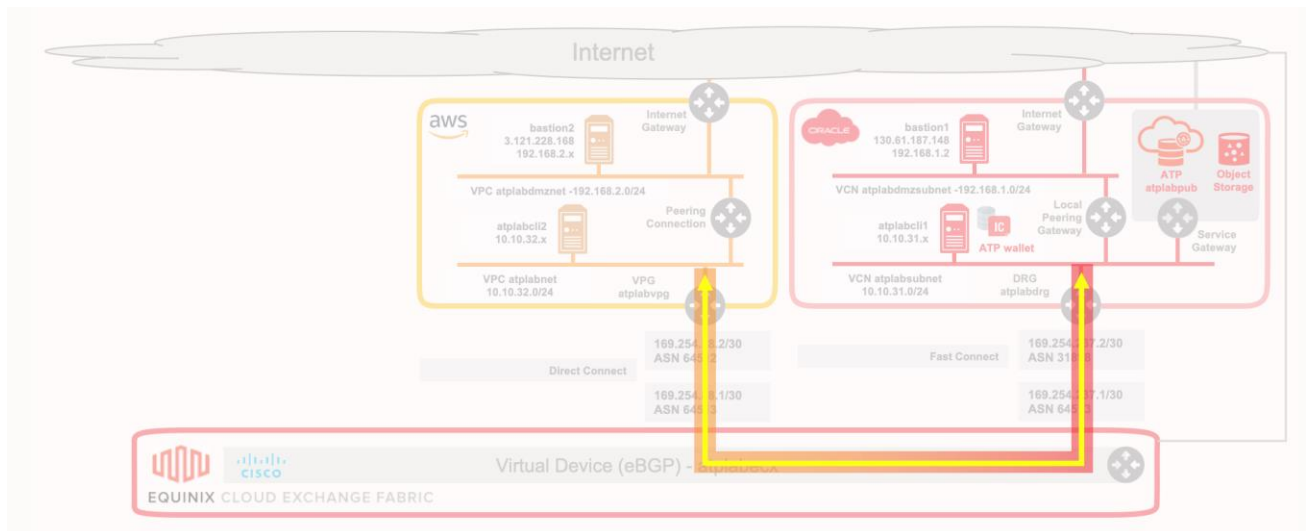
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Objetivo del Laboratorio

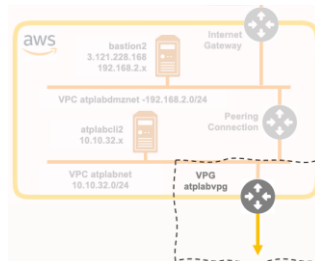
El objetivo del laboratorio es configurar los elementos necesarios para establecer la conectividad entre las nubes de Amazon Web Services (AWS) y Oracle Cloud Infrastructure (OCI):



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>

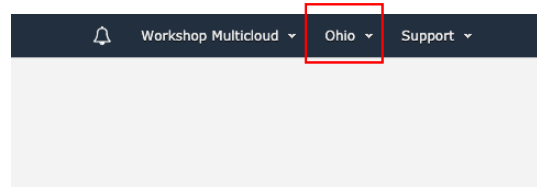
Nota: Todas las credenciales a las consolas serán proporcionadas individualmente por los instructores al comienzo del curso.

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

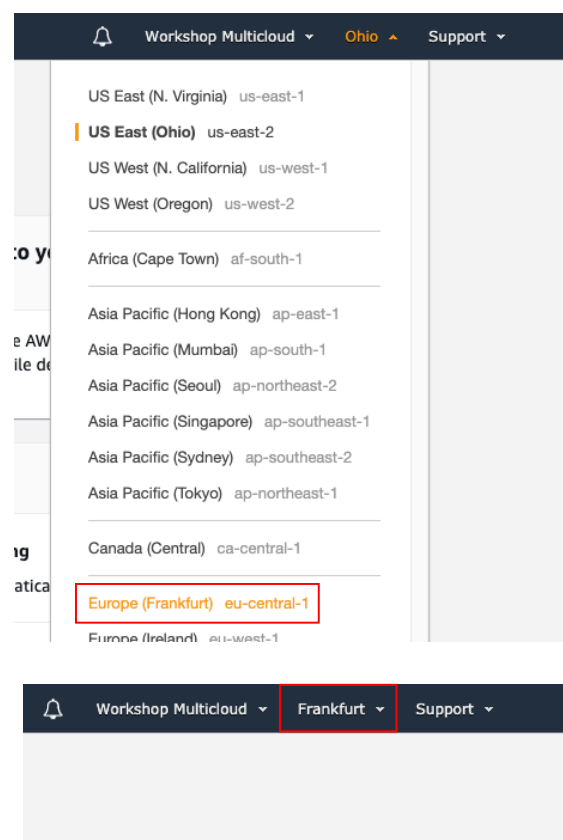
La imagen muestra la interfaz de inicio de sesión de AWS. A la izquierda, bajo el título 'Sign in', hay dos opciones: 'Root user' (desactivada) y 'IAM user' (activada). Debajo de 'IAM user' hay un campo para 'Account ID (12 digits) or account alias' y un botón 'Next'. A la derecha, bajo el título 'Sign in as IAM user', hay un campo para 'Account ID (12 digits) or account alias' con el valor '123456789012'. Debajo de esto hay campos para 'IAM user name' y 'Password', ambos rodeados por un recuadro rojo. Al final hay un botón '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. At the top, the 'Services' menu is highlighted with a red box. On the right side, the 'VIRTUAL PRIVATE NETWORK (VPN)' section is expanded, showing 'Virtual Private Gateways' with a red box. The main area displays a grid of services, with 'VPC' highlighted under the 'Networking & Content Delivery' category.

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

The screenshot shows the 'Create Virtual Private Gateway' page in the AWS console. The 'Create Virtual Private Gateway' button is highlighted with a red box. The page displays a message: '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.' The 'Create Virtual Private Gateway' button is prominently displayed at the bottom.

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

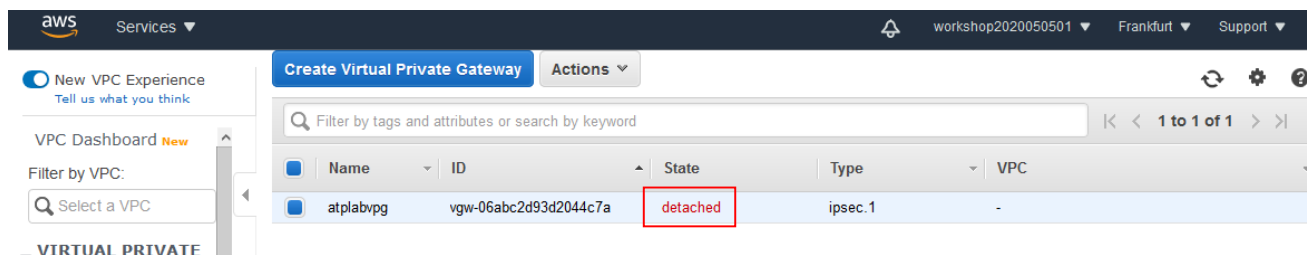


Una vez creado aparecerá en la lista de la consola:



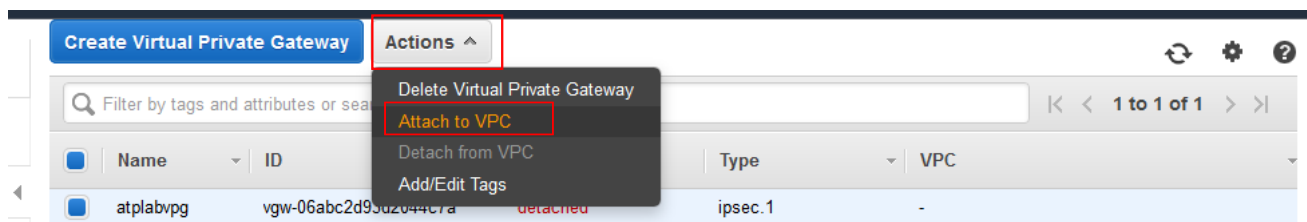
The screenshot shows the AWS Management Console interface. On the left, there's a sidebar with 'New VPC Experience' and 'VPC Dashboard'. The main area displays a table of Virtual Private Gateways. The table has columns: Name, ID, State, Type, and VPC. One gateway is listed: 'atplabvpg' with ID 'vgw-06abc2d93d2044c7a', State 'detached', Type 'ipsec.1', and VPC '-'. Below the table, there's a diagram showing a VPC 'atplabnet' with subnets 'atplabcid' and 'atplabnet'. A VPG 'atplabvpg' is shown with a red arrow pointing to it, indicating it's not connected to the VPC. To the right of the diagram, text says: 'Hemos creado el VPG, pero aun no está *conectado* a la red VPC atplabnet'.

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



This screenshot is similar to the previous one, showing the AWS Management Console. The table of Virtual Private Gateways shows the same gateway 'atplabvpg' with ID 'vgw-06abc2d93d2044c7a' and State 'detached'. The 'detached' state is highlighted with a red box.

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



This screenshot shows the 'Actions' dropdown menu for the Virtual Private Gateway 'atplabvpg'. The menu options are: 'Delete Virtual Private Gateway', 'Attach to VPC', 'Detach from VPC', and 'Add/Edit Tags'. The 'Attach to VPC' option is highlighted with a red box.



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:

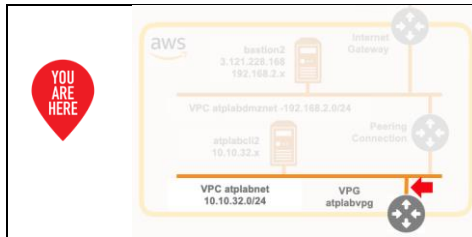
Create Virtual Private Gateway Actions					
Filter by tags and attributes or search by keyword					
1 to 1 of 1					
	Name	ID	State	Type	VPC
<input checked="" type="checkbox"/>	atplabvpg	vgw-06abc2d93d2044c7a	attaching	ipsec.1	vpc-0cdd4310c5cc83799 atplabnet

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

vpc-0cdd4310c5cc83799 / atplabnet			
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:



aws Services

workshop2020050501 Frankfurt Support

New VPC Experience
Tell us what you think

VPC Dashboard **New**

Filter by VPC:
Select a VPC

VIRTUAL PRIVATE CLOUD

Your VPCs **New**

Subnets

Route Tables

Internet Gateways **New**

Egress Only Internet Gateways **New**

DHCP Options

Sets **New**

Create route table Actions

Route Table ID: rtb-0e33c603ec9089ed4 Add filter

Name	Route Table ID	Explicit subnet associatio	Edge associations	Main	VPC
	rtb-0e33c603ec9089ed4	-	-	Yes	vpc

Route Table: rtb-0e33c603ec9089ed4

Summary Routes Subnet Associations Edge Associations **Route Propagation** Tags

Edit route propagation

Virtual Private Gateway	Propagate
vgw-06abc2d93d2044c7a atplabvpg	No

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

aws Services

workshop2020050501 Frankfurt Support

Route Tables > Edit route propagation

Edit route propagation

Route table rtb-0e33c603ec9089ed4

Route propagation

Virtual Private Gateway	Propagate
vgw-06abc2d93d2044c7a atplabvpg	<input checked="" type="checkbox"/>

* Required

Cancel **Save**

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

Create route table Actions

Route Table ID: rtb-0e33c603ec9089ed4 Add filter

Name	Route Table ID	Explicit subnet associatio	Edge associations	Main	VPC
	rtb-0e33c603ec9089ed4	-	-	Yes	vpc

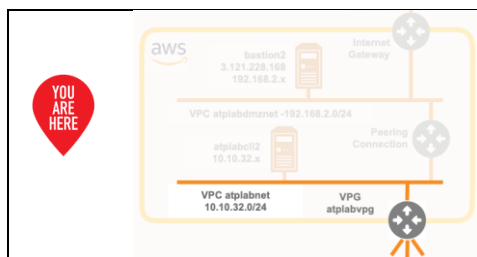
Route Table: rtb-0e33c603ec9089ed4

Summary Routes Subnet Associations Edge Associations **Route Propagation** Tags

Edit route propagation

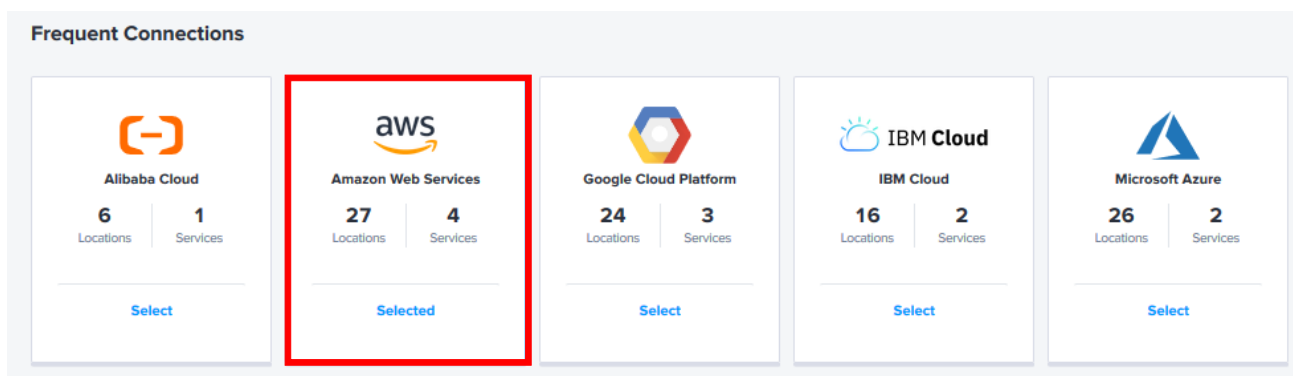
Virtual Private Gateway	Propagate
vgw-06abc2d93d2044c7a atplabvpg	Yes



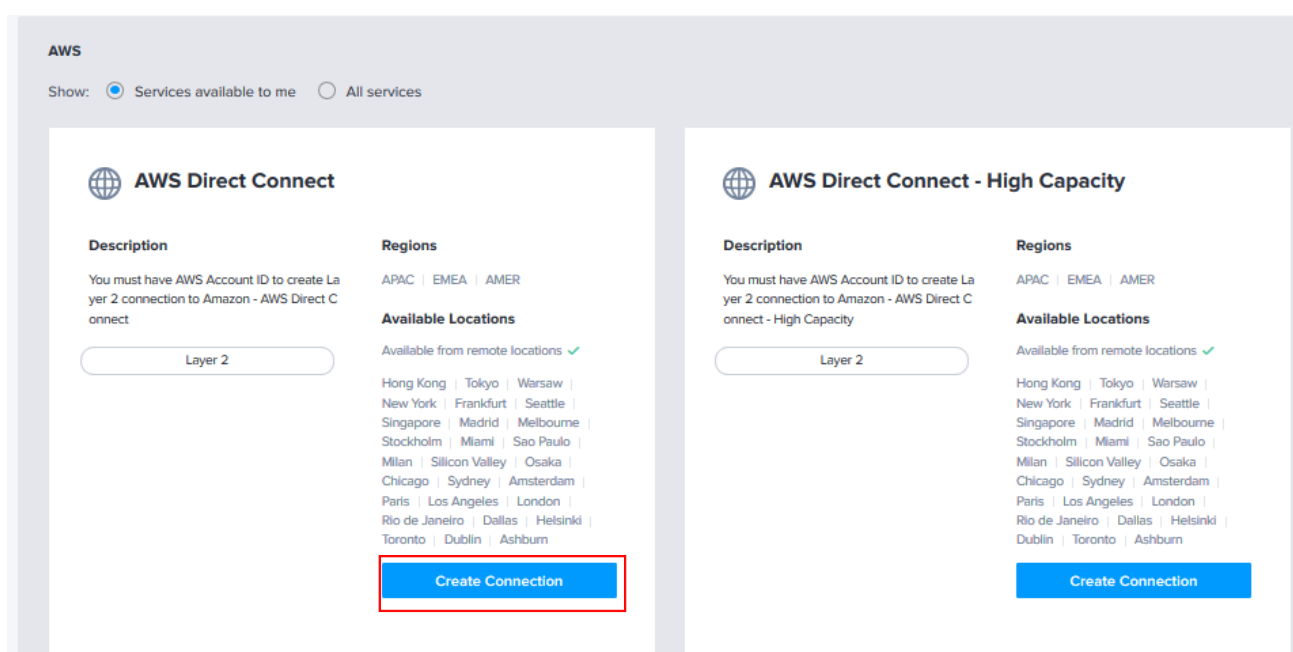


La configuración del lado de AWS ya está lista. El VPG que nos permitirá establecer la conexión con Equinix está creado y asociado con la red privada. También hemos habilitado la propagación de las rutas de la red `atplabnet` hacia el exterior (esto es, hacia Equinix).





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, the text 'EQUINIX CLOUD EXCHANGE FABRIC', and a user profile section with 'Explore' and 'Welcome, workshop2020101401'. 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 in the top right. The main content area is titled 'aws | 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

 **Atplabex**
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

Select Location

Frankfurt
1 Virtual Devices

Virtual Devices in Frankfurt:

 **Atplabex**
Frankfurt
Cisco | CSR1000V_TRIAL |
ROUTER

Destination

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

AMER


EMEA


APAC


Suggested:


Frankfurt
eu-central-1
Latency (RTT) < 1 ms


Remote:


Warsaw 
eu-central-1
Latency (RTT) 24 ms


Madrid 
eu-central-1
Latency (RTT) 26 ms


Stockholm 
eu-north-1
Latency (RTT) 21 ms


Milan 
eu-central-1
Latency (RTT) 10 ms


Amsterdam 
eu-central-1
Latency (RTT) 8 ms

Paris 
eu-west-3
Latency (RTT) 9 ms

London 
eu-west-2
Latency (RTT) 14 ms

London 
eu-west-1
Latency (RTT) 14 ms

Helsinki 
eu-central-1
Latency (RTT) 22 ms

Dublin 
eu-west-1
Latency (RTT) 24 ms

Next

Seleccionamos la opción de velocidad de conexión de 50 MBPS.

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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

Pricing Overview

Local Connection: 55.00 EUR
Remote Surcharge: 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

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:

Select Locations

Connection Details

Review

Connection Details

Preview

Atplabex
Frankfurt

Speed
50 Mbps
Latency (RTT)
< 1 ms

aws
Amazon Web Services
Frankfurt

Connection Information

Virtual Circuit Name

AWS ACCOUNT ID

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



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>50Mbps</p> <p>Speed Selected</p> <p>Monthly Charge 55.00EUR</p>	<p>Billing Tier Up to 200 Mbps</p> <p>100Mbps</p> <p>Select Speed</p> <p>Monthly Charge 75.00EUR</p>	<p>Pricing Overview</p> <p>Local Connection: 55.00 EUR</p> <p>Remote Surcharge: 0.00 EUR</p> <hr/> <p>Total: 55.00 EUR</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>200Mbps</p> <p>Select Speed</p> <p>Monthly Charge 75.00EUR</p>	<p>Billing Tier Up to 500 Mbps</p> <p>300Mbps</p> <p>Select Speed</p> <p>Monthly Charge 110.00EUR</p>	
<p>Billing Tier Up to 500 Mbps</p> <p>400Mbps</p> <p>Select Speed</p> <p>Monthly Charge 110.00EUR</p>	<p>Billing Tier Up to 500 Mbps</p> <p>500Mbps</p> <p>Select Speed</p> <p>Monthly Charge 110.00EUR</p>	

Design Summary

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`:



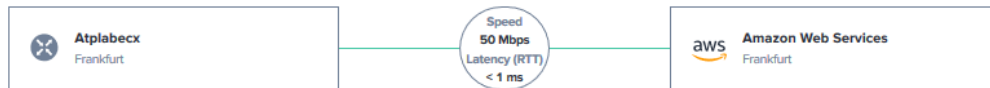
Select Locations

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



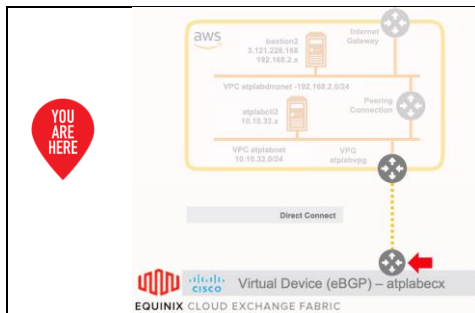
Una vez se haya procesado la orden (inmediato) pulsamos en el botón **Go to My Inventory**:

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:

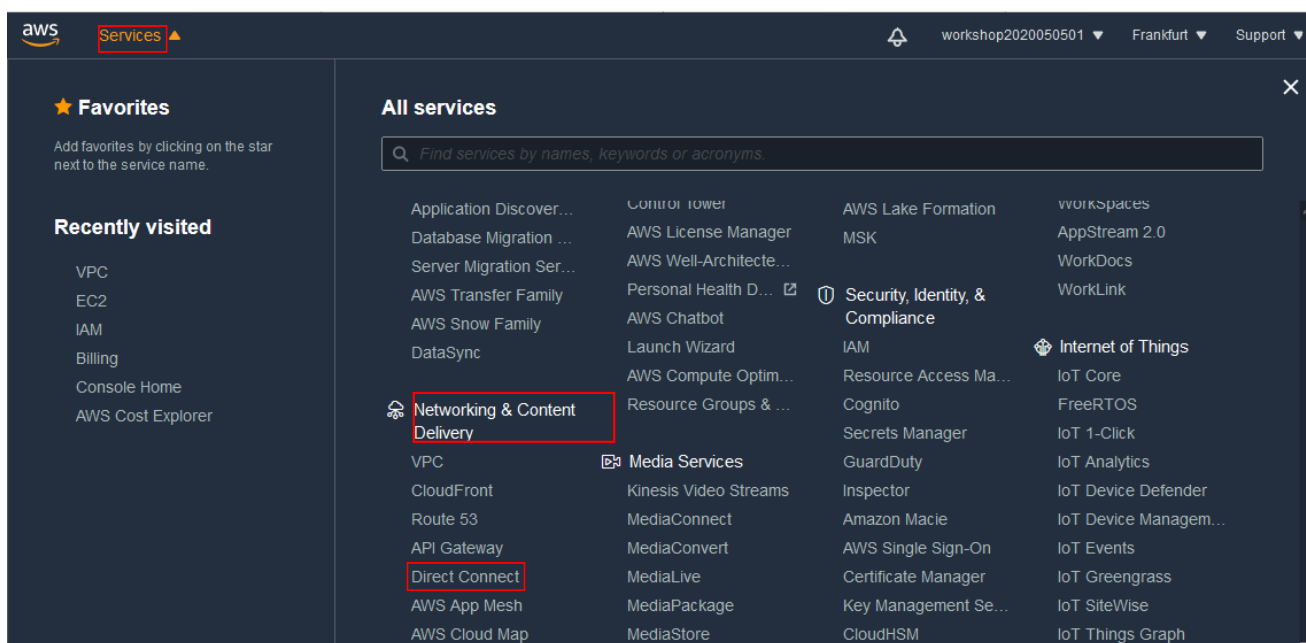
The screenshot shows the 'Connections' page in the Equinix Cloud Exchange Fabric. The top navigation bar includes 'Connections', 'Ports', 'Virtual Devices', 'Routing Instances', 'Connectors', 'Subscriptions', and 'IP Blocks'. The 'Connections' section has a filter bar with 'Show: Outgoing Connections' 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'.



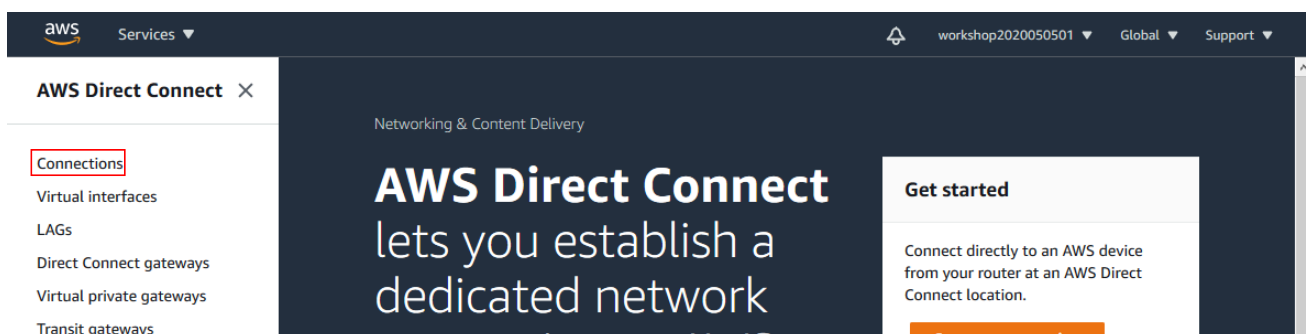


Hemos establecido la conexión entre Equinix y nuestra instancia de AWS. Sin embargo, aún es necesario establecer los parámetros de conexión a nuestro VPG de AWS.

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



Pinchamos el menú Connections:



Y podemos ver como la nueva conexión está en estado ordering:



The screenshot shows the AWS Direct Connect console. On the left, there's a sidebar with 'AWS Direct Connect' and a list of connection types. The main area shows 'Connections (1)' with a table containing one connection. The connection ID is 'dxcon-fflr...' and its state is 'ordering', both highlighted with red boxes. Buttons for 'View details', 'Edit', 'Delete', and 'Create connection' are visible at the top right of the table.

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 page for connection 'DXCON-FFLRGSFC'. At the top right, there are 'Accept' and 'Delete' buttons, with 'Accept' highlighted by a red box. Below, the 'General configuration' section displays various details in a table format.

General configuration			
Connection ID dxcon-fflrgsfc	State ordering	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

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

The screenshot shows a modal dialog box titled 'Accept hosted connection'. It asks 'Are you sure you want to accept the hosted connection dxcon-fflrgsfc?'. At the bottom right, there are 'Cancel' and 'Confirm' buttons, with 'Confirm' highlighted by 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 ▼

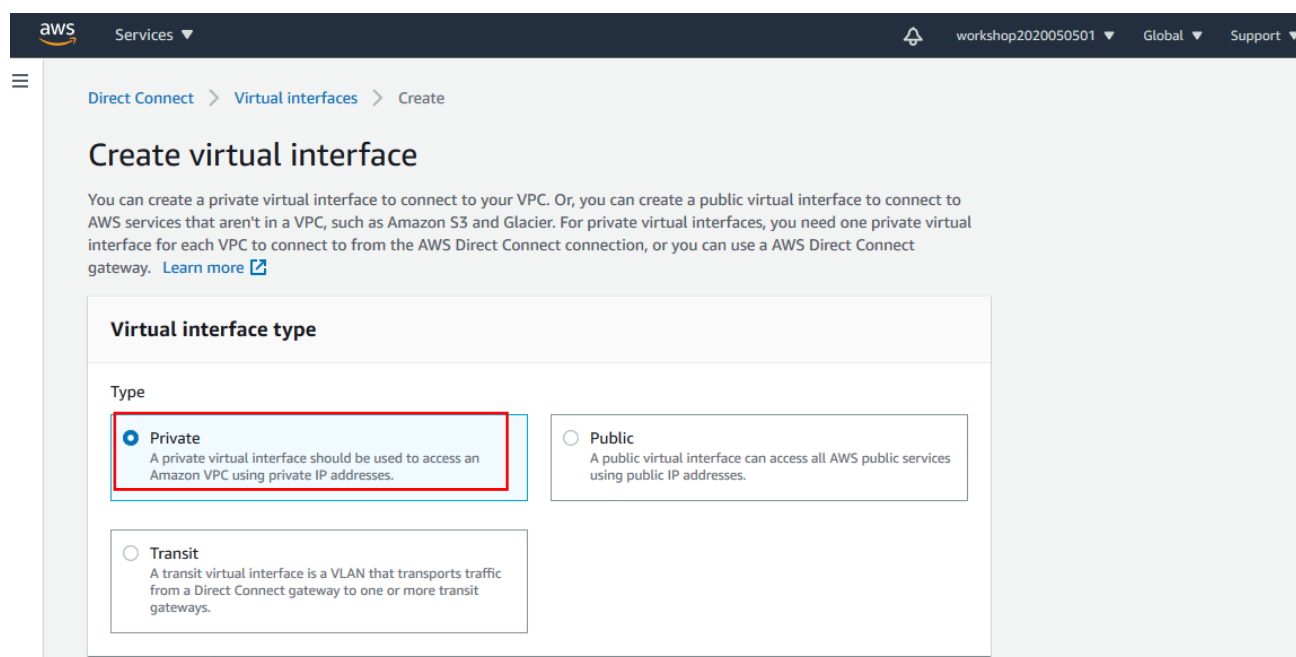
Search virtual interfaces

< 1 > ⚙

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 navigation indicates the path: 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.

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

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

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

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

(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"/> < 1 >								
<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"/> < 1 >								
<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	State ⓧ down	Amazon side ASN 64512	AWS device EqFA5-bqddwdtg6ab1
Virtual interface name atplabvlan	Virtual private gateway vgw-06abc2d93d2044c7a	Connection ID dxcon-fflrgsfc	MTU 1500
AWS account 267111821888	VLAN 377	Location Equinix FR5, Frankfurt, DEU	Jumbo frame capable true
Virtual interface type private	Region eu-central-1		

Peerings

Monitoring

Tags

Test history

Peerings (1)

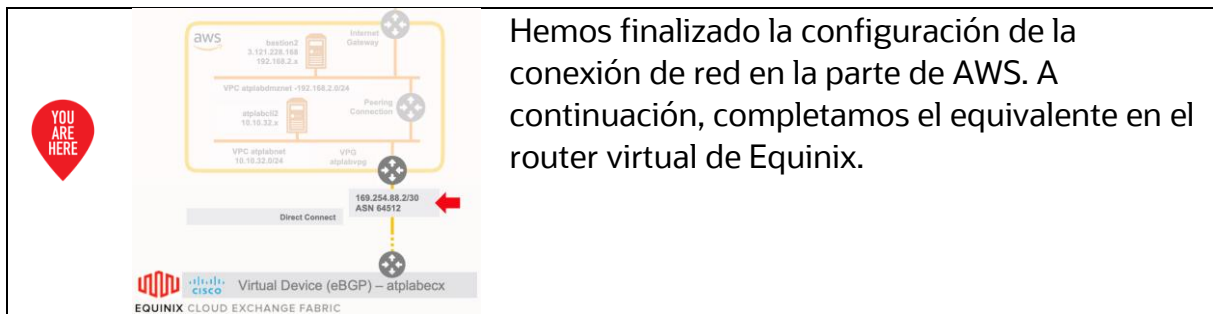
Delete

Add peering

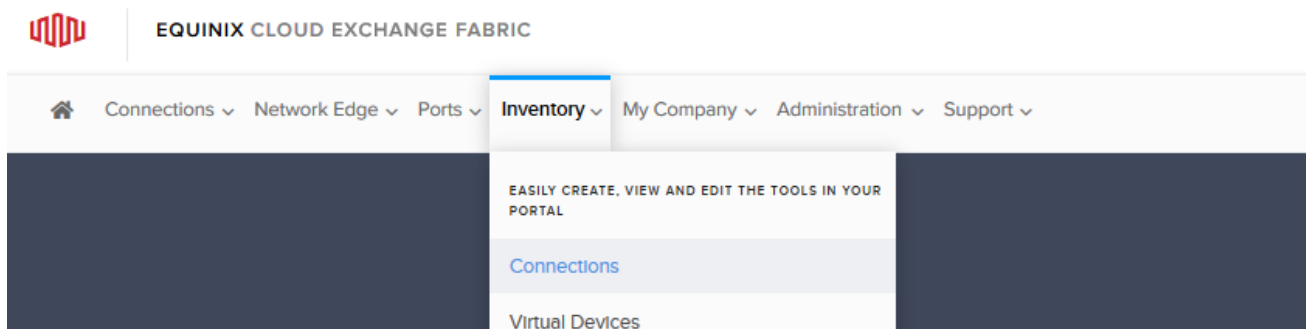
	ID	Na...	BGP ASN	BGP authentication k...	Your router peer...	Amazon router peer...	AWS device	State	BGP status
<input type="radio"/>	dxpeer-fgmm7k...	ipv4	64513	7182KZL	169.254.88.1/30	169.254.88.2/30	EqFA5-bqddwdtg6a...	✔ available	ⓧ down

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.

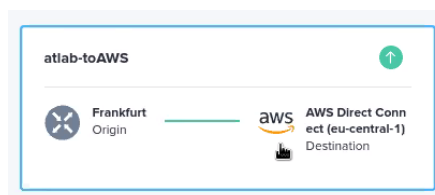




Continuamos volviendo de nuevo a la consola de Equinix (<https://ecxfabric.equinix.com>), abrimos el menú Inventory y pulsamos en Connections:



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`.

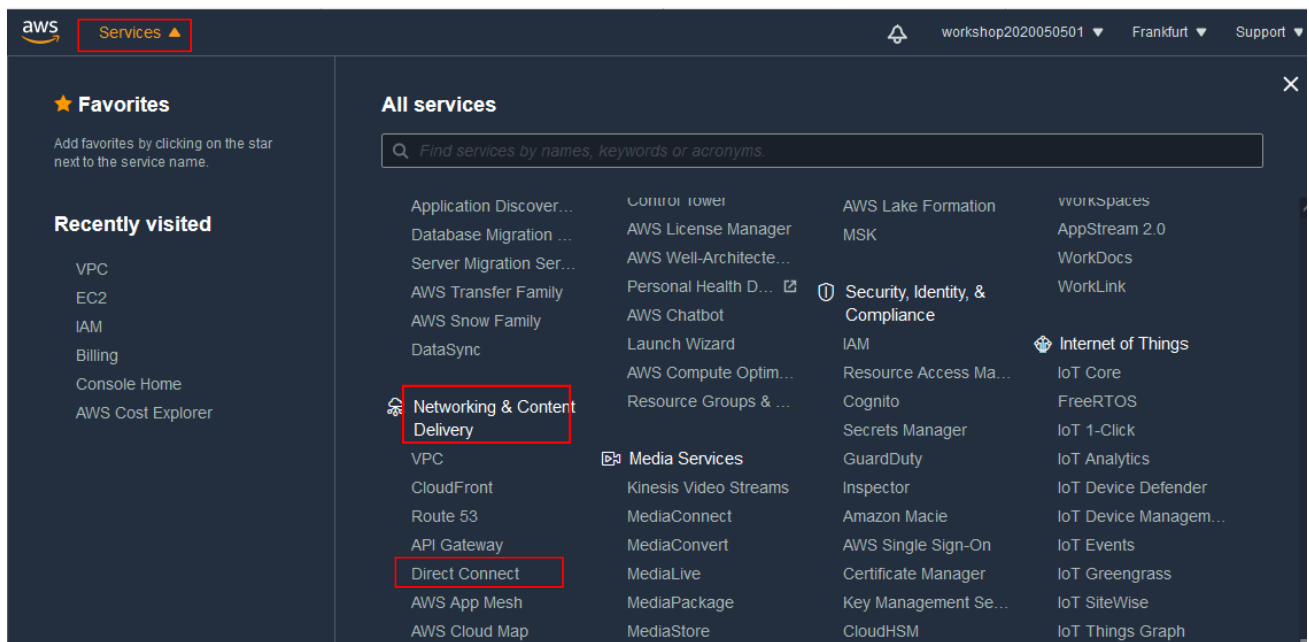
Primary BGP Information Learn More		Edit
Local ASN	64513	
Local IP Address	169.254.88.1/30	
Remote ASN i	64512	
Remote IP address	169.254.88.2	
BGP Authentication Key	7182KZL	
Provisioning Status	Provisioning	

Esperamos unos minutos y cambiará a `PROVISIONED`:

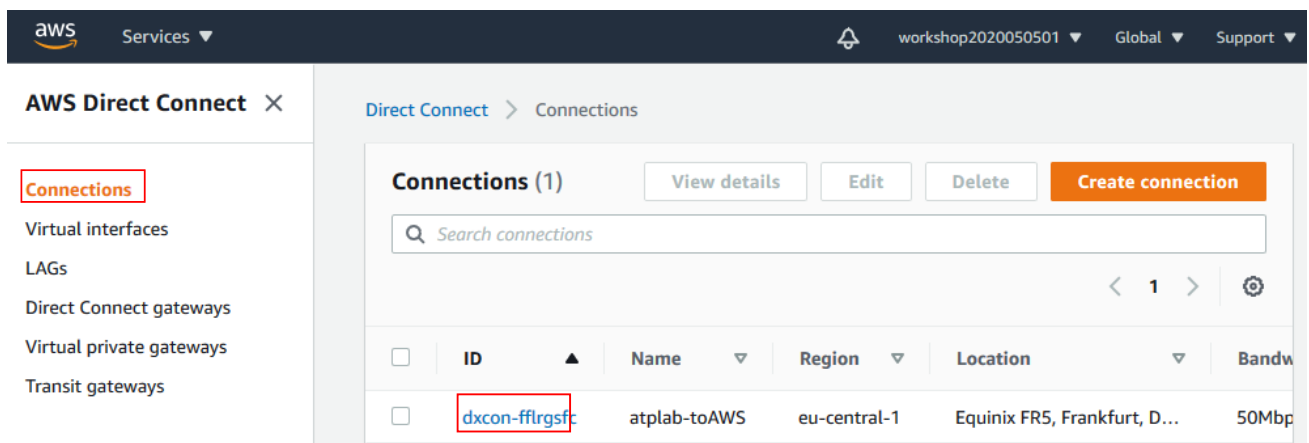
Primary BGP Information Learn More		Edit
Local ASN	64513	
Local IP Address	169.254.88.1/30	
Remote ASN i	64512	
Remote IP address	169.254.88.2	
BGP Authentication Key	7182KZL	
Provisioning Status	Provisioned	

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
dxvif-fhed6pt3	atplabvln	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
dxpeer-fgmm7k...	ipv4	64513	7182KZL	169.254.88.1/30	169.254.88.2/30	EqFA5-bqddwtdg6a...	available	up

