

PARTE I: Conceptos y Definición de Cloud Computing

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Sesión 1 - B

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Organización del curso

- Conceptos y definición de Cloud Computing
- Conceptos básicos. Modelo de referencia conceptual (según la NIST)
- Componentes básicos para identificar lo que es Cloud Computing y lo que no lo es.
- Infraestructura como Servicio (IaaS)
- Servicios básicos de Amazon Web Services.
- Laboratorios AWS

Conceptos y definición de Cloud Computing



Computación en la Nube

- **Concepción tecnológica y a un modelo de negocio**
- **La computación en la nube** permite el acceso a través de Internet a un conjunto compartido o dedicado de recursos de cómputo (como servidores, recursos de almacenamiento, aplicaciones y servicios conexos).
- **Modelo de pago por uso.**
- **Marketplace**



Why are more and more companies making use of cloud computing Services?

Cloud computing allows companies to reduce their spending or even eliminate it in certain areas, especially in those areas with high capital cost, such as in - house development and maintenance of an information technology

outsourcing

What are the available Services of cloud computing?

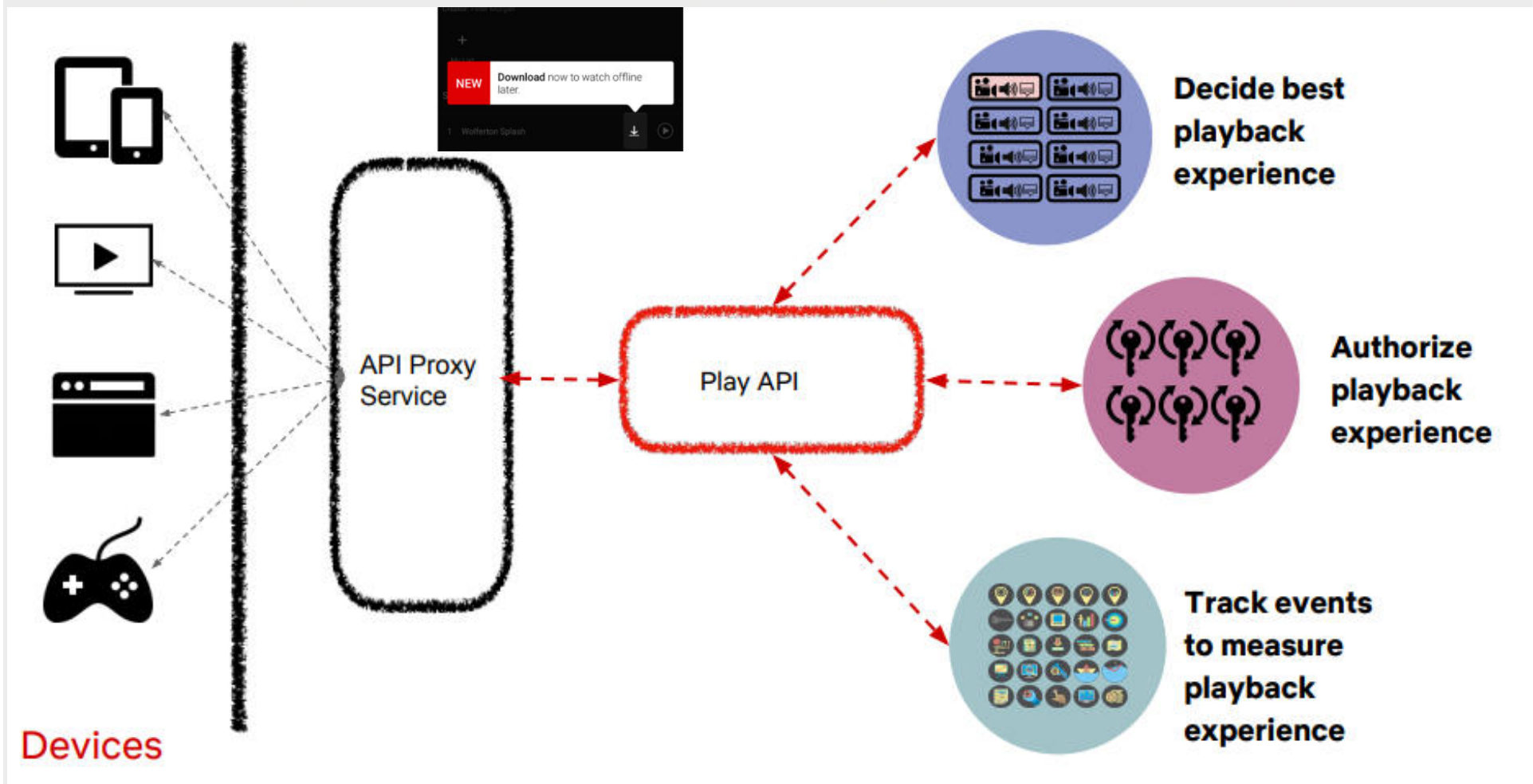
- The internet is now capable of high - speed transfers, so much so that almost anything can be done through the cloud
- Processing, running applications, and even running artificial intelligence or neural networks can be done through the cloud.



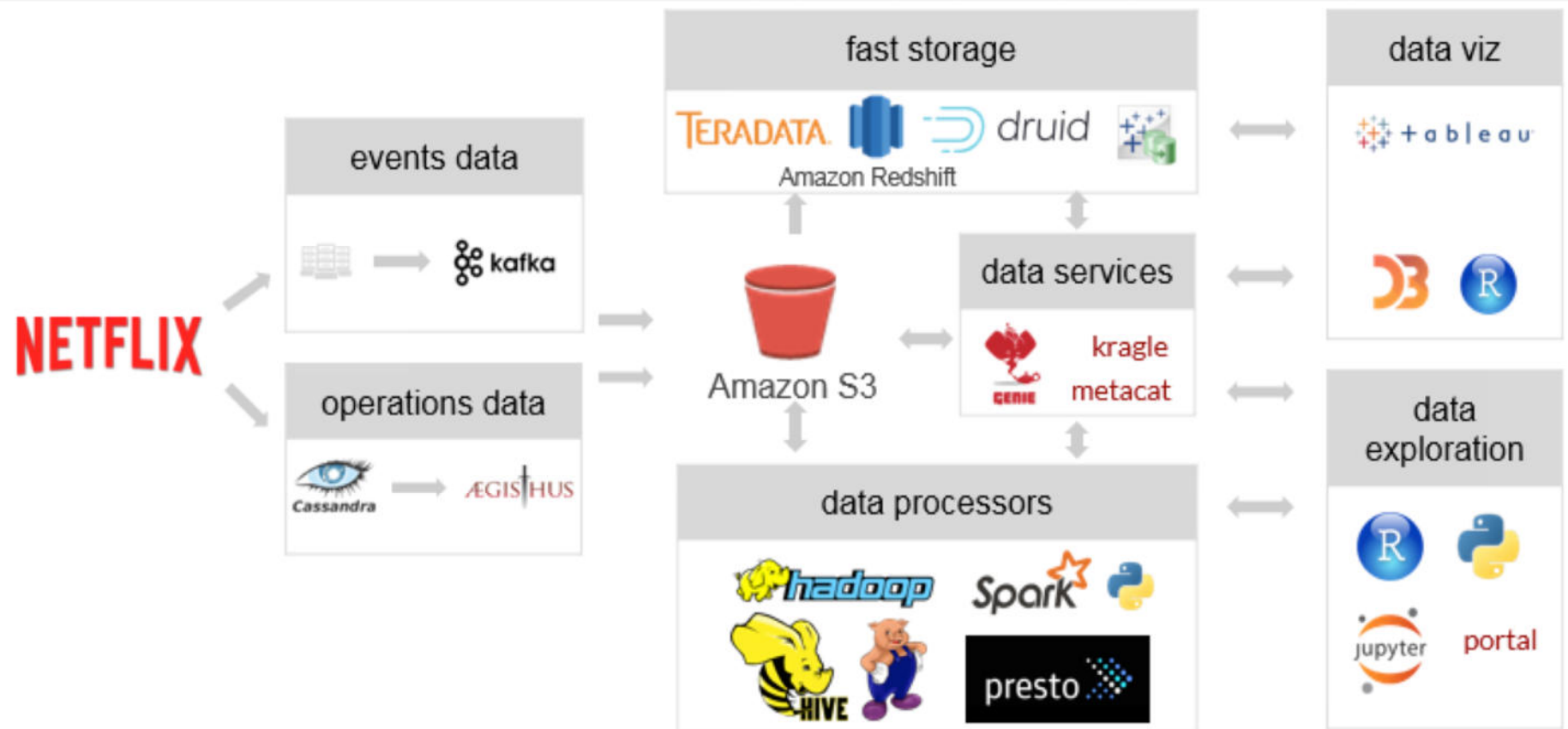
Example: Netflix Play API

Building an Evolutionary Architecture

[#netflixeverywhere](https://netflixeverywhere.com/)



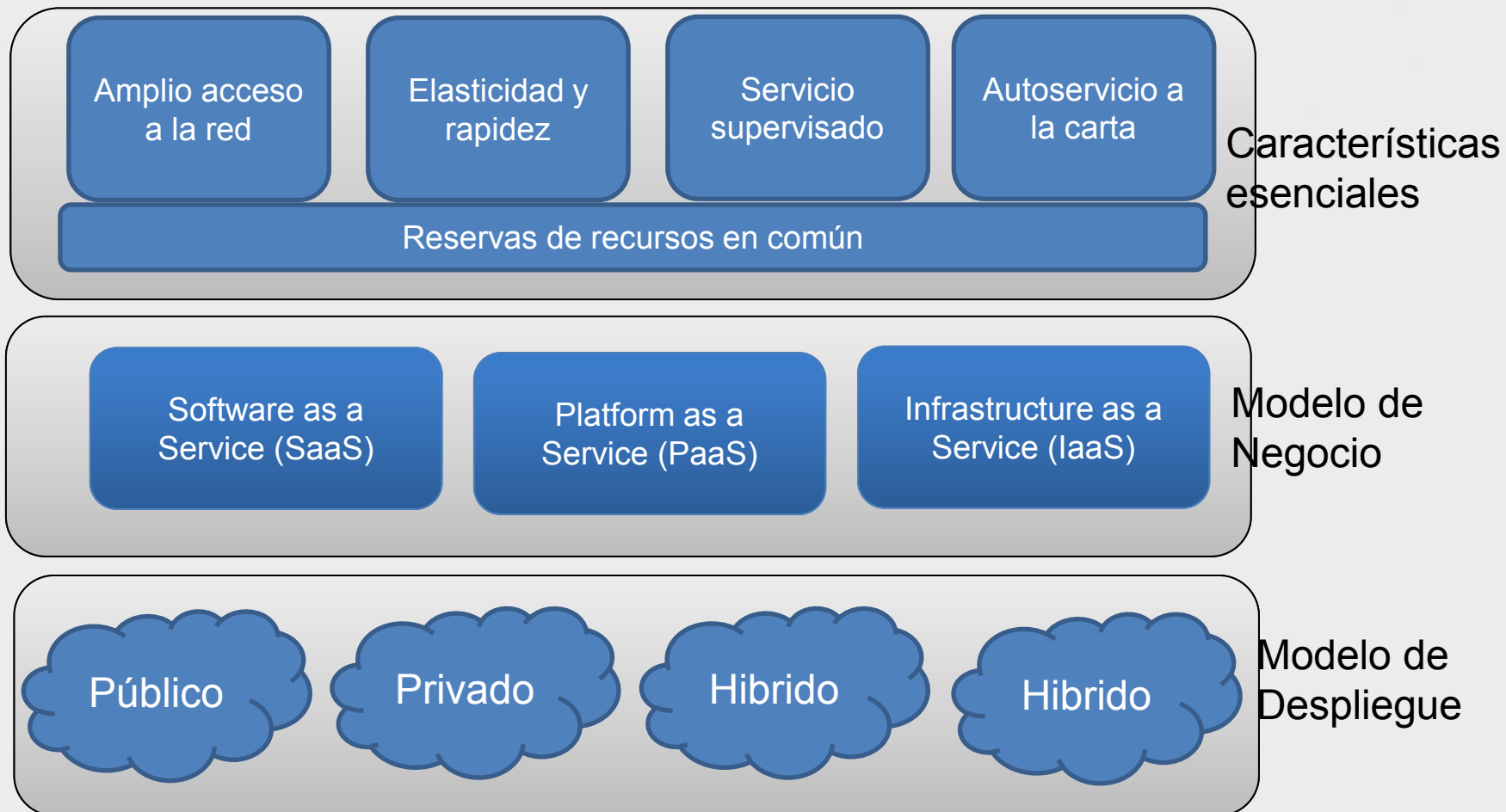
How Netflix built its analytics in the cloud with Tableau and AWS



Marco de definición de Computación en la Nube del NIST

National Institute of Standards and
Technology – NIST

Marco de definición de Computación en la Nube del NIST



Características esenciales

Auto-servicio por demanda

Un consumidor puede aprovisionar de manera unilateral capacidades de cómputo, tales como tiempo de servidor y almacenamiento en red, en la medida en que las requiera sin necesidad de interacción humana por parte del proveedor del servicio.



Amplio acceso desde la red

Las capacidades están disponibles sobre la red y se acceden a través de mecanismos estándares que promueven el uso desde plataformas clientes heterogéneas, pesadas o livianas



Amplio acceso desde la red

Los recursos computacionales del proveedor se habilitan para servir a múltiples consumidores mediante un modelo multi-propietario. Existe un sentido de independencia de ubicación en cuanto a que el consumidor no posee control o conocimiento sobre la ubicación exacta de los recursos.



Rapidez y Elasticidad

Las capacidades pueden ser rápidamente y elásticamente aprovisionadas, en algunos casos automáticamente, para escalar hacia fuera rápidamente y también rápidamente liberadas para escalar hacia dentro también de manera veloz.



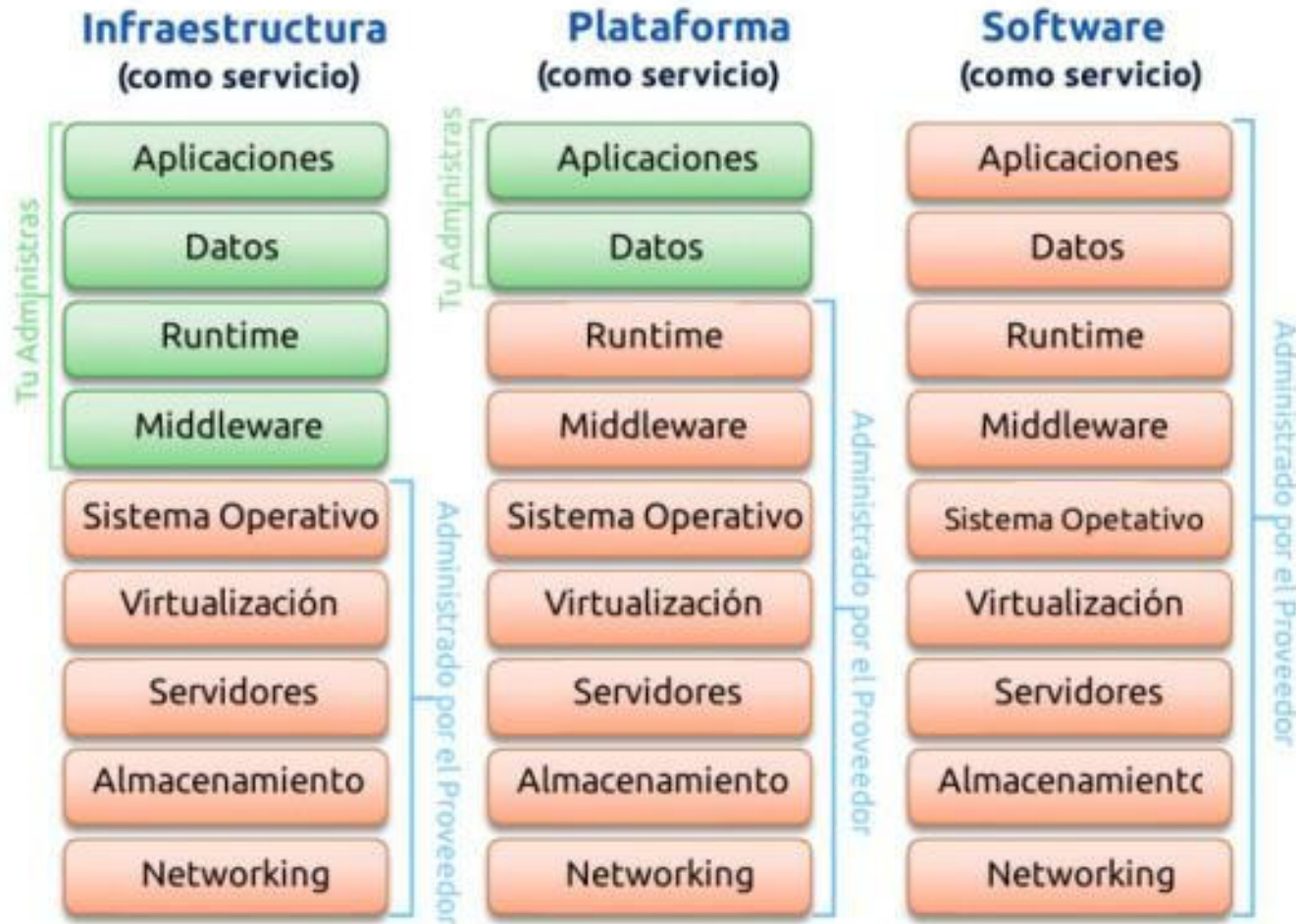
Servicio supervisado

Los sistemas en la nube controlan automáticamente y optimizan el uso de recursos mediante una capacidad de medición a algún nivel de abstracción adecuado al tipo de servicio; por ejemplo, almacenamiento, procesamiento, ancho de banda y cuentas de usuario activas.

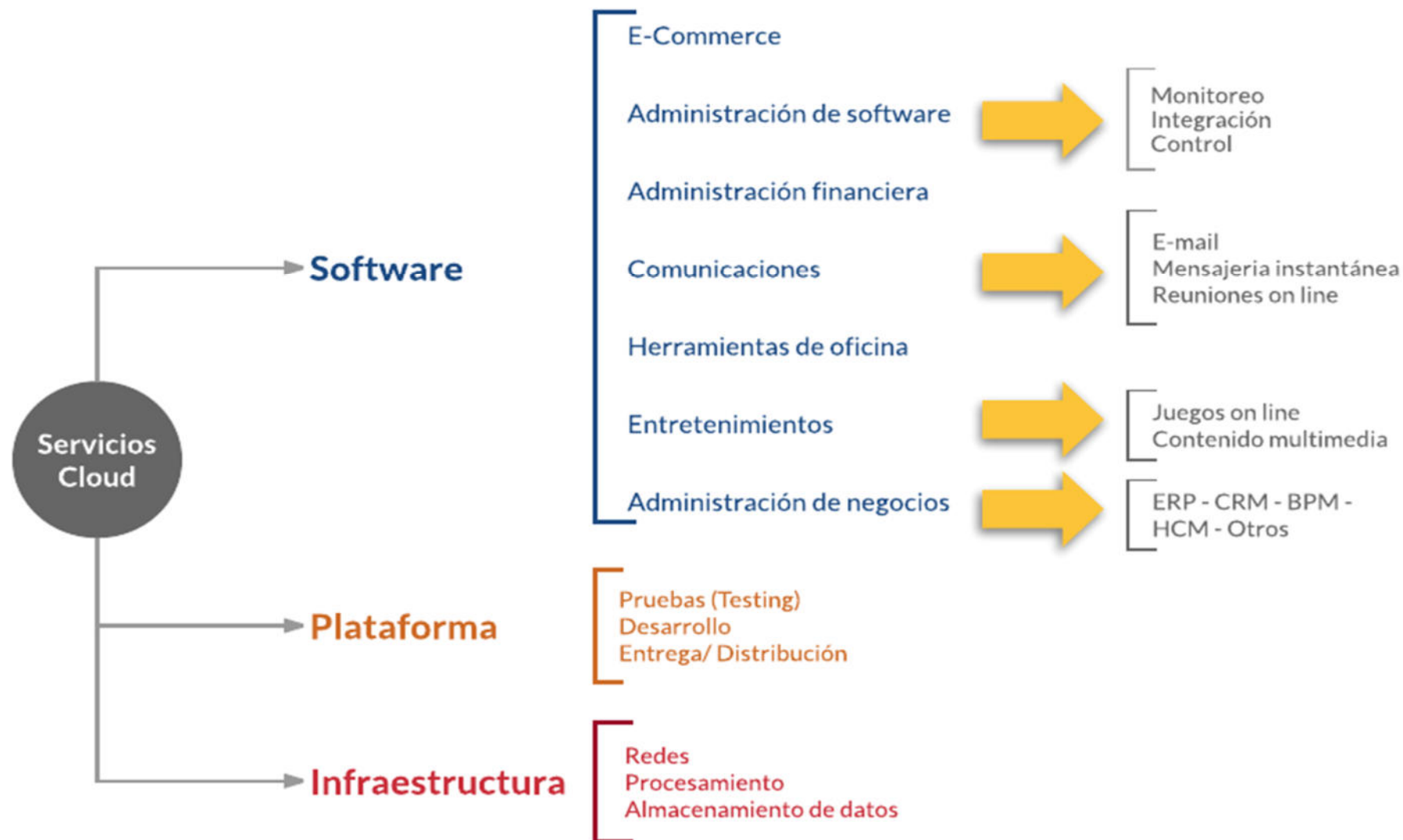


Modelo de Negocio

Modelos de prestación de servicio de la Computación en la Nube



Modelos de prestación de servicio de la Computación en la Nube

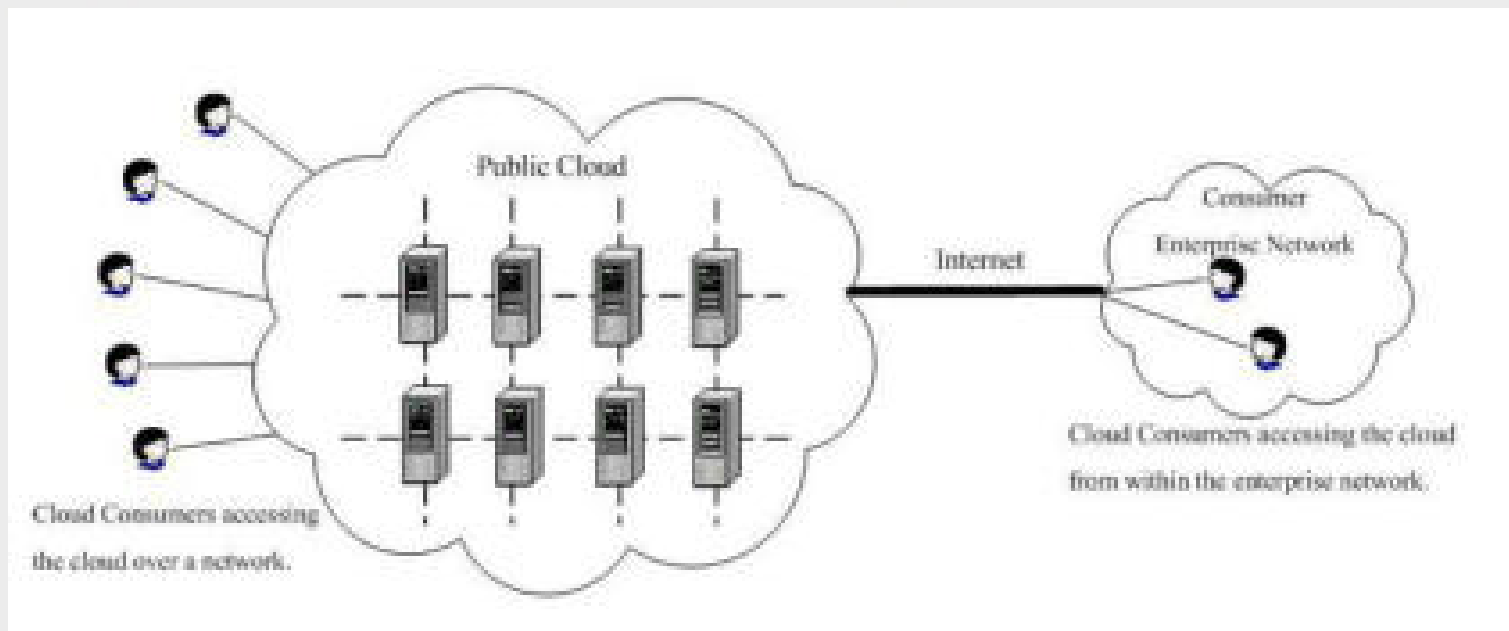


Modelo de Despliegue

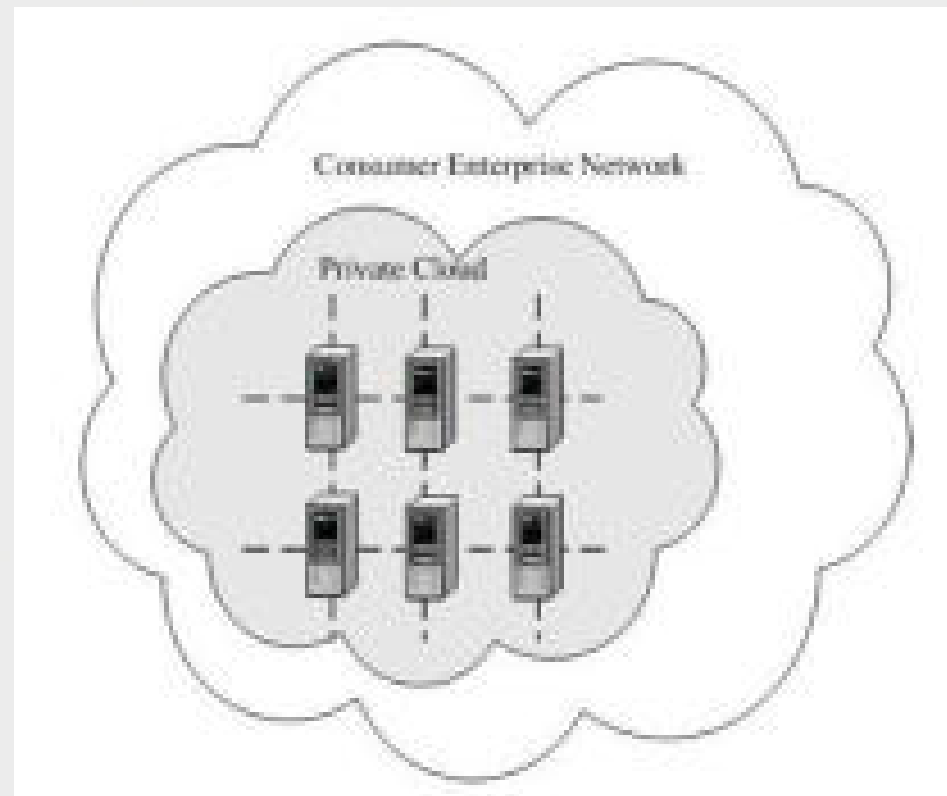
Modelo de Despliegue

Servicio	Descripción
Nube Pública	La infraestructura de nube está disponible para el público en general o para un gran grupo de industria y dicha infraestructura la provee una organización que vende servicios de computación en la nube.
Nube Privada	La infraestructura de nube es operada únicamente para una organización. Puede ser administrada por la organización o por un tercero y puede existir tanto en las instalaciones como fuera de ellas.
Nube Híbrida	Es la composición de dos o más nubes (privada, comunitaria o pública), que permanecen como entidades únicas pero que coexisten por tener tecnología estandarizada que permite la portabilidad de datos y aplicaciones entre las mismas

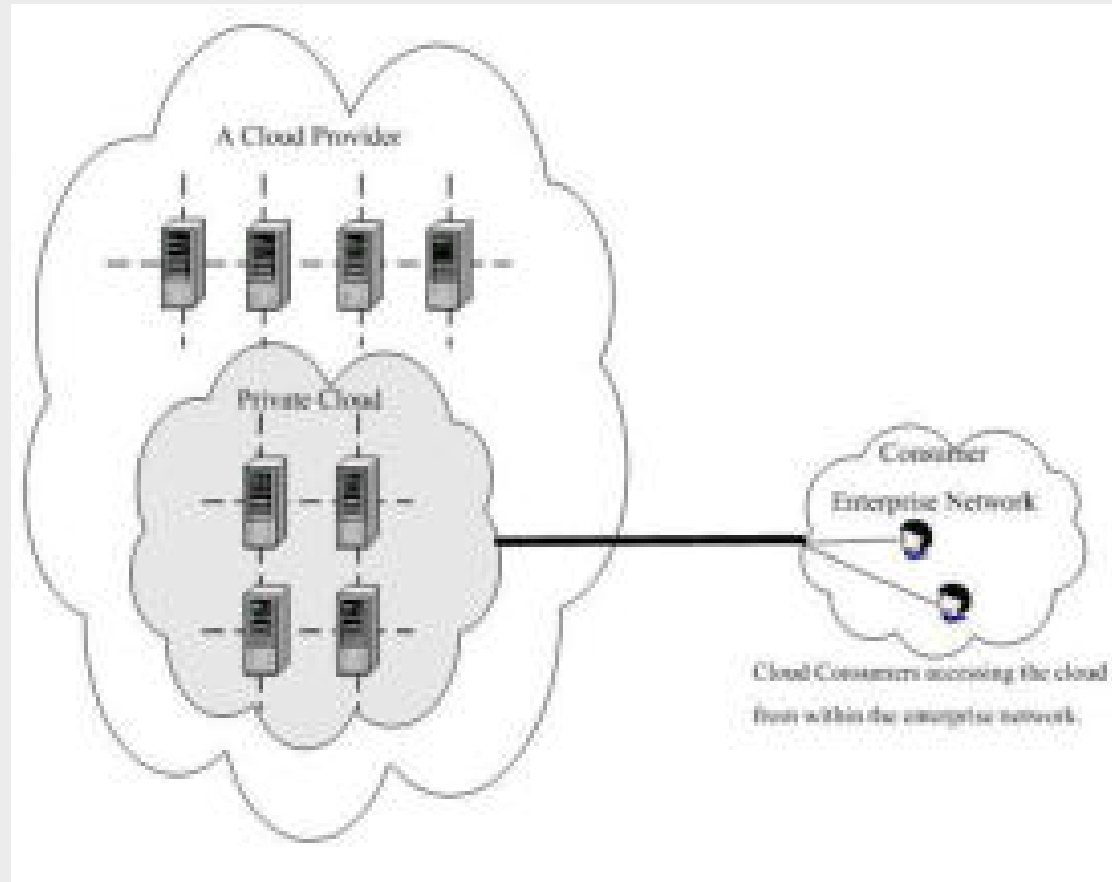
Nube Pública



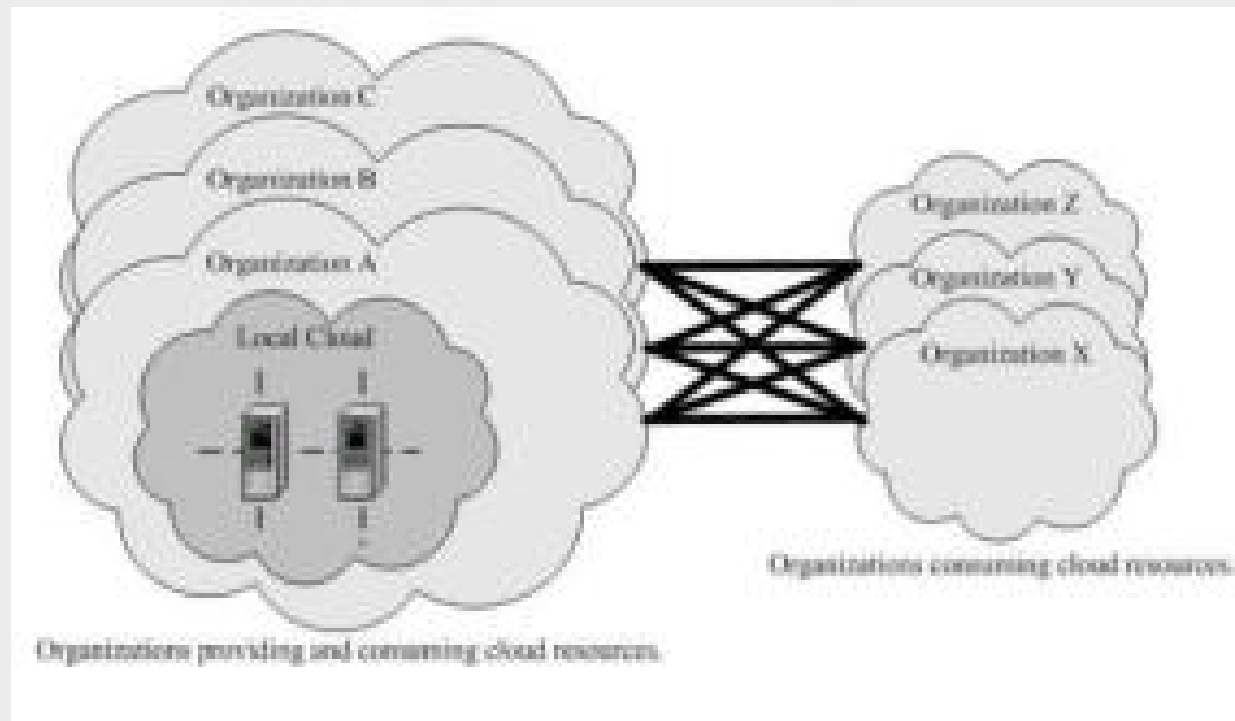
Nube Privada



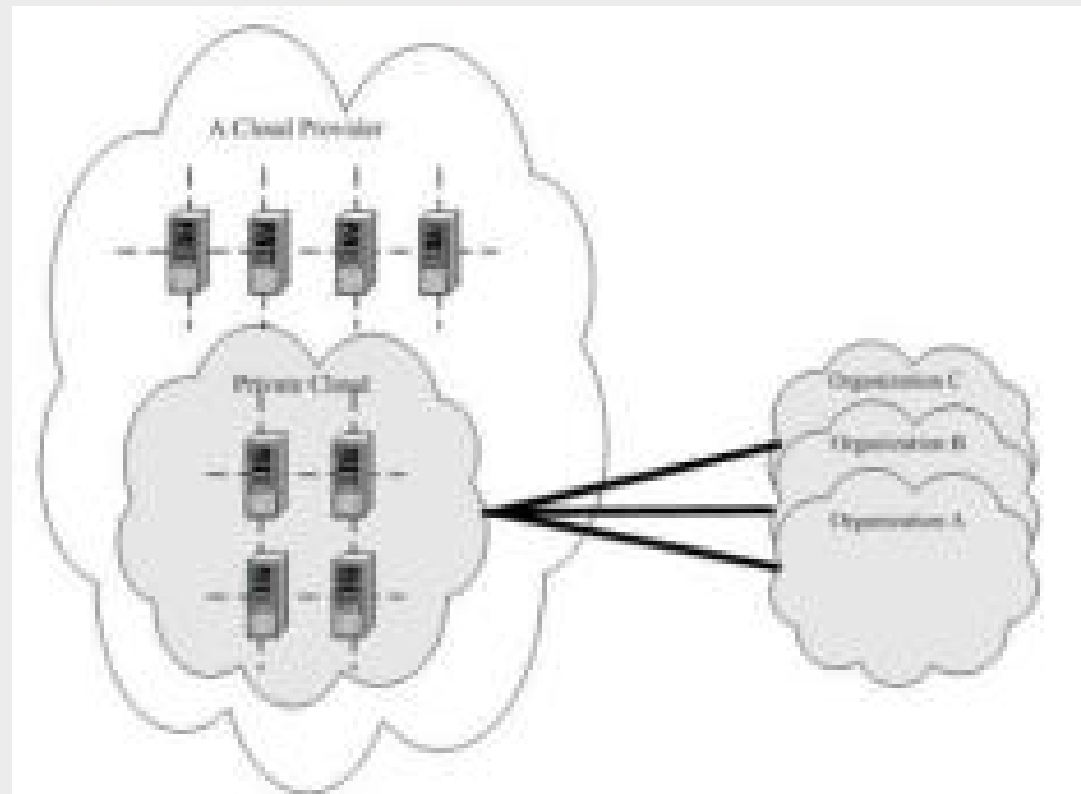
Nube Privada - Subcontratada



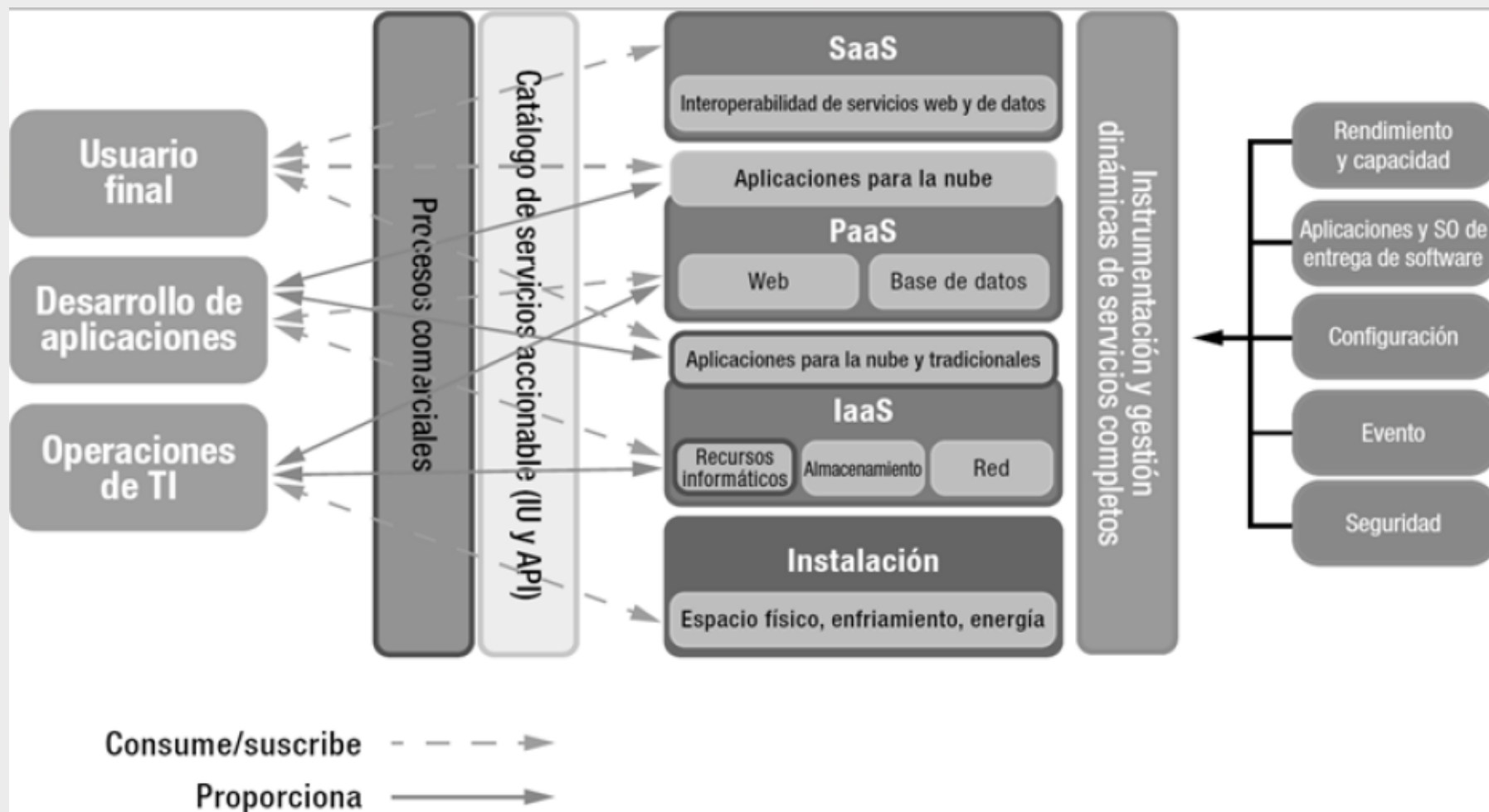
Nube Comunitaria



Nube comunitaria - Subcontratada



Modelo de uso principal de Open Data Center Alliance



Arquitectura de capas en la nube

Arquitectura 3 Capas

Presentación

Comp1

Comp2

Negocio

Comp1

Comp2

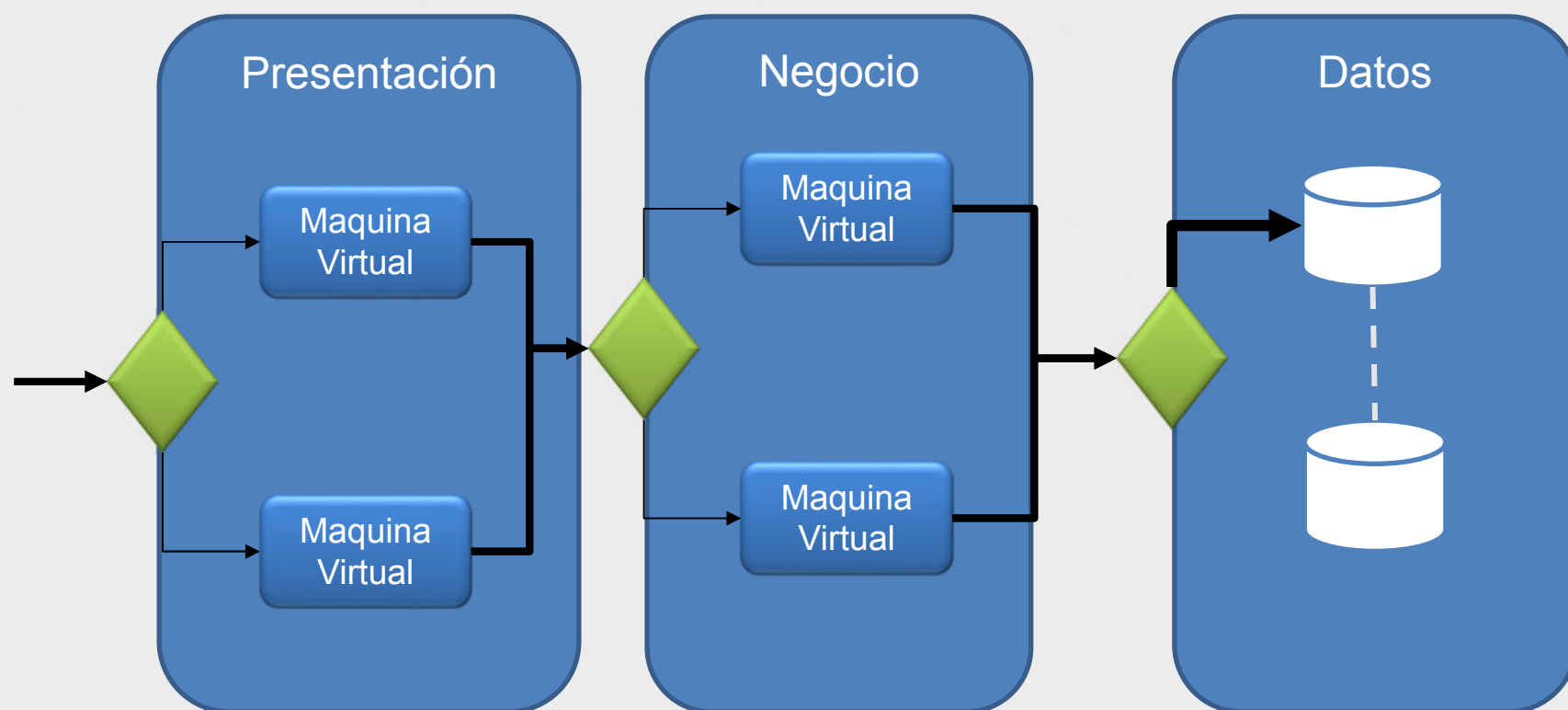
Datos



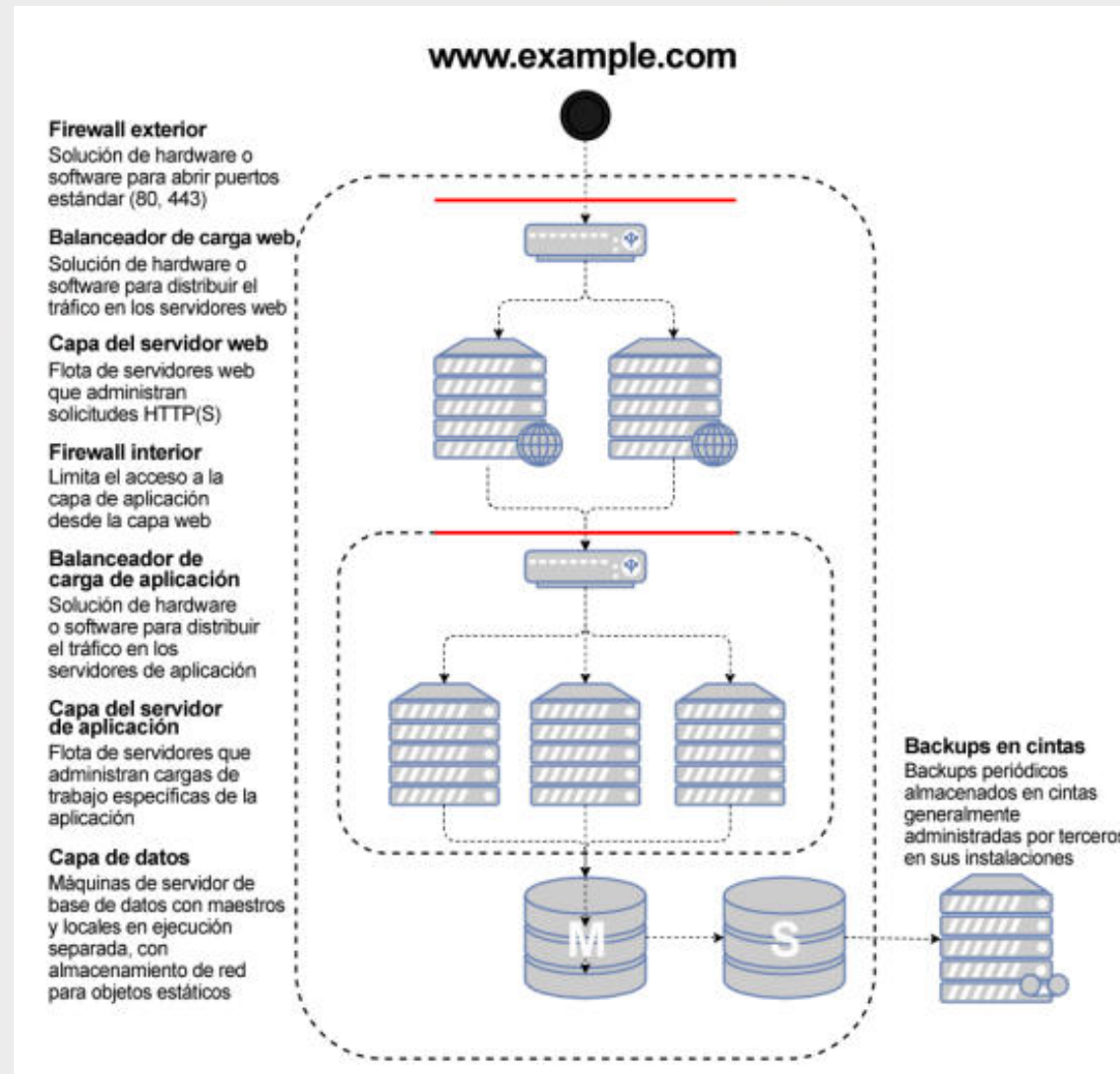
Arquitectura en la Nube – Todo en uno



Arquitectura en la Nube – Todo en uno



Una arquitectura de alojamiento web tradicional

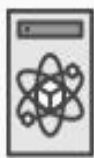




amazon
web services™

¿Qué es AWS?

Amazon Web Services (AWS) es la plataforma en la nube con 165 servicios integrales de centro de datos a nivel global.



Operating Systems



Security



Networking



Storage



Business Intelligence



Databases



Dev Ops



Machine Learning

AWS dispone de un conjunto de herramientas de administración que le permitirá aprovisionar, monitorizar y automatizar mediante programación todos los componentes de su entorno en la nube.

APROVISIONAMIENTO - [AWS CloudFormation](#)

ADMINISTRACIÓN DE OPERACIONES - [AWS Systems Manager](#)

MONITORIZACIÓN Y REGISTRO - [Amazon CloudWatch](#)

SERVICIOS ADMINISTRADOS PARA LA ADMINISTRACIÓN DE LA CONFIGURACIÓN - [AWS OpsWorks](#)

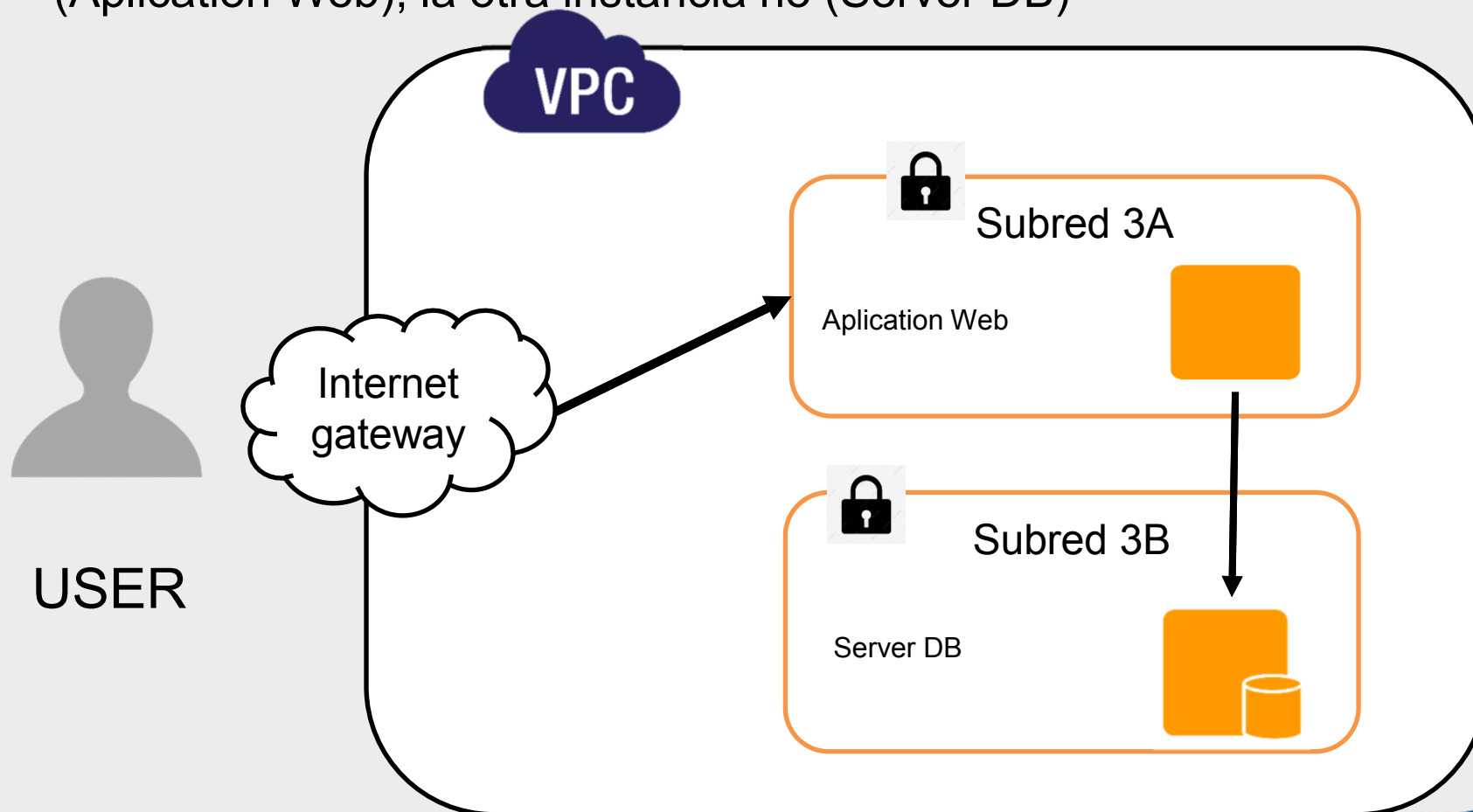
Laboratorio 01 AWS - EC2 y VPC

Amazon Elastic Compute Cloud (Amazon EC2)

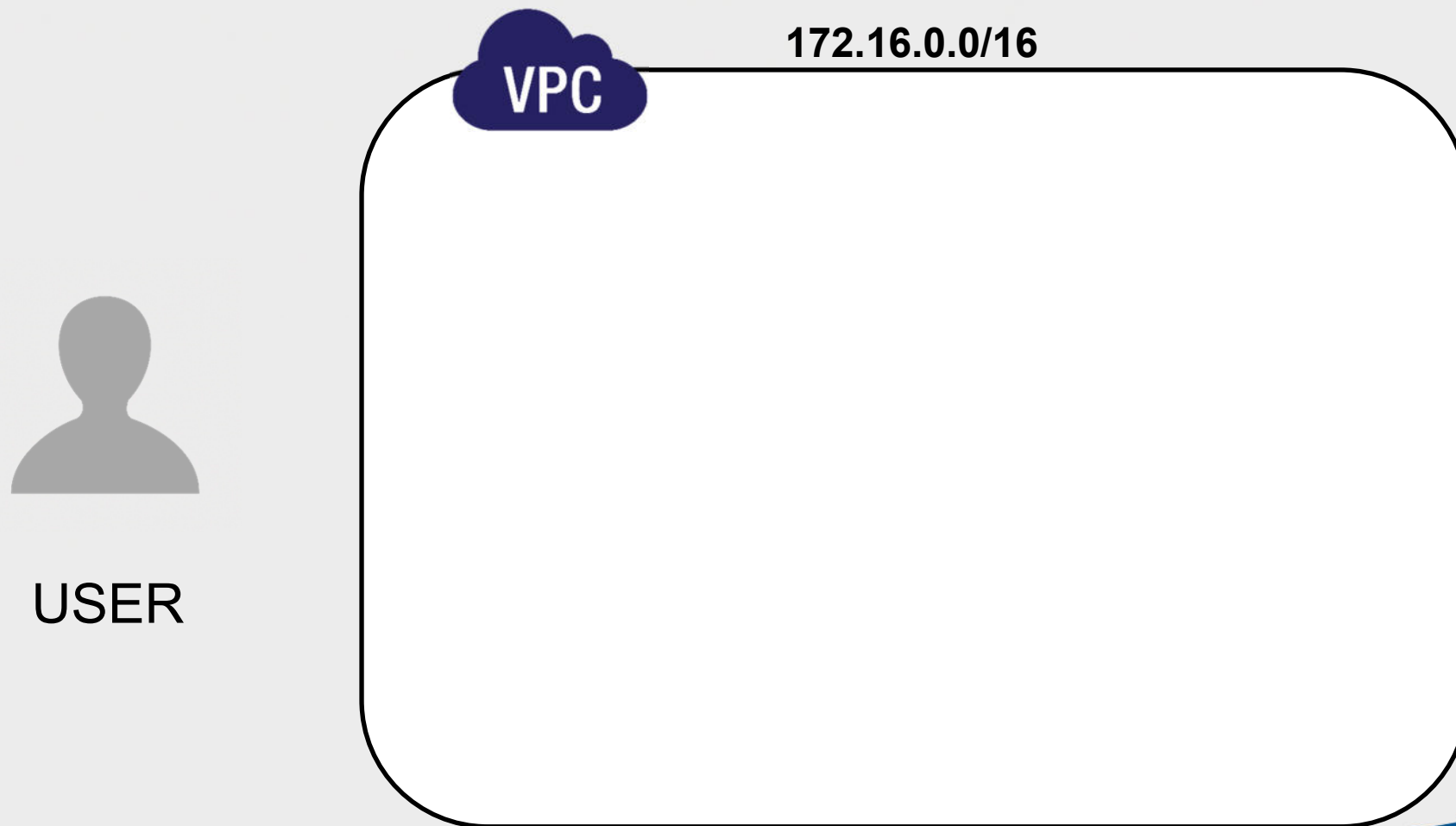
Amazon Virtual Private Cloud (Amazon VPC)

Ejercicio: Ec2 y VPC

Objetivo: Crear dos instancias, Instancia con salida a internet (Aplicacion Web), la otra instancia no (Server DB)

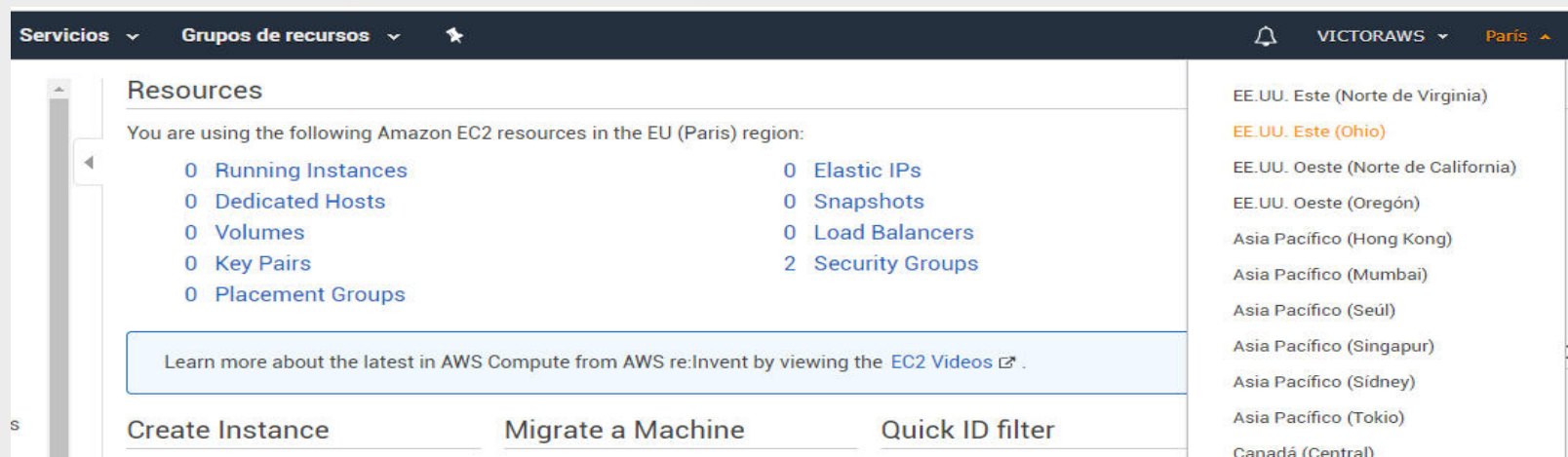




1. Crear VPC Utadeo



Ejercicio: Ec2 y VPC

1. Crear VPC Utadeo , Seleccionar país – Data Center



Servicios ▾ **Grupos de recursos** ▾   **VICTORAWS** ▾ **París** ▴

Resources

You are using the following Amazon EC2 resources in the EU (Paris) region:

0 Running Instances	0 Elastic IPs
0 Dedicated Hosts	0 Snapshots
0 Volumes	0 Load Balancers
0 Key Pairs	2 Security Groups
0 Placement Groups	

[Learn more about the latest in AWS Compute from AWS re:Invent by viewing the \[EC2 Videos\]\(#\) ↗.](#)

[Create Instance](#) [Migrate a Machine](#) [Quick ID filter](#)

- EE.UU. Este (Norte de Virginia)
- EE.UU. Este (Ohio)**
- EE.UU. Oeste (Norte de California)
- EE.UU. Oeste (Oregón)
- Asia Pacífico (Hong Kong)
- Asia Pacífico (Mumbai)
- Asia Pacífico (Seúl)
- Asia Pacífico (Singapur)
- Asia Pacífico (Sidney)
- Asia Pacífico (Tokio)
- Canadá (Central)



Servicios ▾ **Grupos de recursos** ▾   **VICTORAWS** ▾ **Ohio** ▾ **S**

Resources

You are using the following Amazon EC2 resources in the US East (Ohio) region:

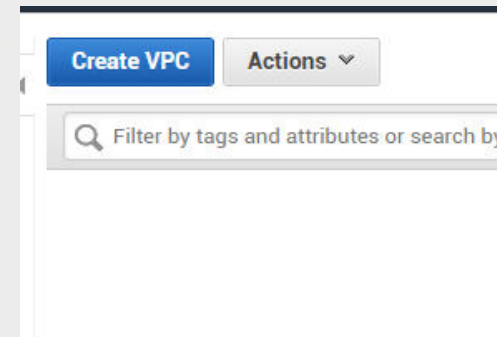
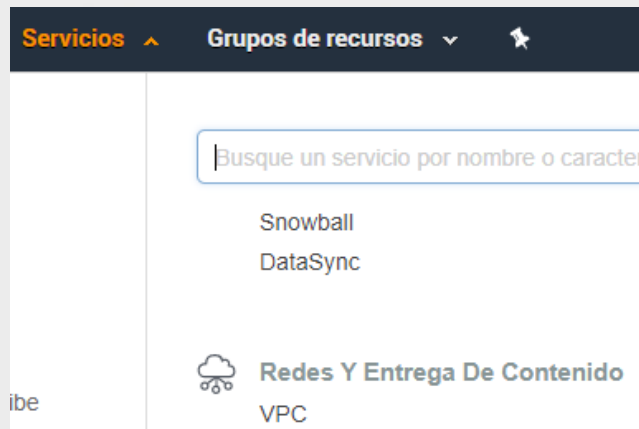
0 Running Instances	0 Elastic IPs
0 Dedicated Hosts	0 Snapshots
0 Volumes	0 Load Balancers
0 Key Pairs	1 Security Groups
0 Placement Groups	

Account Attributes

- [Supported Platforms](#)
- VPC
- [Default VPC](#)
- vpc-f32fd398
- [Console experiments](#)
- [Settings](#)

Ejercicio: Ec2 y VPC

1. Crear VPC Utadeo , Seleccionar país – Data Center



Create VPC

A VPC is an isolated portion of the AWS cloud populated by AWS objects, such as Amazon EC2 instances. You must specify Domain Routing (CIDR) block; for example, 10.0.0.0/16. You cannot specify an IPv4 CIDR block larger than /16. You can op

Name tag ⓘ

IPv4 CIDR block* ⓘ

IPv6 CIDR block ☒ No IPv6 CIDR Block ⓘ
☐ Amazon provided IPv6 CIDR block

Tenancy ⓘ

* Required

VPCs > Create VPC

Create VPC

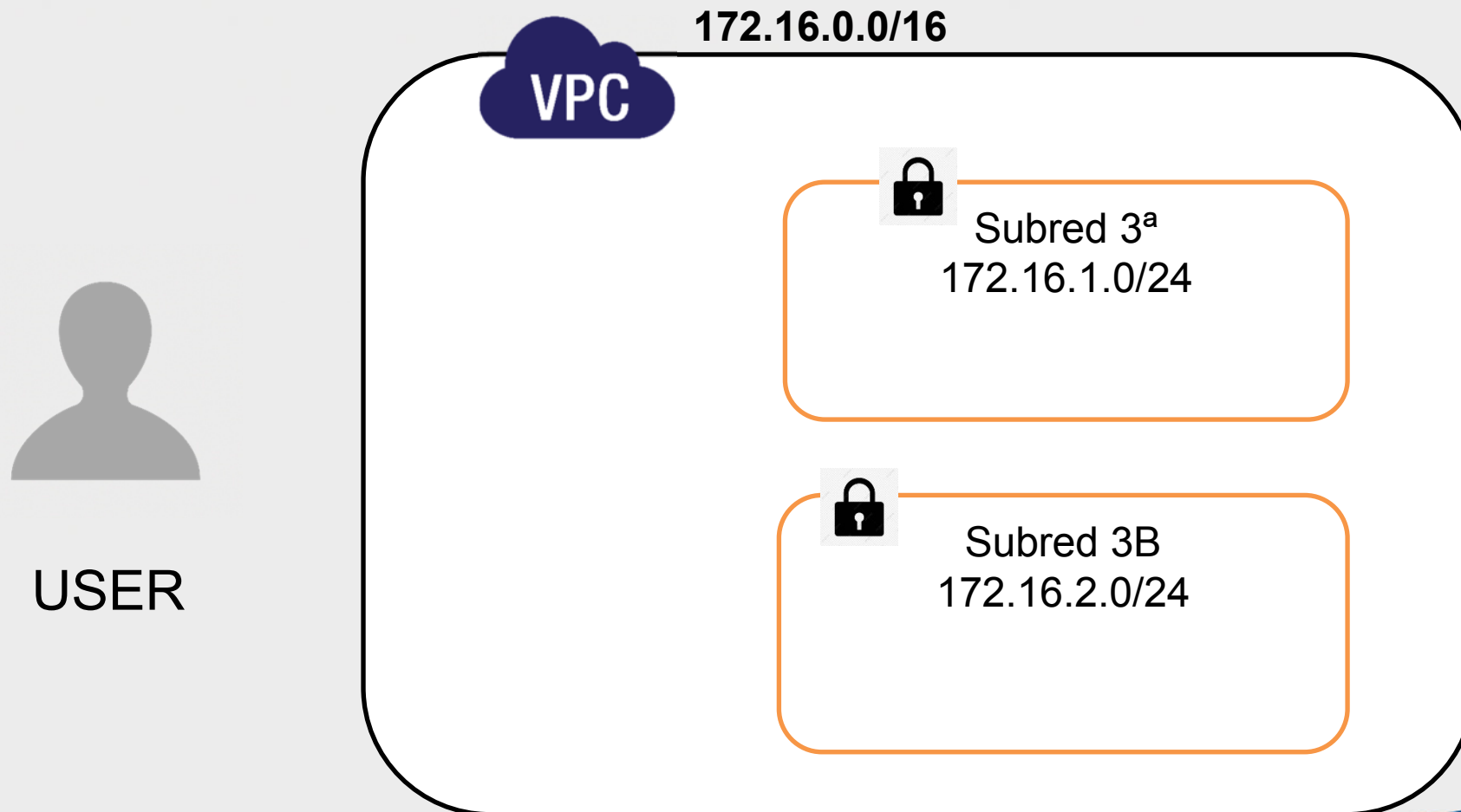
✓ The following VPC was created:

VPC ID vpc-02cbd00905095c2bc

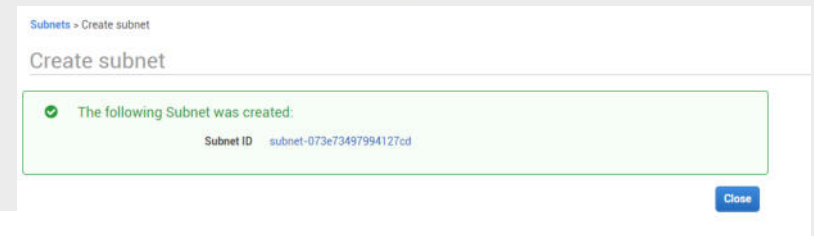
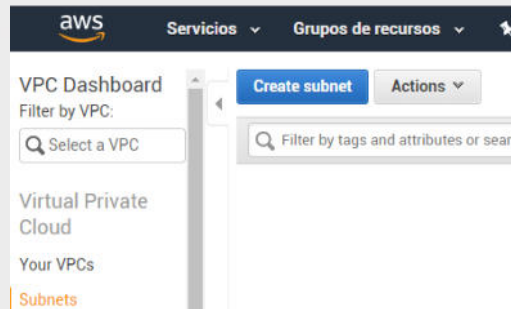
Close

Ejercicio: Ec2 y VPC

2. Crear una primera de las subredes



2. Crear una primera subred (SUBRED 3A)



Create subnet

Specify your subnet's IP address block in CIDR format; for example, 10.0.0.0/24. IPv4 block sizes must be between a /16 and a /28 CIDR block.

Name tag

VPC*

VPC CIDRs
vpc-02cbd00905095c2bc VPC UTADEO

Availability Zone

IPv4 CIDR block*

2. Crear una segunda subred (SUBRED 3B)

aws Servicios Grupos de recursos

VPC Dashboard
Filter by VPC:
Select a VPC

Virtual Private Cloud
Your VPCs
Subnets

Create subnet Actions

Filter by tags and attributes or search

Create subnet

The following Subnet was created:
Subnet ID subnet-0102b287c45ffb146

Close

Specify your subnet's IP address block in CIDR format; for example, 10.0.0.0/24. IPv4 block sizes must be between a /16 and a /64 CIDR block.

Name tag SUBRED B

VPC*

VPC CIDRs

Filter by attributes

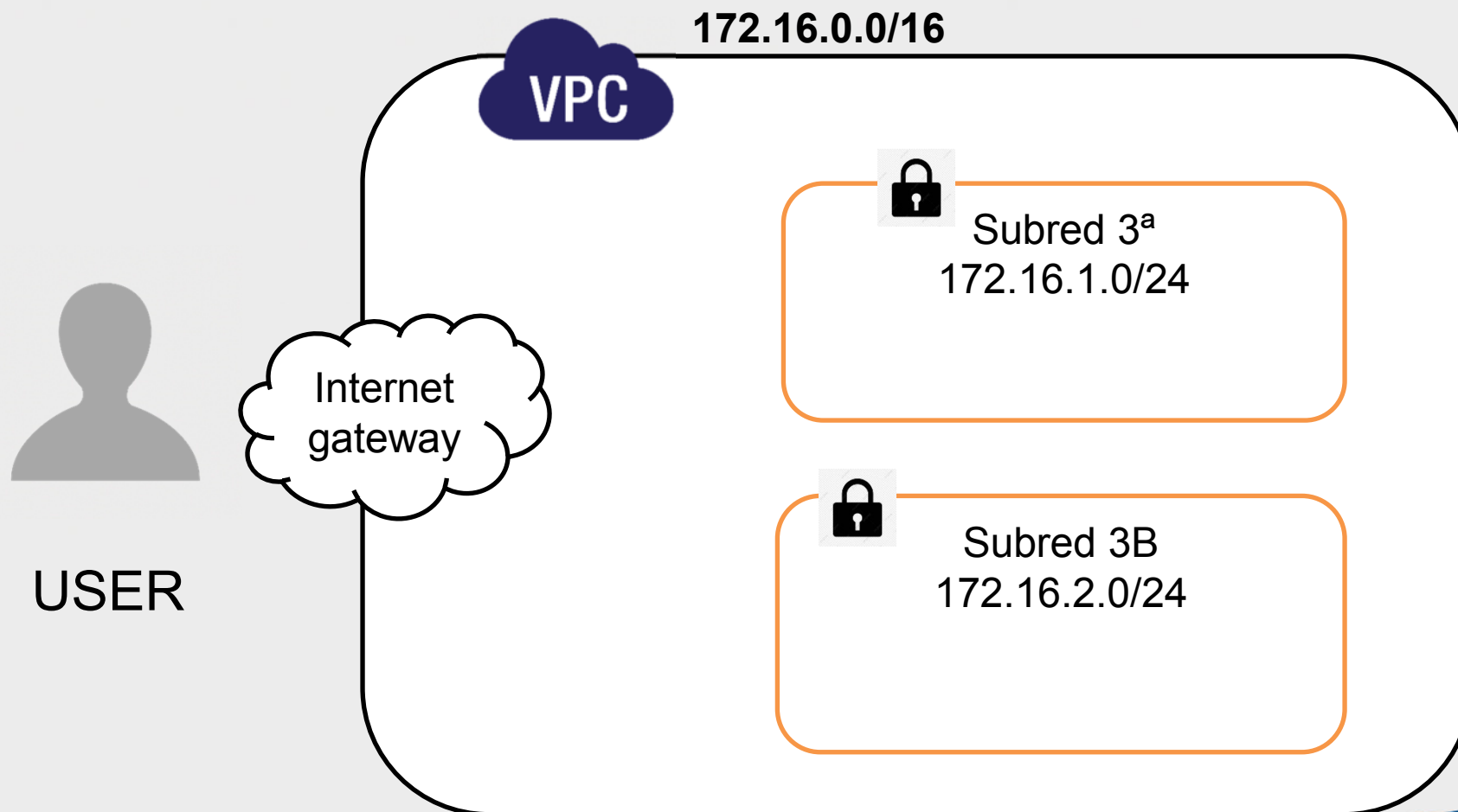
vpc-02cbd00905095c2bc VPC UTADEO

Availability Zone No preference

IPv4 CIDR block* 172.16.2.0/24

* Required

3. Crear una Internet Gateway



3. Crear una Internet Gateway PUERTA UTADEO

The screenshot displays the AWS Management Console interface for creating an Internet Gateway. The left-hand navigation pane shows the 'VPC Dashboard' with a search filter and a list of VPC-related resources: Virtual Private Cloud, Your VPCs, Subnets, Route Tables, and Internet Gateways (which is highlighted). The main content area is titled 'Create internet gateway' and includes a description: 'An internet gateway is a virtual router that connects a VPC to the internet. To create a r...'. Below this, the 'Name tag' field is populated with 'PUERTA UTADEO'. A red dashed underline is visible under the text 'UTADEO'. An information icon (i) is located to the right of the input field. At the bottom left of the form, there is a label '* Required'.

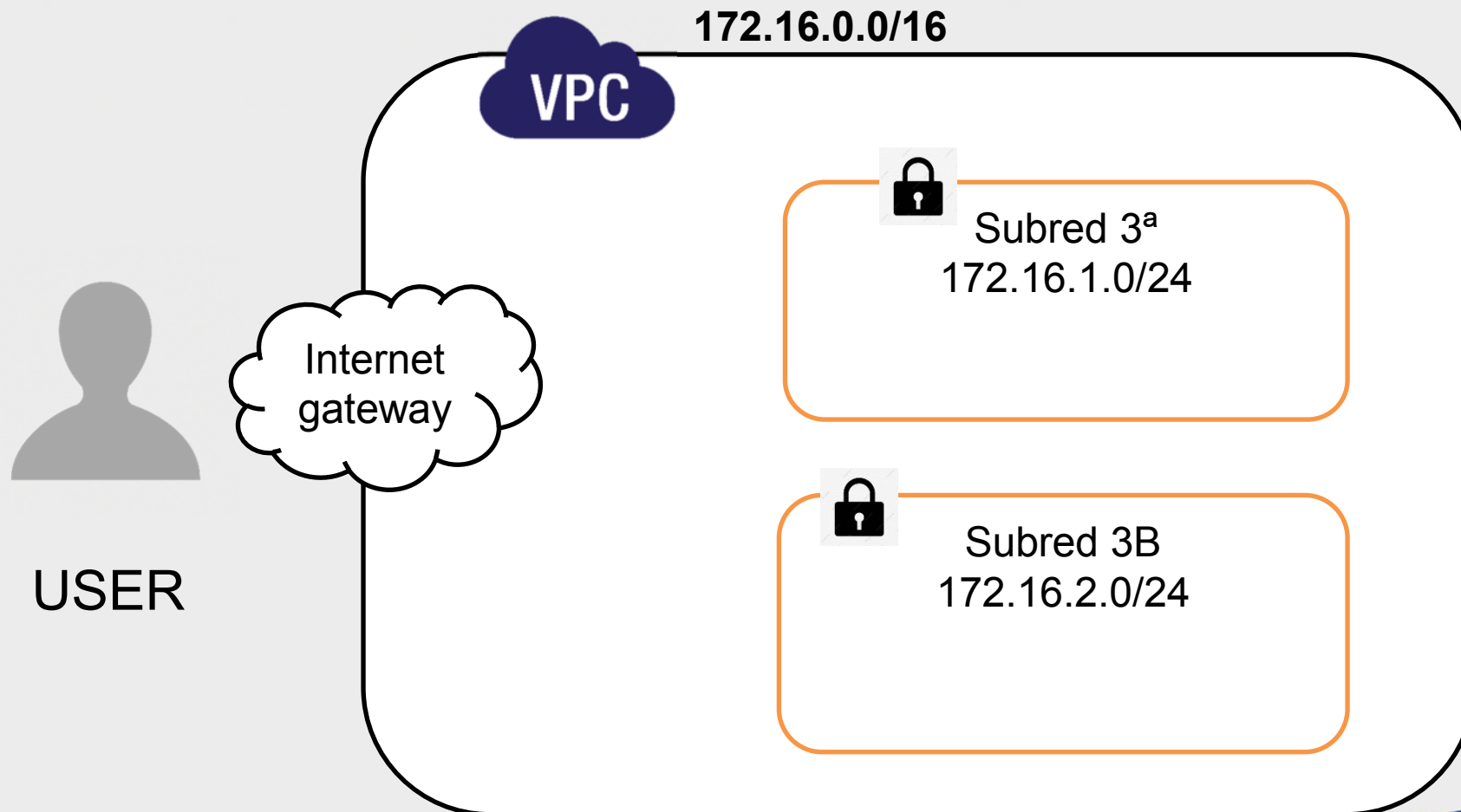
Create internet gateway

An internet gateway is a virtual router that connects a VPC to the internet. To create a r...

Name tag

* Required

4. Asociar Internet Gateway con VPC



4. Asociar Internet Gateway con VPC

The screenshot displays the AWS Management Console interface for managing Internet Gateways. At the top, there is a 'Create internet gateway' button and an 'Actions' dropdown menu. The dropdown menu is open, showing options: 'Delete internet gateway', 'Attach to VPC' (highlighted in orange), 'Detach from VPC', and 'Add/Edit Tags'. Below the menu, a table lists Internet Gateways. One gateway, 'igw-08bb80d2563...', is shown with the name 'PUERTA UTADEO' and a state of 'detached'.

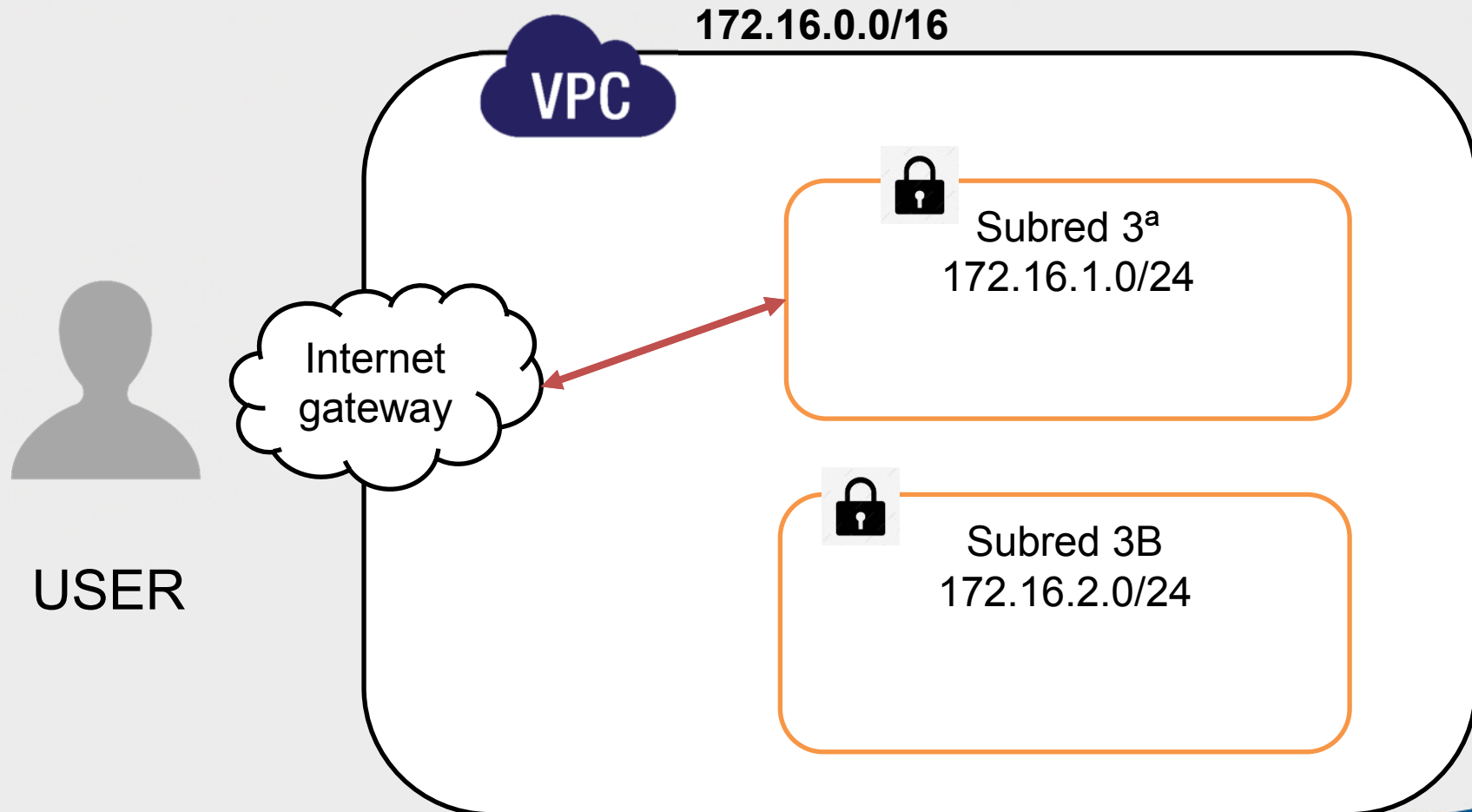
Below the table, the 'Attach to VPC (igw-0df0305a6b777e459)' page is visible. It includes a breadcrumb trail: 'VPC > Internet gateways > Attach to VPC (igw-0df0305a6b777e459)'. The main heading is 'Attach to VPC (igw-0df0305a6b777e459)'. The 'VPC' section instructs to 'Attach an internet gateway to a VPC to enable the VPC to communicate with the internet. Specify the VPC to attach below.' Under 'Available VPCs', it says 'Attach the internet gateway to this VPC.' and provides a search box with the placeholder 'Select a VPC'. A dropdown menu shows 'vpc-07fd76e8b292305aa - VPC Utaдео'. Below this is a link for 'AWS Command Line Interface command'. At the bottom, there are 'Cancel' and 'Attach internet gateway' buttons.

Internet gateways (1/1) Info

<input checked="" type="checkbox"/>	Name	Internet gateway ID	State	VPC ID	Owner
<input checked="" type="checkbox"/>	PUERTA UTADEO	igw-0df0305a6b777e459	Attached	vpc-07fd76e8b292305aa VPC Utaдео	227232110018

Cancel Attach internet gateway

5. Crear la tabla de enrutamiento



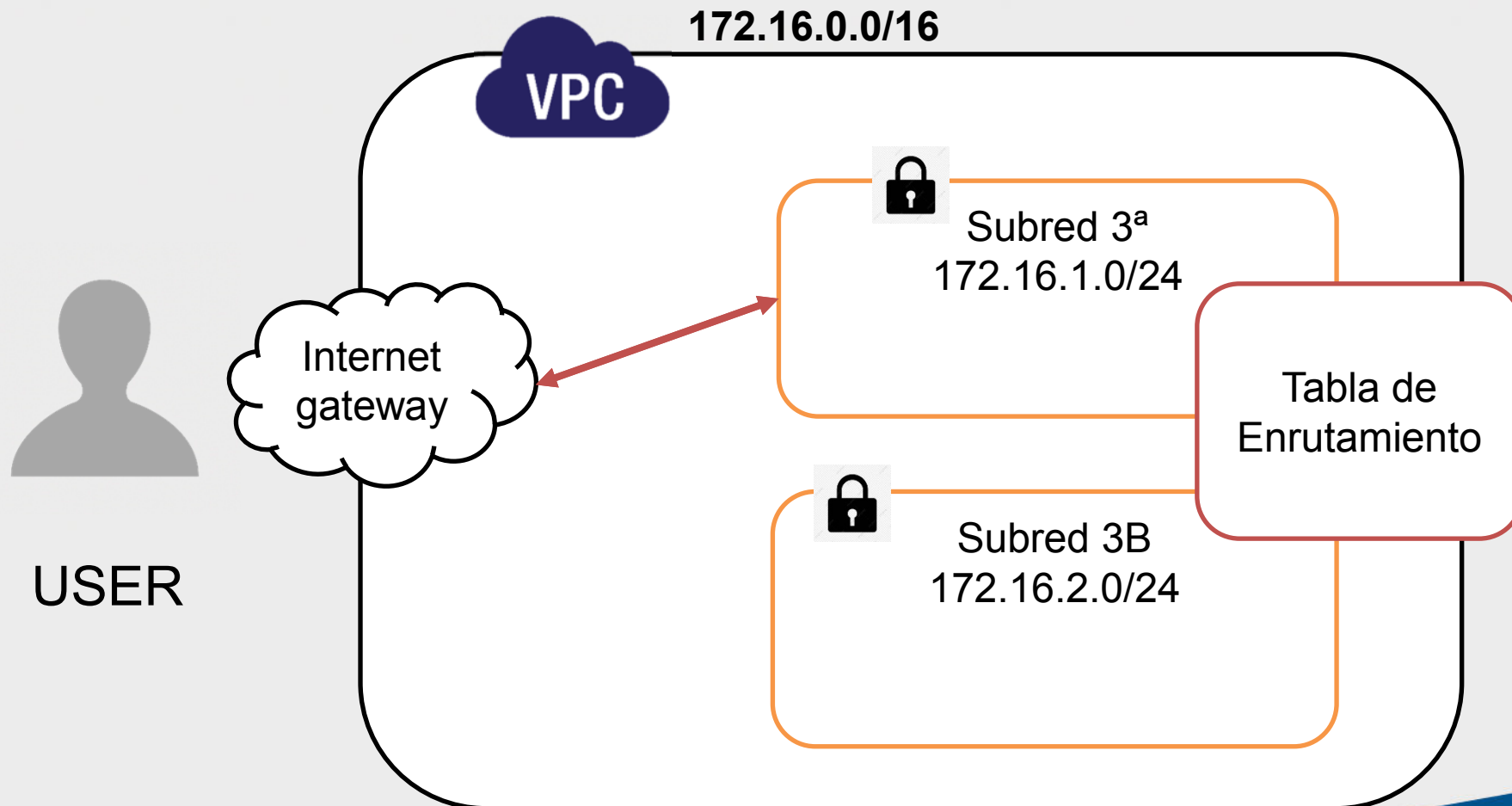
Ejercicio: Ec2 y VPC

5. Crear la tabla de enrutamiento TABLA DE ENRRUTAMIENTO

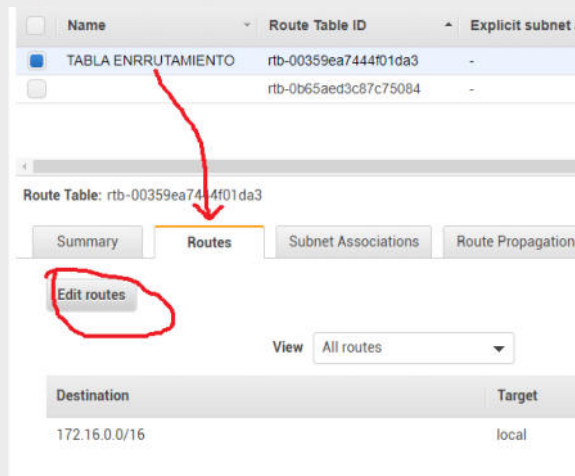
The screenshot illustrates the process of creating a route table in the AWS Management Console. It is divided into three main sections:

- Left Panel (Navigation):** Shows the 'VPC Dashboard' with a search bar 'Filter by VPC: Select a VPC'. Below this are links for 'Virtual Private Cloud', 'Your VPCs', 'Subnets', and 'Route Tables' (which is highlighted with an orange bar).
- Top Panel (Action):** Contains a 'Create route table' button and a search bar 'Filter by tags and...'. Below the search bar is a table with a 'Name' column. One entry is visible: 'TABLA ENRRUTAMIENTO' with a blue selection box next to it.
- Main Content Area:**
 - Top Confirmation:** A green box with a checkmark stating 'The following Route Table was created.' with the 'Route Table ID' as 'rtb-0e260f53555934cad' and a 'Close' button.
 - Form Section:** Titled 'Create route table', it includes a description: 'A route table specifies how packets are forwarded between the subnets within your VPC, the internet, and...'. It has two main fields: 'Name tag' with the value 'TABLA ENRRUTAMIENTO' and 'VPC*' which is a dropdown menu. A search dropdown is open for the VPC field, showing 'Filter by attributes' and a result: 'vpc-02cbd00905095c2bc VPC UTADEO'. A note '* Required' is present.

6. Asociar reglas en la tabla de enrutamiento



6. Asociar reglas en la tabla de enrutamiento



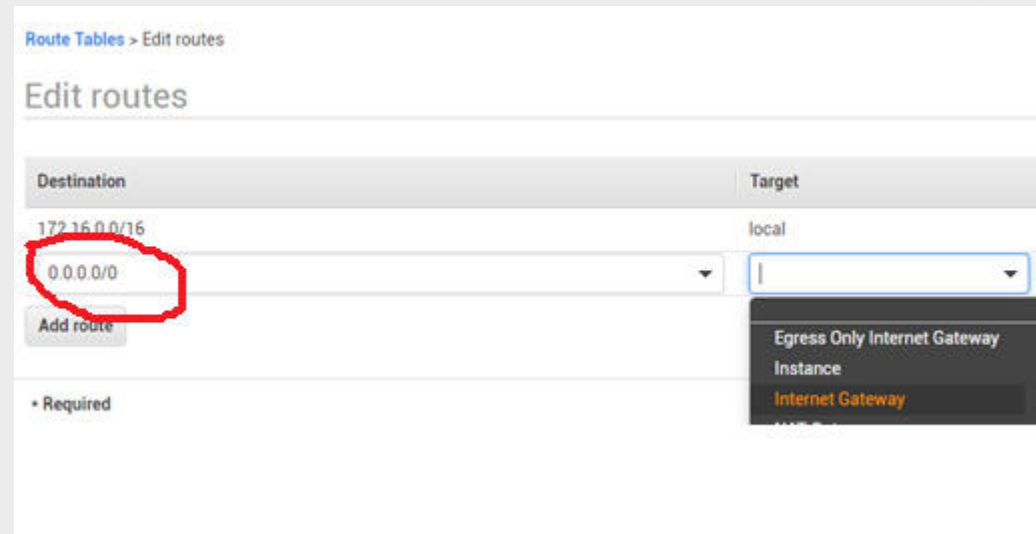
Route Table: rtb-00359ea744f01da3

Summary Routes Subnet Associations Route Propagation

Edit routes

View All routes

Destination	Target
172.16.0.0/16	local



Route Tables > Edit routes

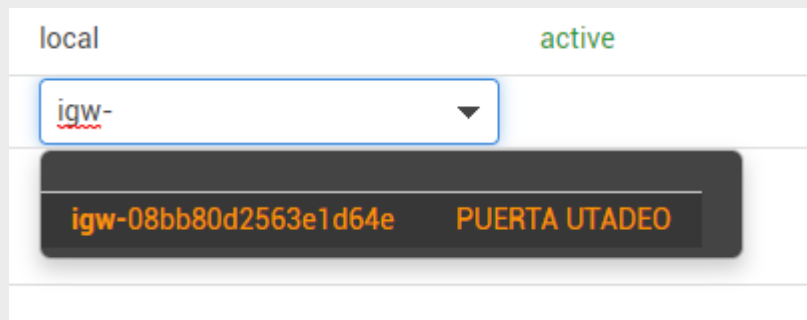
Edit routes

Destination	Target
172.16.0.0/16	local
0.0.0.0/0	

Add route

* Required

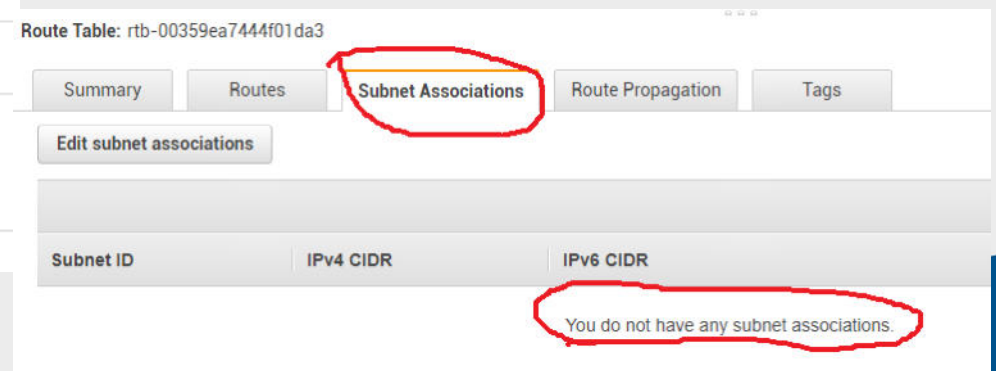
Egress Only Internet Gateway
Instance
Internet Gateway



local active

igw-

igw-08bb80d2563e1d64e PUERTA UTADEO



Route Table: rtb-00359ea744f01da3

Summary Routes **Subnet Associations** Route Propagation Tags

Edit subnet associations

Subnet ID	IPv4 CIDR	IPv6 CIDR
You do not have any subnet associations.		

6. Asociar Subred 3A a la Gateway Internet

Route Tables > Edit subnet associations

Edit subnet associations

Route table rtb-00359ea7444f01da3 (TABLA ENRRUTAMIENTO)

Associated subnets subnet-090caf43b999b81b0

<input type="checkbox"/>	Subnet ID	IPv4 CIDR	
<input type="checkbox"/>	subnet-0d2950feaf55c512e SUBRED 3B	172.16.2.0/24	-
<input checked="" type="checkbox"/>	subnet-090caf43b999b81b0 SUBRED 3A	172.16.1.0/24	-

Route Table: rtb-00359ea7444f01da3

Summary

Routes

Subnet Associations

Route Propagation

Edit subnet associations

Subnet ID

IPv4 CIDR

IPv6 CIDR

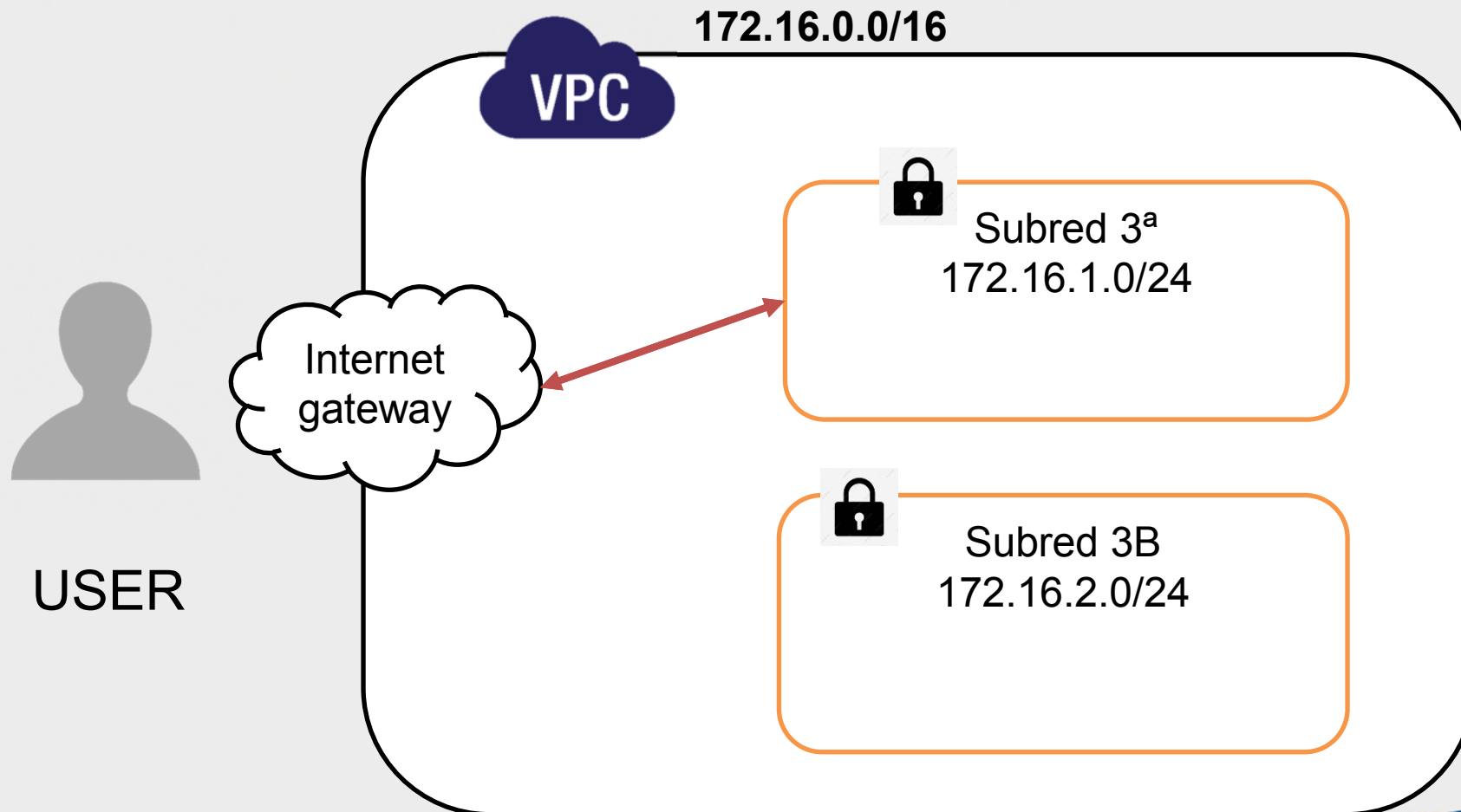
subnet-090caf43b999b81...

172.16.1.0/24

-

Ejercicio: Ec2 y VPC

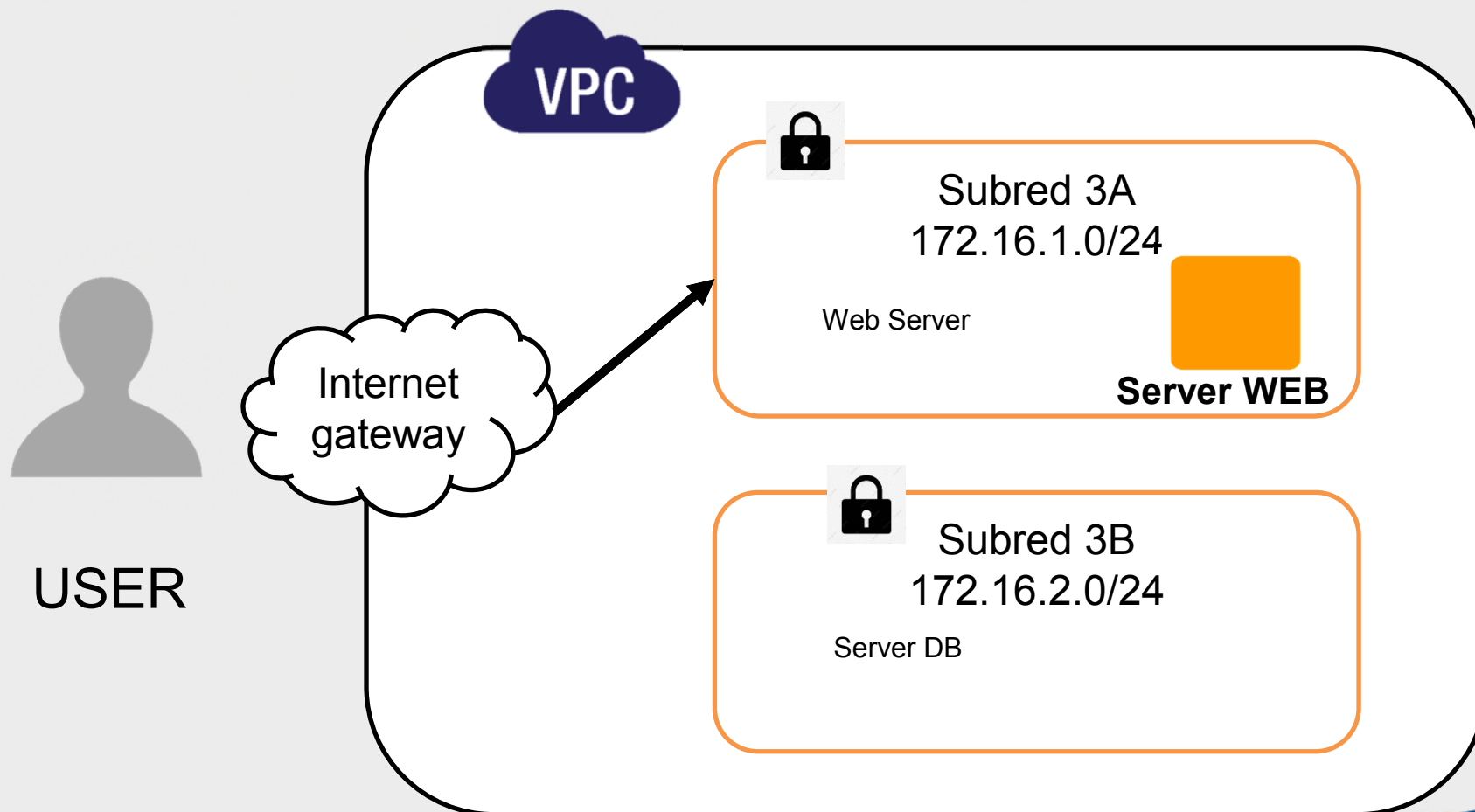
6. La Subred 3 A tiene salida a internet, Subred 3 B “NO”



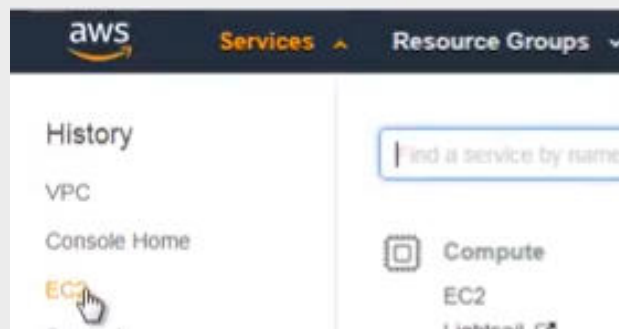
Probar la VPC con EC2

Crear las Instancias y asociarlas a la
VPC

7. Crear las instancias –Web Server y Server BD



7. Crear las instancias – Aplicación Web EC2



Create Instance

To start using Amazon EC2 you will want to launch a virtual server, known as an Amazon EC2 instance.

Launch Instance



Microsoft Windows Server 2016 Base - ami-0b8b049f0ac9d6ded

Windows

Microsoft Windows 2016 Datacenter edition. [English]

Free tier eligible

Root device type: ebs Virtualization type: hvm ENA Enabled: Yes

Currently selected: t2.micro (Variable ECUs, 1 vCPUs, 2.5 GHz, Intel Xeon Family, 1 GiB memory, EBS

	Family	Type	vCPUs ⓘ	Memory (GiB)
<input type="checkbox"/>	General purpose	t2.nano	1	0.5
<input checked="" type="checkbox"/>	General purpose	t2.micro Free tier eligible	1	1

8. Asociar la Instancia Web Server a la Subred 3 A – IP publica

Step 3: Configure Instance Details

No default VPC found. Select another VPC, or [create a new default VPC](#).

Configure the instance to suit your requirements. You can launch multiple instances from the same AMI, request Spot instances to take advantage of lower prices, request On-Demand instances, and more.

Number of instances ⓘ

1

[Launch into Auto Scaling Group](#) ⓘ

Purchasing option ⓘ

☐ Request Spot instances

Network ⓘ

vpc-02cbd00905095c2bc | VPC UTADEO



[Create new VPC](#)

No default VPC found. [Create a new default VPC](#).

Subnet ⓘ

subnet-090caf43b999b81b0 | SUBRED 3A | us-east-1

251 IP Addresses available



[Create new subnet](#)

Auto-assign Public IP ⓘ

Enable



Placement group ⓘ

☐ Add instance to placement group

Capacity Reservation ⓘ

Open



[Create new Capacity Reservation](#)



Activate...

8. Crear Instancias Web Server – Almacenamiento

Step 4: Add Storage

Your instance will be launched with the following storage device settings. You can attach and edit the settings of the root volume. You can also attach additional EBS volumes after launch using the storage options in Amazon EC2.

Volume Type <small>(i)</small>	Device <small>(i)</small>	Snapshot <small>(i)</small>	Size (GiB) <small>(i)</small>
Root	/dev/sda1	snap-0cbe057eadd1c484c	<input type="text" value="30"/>
<button>Add New Volume</button>			

Step 5: Add Tags

A tag consists of a case-sensitive key-value pair. For example, you could define a tag with key = Name and value = Web Server. A copy of a tag can be applied to volumes, instances or both.

Tags will be applied to all instances and volumes. [Learn more](#) about tagging your Amazon EC2 resources.

Key <small>(128 characters maximum)</small>	Value <small>(256 characters maximum)</small>
<input type="text" value="NAME"/>	<input type="text" value="SERVERWEB"/>
<div><button>Add another tag</button> (Up to 50 tags maximum)</div>	

9. Configurar seguridad Aplicación Web Server – Puertos de acceso

Step 6: Configure Security Group

A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a web server and allow Internet traffic to reach your instance, add rules to allow HTTP and HTTPS ports. You can create a new security group or select from an existing one below. [Learn more](#) about Amazon EC2 security groups.

Assign a security group: ☒ Create a new security group

☐ Select an existing security group

Security group name:

Description:

Type <small>i</small>	Protocol <small>i</small>	Port Range <small>i</small>	Source <small>i</small>	Description <small>i</small>
RDP <small>v</small>	TCP	3389	Custom <small>v</small> 0.0.0.0/0	e.g. SSH for Admin Desktop
HTTPS <small>v</small>	TCP	443	Custom <small>v</small> 0.0.0.0/0, ::/0	e.g. SSH for Admin Desktop
HTTP <small>v</small>	TCP	80	Custom <small>v</small> 0.0.0.0/0, ::/0	e.g. SSH for Admin Desktop

Add Rule



Warning

Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

9. Configurar seguridad Web Server – Puertos de acceso

Select an existing key pair or create a new key pair

A key pair consists of a **public key** that AWS stores, and a **private key file** that you store. Together, they allow you to connect to your instance securely. For Windows AMIs, the private key file is required to obtain the password used to log into your instance. For Linux AMIs, the private key file allows you to securely SSH into your instance.

Note: The selected key pair will be added to the set of keys authorized for this instance. Learn more about [removing existing key pairs from a public AMI](#).

Create a new key pair

Key pair name

CLAVESERVERWEB

Download Key Pair

You have to download the **private key file** (*.pem file) before you can continue. **Store it in a secure and accessible location.** You will not be able to download the file again after it's created.

Cancel

Launch Instances

Cancel

Launch Instances

CLAVESERVERWEB.pem

<https://us-east-2.console.aws.amazon.com/ec2/v2/download>

Descargas



co local (C:) > Usuarios > vmondragon > Descargas

Nombre

CLAVESERVERWEB.pem

Instancia Creada

Launch Status

-  **Your instances are now launching**
The following instance launches have been initiated: [i-0eff1810067a76a0d](#) [View launch log](#)
-  **Get notified of estimated charges**
[Create billing alerts](#) to get an email notification when estimated charges on your AWS bill exceed an amount you define (for example, if you exceed the free usage tier).

How to connect to your instances

Your instances are launching, and it may take a few minutes until they are in the **running** state, when they will be ready for you to use. Usage hours on your new instances will start when they enter the **running** state. Click **View Instances** to monitor your instances' status. Once your instances are in the **running** state, you can **connect** to them from the Instances screen. [Find out](#) how to connect to your instances.

▼ Here are some helpful resources to get you started

- [How to connect to your Windows instance](#)
- [Learn about AWS Free Usage Tier](#)
- [Amazon EC2: User Guide](#)
- [Amazon EC2: Microsoft Windows Guide](#)
- [Amazon EC2: Discussion Forum](#)

While your instances are launching you can also

- [Create status check alarms](#) to be notified when these instances fail status checks. (Additional charges may apply)
- [Create and attach additional EBS volumes](#) (Additional charges may apply)
- [Manage security groups](#)

10. Visualizar la instancia Web Server, IP privada, IP Publica

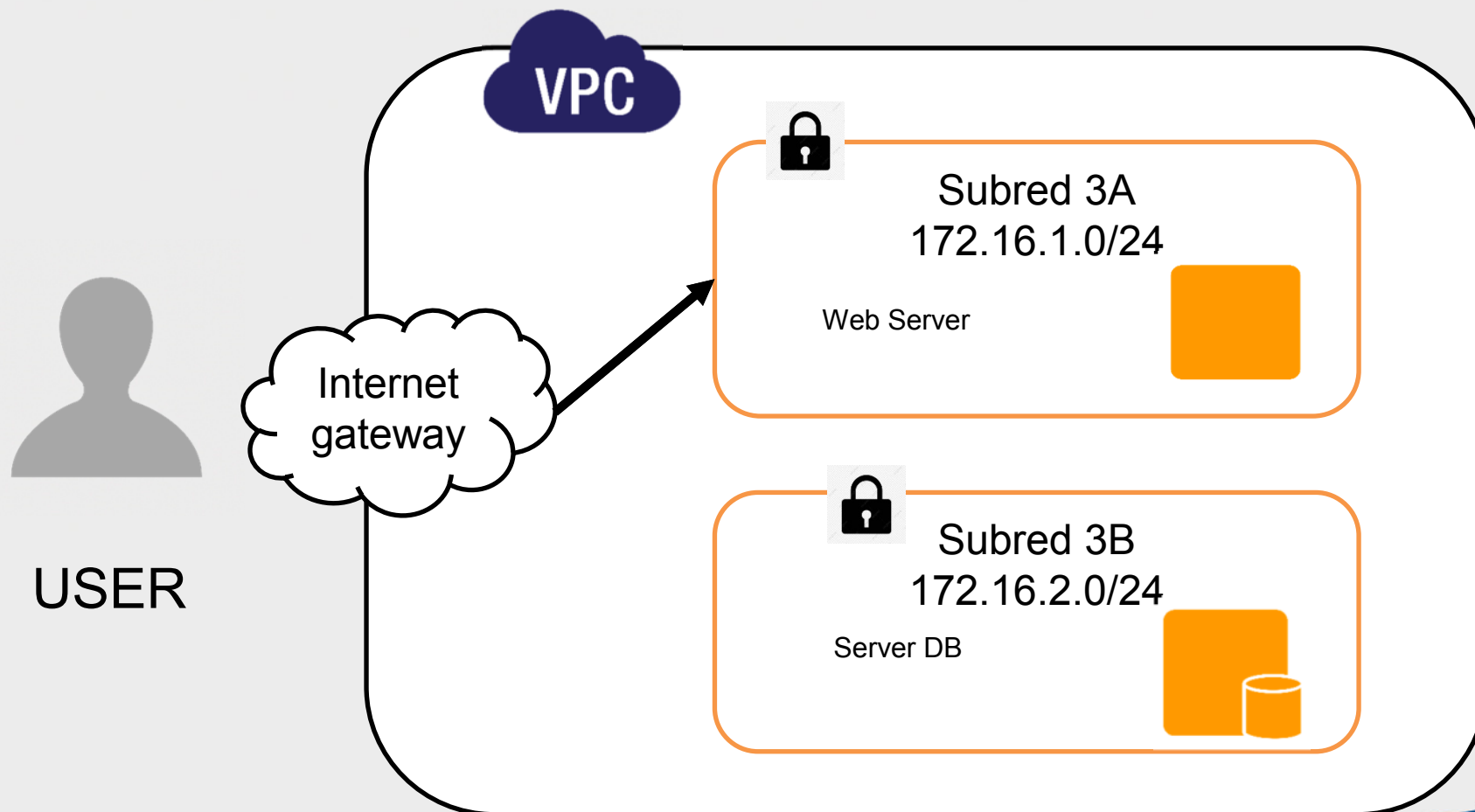
Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)
	i-036ccbfbdb50a1f620	t2.micro	us-east-2c	running	Initializing	None	

Instance: **i-036ccbfbdb50a1f620** **Public IP: 18.218.81.8**

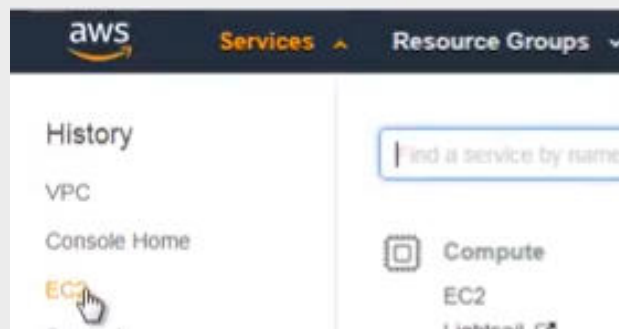
Description	Status Checks	Monitoring	Tags
<p>Instance ID: i-036ccbfbdb50a1f620</p> <p>Instance state: running</p> <p>Instance type: t2.micro</p> <p>Elastic IPs: -</p>			
<p>Availability zone: us-east-2c</p> <p>Security groups: SEGURIDAD SERVERWEB, view inbound rules, view outbound rules</p> <p>Scheduled events: No scheduled events</p> <p>AMI ID: Windows_Server-2016-English-Full-Base-2019.10.09 (ami-0b8b049f0ac9d6ded)</p>			

Public DNS (IPv4)	-
IPv4 Public IP	<u>18.218.81.8</u>
IPv6 IPs	-
Private DNS	ip-172-16-1-242.us-east-2.compute.internal
Private IPs	<u>172.16.1.242</u>
Secondary private IPs	-
VPC ID	vpc-02cbd00905095c2bc (VPC UTADEO)
Subnet ID	subnet-090caf43b999b81b0 (SUBRED 3A)

11. Crear la instancia –Server BD



11. Crear la instancia –Server BD - EC2



Create Instance

To start using Amazon EC2 you will want to launch a virtual server, known as an Amazon EC2 instance.

Launch Instance

Step 1: Choose an Amazon Machine Image (AMI)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. You can select from the Amazon Machine Image catalog, the AWS Marketplace, or you can select one of your own AMIs.

Microsoft Windows Server 2016 with SQL Server 2016

AWS Launch Wizard for SQL Server offers an easy way to size, configure, and deploy Microsoft SQL Server Always On availability groups. [Use AWS Launch Wizard](#)

Quick Start (2)

My AMIs (0)

AWS Marketplace (32)



Microsoft Windows Server 2016 with SQL Server 2016 Standard - ami-024195c4d470ffc

Microsoft Windows 2016 Datacenter edition, Microsoft SQL Server 2016 Standard. [English]

Root device type: ebs Virtualization type: hvm ENA Enabled: Yes

Step 2: Choose an Instance Type

Amazon EC2 provides a wide selection of instance types optimized to fit different use cases. Instances are virtual servers that you can use to run applications. You can choose from a variety of instance types, each with different combinations of vCPUs, memory, and networking capacity, and give you the flexibility to choose the appropriate mix of resources for your applications. Learn more about Amazon EC2 instance types.

Filter by: **All instance types** **Current generation** [Show/Hide Columns](#)

Currently selected: t3a.xlarge (Variable ECUs, 4 vCPUs, 2.2 GHz, AMD EPYC 7571, 16 GiB memory, EBS only)

	Family	Type	vCPUs	Memory (GiB)	Instance Storage
General purpose	General purpose	t2.nano	1	0.5	EBS only
General purpose	General purpose	t2.micro	1	1	EBS only
General purpose	General purpose	t3a.xlarge	4	16	EBS only

12. Server BD asociado a SubRed 3B - EC2

Step 3: Configure Instance Details

No default VPC found. Select another VPC, or [create a new default VPC](#).

Configure the instance to suit your requirements. You can launch multiple instances from the same AMI, request Spot instances to take advantage of instance, and more.

Number of instances ⓘ [Launch into Auto Scaling Group ⓘ](#)

Purchasing option ⓘ ☐ Request Spot instances

Network ⓘ ⓘ [Create new VPC](#)

No default VPC found. [Create a new default VPC](#).

Subnet ⓘ ⓘ [Create new subnet](#)
251 IP Addresses available

Auto-assign Public IP ⓘ

Placement group ⓘ ☐ Add instance to placement group

Capacity Reservation ⓘ ⓘ [Create new Capacity Reservation](#)

13. Server BD clave a acceso – Descargar (Se utilizo la misma de Server Web)

Select an existing key pair or create a new key pair

A key pair consists of a **public key** that AWS stores, and a **private key file** that you store. Together, they allow you to connect to your instance securely. For Windows AMIs, the private key file is required to obtain the password used to log into your instance. For Linux AMIs, the private key file allows you to securely SSH into your instance.

Note: The selected key pair will be added to the set of keys authorized for this instance. Learn more about [removing existing key pairs from a public AMI](#).

Choose an existing key pair

Select a key pair

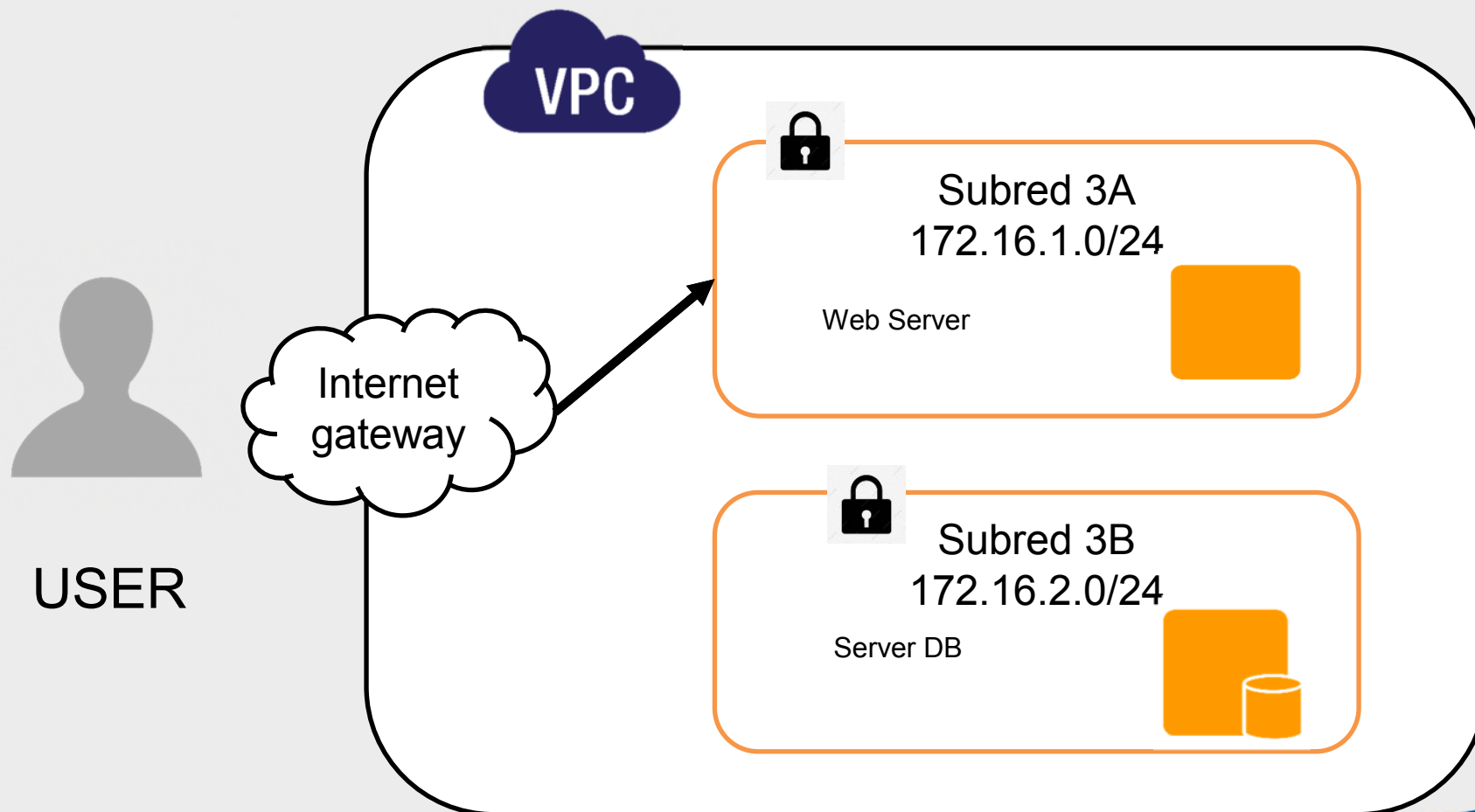
CLAVESERVERWEB

☒ I acknowledge that I have access to the selected private key file (CLAVESERVERWEB.pem), and that without this file, I won't be able to log into my instance.

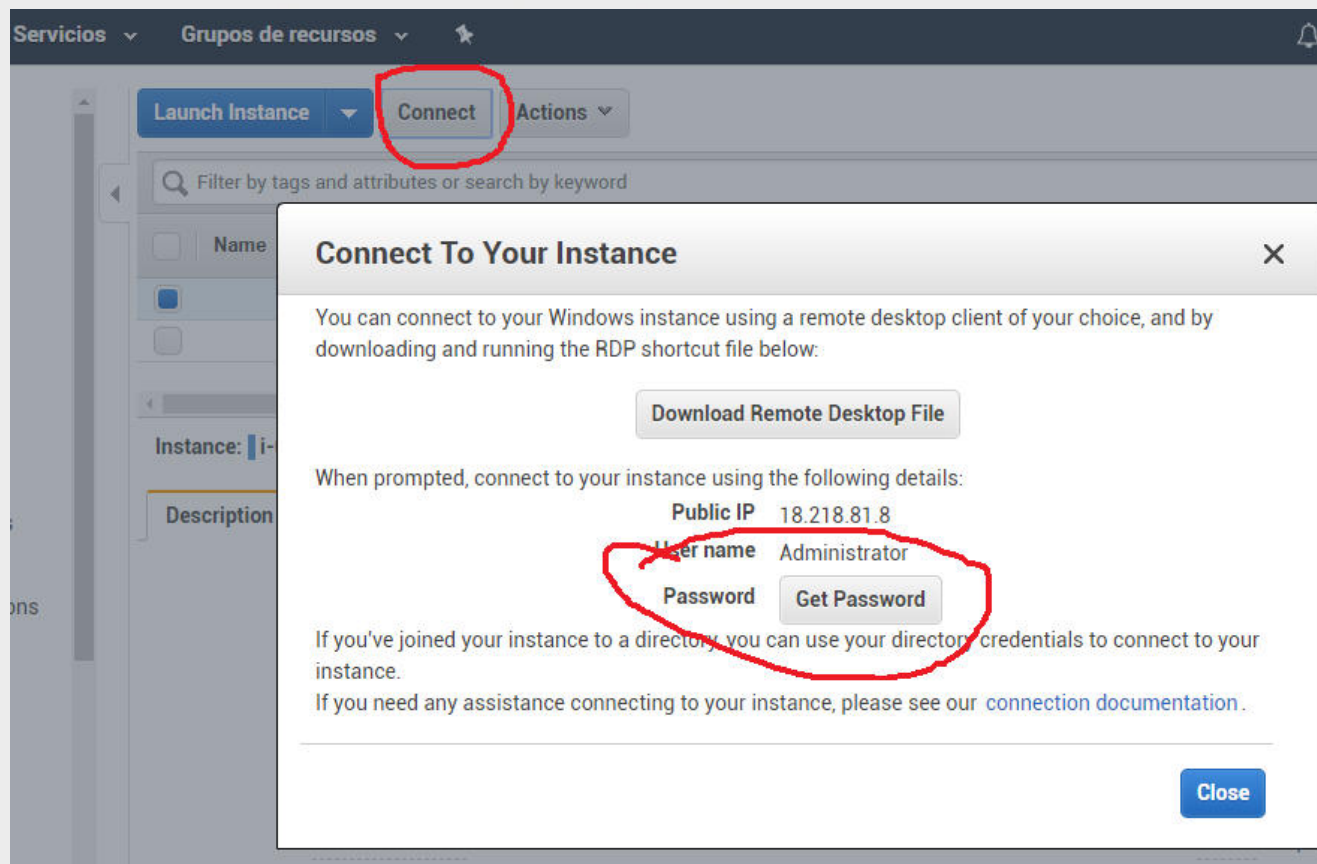
Cancel

Launch Instances

14. Acceder a las instancias Web Server y Server BD



14. Acceder a las instancias Web Server



14. Acceder a las instancias Web Server (Desencriptar el archivo)

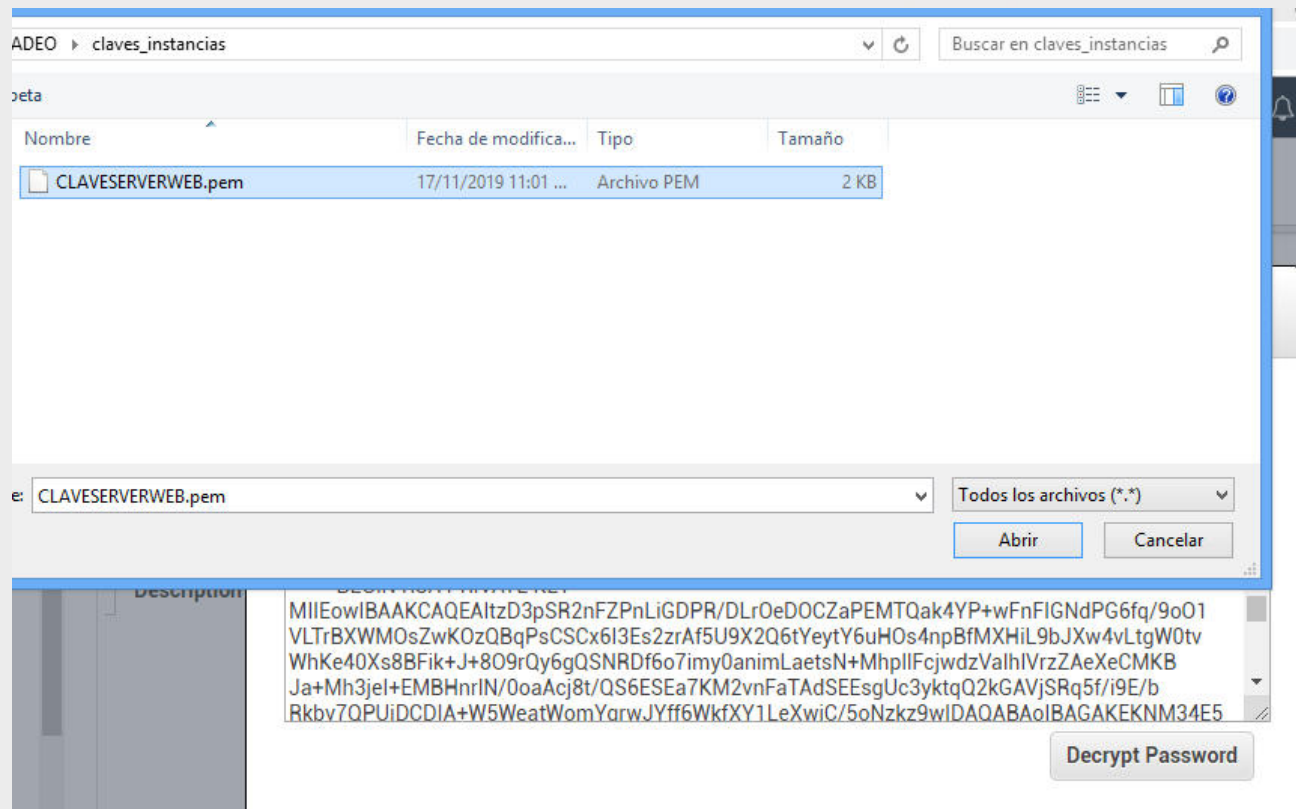
The screenshot shows the AWS Management Console interface. At the top, there are tabs for 'Servicios' and 'Grupos de recursos'. Below these, there are buttons for 'Launch Instance', 'Connect', and 'Actions'. The 'Connect' button is circled in red. A dialog box titled 'Connect To Your Instance' is open, providing instructions on how to connect to a Windows instance using a remote desktop client. It includes a 'Download Remote Desktop File' button and a table of connection details:

Field	Value
Public IP	18.218.81.8
User name	Administrator
Password	Get Password

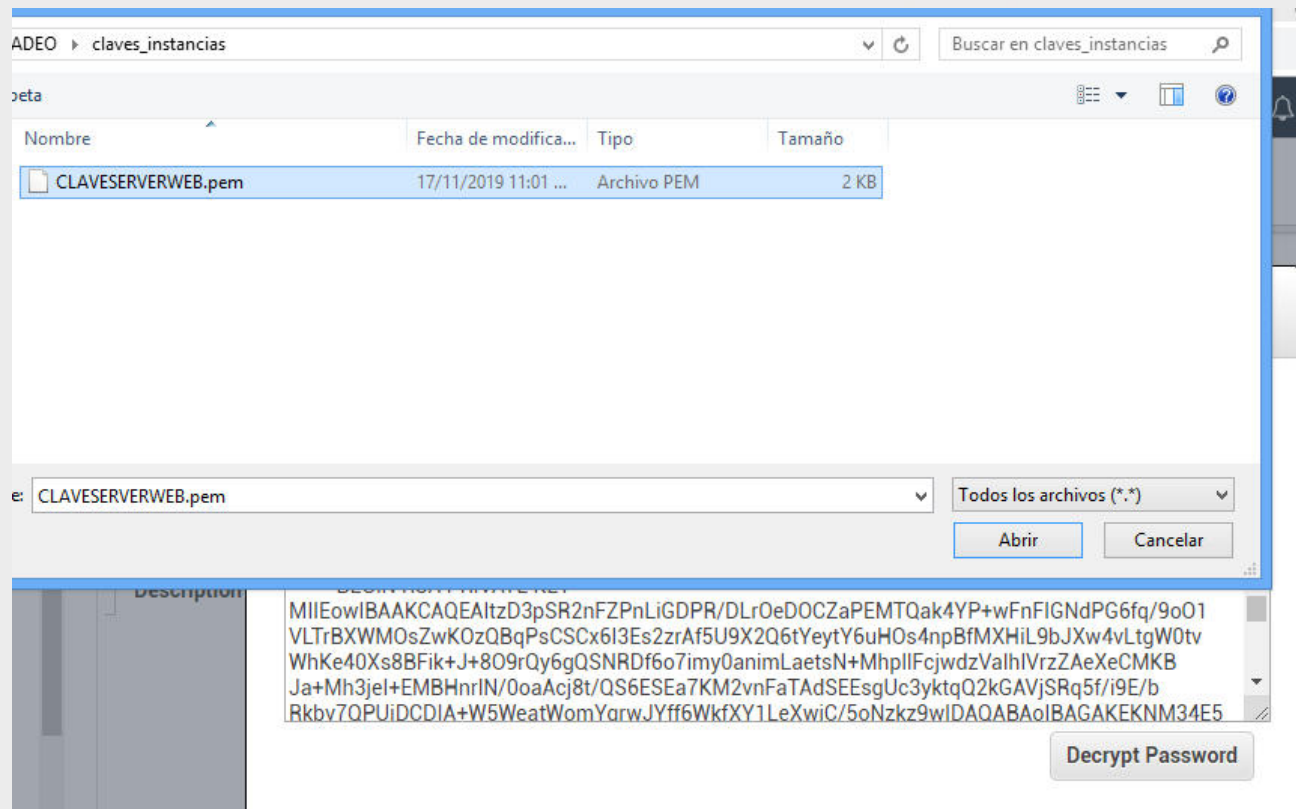
The 'User name' and 'Password' fields are circled in red. A red arrow points from the 'Get Password' button to a file explorer window showing the download of 'CLAVESERVERWEB.pem'.

The file explorer window shows the path 'C:\Usuarios\vmondragon\Descargas' and a list of files with 'CLAVESERVERWEB.pem' selected. The file name is highlighted in blue.

14. Acceder a las instancias Web Server (Desencriptar el archivo)



14. Acceder a las instancias Web Server (Desencriptar el archivo)



14. Acceder a las instancias Web Server (Desencriptar el archivo)

Connect To Your Instance

You can connect to your Windows instance using a remote desktop client of your choice, and by downloading and running the RDP shortcut file below:

Download Remote Desktop File

When prompted, connect to your instance using the following details:

Public IP	18.218.81.8
User name	Administrator
Password	nyLWJJIMcg\$bLDjaW*MrPeB*k.65Z5c4

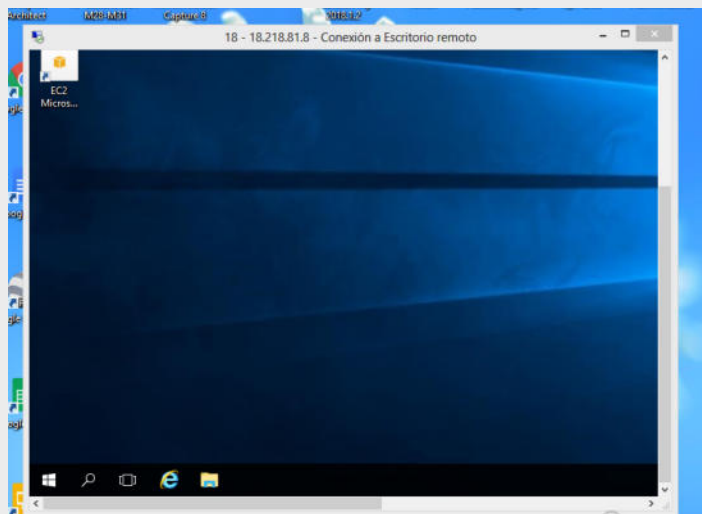
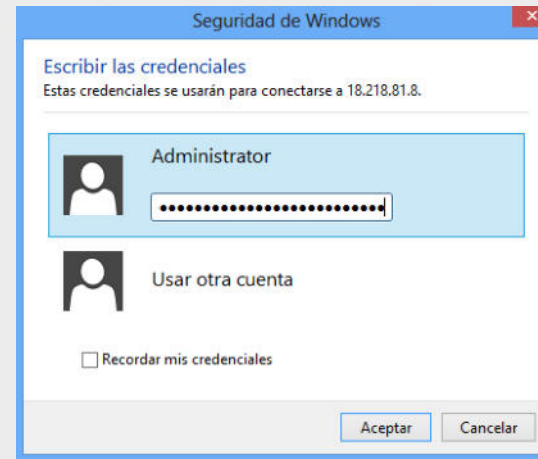
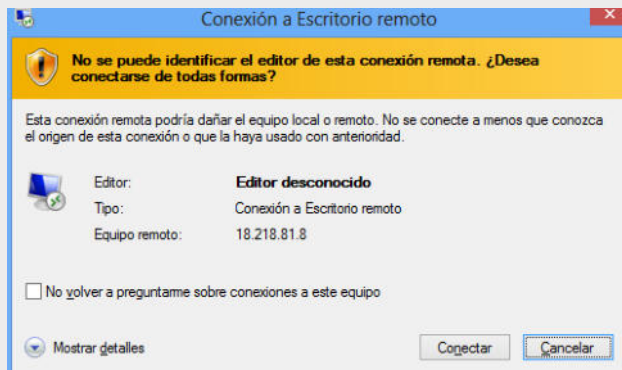
If you've joined your instance to a directory, you can use your directory credentials to connect to your instance.

If you need any assistance connecting to your instance, please see our [connection documentation](#).

Close

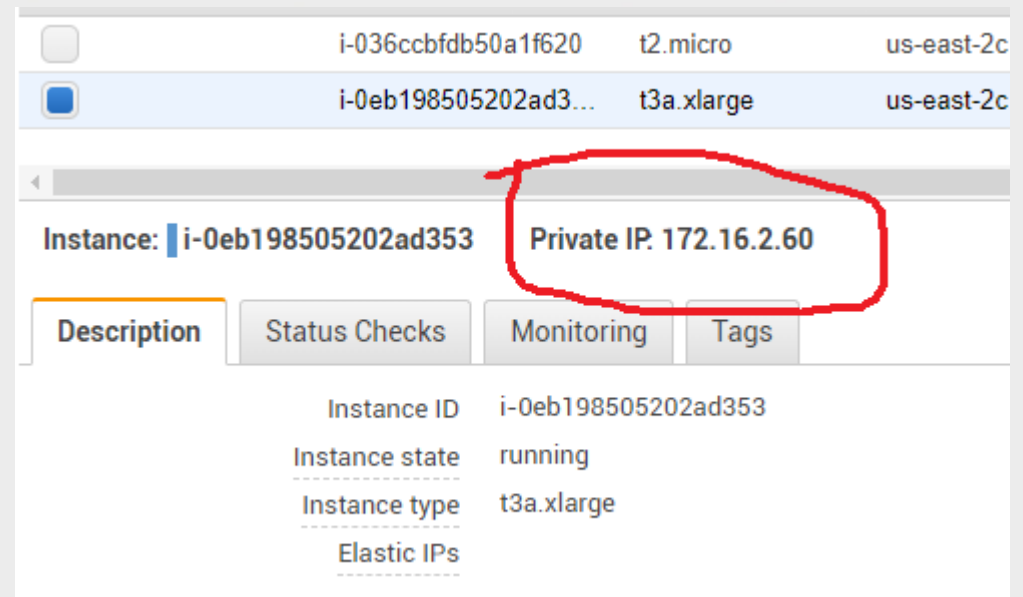
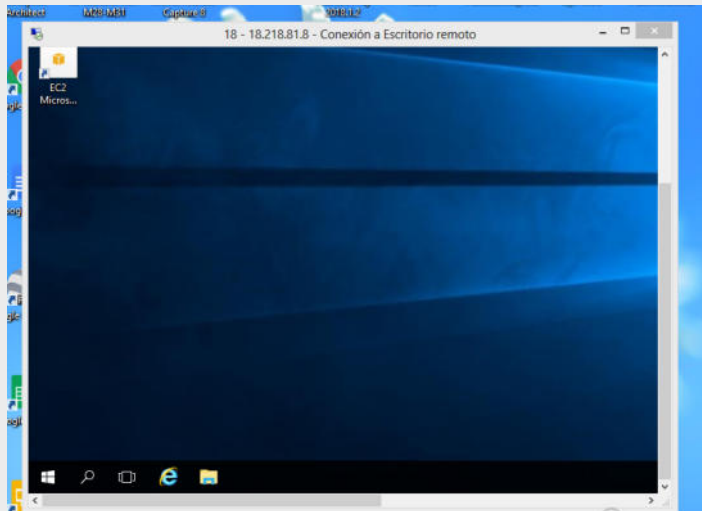
Copy to clipboard

15. Acceso remoto a las instancias Web Server



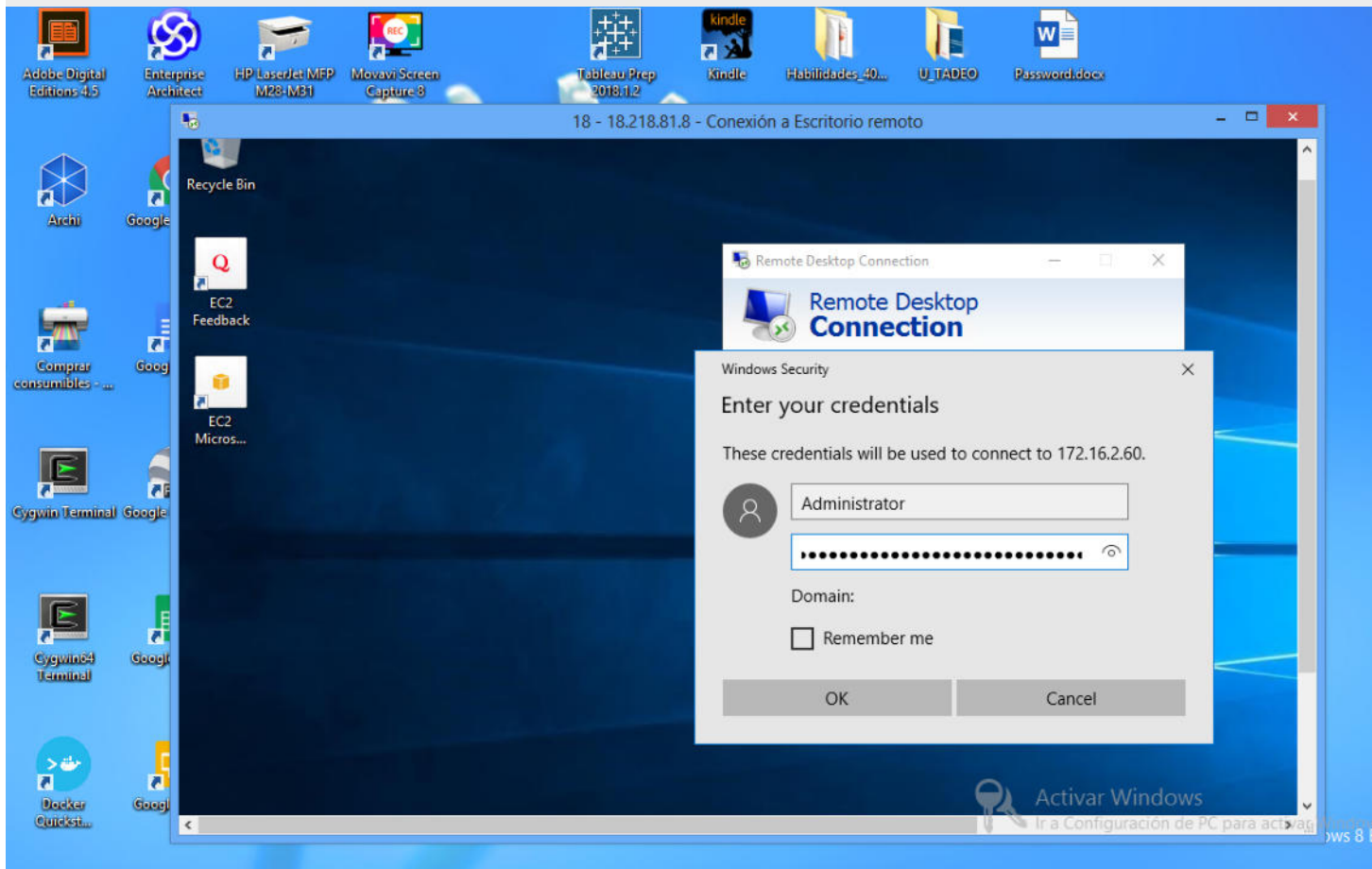
Ejercicio: Ec2 y VPC

16. Acceso remoto desde a instancia Web Server a Server DB



Desencriptar la Clave de
Administrator para server DB

16. Acceso remoto desde a instancia Web Server a Server DB



Ejercicio de Laboratorio 01 - 5%

Instalar un servidor Web (Apache) - Instalar base de datos Mysql

