

**UNIVERSIDAD PRIVADA DE TACNA**



**FACULTAD DE INGENIERIA**

**Escuela Profesional de Ingeniería de Sistema**

**Informe de laboratorio 03: MongoDB on AWS**

**Curso: Base de datos II**

**DOCENTE: Ing. Patrick Cuadros Quiroga**

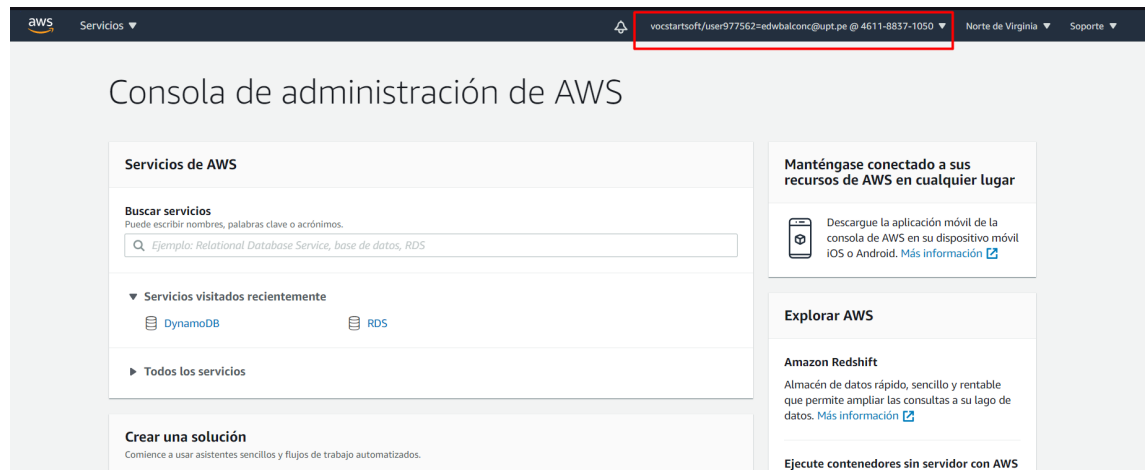
**Alumno: Balcon Coahila, Edwart Juan  
(2013046516)**

**Tacna – Perú**

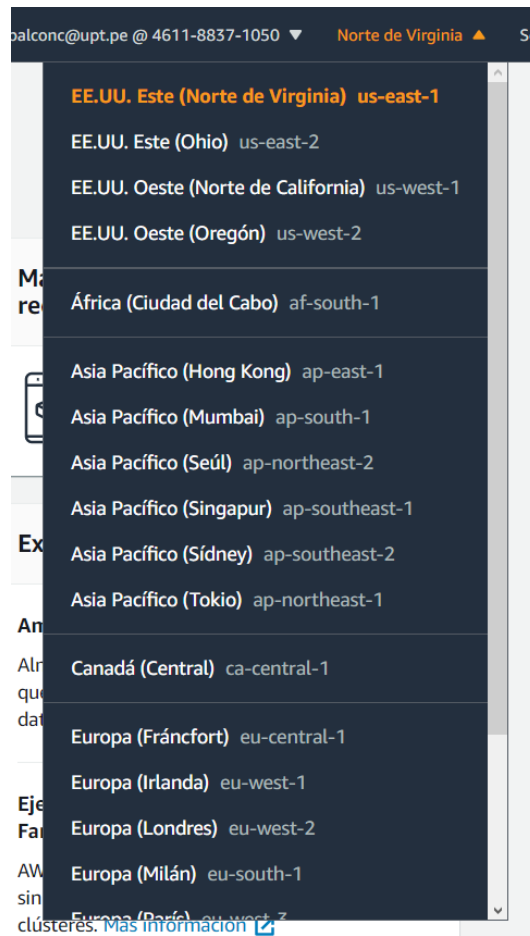
**2020**

# 1. Preparar cuenta

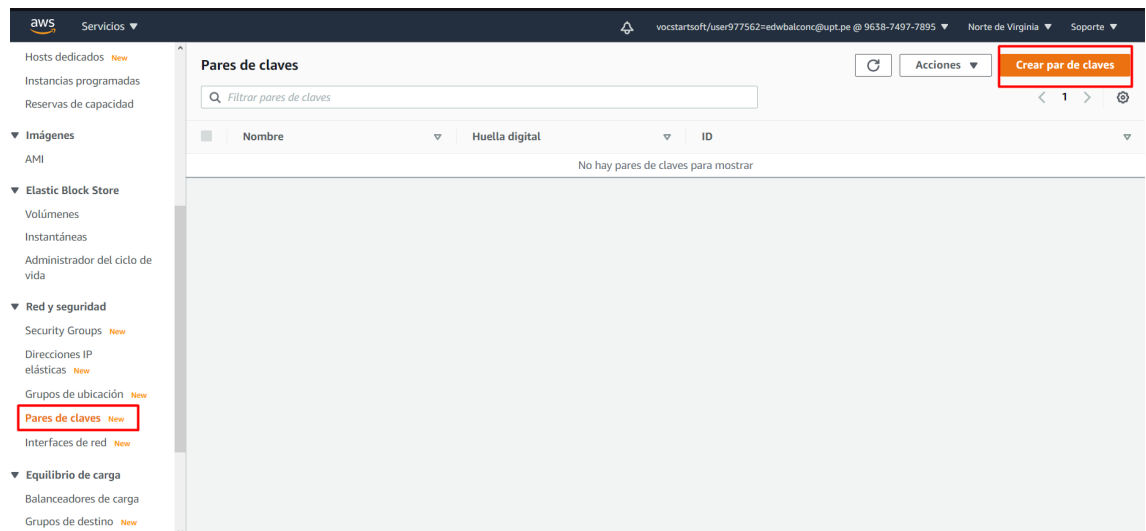
1.1. Si aún no tiene una cuenta de AWS, cree una en <https://aws.amazon.com> siguiendo las instrucciones en pantalla. Parte del proceso de registro implica recibir una llamada telefónica e ingresar un PIN usando el teclado del teléfono.



1.2. Utilice el selector de región en la barra de navegación para elegir la región de AWS donde desea implementar el clúster de MongoDB en AWS. Para obtener más información, consulte Regiones, zonas de disponibilidad y zonas locales.



1.3. Cree un par de claves en su región preferida. Para hacer esto, en el panel de navegación de la consola de Amazon EC2, elija Key Pairs, Create Key Pair, escriba un nombre y luego elija Create.



### Par de claves

Un par de claves, compuesto por una clave privada y una clave pública, es un conjunto de credenciales de seguridad que se utilizan para demostrar su identidad cuando se conecta a una instancia.

Nombre

BDII

El nombre puede incluir hasta 255 caracteres ASCII. No puede incluir espacios al principio ni al final.

Formato de archivo

☐ pem  
Para usar con OpenSSH

☒ ppk  
Para usar con PuTTY

Etiquetas (opcional)

No hay etiquetas asociadas a este recurso.

Agregar etiqueta

You can add 50 more tags.

Cancelar **Crear par de claves**

El par de claves se ha creado correctamente

Pares de claves (1)

Acciones

Crear par de claves

1

<input type="checkbox"/>	Nombre	Huella digital	ID
<input type="checkbox"/>	BDII	ed:01:19:a3:d2:08:b8:f2:ee:2f:4a:5d:9b...	key-08e69c50a564312b2

## 2. Inicio rápido

2.1. Elija una de las siguientes opciones para lanzar la plantilla de AWS CloudFormation en su cuenta de AWS. Para obtener ayuda para elegir una opción, consulte Opciones de implementación anteriormente en esta guía.

Option 1	Option 2
Deploy MongoDB into a new VPC on AWS	Deploy MongoDB into an existing VPC on AWS
<a href="#">Launch Quick Start (for new VPC)</a>	<a href="#">Launch Quick Start (for existing VPC)</a>

2.2. Verifique la región que se muestra en la esquina superior derecha de la barra de navegación y cámbiela si es necesario. La plantilla se lanza en la región de EE.UU.Este (Norte de Virginia) de forma predeterminada.

voctestsoft/user977562=edwbalconc@upt.pe @ 9638-7497-7895

Norte de Virginia

Soporte

ack

Create stack

Prerequisite - Prepare template

Prepare template

Every stack is based on a template. A template is a JSON or YAML file that contains configuration information about the AWS resources you want to include in the stack.

☒ Template is ready

☐ Use a sample template

☐ Create template in Designer

**2.3. En la página Seleccionar plantilla, mantenga la configuración predeterminada para la URL de la plantilla y luego elija Siguiente.**

### Specify template

A template is a JSON or YAML file that describes your stack's resources and properties.

Template source

Selecting a template generates an Amazon S3 URL where it will be stored.

☒ Amazon S3 URL

☐ Upload a template file

Amazon S3 URL

Amazon S3 template URL

S3 URL: https://aws-quickstart.s3.amazonaws.com/quickstart-mongodb/templates/mongodb-master.template

View in Designer

Cancel

Next

2.4. En la página Especificar detalles, cambie el nombre de la pila si es necesario. Revise los parámetros de la plantilla. Proporcione valores para los parámetros que requieren su entrada. Para todos los demás parámetros, revise la configuración predeterminada y personalícela según sea necesario. Cuando termine de revisar y personalizar los parámetros, elija Siguiente.

### Specify stack details

**Stack name**

Stack name

MongoDB

Stack name can include letters (A-Z and a-z), numbers (0-9), and dashes (-).

**Parameters**

Parameters are defined in your template and allow you to input custom values when you create or update a stack.

**Network Configuration**

**VPC**

VPC-ID of your existing Virtual Private Cloud (VPC) where you want to depoy MongoDB cluster.

vpc-8c6fa9f1 (172.31.0.0/16)

**Primary Node Subnet**

Subnet-ID the existing subnet in your VPC where you want to deploy Primary node(s).

subnet-69ac1a36 (172.31.32.0/20)

**Secondary0 Node Subnet**

Subnet-ID the existing subnet in your VPC where you want to deploy Secondary node(s).

subnet-69ac1a36 (172.31.32.0/20)

**Secondary1 Node Subnet**

Subnet-ID the existing subnet in your VPC where you want to deploy Secondary node(s).

subnet-69ac1a36 (172.31.32.0/20)

**Bastion Security Group ID**

ID of the Bastion Security Group (e.g., sg-7f16e910)

default (sg-0ffdd431)

**Security Configuration**

**Key Pair Name**

Name of an existing EC2 KeyPair. MongoDB instances will launch with this KeyPair.

BDII



### MongoDB Database Configuration

#### Cluster Replica Set Count

Number of Replica Set Members. Choose 1 or 3

1

#### IOPS

IOPS of EBS volume when io1 type is chosen. Otherwise ignored

100

#### MongoDB Version

MongoDB version

3.4

#### MongoDB Admin Username

MongoDB admin account username

\*\*\*\*\*

#### MongoDB Admin Password

Enter your MongoDB Database Password, Min 8, maximum of 32 characters.

\*\*\*\*\*

#### Node Instance Type

Amazon EC2 instance type for the MongoDB nodes.

m4.large

#### Replica Shard Index

Shard Index of this replica set

0

#### Volume Size

EBS Volume Size (data) to be attached to node in GBs

400

#### Volume Type

EBS Volume Type (data) to be attached to node in GBs [io1, gp2]

gp2

**2.5. En la página Opciones, puede especificar etiquetas (pares clave-valor) para recursos en su pila y establecer opciones avanzadas. Cuando haya terminado, elija Siguiente.**

### Specify stack details

#### Stack name

Stack name

MongoDB-BDII

Stack name can include letters (A-Z and a-z), numbers (0-9), and dashes (-).

quickstart-mongodb/

Quick Start S3 bucket region

The AWS Region where the Quick Start S3 bucket (QSS3BucketName) is hosted. When using your own bucket, you must specify this value.

us-east-1

Cancel

Previous

Next

Network Configuration

Availability Zones

List of Availability Zones to use for the subnets in the VPC. Note: The logical order is preserved. 1 or 3 AZs are used for this deployment.

us-east-1a

us-east-1b

us-east-1c

Number of Availability Zones

Number of Availability Zones to use in the VPC. This must match your selections in the list of Availability Zones parameter.

3

VPC CIDR

CIDR Block for the VPC

10.0.0.0/16

Private Subnet 1 CIDR

CIDR block for private subnet 1 located in Availability Zone 1.

10.0.0.0/19

Private Subnet 2 CIDR

CIDR block for private subnet 2 located in Availability Zone 2.

10.0.32.0/19

Private Subnet 3 CIDR

CIDR block for private subnet 3 located in Availability Zone 3.

10.0.64.0/19

Public Subnet 1 CIDR

CIDR Block for the public DMZ subnet 1 located in Availability Zone 1

10.0.128.0/20

Public Subnet 2 CIDR

CIDR Block for the public DMZ subnet 2 located in Availability Zone 2

10.0.144.0/20

Public Subnet 3 CIDR

CIDR Block for the public DMZ subnet 3 located in Availability Zone 3

10.0.160.0/20

### Security Configuration

#### Key Pair Name

Public/private key pairs allow you to securely connect to your instance after it launches

BDII



### Linux Bastion Amazon EC2 Configuration

#### Bastion AMI Operating System

The Linux distribution for the AMI to be used for the bastion instances

Amazon-Linux2-HVM



#### Bastion Instance Type

Amazon EC2 instance type for the second bastion instance

t2.micro



#### Number of Bastion Hosts

Enter the number of bastion hosts to create

1



**2.6. En la página Revisar, revise y confirme la configuración de la plantilla. En Capacidades, seleccione la casilla de verificación para reconocer que la plantilla creará recursos de IAM.**

#### MongoDB Database Configuration

Cluster Replica Set Count

Number of Replica Set Members. Choose 1 or 3

1

IOPS

Iops of EBS volume when io1 type is chosen. Otherwise ignored

100

MongoDB Version

MongoDB version

4.0

MongoDB Admin Username

MongoDB admin account username

\*\*\*\*\*

MongoDB Admin Password

Enter your MongoDB Database Password, Min 8, maximum of 32 characters. Allowed characters are: [A-Za-z0-9\_@-]

\*\*\*\*\*

Node Instance Type

Amazon EC2 instance type for the MongoDB nodes.

m4.large

Replica Shard Index

Shard Index of this replica set

0

Volume Size

EBS Volume Size (data) to be attached to node in GBs

400

Volume Type

EBS Volume Type (data) to be attached to node in GBs [io1, gp2]

gp2

### AWS Quick Start Configuration

#### Quick Start S3 Bucket Name

S3 bucket name for the Quick Start assets. Quick Start bucket name can include numbers, lowercase letters, uppercase letters, and hyphens (-). It cannot start or end with a hyphen (-).

aws-quickstart

#### Quick Start S3 Key Prefix

S3 key prefix for the Quick Start assets. Quick Start key prefix can include numbers, lowercase letters, uppercase letters, hyphens (-), and forward slash (/). It cannot start or end with a hyphen (-).

quickstart-mongodb/

#### Quick Start S3 bucket region

The AWS Region where the Quick Start S3 bucket (QS53BucketName) is hosted. When using your own bucket, you must specify this value.

us-east-1

Cancel

Previous

Next

### Tags

You can specify tags (key-value pairs) to apply to resources in your stack. You can add up to 50 unique tags for each stack. [Learn more](#)

BDII

admin

Remove

Key

Value

Remove

Add tag

## 2.7. Elija Crear para implementar la pila.

### The following resource(s) require capabilities: [AWS::CloudFormation::Stack]

This template contains Identity and Access Management (IAM) resources. Check that you want to create each of these resources and that they have the minimum required permissions. In addition, they have custom names. Check that the custom names are unique within your AWS account. [Learn more](#)

For this template, AWS CloudFormation might require an unrecognized capability: CAPABILITY\_AUTO\_EXPAND. Check the capabilities of these resources.

☒ I acknowledge that AWS CloudFormation might create IAM resources with custom names.

☐ I acknowledge that AWS CloudFormation might require the following capability:  
CAPABILITY\_AUTO\_EXPAND

Cancel

Previous

Create change set

Create stack

2.8. Supervise el estado de la pila. Cuando el estado es **CREATE COMPLETE**, como se muestra en la Figura 6, el clúster de MongoDB está listo.

Resources (7)

Search resources

Logical ID	Physical ID	Type	Status	Status reason	Module
MongoDBNodeIAMProfile	MongoDB-MongoDBNodeIAMProfile-174ZBUVV5FIBB	AWS::IAM::InstanceProfile	DELETED_COMPLETE	-	-
MongoDBNodeIAMRole	MongoDB-MongoDBNodeIAMRole-1D0ALL90RETWY	AWS::IAM::Role	DELETED_COMPLETE	-	-
MongoDBServerAccessSecurityGroup	sg-00584e65deccd936c	AWS::EC2::SecurityGroup	DELETED_COMPLETE	-	-
MongoDBServerSecurityGroup	sg-066f182e77a3af06f	AWS::EC2::SecurityGroup	DELETED_COMPLETE	-	-
MongoDBServersSecurityGroup	sg-0ab63bdda71ae929a	AWS::EC2::SecurityGroup	DELETED_COMPLETE	-	-
PrimaryReplicaNode0	arn:aws:cloudformation:us-east-1:461188371050:stack/MongoDB-PrimaryReplicaNode0-1G143F2V5Z1PT/74266db0-30ed-11eb-980b-126643f85ad9	AWS::CloudFormation::Stack	DELETED_COMPLETE	-	-
	https://cloudformation-waitcondition-us-east-1.s3.amazonaws.com/arn%3Aaws%3Acloudformation%3Aus-east-1%3A461188371050%3Astack/MongoDB/1a39a560-30ed-				