



INSTITUTO POLITÉCNICO NACIONAL
ESCUELA SUPERIOR DE CÓMPUTO



SISTEMAS DISTRIBUIDOS

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Grupo: 7CV3

Tarea 4: Balance de Carga en la Nube

Fecha de Entrega: 14/Abril/2025

DESARROLLO:

1. Se deberá crear tres maquina virtuales con Ubuntu usando la imagen creada en la Tarea 2. Crear las maquinas virtuales en un conjunto de disponibilidad con tres dominios de error y tres dominios de actualización.
- Creación de la primera VM basada en la imagen de la VM de la T2.

Microsoft Azure

Create a virtual machine

Changing Basic options may reset selections you have made. Review all options prior to creating the virtual machine.

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

Resource group * T2-2023630338_group_03162125 | Create new

Virtual machine name * T4-2023630338-1

Region (US) East US 2

Availability options Availability set

(new) T4-2023630338-conjunto-disponibilidad | Create new

Security type Standard

< Previous | Next : Disks > | Review + create | Give feedback

- Creando un conjunto de disponibilidad, con tres dominios de error y tres dominios de actualización.

Create availability set

Group two or more VMs in an availability set to ensure that at least one is available during planned or unplanned maintenance events. [Learn more](#)

Name *

T4-2023630338-conjunto-disponibilidad

Fault domains ⓘ

Update domains ⓘ

Use managed disks ⓘ

No (Classic) Yes (Aligned)

Create a virtual machine

Availability set * ⓘ

(new) T4-2023630338-conjunto-disponibilidad

Security type ⓘ

Standard

Image * ⓘ

T2-2023630338-image - x64 Gen2

VM architecture ⓘ

x64

Run with Azure Spot discount ⓘ

Size * ⓘ

Standard_B1s - 1 vcpu, 1 GiB memory (7,59 US\$/month) (free services eligible...)

Enable Hibernation ⓘ

Hibernate does not currently support Availability Sets. [Learn more](#)

Administrator account

< Previous Next : Disks > Review + create OK

- Otros detalles (autenticación con contraseña, con el usuario creado en la VM de la Tarea2)

Create a virtual machine

Authentication type ⓘ

SSH public key

Password

Username * ⓘ

luisvela

Password * ⓘ

Confirm password * ⓘ

Inbound port rules

Select which virtual machine network ports are accessible from the public internet. You can specify more limited or granular network access on the Networking tab.

Public inbound ports * ⓘ

None

Allow selected ports

Select inbound ports * ⓘ

SSH (22)

This will allow all IP addresses to access your virtual machine. This is only recommended for testing. Use the Advanced controls in the Networking tab to create rules to limit inbound traffic to known IP addresses.

< Previous Next : Disks > Review + create Give feedback

- En el apartado de red, seleccionamos la Vnet, la subnet por defecto y sin IP publica

Virtual network * ⓘ (new) T4-2023630338-vnet
Create new

Subnet * ⓘ (new) default (10.0.0.0/24)

Public IP ⓘ None
Create new

NIC network security group ⓘ None
Basic (selected)
Advanced

Public inbound ports * ⓘ None
Allow selected ports (selected)

Select inbound ports * ⓘ SSH (22)

⚠️ This will allow all IP addresses to access your virtual machine. This is only recommended for testing. Use the Advanced controls in the Networking tab to create rules to limit inbound traffic to known IP addresses.

< Previous Next : Management > Review + create Give feedback

- Información de la VM antes de ser creada

Subscription	Azure for Students
Resource group	T2-2023630338_group_03162125
Virtual machine name	T4-2023630338-1
Region	East US 2
Availability options	Availability set
Zone options	Self-selected zone
Availability set	(new) T4-2023630338-conjunto-disponibilidad
Security type	Standard
Image	T2-2023630338-image - Gen2
VM architecture	x64
Size	Standard B1s (1 vcpu, 1 GiB memory)
Enable Hibernation	No
Authentication type	Password
Username	luisvela
Public inbound ports	SSH
Azure Spot	No

< Previous Next > Create Download a template for automation Give feedback

Create a virtual machine

Validation passed

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

Disk

OS disk size	Image default
OS disk type	Standard HDD LRS
Use managed disks	Yes
Delete OS disk with VM	Disabled
Ephemeral OS disk	No

Networking

Virtual network	(new) T4-2023630338-vnet
Subnet	(new) default (10.0.0.0/24)
Public IP	None
Accelerated networking	Off
Place this virtual machine behind an existing load balancing solution?	No
Delete NIC when VM is deleted	Disabled

< Previous | Next > | Create | Download a template for automation | Give feedback

16°C Prac. despejado 12:19 a.m. 11/04/2025

- 1er VM creada

T4-2023630338-1 - Microsoft A

T4-2023630338-1 virtual machine agent status is not ready. Troubleshoot the issue →

Help me copy this VM in any region

Overview | Connect | Start | Stop | Hibernate | Capture | Delete | Refresh | Open in mobile | Feedback | CLI / PS

Virtual machine

Computer name	T4-2023630338-1
Operating system	Linux
VM generation	V2
VM architecture	x64
Agent status	Not Ready
Agent version	Unknown
Hibernation	Disabled
Host group	-
Host	-
Proximity placement group	-
Colocation status	N/A
Capacity reservation group	-
Disk controller type	SCSI

Networking

Public IP address	-
Public IP address (IPv6)	-
Private IP address	10.0.0.4
Private IP address (IPv6)	-
Virtual network/subnet	T4-2023630338-vnet/default
DNS name	-

Size

Size	Standard B1s
vCPUs	1
RAM	1 GiB

Azure Spot

Azure Spot	-
Azure Spot eviction policy	-

Source image details

Source image publisher	-
Source image offer	-
Source image plan	-

Search | Overview | Activity log | Access control (IAM) | Tags | Diagnose and solve problems | Resource visualizer | Connect | Networking | Settings | Availability + scale | Security | Backup + disaster recovery | Operations | Monitoring | Automation | Help | Add or remove favorites by pressing Ctrl+Shift+F

16°C Prac. despejado 12:21 a.m. 11/04/2025

- Creando la segunda máquina virtual (con el mismo conjunto de disponibilidad)

Instance details

Virtual machine name * ⓘ T4-2023630338-2

Region ⓘ (US) East US 2

Availability options ⓘ Availability set

Availability set * ⓘ T4-2023630338-conjunto-disponibilidad
Create new

Security type ⓘ Standard

Image * ⓘ T2-2023630338-image - x64 Gen2
See all images | Configure VM generation

VM architecture ⓘ x64
 Arm64
Arm64 is not supported with the selected image.

Run with Azure Spot discount ⓘ

< Previous Next : Disks > Review + create Give feedback

- Desabilitando la IP pública

Network interface

When creating a virtual machine, a network interface will be created for you.

Virtual network * ⓘ T4-2023630338-vnet
Create new

Subnet * ⓘ default (10.0.0.0/24)
Manage subnet configuration

Public IP ⓘ None
Create new

NIC network security group ⓘ Basic
 None
 Advanced

Public inbound ports * ⓘ None
 Allow selected ports

Select inbound ports * ⓘ SSH (22)

⚠️ This will allow all IP addresses to access your virtual machine. This is only recommended for testing. Use the Advanced controls in the Networking tab to create rules to limit inbound traffic to known IP addresses.

< Previous Next : Management > Review + create Give feedback

- Información básica de la VM antes de ser creada

Validation passed

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

Basics

Subscription	Azure for Students
Resource group	T2-2023630338_group_03162125
Virtual machine name	T4-2023630338-2
Region	East US 2
Availability options	Availability set
Zone options	Self-selected zone
Availability set	T4-2023630338-conjunto-disponibilidad
Security type	Standard
Image	T2-2023630338-image - Gen2
VM architecture	x64
Size	Standard B1s (1 vcpu, 1 GiB memory)
Enable Hibernation	No
Authentication type	Password
Username	luisvela
Public inbound ports	SSH
Azure Spot	No

< Previous | Next > | Create | Download a template for automation | Give feedback

Validation passed

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

Networking

Virtual network	T4-2023630338-vnet
Subnet	default (10.0.0.0/24)
Public IP	None
Accelerated networking	Off
Place this virtual machine behind an existing load balancing solution?	No
Delete NIC when VM is deleted	Disabled

Management

Microsoft Defender for Cloud	Basic (free)
System assigned managed identity	Off
Login with Microsoft Entra ID	Off
Auto-shutdown	Off
Enable periodic assessment	Off
Enable hotpatch	Off
Patch orchestration options	Image Default

< Previous | Next > | Create | Download a template for automation | Give feedback

- 2da VM creada

The screenshot shows the Microsoft Azure portal with the URL https://portal.azure.com/?Microsoft_Azure_Education_correlationId=a6f2c9b9-3493-417a-a886-0e558214746d&Microsoft_Azure_Education.... The main content is the properties of a virtual machine named T4-2023630338-2. A warning message at the top states: "T4-2023630338-2 virtual machine agent status is not ready. Troubleshoot the issue →". The properties section shows the following details:

Virtual machine	
Computer name	T4-2023630338-2
Operating system	Linux
VM generation	V2
VM architecture	x64
Agent status	Not Ready
Agent version	Unknown
Hibernation	Disabled
Host group	-
Host	-
Proximity placement group	-
Colocation status	N/A
Capacity reservation group	-
Disk controller type	SCSI

Networking

Public IP address	-
Public IP address (IPv6)	-
Private IP address	10.0.0.5
Private IP address (IPv6)	-
Virtual network/subnet	T4-2023630338-vnet/default
DNS name	-

Size

Size	Standard B1s
vCPUs	1
RAM	1 GiB

Source image details

Source image publisher	-
Source image offer	-

- Creando la tercera VM (exactamente el mismo procedimiento que antes)

The screenshot shows the Microsoft Azure portal with the URL https://portal.azure.com/?Microsoft_Azure_Education_correlationId=a6f2c9b9-3493-417a-a886-0e558214746d&Microsoft_Azure_Education.... The main content is the "Create a virtual machine" wizard, step 1: Basics. The configuration is as follows:

Setting	Value
Subscription	Azure for Students
Resource group	T2-2023630338_group_03162125
Virtual machine name	T4-2023630338-3
Region	East US 2
Availability options	Availability set
Zone options	Self-selected zone
Availability set	T4-2023630338-conjunto-disponibilidad
Security type	Standard
Image	T2-2023630338-image - Gen2
VM architecture	x64
Size	Standard B1s (1 vcpu, 1 GiB memory)
Enable Hibernation	No
Authentication type	Password
Username	luisvela
Public inbound ports	SSH
Azure Spot	No

At the bottom, there are buttons for < Previous, Next >, and Create.

Home > All resources > Create a resource >

Create a virtual machine

Validation passed

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

Networking

Virtual network	T4-2023630338-vnet
Subnet	default (10.0.0.0/24)
Public IP	None
Accelerated networking	Off
Place this virtual machine behind an existing load balancing solution?	No
Delete NIC when VM is deleted	Disabled

Management

Microsoft Defender for Cloud	Basic (free)
System assigned managed identity	Off
Login with Microsoft Entra ID	Off
Auto-shutdown	Off
Enable periodic assessment	Off
Enable hotpatch	Off
Patch orchestration options	Image Default

< Previous | Next > | **Create** | Download a template for automation | Give feedback

15°C Despejado | 12:45 a.m. 11/04/2025

- 3ra VM creada

Home >

T4-2023630338-3 - Microsoft Azure

Virtual machine

Search | Help me copy this VM in any region

Overview | Connect | Start | Restart | Stop | Hibernate | Capture | Delete | Refresh | Open in mobile | Feedback | CLI / PS

Virtual machine

Computer name	T4-2023630338-3
Operating system	Linux (ubuntu 24.04)
VM generation	V2
VM architecture	x64
Agent status	Ready
Agent version	2.12.0.2
Hibernation	Disabled
Host group	-
Host	-
Proximity placement group	-
Colocation status	N/A
Capacity reservation group	-
Disk controller type	SCSI

Azure Spot

Azure Spot	-
Azure Spot eviction policy	-

Networking

Public IP address	-
Public IP address (IPv6)	-
Private IP address	10.0.0.6
Private IP address (IPv6)	-
Virtual network/subnet	T4-2023630338-vnet/default
DNS name	-

Size

Size	Standard B1s
vCPUs	1
RAM	1 GiB

Source image details

Source image publisher	-
Source image offer	-
Source image plan	-

Disk

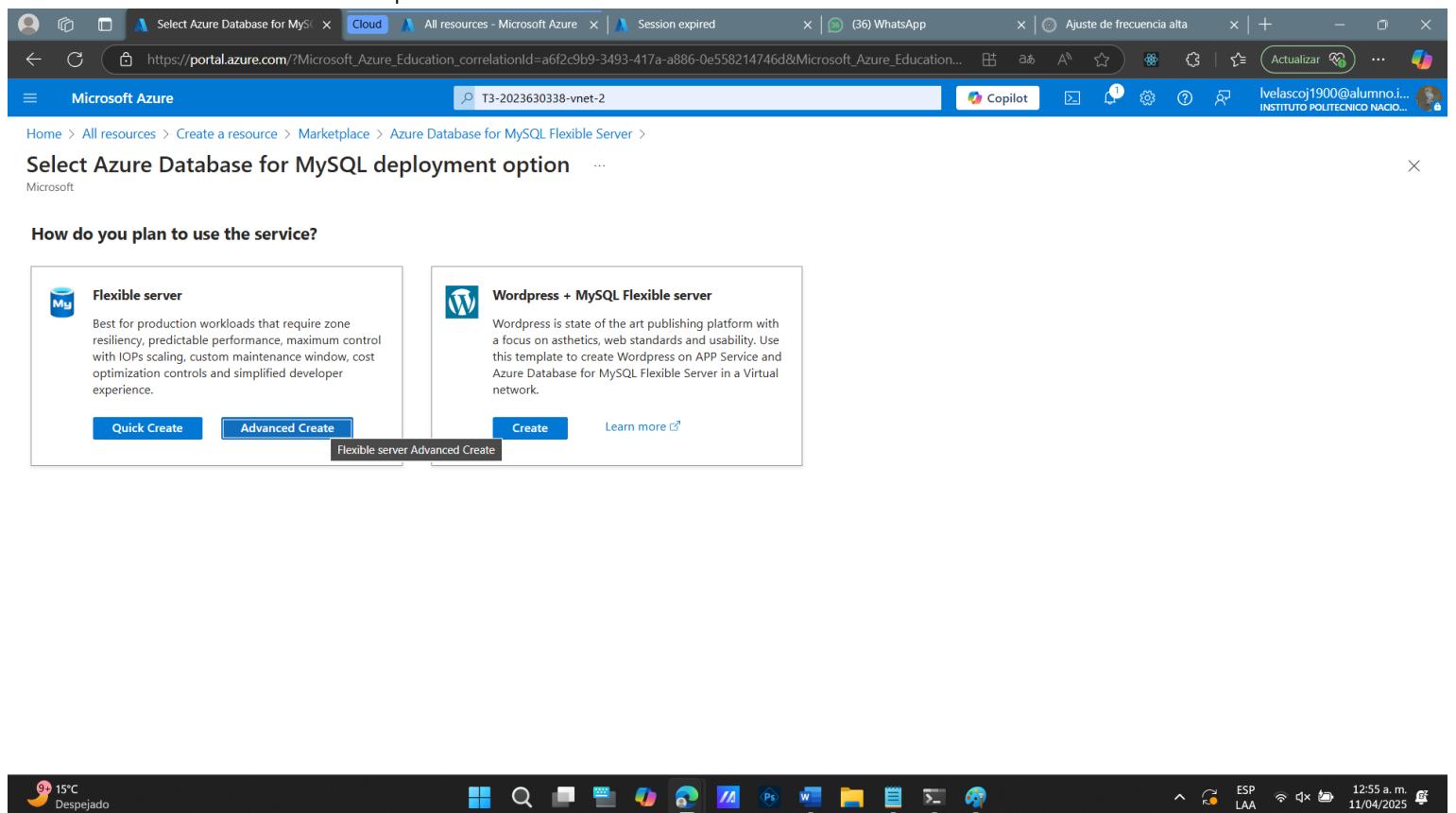
OS disk	T4-2023630338-3_disk1_bea1580da49e4656b9c243194f74d80b
---------	--

Add or remove favorites by pressing Ctrl+Shift+F | Available resources

15°C Despejado | 12:47 a.m. 11/04/2025

2. Se deberá crear una instancia de MySQL al nivel de PaaS.

- Seleccionando la opción avanzada del Server Flexible



How do you plan to use the service?

Flexible server

Best for production workloads that require zone resiliency, predictable performance, maximum control with IOPS scaling, custom maintenance window, cost optimization controls and simplified developer experience.

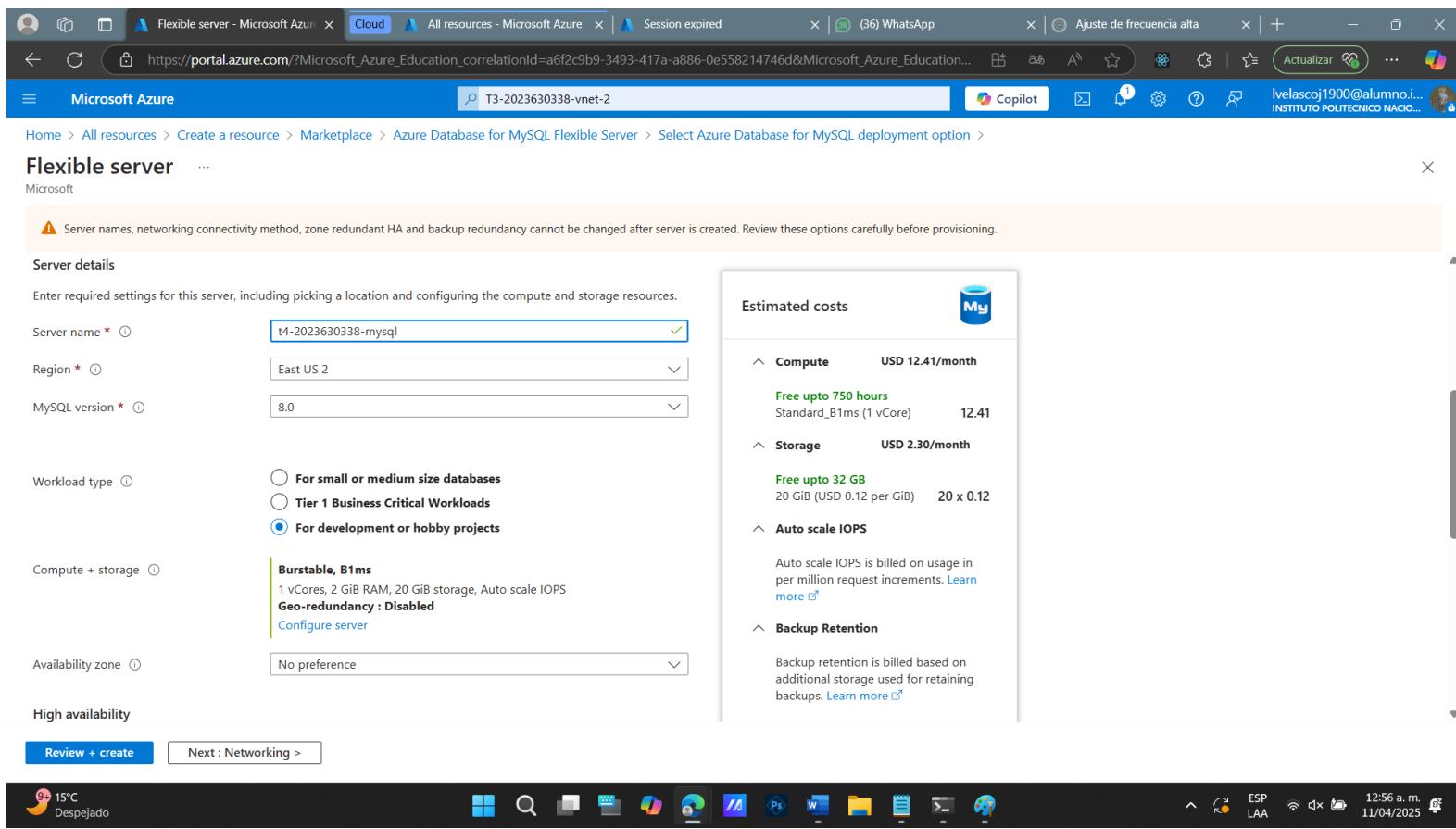
Create [Learn more](#)

Wordpress + MySQL Flexible server

Wordpress is state of the art publishing platform with a focus on aesthetics, web standards and usability. Use this template to create Wordpress on APP Service and Azure Database for MySQL Flexible Server in a Virtual network.

Create [Learn more](#)

- Información Básica de la instancia de MySQL



Flexible server

Server details

Server name *

Region *

MySQL version *

Workload type For development or hobby projects

Compute + storage
1 vCore, 2 GiB RAM, 20 GiB storage, Auto scale IOPS
Geo-redundancy : Disabled
[Configure server](#)

Availability zone

Estimated costs

Compute USD 12.41/month
Free upto 750 hours Standard_B1ms (1 vCore) 12.41

Storage USD 2.30/month
Free upto 32 GB 20 GiB (USD 0.12 per GiB) 20 x 0.12

Auto scale IOPS
Auto scale IOPS is billed on usage in per million request increments. [Learn more](#)

Backup Retention
Backup retention is billed based on additional storage used for retaining backups. [Learn more](#)

Review + create **Next : Networking >**

Flexible server

Enable high availability

Authentication

Select the authentication method you would like to support for accessing this MySQL server. Enabling MySQL password authentication allows you to authenticate with user names and passwords that are stored inside your MySQL.

Enabling Microsoft Entra authentication allows you to create user names in MySQL, which are mapped to accounts stored in Microsoft Entra ID. Users or applications authenticated against Microsoft Entra ID, can retrieve tokens that are presented to MySQL as their corresponding time-limited password. [Learn more](#)

Authentication method MySQL authentication only Microsoft Entra authentication only MySQL and Microsoft Entra authentication

Administrator login * ✓

Password * ✓

Confirm password * ✓

Auto scale IOPS
Auto scale IOPS is billed on usage in per million request increments. [Learn more](#)

Backup Retention
Backup retention is billed based on additional storage used for retaining backups. [Learn more](#)

Bandwidth
Outbound data transfer across services in different regions will incur additional charges. Any inbound data transfer is free. [Learn more](#)

Estimated total **USD 14.71/month**

Charges will apply if you use above the free monthly limits. Please check [your usage](#) of free services. Final charges will appear in your local currency.

Review + create **Next : Networking >**

- En el siguiente paso, configuraremos el servidor, habilitando opciones como el "Computer tier", el tamaño del proceso, el Storage size, la configuración de los IOPS.

Compute + storage

Compute tier Burstable (1-20 vCores) - Best for workloads that don't need the full CPU continuously General Purpose (2-96 vCores) - Balanced configuration for most common workloads Business Critical (2-96 vCores) - Best for Tier 1 workloads that require optimized performance

Compute size

High availability
Same zone and zone redundant high availability provide additional server resilience in the event of a failure.

Enable high availability

Storage
Storage you provision is the amount of storage capacity available to your server, and is billed by GiB/month.
Note that storage cannot be scaled down once the server is created.

Storage size (GiB) *

IOPS Auto scale IOPS Pre-provisioned IOPS

Storage autogrow

Compute **USD 12.41/month**
Free upto 750 hours Standard_B1ms (1 vCore) 12.41

Storage **USD 2.30/month**
Free upto 32 GB 20 GiB (USD 0.12 per GiB) 20 x 0.12

IOPS **USD 1.45/month**
Additional (389-360)=29 IOPS 29 x selected. (USD 0.05 per IOPS) 0.05

Backup Retention
Backup retention is billed based on additional storage used for retaining backups. [Learn more](#)

Bandwidth
Outbound data transfer across services in different regions will incur additional charges. Any inbound data transfer is free. [Learn more](#)

Estimated total **USD 16.16/month**

Charges will apply if you use above the free monthly limits. Please check [your usage](#) of free services. Final charges will appear in your local currency.

Save

- Configurando el campo de conectividad a acceso privado, para colocarlo dentro de la Vnet creada.

Flexible server

Subscription * (Azure for Students)

Virtual network * (T4-2023630338-vnet)

Subnet * (T4-2023630338-vnet/forMySQL (10.0.1.0/28))

Estimated costs

- Compute: USD 12.41 (Standard_B1ms (1 vCore))
- Storage: USD 2.30/month (Free upto 32 GB, 20 GiB (USD 0.12 per GiB))
- IOPS: USD 2.65/month (Additional (413-360)=53 IOPS selected. (USD 0.05 per IOPS))
- Backup Retention: Billed based on additional storage used for retaining backups.
- Bandwidth: Not explicitly listed in the screenshot.

Private DNS integration

Review + create < Previous Next : Security >

- Creando una subnet dentro de la Vnet para la instancia de Mysql

Add a subnet

Select an address space and configure your subnet. You can customize a default subnet or select from subnet templates if you plan to add select services later. [Learn more](#)

Subnet purpose (Default)

Name * (forMySQL)

IPv4

Include an IPv4 address space (checked)

IPv4 address range (10.0.0/16)

Starting address * (10.0.1.0)

Size (16 addresses)

Subnet address range (10.0.1.0 - 10.0.1.15)

IPv6

Include an IPv6 address space (unchecked)

Private subnet

Private subnets enhance security by not providing default outbound access. To enable outbound connectivity for virtual machines to access the internet, it is necessary to explicitly grant outbound access. A NAT gateway is the recommended way to provide outbound connectivity for virtual machines in the subnet. [Learn more](#)

Enable private subnet (no default outbound access) (unchecked)

Add Cancel Give feedback

- Revisando el recurso antes de ser creado

Flexible server - Microsoft Azure | Cloud | All resources - Microsoft Azure | Session expired | (36) WhatsApp | Ajuste de frecuencia alta | Actualizar | ...

Microsoft Azure | T3-2023630338-vnet-2 | Copilot | ... | lvelascoj1900@alumno... INSTITUTO POLITECNICO NACIONAL

Home > Select Azure Database for MySQL deployment option >

Flexible server ...

Subscription: Azure for Students
Resource group: T2-2023630338_group_03162125
Server name: t4-2023630338-mysql
Administrator login: roott
Location: East US 2
Availability zone: No preference
High availability: Not enabled
MySQL version: 8.0
Compute + storage: Burstable, B1ms, 1 vCores, 2 GiB RAM, 20 storage, 413 IOPS
Backup retention period (in days): 7 day(s)
Accelerated Logs: Not enabled
Storage autogrow: Not enabled
Geo-redundancy: Not enabled
Zonal Resiliency: No

Networking (Change)

Connectivity method: Private access (VNet Integration)
Virtual network subscription: Azure for Students
Virtual network resource group: T2-2023630338_group_03162125
Virtual network: T4-2023630338-vnet
Delegated subnet: forMySQL
Private DNS zone subscription: Azure for Students
Private DNS zone resource group: T2-2023630338_group_03162125
Private DNS zone: (New) t4-2023630338-mysql.private.mysql.database.azure.com

Estimated costs

Category	Cost
Compute	USD 12.41/month
Storage	USD 2.30/month
IOPS	USD 2.65/month
Backup Retention	(Additional cost)
Bandwidth	(Outbound data transfer cost)
Estimated total	USD 17.36/month

[Create](#) | < Previous | Download a template for automation

9 15°C Despejado | Windows taskbar | 01:29 a.m. 11/04/2025

- Instancia de MySQL creada

t4-2023630338-mysql - Microsoft Azure | Cloud | All resources - Microsoft Azure | Session expired | (36) WhatsApp | Ajuste de frecuencia alta | Actualizar | ...

Microsoft Azure | T3-2023630338-vnet-2 | Copilot | ... | lvelascoj1900@alumno... INSTITUTO POLITECNICO NACIONAL

Home > t4-2023630338-mysql | Azure Database for MySQL flexible server

Search | Delete | Reset password | Restore | Restart | Stop | Refresh | Feedback

Overview

Azure Database for MySQL – Live Webinar series: Learn about the latest updates (with demos) and interact directly with product group on the 2nd Wednesday of every month! [Subscribe to our YouTube channel](#)

Essentials

Subscription (move)	: Azure for Students
Subscription ID	: e1d319c4-9458-4992-b305-fe400976ae65
Resource group (move)	: T2-2023630338_group_03162125
Status	: Ready
Location	: East US 2
Tags (edit)	: Add tags

Server name : t4-2023630338-mysql.mysql.database.azure.com
Administrator login : roott
Configuration : Burstable, B1ms, 1 vCores, 2 GiB RAM, 20 storage, 413 IOPS
MySQL version : 8.0
Availability zone : 3
Created on : 2025-04-11 07:31:42.0111079 UTC

Getting started Properties Recommendations Monitoring Tutorials

We've prepared a checklist to get you started

Add or remove favorites by pressing **Ctrl+Shift+F** | Start your project

9 15°C Despejado | Windows taskbar | 01:35 a.m. 11/04/2025

- Comprobando el servidor de MySQL

The screenshot shows the Azure portal interface for managing a MySQL flexible server. The left sidebar has a 'Connect' section selected. The main content area displays 'Pre-requisites check' (with a note about resources in the virtual network), 'Virtual network details' (hostname, port, username, password, ssl-mode), and 'Connection details' (connection string). Below these are sections for 'View All Databases', 'Connect from browser or locally', 'MySQL Workbench', and 'Import and export data'. The bottom status bar shows the date and time as 11/04/2025 at 01:36 a.m.

- Asignando una IP publica a la primera VM

The screenshot shows the Azure portal interface for managing network settings. The left sidebar has an 'IP configurations' section selected. The main content area shows the 'Edit IP configuration' dialog for 't4-2023630338-1779'. It includes fields for Name (ipconfig1), IP version (IPv4), Type (Primary), and Private IP (10.0.0.4). Under 'Private IP address settings', the allocation is set to 'Dynamic'. Under 'Public IP address settings', a public IP address is associated with the configuration. The bottom status bar shows the date and time as 11/04/2025 at 02:16 a.m.

- Conectando a la primera VM por ssh ya que tenemos la IP publica

```
luisvela@T4-2023630338-1:~ + ~ - D X

The authenticity of host '51.8.172.11 (51.8.172.11)' can't be established.
ED25519 key fingerprint is SHA256:gUHh1PEt8Wtkq3SrtN96321jn72fZzFymRAje+r+tpo.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '51.8.172.11' (ED25519) to the list of known hosts.
luisvela@51.8.172.11's password:
Welcome to Ubuntu 24.04.2 LTS (GNU/Linux 6.8.0-1021-azure x86_64)

 * Documentation: https://help.ubuntu.com
 * Management: https://landscape.canonical.com
 * Support: https://ubuntu.com/pro

System information as of Fri Apr 11 08:18:26 UTC 2025

System load: 0.0 Processes: 109
Usage of /: 9.0% of 28.02GB Users logged in: 0
Memory usage: 71% IPv4 address for eth0: 10.0.0.4
Swap usage: 0%

* Strictly confined Kubernetes makes edge and IoT secure. Learn how MicroK8s just raised the bar for easy, resilient and secure K8s cluster deployment.
https://ubuntu.com/engage/secure-kubernetes-at-the-edge

1 device has a firmware upgrade available.
Run 'fwupdmgmt get-upgrades' for more information.

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

1 device has a firmware upgrade available.
Run 'fwupdmgmt get-upgrades' for more information.

Last login: Mon Mar 17 10:02:39 2025 from 189.234.241.253
luisvela@T4-2023630338-1:~$ |
```



- Conectando a la instancia de Mysql por medio de la primera VM

```
luisvela@T4-2023630338-1:~ + ~ - D X

luisvela@T4-2023630338-1:~$ mysql -h t4-2023630338-mysql.mysql.database.azure.com -P 3306 -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 12
Server version: 8.0.40-azure Source distribution

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> |
```



- Creando la base de datos

```
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> create database servicio_web;
auto_increment primary key,
email varchar(100) not null,
nombre varchar(100) not null,
apellido_paterno varchar(100) not null,
apellido_materno varchar(100),
fecha_nacimiento datetime not null,
telefono varchar(20),
genero char(1)
);
create table fotos_usuarios
(
    id_foto integer auto_increment primary key,
    foto longblob,
    id_usuario integer not null
);
alter table fotos_usuarios
add foreign key (id_usuario) references usuarios(id_usuario);

create unique index usuarios_1 on usuarios(email);
Query OK, 1 row affected (0.01 sec)

mysql>
mysql> use servicio_web;
Database changed
```

- Creando el usuario huoen

3. Los servicios web de las máquinas virtuales creadas en el paso 1 deberán acceder a la instancia de MySQL creada en el paso 2.

Los servicios web no deberán acceder a la instancia de MySQL local.

4. Creando un balanceador de carga

4.1 Información básica más el nombre requerido del load balancer

The screenshot shows the 'Create load balancer' wizard in the Azure portal. In the 'Project details' section, 'Subscription' is set to 'Azure for Students' and 'Resource group' is set to 'T2-2023630338_group_03162125'. Under 'Instance details', the 'Name' is 'T4-2023630338-balanceador-carga', 'Region' is 'East US 2', 'SKU' is 'Standard (Distribute traffic to backend resources)', 'Type' is 'Public', 'Tier' is 'Regional'. At the bottom, there are buttons for 'Review + create', '< Previous', 'Next : Frontend IP configuration >', 'Download a template for automation', and 'Give feedback'.

- Configuración de la IP de front-end, agregando el nombre requerido y creando la IP pública

The screenshot shows the 'Add frontend IP configuration' and 'Add a public IP address' wizards. In the 'Add frontend IP configuration' wizard, the 'Name' is 'T4-2023630338-configuracion-ip', 'IP version' is 'IPv4', 'IP type' is 'IP address', and the 'Assignment' is 'Static'. In the 'Add a public IP address' wizard, the 'Name' is 'T4-2023630338-ip-publica', 'SKU' is 'Standard', 'Tier' is 'Regional', and the 'Assignment' is 'Static'. Both wizards have 'Save' and 'Cancel' buttons at the bottom. Navigation buttons at the bottom left include 'Review + create', '< Previous', 'Next : Backend pools >', 'Download a template for automation', and 'Give feedback'.

- Antes de ser creado, revisamos la información

https://portal.azure.com/#create/Microsoft.LoadBalancer-ARM

Create load balancer

Validation passed

Basics

Subscription	Azure for Students
Resource group	T2-2023630338_group_03162125
Name	T4-2023630338-balanceador-carga
Region	East US 2
SKU	Standard
Tier	Regional
Type	Public

Frontend IP configuration

Frontend IP configuration name	T4-2023630338-configuracion-ip
Frontend IP configuration IP address	To be created

Backend pools

None

Actions

Create < Previous Next > Download a template for automation Give feedback

- Load Balancer creado

https://portal.azure.com/#@correo.ipn.mx/resource/subscriptions/e1d319c4-9458-4992-b305-fe400976ae65/resourcegroups/T2-202...

T4-2023630338-balanceador-carga

Load balancer

Search

Move Delete Refresh Give feedback

Overview

Essentials

Resource group (move)	T2-2023630338_group_03162125	Backend pool	None
Location	East US 2	Load balancing rule	None
Subscription (move)	Azure for Students	Health probe	None
Subscription ID	e1d319c4-9458-4992-b305-fe400976ae65	Inbound NAT rules	None
SKU	Standard	Outbound rules	None
		Tier	Regional
		Public IP address	130.213.193.27 (T4-202360338-ip-publica)

Tags ([edit](#))
[Add tags](#)

See less

Add or remove favorites by pressing **Ctrl+Shift+F**

4.2 Agregando las máquinas virtuales al balanceador de carga, añadiendo un grupo backend primeramente con el nombre requerido

The screenshot shows the 'Add backend pool' configuration page in the Microsoft Azure portal. The 'Name' field is set to 'T4-2023630338-GBE'. The 'Virtual network' dropdown is set to 'T4-2023630338-vnet (T2-2023630338_group_03162125)'. Under 'Backend Pool Configuration', the 'NIC' option is selected. In the 'IP configurations' section, there are three entries corresponding to the selected VMs:

Resource Name	Resource group	Type	IP configuration	IP Address	Availability set
T4-2023630338-1	T2-2023630338_GROUP_03162125	Virtual machine	ipconfig1	10.0.0.4	T4-2023630338-CONJUNTO-DISPONIBLE
T4-2023630338-2	T2-2023630338_GROUP_03162125	Virtual machine	ipconfig1	10.0.0.5	T4-2023630338-CONJUNTO-DISPONIBLE
T4-2023630338-3	T2-2023630338_GROUP_03162125	Virtual machine	ipconfig1	10.0.0.6	T4-2023630338-CONJUNTO-DISPONIBLE

At the bottom, there are 'Save', 'Cancel', and 'Give feedback' buttons.

- Ya hecha la configuración del balanceador de carga, previamente asociándole las 3 VM creadas.

The screenshot shows the 'Backend pools' section for the load balancer 'T4-2023630338-balanceador-carga'. The left sidebar shows navigation options like Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Resource visualizer, Settings, Frontend IP configuration, Backend pools (selected), Health probes, Load balancing rules, Inbound NAT rules, Outbound rules, and Properties. The main area displays the 'Backend pool' table with the following data:

Backend pool	Resource Name	IP address	Network inter...	Availability zo...	Rules count	Resource Status	Admin state
T4-2023630338-GBE (3)	T4-2023630338-2	10.0.0.5	t4-2023630338-2	-	0	Running	None
T4-2023630338-GBE (3)	T4-2023630338-3	10.0.0.6	t4-2023630338-3	-	0	Running	None
T4-2023630338-GBE (3)	T4-2023630338-1	10.0.0.4	t4-2023630338-1	-	0	Running	None

At the bottom, there is a 'Give feedback' button.

4.3. Creación de un sondeo de estado

- Configurando el protocolo y el puerto del sondeo de estado, así como también su nombre

The screenshot shows the 'Add health probe' page in the Azure portal. The form fields are filled as follows:

- Name: T4-2023630338-sondeo-estado
- Protocol: TCP
- Port: 8080
- Interval (seconds): 10
- Used by: Not used

At the bottom, there are 'Save' and 'Cancel' buttons, and a 'Give feedback' link.

- Sondeo de estado creado

The screenshot shows the 'T4-2023630338-balanceador-carga | Health probes' page. The table displays the following data:

Name	Protocol	Port	Path	Used By
T4-2023630338-sondeo-estado	Tcp	8080	-	-

The left sidebar shows the navigation menu with 'Health probes' selected. The status bar at the bottom indicates it's 11:00 a.m. on 11/04/2025.

4.4 Creando una regla de entrada para el puerto 8080 de la VM1

The screenshot shows the Microsoft Azure portal interface. The top navigation bar includes tabs for 'All resources - Microsoft Azure', 'Cloud' (selected), 't4-2023630338-mysql - Microsoft', 'T4-2023630338-1 - Microsoft', '(36) WhatsApp', 'Sondeo de estado', and a search bar with the query 'T3-2023630338-vnet-2'. The user's email 'lvelascoj1900@alumno.i...' and 'INSTITUTO POLITECNICO NACIONAL' are also visible.

The main content area displays 'T4-2023630338-1 | Network settings'. On the left, a sidebar lists 'Overview', 'Activity log', 'Access control (IAM)', 'Tags', 'Diagnose and solve problems', 'Resource visualizer', 'Connect', 'Networking' (selected), and 'Network settings' (sub-options: Load balancing, Application security groups, Network manager). A message at the top says 'This is a new experience. Please provide feedback'.

The central panel shows 'Network interface / IP configuration t4-2023630338-1779 (primary) / ipconfig1 (primary)'. The 'Essentials' section contains the following details:

Network interface	Load balancers
t4-2023630338-1779	1
Virtual network / subnet	Application security groups
T4-2023630338-vnet / default	0 (Configure)
Public IP address	Network security group
51.8.172.11	T4-2023630338-1-nsg
Private IP address	Accelerated networking
10.0.0.4	Disabled
Admin security rules	Effective security rules
0 (Configure)	0

A success message in a toast notification states: 'Created security rule' and 'Successfully created security rule 'AllowAnyCustom8080Inbound''. The bottom status bar shows the date '11/04/2025' and time '02:52 a.m.'

- Creando una regla de entrada para el puerto 8080 de la VM2

This screenshot is identical to the one above, showing the Microsoft Azure portal for VM2 ('T4-2023630338-2'). The steps and results for creating a security rule are the same, with a success message: 'Created security rule' and 'Successfully created security rule 'AllowAnyCustom8080Inbound''. The interface, network configuration, and system status are also identical.

- Creando una regla de entrada para el puerto 8080 de la VM3

T4-2023630338-3 | Network settings

Network interface / IP configuration: t4-2023630338-3734 (primary) / ipconfig1 (primary)

Essentials

Network interface	t4-2023630338-3734	Load balancers	1
Virtual network / subnet	T4-2023630338-vnet / default	Application security groups	0 (Configure)
Public IP address	- (Configure)	Network security group	T4-2023630338-3-nsg
Private IP address	10.0.0.6	Accelerated networking	Disabled
Admin security rules	0 (Configure)	Effective security rules	0

Actions: Attach network interface, Detach network interface, View topology, Troubleshoot, Refresh, Give feedback.

4.5. Agregar una regla de equilibrio de carga

- En la siguiente imagen se ve la configuración de la regla, como el nombre, la IP de front-end, el grupo backend, el protocolo, el puerto, el puerto backend y el sondeo de estado

Add load balancing rule

Name * T4-2023630338-regla-equilibrio

IP version * IPv4

Frontend IP address * T4-2023630338-configuracion-ip (130.213.193.27)

Backend pool * T4-2023630338-GBE

Protocol * TCP

Port * 80

Backend port * 8080

Health probe * T4-2023630338-sondeo-estado (TCP:8080)

Create new

Session persistence None

Buttons: Save, Cancel, Give feedback.

- Regla creada

The screenshot shows the Microsoft Azure portal interface. The left sidebar is open, showing navigation options like Home, All resources, and T4-2023630338-balancedor-carga. Under 'T4-2023630338-balancedor-carga', the 'Load balancing rules' section is selected. The main content area displays a table of load balancer rules. One rule is listed:

Name	Protocol	Backend pool	Health probe	Health status
T4-2023630338-regla-equilibrio	TCP/80 to TCP/8080	T4-2023630338-GBE	T4-2023630338-sondeo-estado	View details

A detailed description of a load balancer rule is provided in the center of the page, explaining its purpose and how it maps frontend ports to backend instances.

- Checando la cadena de conexión de la base de datos de MySQL en PaaS y sustituyendo {your_database} por: servicio_web

The screenshot shows the Microsoft Azure portal interface. The left sidebar is open, showing navigation options like Home, All resources, and t4-2023630338-mysql. Under 't4-2023630338-mysql', the 'Connect' section is selected. The main content area displays connection strings for different programming languages:

- ADO.NET:**

```
Server="t4-2023630338-mysql.mysql.database.azure.com"; port="3306" UserID = "root"; Password = "{your_password}"; Database = "{your_database}"; SslMode=Required; SslCa = "{path_to_CA_cert}";
```
- JDBC:**

```
String url = "jdbc:mysql://t4-2023630338-mysql.mysql.database.azure.com:3306/{your_database}?" + "useSSL=true"; myDbConn = DriverManager.getConnection(url, "root", "{your_password}");
```
- Node.js:**

```
var conn = mysql.createConnection({host: "t4-2023630338-mysql.mysql.database.azure.com", user: "root", password: "{your_password}", database: "{your_database}", port: 3306, ssl: {ca: fs.readFileSync("ca-cert filename")}});
```
- PHP:**

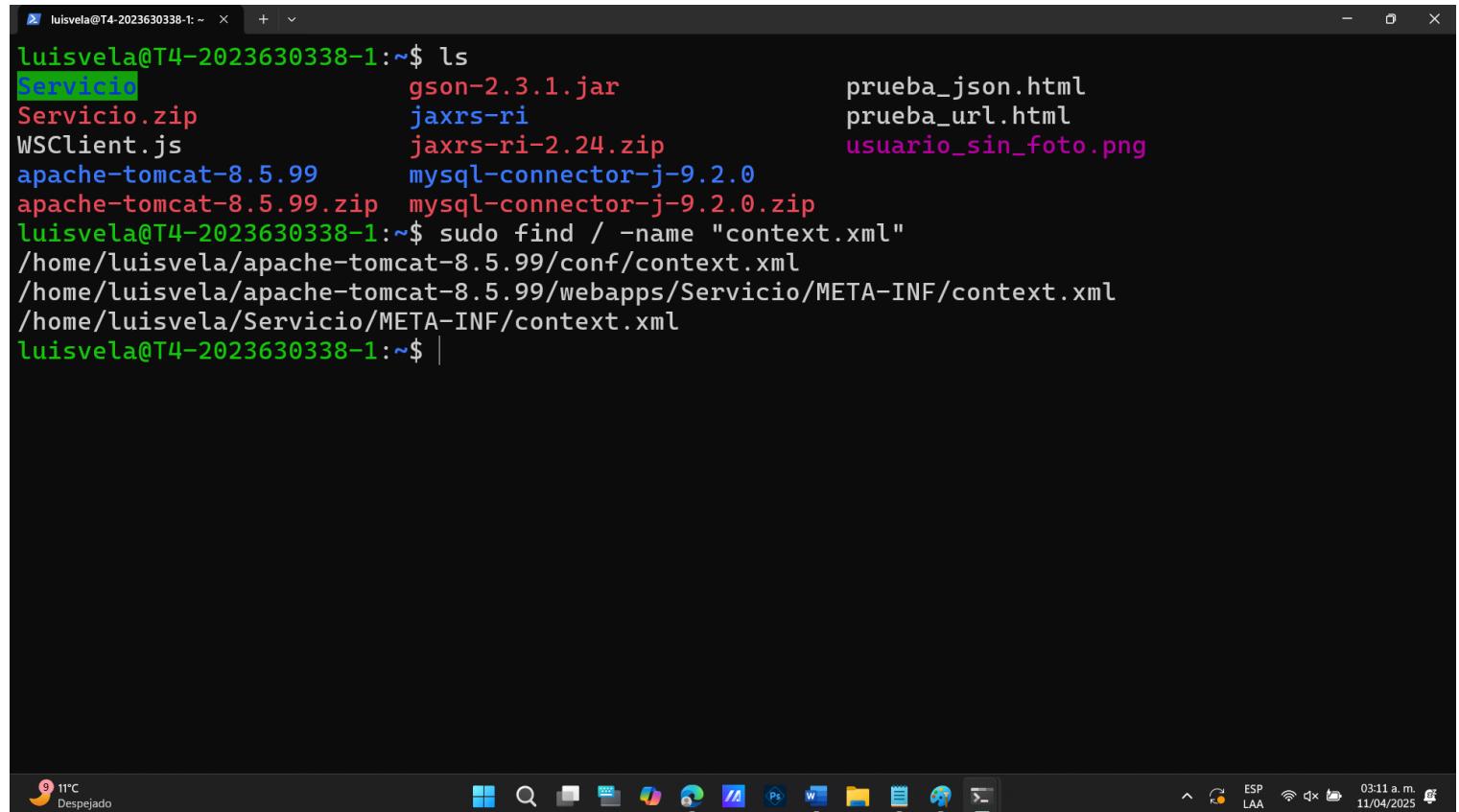
```
$con = mysqli_init();
mysqli_ssl_set($con, NULL, NULL, "path to CA cert", NULL, NULL);
mysqli_real_connect($con, "t4-2023630338-mysql.mysql.database.azure.com", "root", "{your_password}", "{your_database}", 3306, MYSQLI_CLIENT_SSL);
```
- Python:**

```
import mysql.connector
from mysql.connector import Error
```

- La cadena JDBC, después de sustituir el nombre de la base de datos, el usuario y su contraseña quedaría así:

```
String url="jdbc:mysql://t4-2023630338-
mysql.mysql.database.azure.com:3306/servicio_web?useSSL=true";myDbConn=DriverManager.getConnection(url, "hugo", "CloudPass#456");
```

- Sustituyendo la cadena de conexión anterior en el archivo ./META-INF/context.xml de la VM1:



```
luisvela@T4-2023630338-1:~$ ls
Servicio          gson-2.3.1.jar           prueba_json.html
Servicio.zip       jaxrs-ri                 prueba_url.html
WSClient.js        jaxrs-ri-2.24.zip        usuario_sin_foto.png
apache-tomcat-8.5.99 mysql-connector-j-9.2.0
apache-tomcat-8.5.99.zip mysql-connector-j-9.2.0.zip
luisvela@T4-2023630338-1:~$ sudo find / -name "context.xml"
/home/luisvela/apache-tomcat-8.5.99/conf/context.xml
/home/luisvela/apache-tomcat-8.5.99/webapps/Servicio/META-INF/context.xml
/home/luisvela/Servicio/META-INF/context.xml
luisvela@T4-2023630338-1:~$ |
```

The screenshot shows a terminal window on a Windows operating system. The command `ls` is run, displaying files like `Servicio`, `Servicio.zip`, `WSClient.js`, `apache-tomcat-8.5.99`, and `apache-tomcat-8.5.99.zip`. The command `sudo find / -name "context.xml"` is then run, showing the path `/home/luisvela/apache-tomcat-8.5.99/conf/context.xml` and `/home/luisvela/apache-tomcat-8.5.99/webapps/Servicio/META-INF/context.xml`. The taskbar at the bottom includes icons for the Start button, File Explorer, Task View, and several pinned applications.

- Creando una IP publica para la VM2

Home > NICIPConfigUpdateDeployment-1744363462671 >

pip-t4-2023630338-vnet-eastus2-default2

Public IP address

Search Associate Dissociate Delete Move Refresh Open in mobile Give feedback

Overview Activity log Access control (IAM) Tags Resource visualizer Settings Monitoring Automation Help

JSON View

Essentials

Resource group (move)	SKU
T2-2023630338_group_03162125	Standard
Location (move)	Tier
East US 2	Regional
Subscription (move)	IP address
Azure for Students	172.200.63.110
Subscription ID	DNS name
e1d319c4-9458-4992-b305-fe400976ae65	-
	Domain name label scope
	-
	Associated to
	t4-2023630338-2345
	Virtual machine
	T4-2023630338-2

Add or remove favorites by pressing **Ctrl+Shift+F**

- Conectándome a la segunda VM por SSH

```
luisvela@T4-2023630338-1: ~ x luisvela@T4-2023630338-2: ~ + v

PS C:\Users\luis Velasco> ssh luisvela@172.200.63.110
The authenticity of host '172.200.63.110 (172.200.63.110)' can't be established.
ED25519 key fingerprint is SHA256:VoNzESnpkj0vqJ4pfCk0HCQYySyNMMty60lwQKRFZM.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '172.200.63.110' (ED25519) to the list of known hosts.
luisvela@172.200.63.110's password:
Welcome to Ubuntu 24.04.2 LTS (GNU/Linux 6.8.0-1021-azure x86_64)

 * Documentation: https://help.ubuntu.com
 * Management: https://landscape.canonical.com
 * Support: https://ubuntu.com/pro

System information as of Fri Apr 11 09:26:14 UTC 2025

System load: 0.0 Processes: 109
Usage of /: 9.0% of 28.02GB Users logged in: 0
Memory usage: 72% IPv4 address for eth0: 10.0.0.5
Swap usage: 0%

1 device has a firmware upgrade available.
Run `fwupdmgm get-upgrades` for more information.

Expanded Security Maintenance for Applications is not enabled.
0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

1 device has a firmware upgrade available.
Run `fwupdmgm get-upgrades` for more information.

Last login: Mon Mar 17 10:02:39 2025 from 189.234.241.253
luisvela@T4-2023630338-2:~$ |
```

- Modificando el META-INF/context.xml de la VM2

```
luisvela@T4-2023630338-1: ~ x luisvela@T4-2023630338-2: ~ + v

luisvela@T4-2023630338-2:~$ ls
Servicio WSClient.js apache-tomcat-8.5.99.zip jaxrs-ri mysql-connect
or-j-9.2.0 prueba_json.html usuario_sin_foto.png
Servicio.zip apache-tomcat-8.5.99 gson-2.3.1.jar jaxrs-ri-2.24.zip mysql-connect
or-j-9.2.0.zip prueba_url.html
luisvela@T4-2023630338-2:~$ sudo find / -name "context.xml"
/home/luisvela/apache-tomcat-8.5.99/conf/context.xml
/home/luisvela/apache-tomcat-8.5.99/webapps/Servicio/META-INF/context.xml
/home/luisvela/Servicio/META-INF/context.xml
luisvela@T4-2023630338-2:~$ |
```

- Quitándole la IP publica a la VM2 para asignársela a la VM3

The screenshot shows the Microsoft Azure portal with the URL https://portal.azure.com/#Microsoft_Azure_Education_correlationId=a6f2c9b9-3493-417a-a886-0e558214746d&Microsoft_Azure_Edu.... The page title is "Edit IP configuration - Microsoft Azure". The main content area displays the "Edit IP configuration" dialog for a network interface card named "t4-2023630338-2345".

Private IP address settings:

- Type: Primary
- Allocation: Dynamic (selected)

Public IP address settings:

- Associate public IP address: Unchecked

IP configurations table:

Name	IP Version
ipconfig1	IPv4

Buttons at the bottom:

- Apply
- Discard changes
- Save
- Cancel

Left sidebar:

- Search bar
- Overview
- Activity log
- Access control (IAM)
- Tags
- Resource visualizer
- Settings
 - IP configurations (selected)
 - DNS servers
 - Network security group
 - Properties
 - Locks
- Monitoring
- Automation

Bottom status bar:

- 7 10°C Despejado
- Cloud
- Edit IP configuration - Microsoft Azure
- t4-2023630338-mysql - Microsoft Azure
- (36) WhatsApp
- Ajuste de frecuencia alta
- Actualizar
- 1velascoj1900@alumno.i...
- INSTITUTO POLITECNICO NACIONAL
- 11/04/2025

- Poniendo IP publica a la VM3

Home > NICIPConfigUpdateDeployment-1744364080563 >

pip-t4-2023630338-vnet-eastus2-default2

Public IP address

Search Associate Dissociate Delete Move Refresh Open in mobile Give feedback

Overview

Activity log

Access control (IAM)

Tags

Resource visualizer

> Settings

> Monitoring

> Automation

> Help

Resource group ([move](#))
[T2-2023630338_group_03162125](#)

Location ([move](#))
East US 2

Subscription ([move](#))
[Azure for Students](#)

Subscription ID
e1d319c4-9458-4992-b305-fe400976ae65

SKU
Standard

Tier
Regional

IP address
172.176.165.96

DNS name
-

Domain name label scope
-

Associated to
[t4-2023630338-3734](#)

Virtual machine
[T4-2023630338-3](#)

Add or remove favorites by pressing **Ctrl+Shift+F**

10°C Despejado

ESP LAA 03:35 a.m. 11/04/2025

- Conectándome por ssh a la VM3

```
luisvela@T4-2023630338-1:~ luisvela@T4-2023630338-3:~ + ^
```

```
PS C:\Users\luis Velasco> ssh luisvela@172.176.165.96
The authenticity of host '172.176.165.96 (172.176.165.96)' can't be established.
ED25519 key fingerprint is SHA256:GEp4/bc90/jRALr9KiXQevk/tzCU9cbsv1aljKHEFE.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Please type 'yes', 'no' or the fingerprint: yes
Warning: Permanently added '172.176.165.96' (ED25519) to the list of known hosts.
luisvela@172.176.165.96's password:
Welcome to Ubuntu 24.04.2 LTS (GNU/Linux 6.8.0-1021-azure x86_64)

 * Documentation: https://help.ubuntu.com
 * Management: https://landscape.canonical.com
 * Support: https://ubuntu.com/pro

System information as of Fri Apr 11 09:37:34 UTC 2025

System load: 0.16 Processes: 109
Usage of /: 9.0% of 28.02GB Users logged in: 0
Memory usage: 72% IPv4 address for eth0: 10.0.0.6
Swap usage: 0%

* Strictly confined Kubernetes makes edge and IoT secure. Learn how MicroK8s just raised the bar for easy, resilient and secure K8s cluster deployment.
https://ubuntu.com/engage/secure-kubernetes-at-the-edge

1 device has a firmware upgrade available.
Run 'fwupdmgm get-upgrades' for more information.

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

1 device has a firmware upgrade available.
Run 'fwupdmgm get-upgrades' for more information.
```

10°C Despejado

ESP LAA 03:37 a.m. 11/04/2025

- Configurando la url del META-INF/context.xml de la VM3

```
luisvela@T4-2023630338-1: ~ luisvela@T4-2023630338-3: ~ + - x
luisvela@T4-2023630338-3:~$ ls
Servicio WSClient.js apache-tomcat-8.5.99.zip jaxrs-ri mysql-co
nector-j-9.2.0 prueba_json.html usuario_sin_foto.png
Servicio.zip apache-tomcat-8.5.99 gson-2.3.1.jar jaxrs-ri-2.24.zip mysql-co
nector-j-9.2.0.zip prueba_url.html

luisvela@T4-2023630338-3:~$ sudo find / -name "context.xml"
/home/luisvela/apache-tomcat-8.5.99/conf/context.xml
/home/luisvela/apache-tomcat-8.5.99/webapps/Servicio/META-INF/context.xml
/home/luisvela/Servicio/META-INF/context.xml
luisvela@T4-2023630338-3:~$ vi /home/luisvela/Servicio/META-INF/context.xml|
```

5. Realizar las siguientes pruebas:

5.1 Usando un teléfono inteligente, ingresar la url al navegador

http://130.213.193.27/prueba_json.html



5.2. Dar de alta tres usuarios. Capturar los campos y dar clic en el botón “Alta” incluyendo una imagen para cada usuario, **no ingresar datos ni fotos personales**. Mostrar el contenido de las tablas de la base de datos (mostrar la longitud de la foto, no la foto).

- Primer usuario



Alta de usuario

Email *

Nombre *

Apellido paterno *

Apellido materno

Fecha de nacimiento *

Teléfono

Genero



Elegir archivos Screenshot_...earchbox.jpg

Agregar usuario

Limpiar pantalla

Regresar



Alta de usuario

Email *

Nombre *

Apellido paterno *

Apellido materno

Fecha de nacimiento *

Teléfono

130.213.193.27 dice

OK

Aceptar



Elegir archivos Screenshot_...earchbox.jpg

Agregar usuario

Limpiar pantalla

Regresar

- Segundo usuario

5:16 AM 0.10 kB/s ⚡ 🔍 259 kB/s ⚡ 🔍 100% ⚡

130.213.193.27/prueba_j: 33

Alta de usuario

Email *

lenard@gmail.com

Nombre *

lenard

Apellido paterno *

lenard

Apellido materno

lenard

Fecha de nacimiento *

11/04/1993, 5:14 a.m.

Teléfono

9511778800

Genero

Masculino



Elegir archivos Screenshot...earchbox.jpg

Agregar usuario

Limpiar pantalla

Regresar

5:16 AM 259 kB/s ⚡ 🔍 100% ⚡

130.213.193.27/prueba_j: 33

Alta de usuario

Email *

lenard@gmail.com

Nombre *

lenard

Apellido paterno *

lenard

Apellido materno

lenard

Fecha de nacimiento *

11/04/1993, 5:14 a.m.

Teléfono

130.213.193.27 dice

OK

Aceptar



Elegir archivos Screenshot...earchbox.jpg

Agregar usuario

Limpiar pantalla

Regresar

- Tercer usuario

5:17 AM 0.00 kB/s 5:17 AM 270 kB/s

130.213.193.27/prueba_js 33 130.213.193.27/prueba_js 33

Alta de usuario

Email *

Nombre *

Apellido paterno *

Apellido materno

Fecha de nacimiento *

Teléfono

Genero



Elegir archivos Screenshot...earchbox.jpg

Agregar usuario

Limpiar pantalla

Regresar

5:17 AM 270 kB/s 5:17 AM 100%

130.213.193.27/prueba_js 33 130.213.193.27/prueba_js 33

Alta de usuario

Email *

Nombre *

Apellido paterno *

Apellido materno

Fecha de nacimiento *

Teléfono

130.213.193.27 dice

OK

Aceptar



Elegir archivos Screenshot...earchbox.jpg

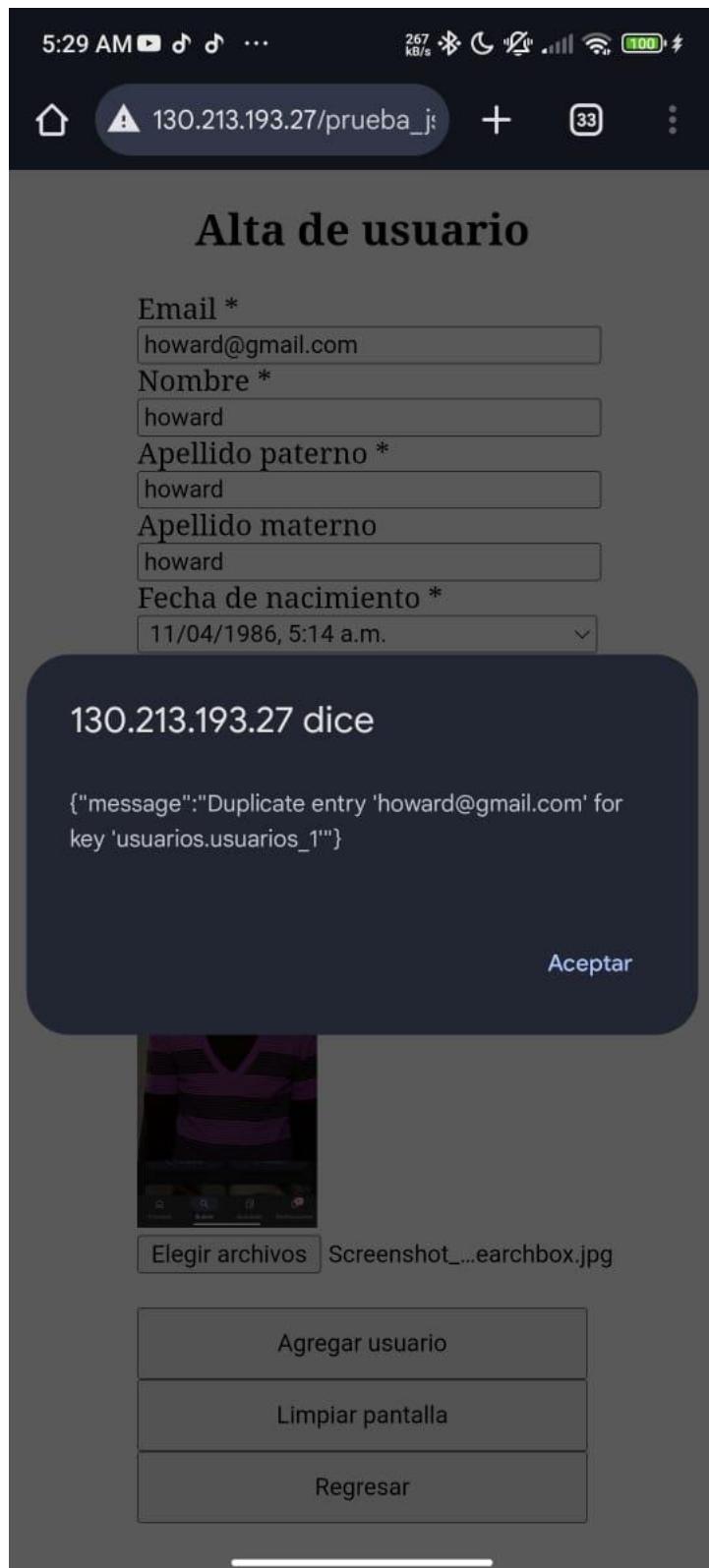
Agregar usuario

Limpiar pantalla

Regresar

5.3 Intentar dar de alta un usuario con el mismo email (se deberá mostrar una ventana de error indicando que el email ya existe).

- Tratando de dar de alta al usuario "howard"



5.4 Consultar los tres usuarios dados de alta en el paso 5.2.

- Consultando el primer usuario



Consulta usuario

Email *

sheldon@gmail.com

Buscar usuario

Regresar



Modifica usuario

Email *

sheldon@gmail.com

Nombre *

sheldon

Apellido paterno *

sheldon

Apellido materno

sheldon

Fecha de nacimiento *

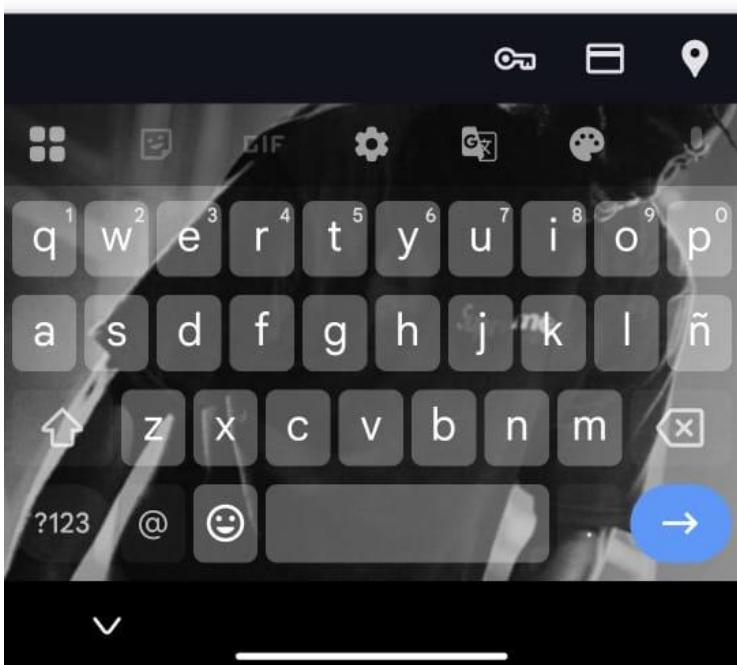
05/11/1993, 5:09 a.m.

Teléfono

5511223344

Genero

Masculino



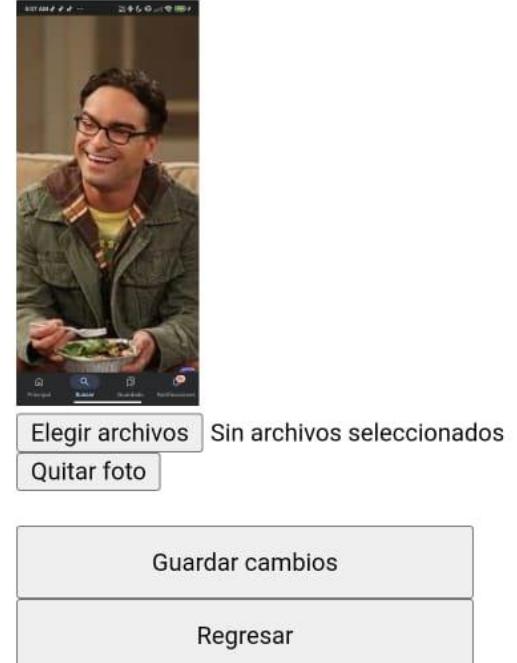
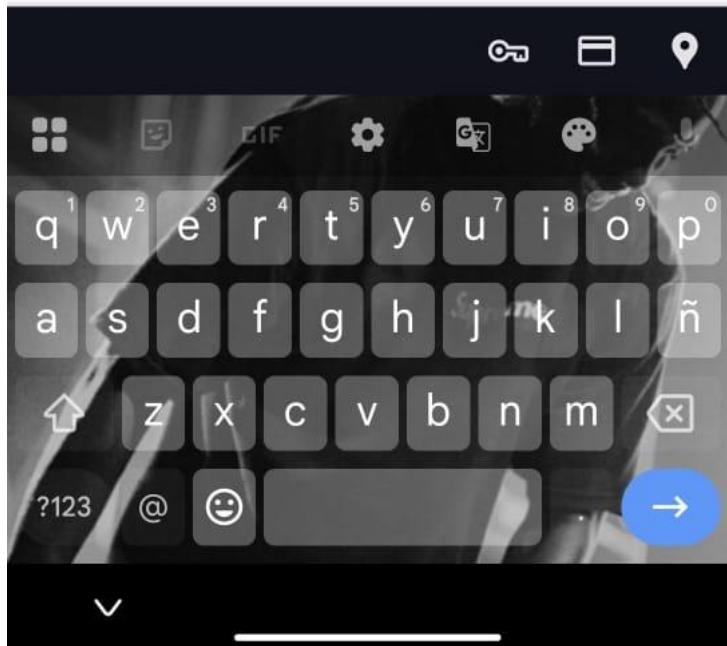
Elegir archivos Sin archivos seleccionados

Quitar foto

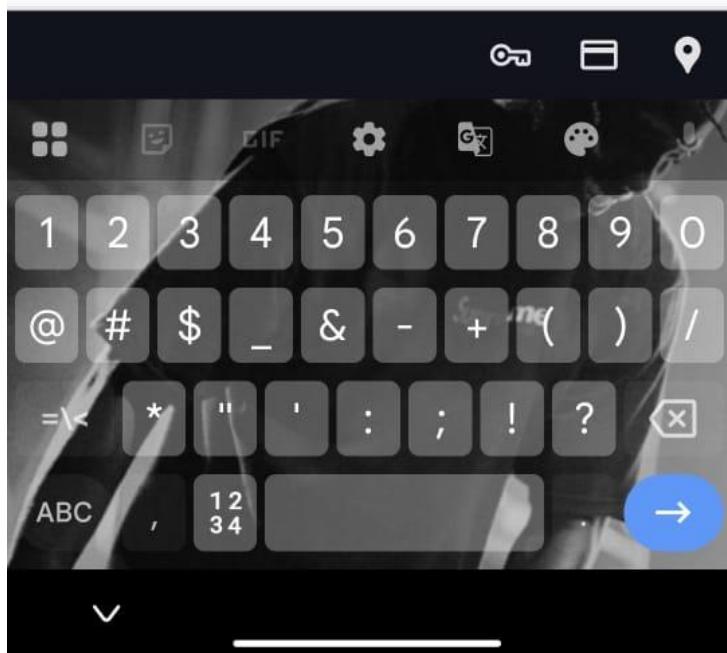
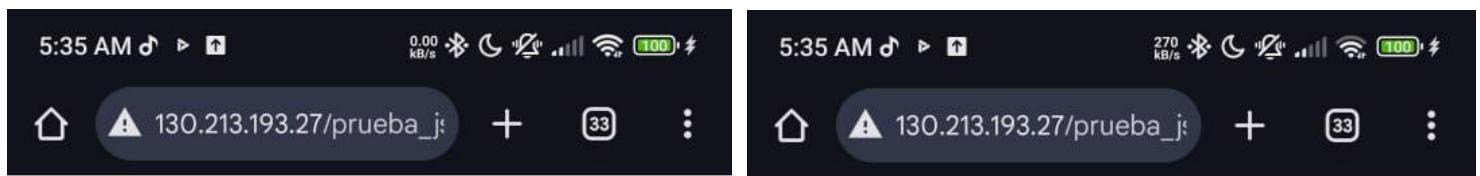
Guardar cambios

Regresar

- Consultando el segundo usuario:



- Consultando el tercer usuario:



5.5 Modificar algún dato de cada usuario. Mostrar el contenido de las tablas de la base de datos (mostrar la longitud de la foto, no la foto).

- Cambiando nombre y foto del primer usuario



Modifica usuario

Email *

sheldon@gmail.com

Nombre *

jimbo

Apellido paterno *

sheldon

Apellido materno

sheldon

Fecha de nacimiento *

05/11/1993, 5:09 a.m.

Teléfono

5511223344

Genero

Masculino



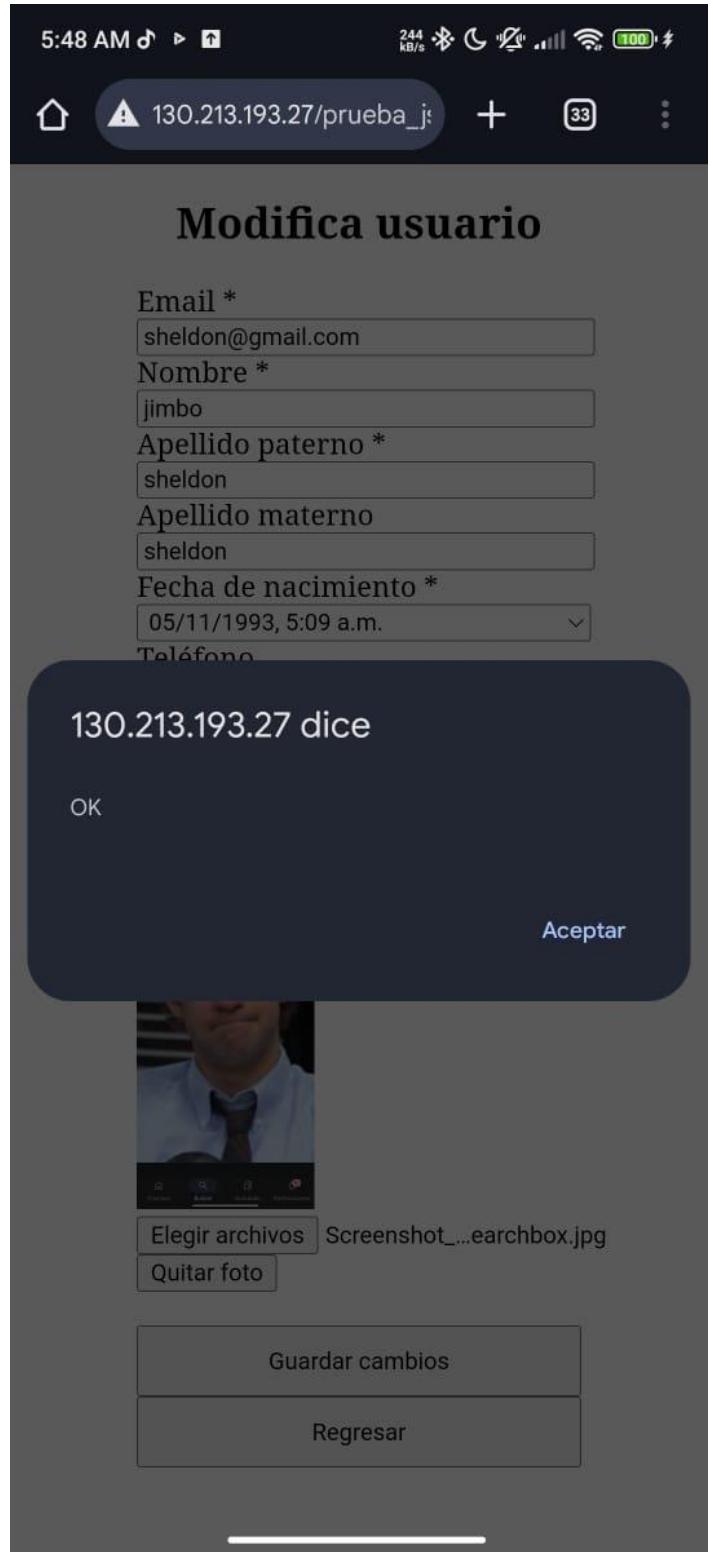
Elegir archivos

Screenshot...earchbox.jpg

Quitar foto

Guardar cambios

Regresar



Modifica usuario

Email *

sheldon@gmail.com

Nombre *

jimbo

Apellido paterno *

sheldon

Apellido materno

sheldon

Fecha de nacimiento *

05/11/1993, 5:09 a.m.

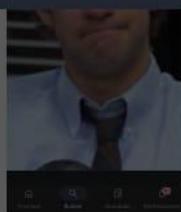
Teléfono

5511223344

130.213.193.27 dice

OK

Aceptar



Elegir archivos

Screenshot...earchbox.jpg

Quitar foto

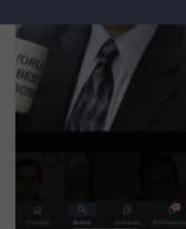
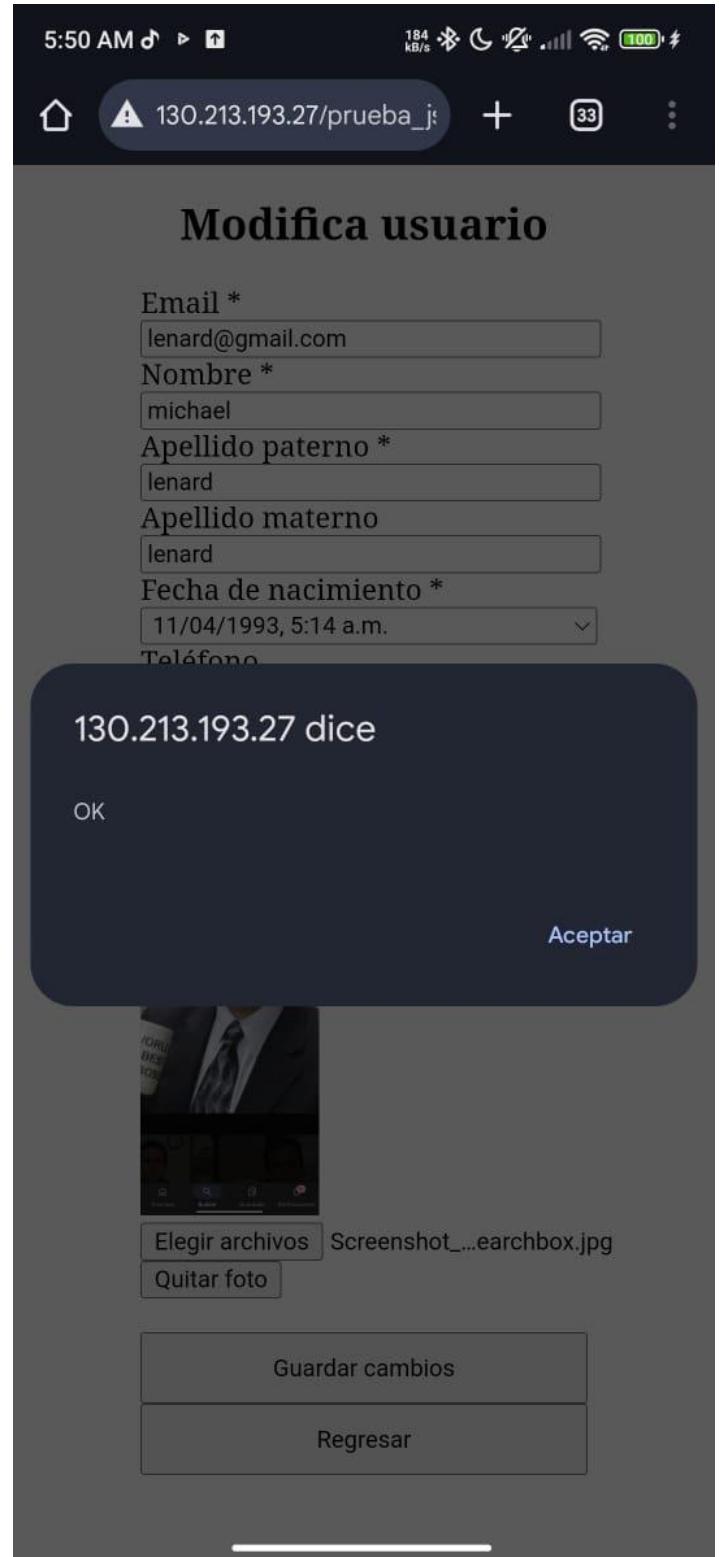
Guardar cambios

Regresar

- Cambiando nombre y foto del segundo usuario



Guardar cambios
Regresar



Elegir archivos Screenshot_eearchbox.jpg
Quitar foto

Guardar cambios
Regresar

- Cambiando nombre y foto del tercer usuario



Modifica usuario

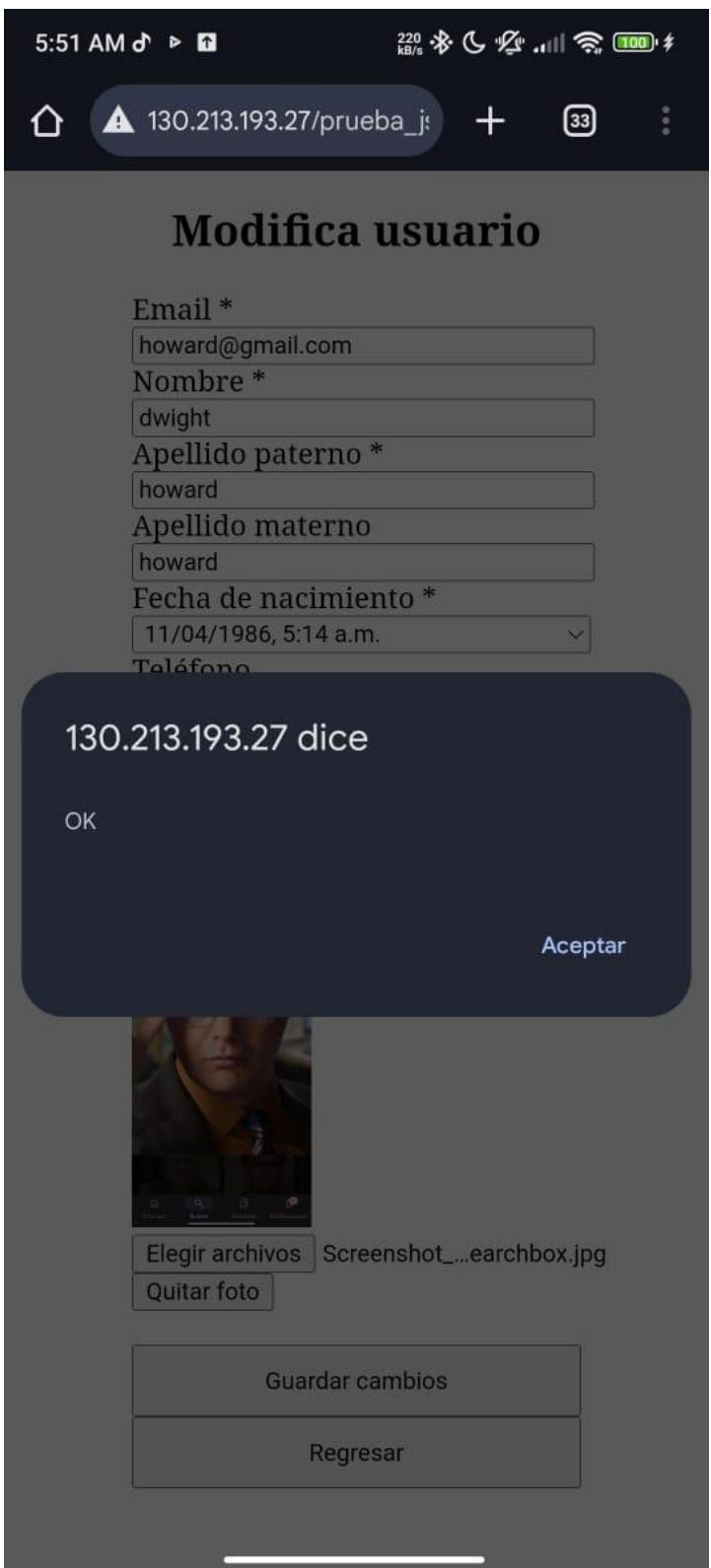
Email *howard@gmail.com
Nombre *
dwight
Apellido paterno *
howard
Apellido materno
howard
Fecha de nacimiento *
11/04/1986, 5:14 a.m.
Teléfono
9501778800
Genero
Masculino



Elegir archivos Screenshot...earchbox.jpg
Quitar foto

Guardar cambios

Regresar



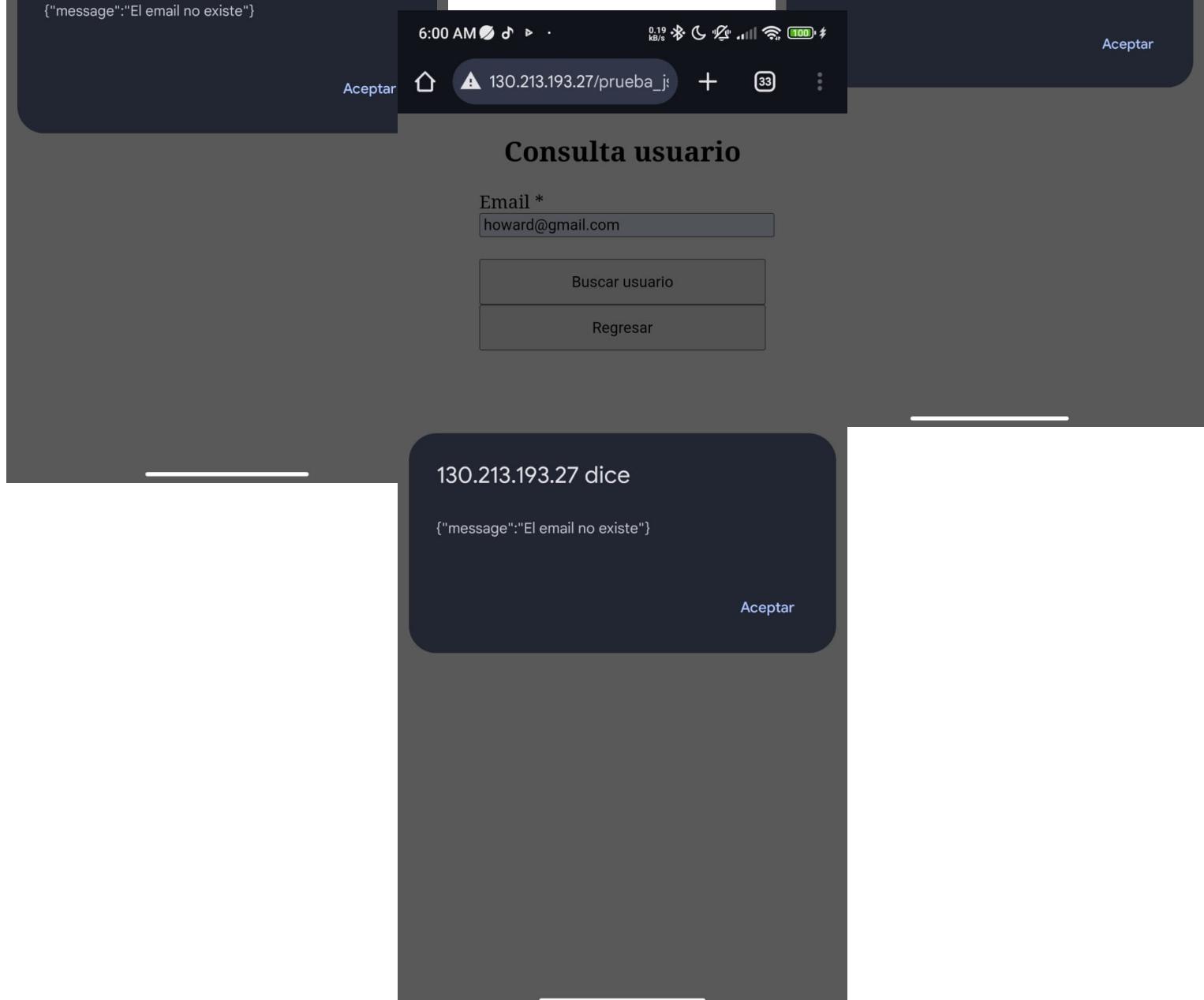
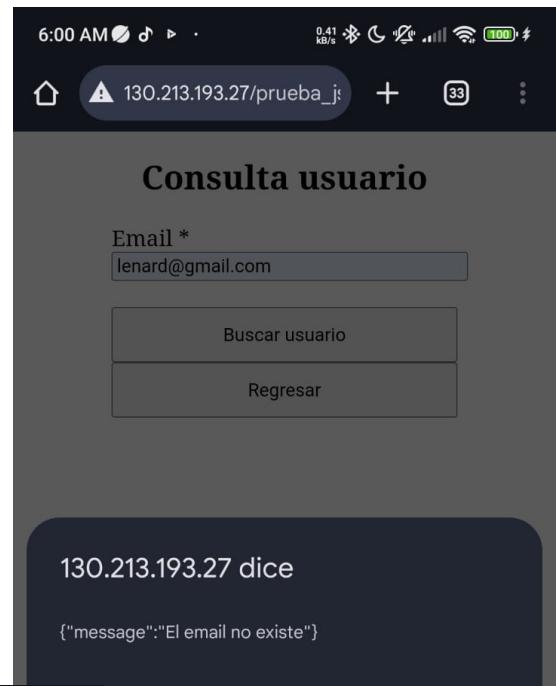
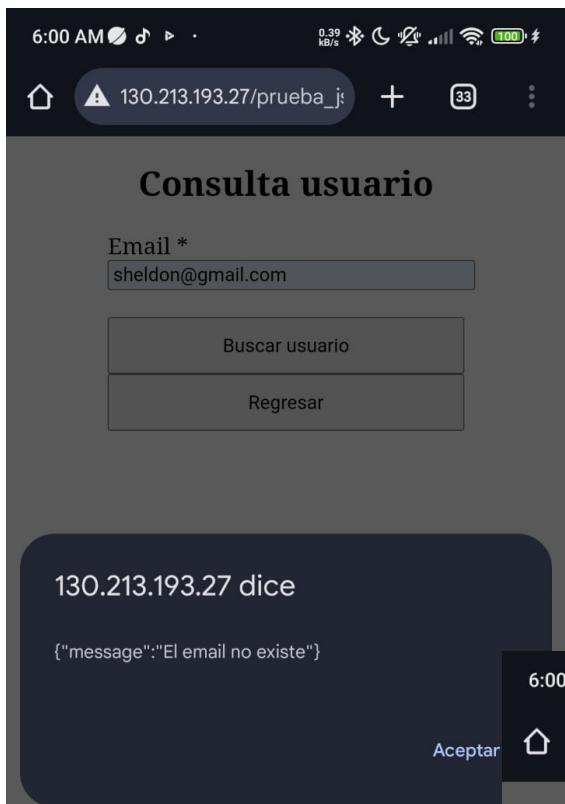
5.6 Dar clic en el botón “Borra usuario” para borrar cada usuario. Capturar el email del usuario borrado y dar clic en el botón “Consulta”. Mostrar el contenido de las tablas de la base de datos (mostrar la longitud de la foto, no la foto).

- Borrando los usuarios

The image consists of three screenshots of a mobile application interface, likely from an Android device, showing the process of deleting users.

- Screenshot 1:** Shows the "Borra usuario" (Delete User) screen. It has a text input field labeled "Email *" containing "sheldon@gmail.com". Below it are two buttons: "Borrar usuario" (Delete User) and "Regresar" (Return). A dark overlay at the bottom displays the message "130.213.193.27 dice" (130.213.193.27 says) followed by "OK" and an "Aceptar" (Accept) button.
- Screenshot 2:** Shows the same "Borra usuario" screen after a deletion. The email input field now contains "lenard@gmail.com". The "Borrar usuario" button is highlighted. A dark overlay at the bottom displays the message "130.213.193.27 dice" followed by "OK" and an "Aceptar" (Accept) button.
- Screenshot 3:** Shows the same "Borra usuario" screen after another deletion. The email input field now contains "howard@gmail.com". The "Borrar usuario" button is highlighted. A dark overlay at the bottom displays the message "130.213.193.27 dice" followed by "OK" and an "Aceptar" (Accept) button.

- Consultando de nuevo a los usuarios borrados



CONCLUSIONES:

En esta tarea, he aprendido a tener paciencia y saber resolver problemas, ya que fue solo un poco difícil poder configurar CORRECTAMENTE todos los elementos de dicha tarea, también pude notar la importancia que podría tener un diagrama o pipeline visual en estos casos, ya que, en ocasiones, a la hora de estar configurando el load balancer, me llegaba a confundir en algunas configuraciones de puertos, por ejemplo, y esto me retraso más. Así también considero que es muy importante hacer este tipo de tareas con un cierto conocimiento de todo lo que hemos visto en clases, como Vnets, subnets, que es un load balancer, para que sirve, que implica que una maquina este healthy o unhealthy etc, ya que son casos o situaciones que se pueden llegar a presentar en la implementación de un deploy mas complejo y con los elementos.

Por otra parte, me surgió un problema en la base de datos PaaS, ya que al querer consultar los registros no me aparecía nada, lo que me hace pensar que puede que sea problema de la base de datos a nivel de plataforma o incluso algún error en la configuración de los end-points backend.