



UNIVERSIDAD TECNOLÓGICA DE PANAMÁ

FACULTAD DE INGENIERÍA DE SISTEMAS
COMPUTACIONALES



LICENCIATURA EN CIBERSEGURIDAD

PROGRAMACION 1

TALLER PRACTICO 1

PREPARADO POR

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A CONSIDERACIÓN DE: NAPOLEON

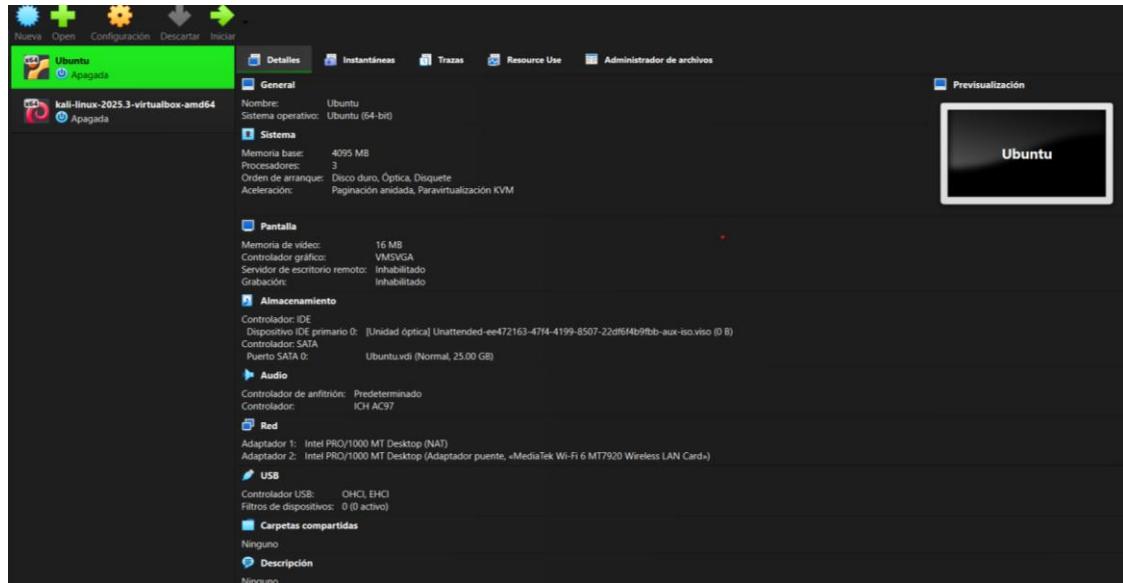
IBARRA

GRUPO: 2S3111

FECHA: 2-10-2025

I PARTE.

1. Se descargo el virtual box, y también la ISO de Ubuntu y se instaló y se configuro.



2. Se realizo posteriormente dentro de Ubuntu, la instalación de MySql.

```
vboxuser@AJ:~$ sudo apt install mysql-server
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
liblvm19 linux-headers-6.8.0-79 linux-headers-6.8.0-79-generic
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
libaio1t64 libcgi-fast-perl libcgi-pm-perl libevent-core-2.1-7t64
libevent-pthreads-2.1-7t64 libfcgi-bin libfcgi-perl libfcgi0t64
libhtml-template-perl libmecab2 libprotobuf-lite32t64 mecab-ipadic
mecab-ipadic-utf8 mecab-utils mysql-client-8.0 mysql-client-core-8.0
mysql-common mysql-server-8.0 mysql-server-core-8.0
Suggested packages:
libipc-sharedcache-perl mailx tinyca
The following NEW packages will be installed:
libaio1t64 libcgi-fast-perl libcgi-pm-perl libevent-core-2.1-7t64
libevent-pthreads-2.1-7t64 libfcgi-bin libfcgi-perl libfcgi0t64
libhtml-template-perl libmecab2 libprotobuf-lite32t64 mecab-ipadic
mecab-ipadic-utf8 mecab-utils mysql-client-8.0 mysql-client-core-8.0
mysql-common mysql-server mysql-server-8.0 mysql-server-core-8.0
0 upgraded, 20 newly installed, 0 to remove and 5 not upgraded.
Need to get 29.3 MB of archives.
After this operation, 242 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://pa.archive.ubuntu.com/ubuntu noble/main amd64 mysql-common all 5.8+1.1.0build1 [6,746 B]
Get:2 http://pa.archive.ubuntu.com/ubuntu noble-updates/main amd64 mysql-client-core-8.0 amd64 8.0.43-0ubuntu0.24.04.2 [2,740 kB]
```

3. Se verifico la instalación

```

Oct 2 04:33
vboxuser@AJ:~$ sudo systemctl status mysql
● mysql.service - MySQL Community Server
   Loaded: loaded (/usr/lib/systemd/system/mysql.service; enabled; preset: enabled)
   Active: active (running) since Thu 2025-10-02 04:21:08 UTC; 11min ago
     Process: 16700 ExecStartPre=/usr/share/mysql/mysql-systemd-start pre (code=exited, status=0/SUCCESS)
    Main PID: 16708 (mysqld)
      Status: "Server is operational"
        Tasks: 37 (limit: 4602)
       Memory: 360.6M (peak: 377.6M)
         CPU: 33.199s
        CGroup: /system.slice/mysql.service
                  └─16708 /usr/sbin/mysqld

Oct 02 04:21:05 AJ systemd[1]: Starting mysql.service - MySQL Community Server...
Oct 02 04:21:08 AJ systemd[1]: Started mysql.service - MySQL Community Server.
vboxuser@AJ:~$ 

```

4. Despues de eso se configuro

```

Oct 2 04:41
vboxuser@AJ:~$ sudo mysql_secure_installation
[mysql] Securing the MySQL server deployment.

Securing the MySQL server deployment.

Connecting to MySQL using a blank password.

VALIDATE PASSWORD COMPONENT can be used to test passwords
and improve security. It checks the strength of password
and allows the user to set only those passwords which are
secure enough. Would you like to setup VALIDATE PASSWORD component?

Press y|Y for Yes, any other key for No: y

There are three levels of password validation policy:

LOW      Length >= 8
MEDIUM  Length >= 8, numeric, mixed case, and special characters
STRONG   Length >= 8, numeric, mixed case, special characters and dictionary
file

Please enter 0 = LOW, 1 = MEDIUM and 2 = STRONG: 1

Skipping password set for root as authentication with auth_socket is used by default.
If you would like to use password authentication instead, this can be done with the "ALTER_USER" command.
See https://dev.mysql.com/doc/refman/8.0/en/alter-user.html#alter-user-password-management for more information.

By default, a MySQL installation has an anonymous user,
allowing anyone to log into MySQL without having to have
a user account created for them. This is intended only for
testing and to make the installation go a bit smoother.
You should remove them before moving into a production
environment.

Remove anonymous users? (Press y|Y for Yes, any other key for No) : 

```

5. Se realizo la configuración de la base de datos .se creó el usuario y contraseña

```

vboxuser@AJ:~$ sudo mysql
[sudo] password for vboxuser:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 14
Server version: 8.0.43-0ubuntu0.24.04.2 (Ubuntu)

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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> CREATE USER 'adrian_07'@'%' IDENTIFIED BY 'Mysql_S3curity_12345#';
Query OK, 0 rows affected (0.05 sec)

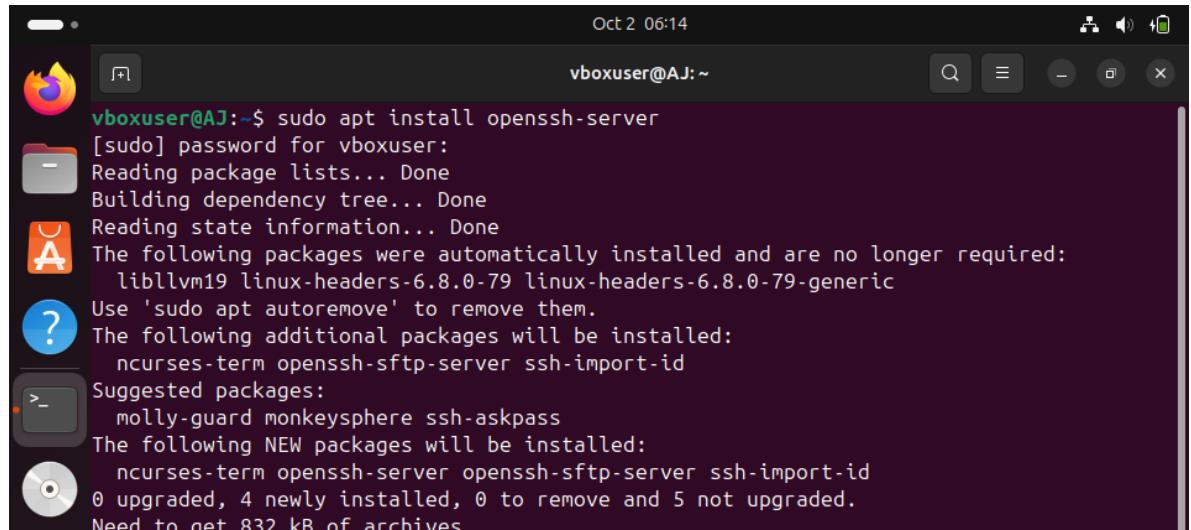
mysql> GRANT ALL PRIVILEGES ON *.* TO 'adrian_07'@'%' WITH GRANT OPTION;
Query OK, 0 rows affected (0.08 sec)

mysql> FLUSH PRIVILEGES;
Query OK, 0 rows affected (0.07 sec)

mysql> EXIT;

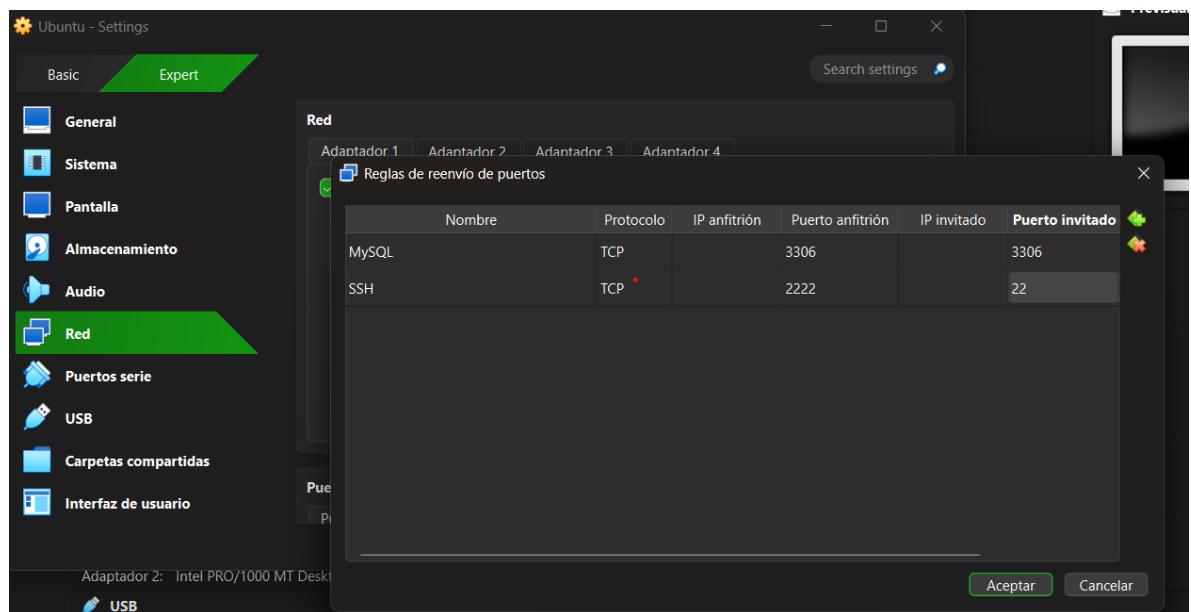
```

6. Se coloco en la terminal el comando **sudo apt install openssh-server** para habilitar el acceso remoto y seguro desde la maquina anfitriona.



```
vboxuser@AJ:~$ sudo apt install openssh-server
[sudo] password for vboxuser:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
  libl LLVM19 linux-headers-6.8.0-79 linux-headers-6.8.0-79-generic
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  ncurses-term openssh-sftp-server ssh-import-id
Suggested packages:
  molly-guard monkeysphere ssh-askpass
The following NEW packages will be installed:
  ncurses-term openssh-server openssh-sftp-server ssh-import-id
0 upgraded, 4 newly installed, 0 to remove and 5 not upgraded.
Need to get 832 kB of archives.
```

7. Se apago la máquina virtual y luego se configuro el reenvio de puertos en la configuración de red.



8. Se volvió a encender la maquina virtual y se entro en la terminal para modificar el **mysqld.cnf** en el área de **bind-address**, se cambion 127.0.0.1 por 0.0.0.0 para que el Mysql detectara conexiones externas.

```
GNU nano 7.2                               /etc/mysql/mysql.conf.d/mysqld.cnf *
#
# The MySQL database server configuration file.
#
# One can use all long options that the program supports.
# Run program with --help to get a list of available options and with
# --print-defaults to see which it would actually understand and use.
#
# For explanations see
# http://dev.mysql.com/doc/mysql/en/server-system-variables.html
#
# Here is entries for some specific programs
# The following values assume you have at least 32M ram
#
[mysqld]
#
# Basic Settings
#
user          = mysql
# pid-file     = /var/run/mysqld/mysqld.pid
# socket       = /var/run/mysqld/mysqld.sock
# port         = 3306
# datadir      = /var/lib/mysql

# If MySQL is running as a replication slave, this should be
# changed. Ref https://dev.mysql.com/doc/refman/8.0/en/server-system-variables.html#sys_var_tmpdir
# tmpdir        = /tmp
#
# Instead of skip-networking the default is now to listen only on
# localhost which is more compatible and is not less secure.
bind-address    = 0.0.0.0
mysqlx-bind-address = 127.0.0.1
```

9. Se permitió el tráfico TCP en el puerto **3306** a través del firewall de Ubuntu con **sudo ufw allow 3306/tcp**.

```
vboxuser@AJ:~$ sudo ufw allow 3306/tcp
Rule added
Rule added (v6)
```

10. Se instaló **MySQL Workbench** en la maquina anfitriona para hacer la conexión. Y así se terminase correctamente el proceso.

Threads Connected: 4		Threads Running: 2		Threads Created: 4		Threads Cached: 0	
Total Connections: 11		Connection Limit: 151		Aborted Clients: 0		Aborted Connections: 0	
S	User	Host	DB	Command	Time	State	File
5	event_scheduler	localhost	None	Daemon	443	Waiting on	
7	None	None	None	Daemon	443	Suspending	
8	adrian_07	_gateway	None	Sleep	271	None	
9	adrian_07	_gateway	None	Sleep	271	None	
10	adrian_07	_gateway	None	Query	0	executing	
11	adrian_07	_gateway	None	Sleep	3	None	

Parte II.

```
import java.awt.*;
import java.text.DecimalFormat;
import javax.swing.*;
import javax.swing.table.DefaultTableModel;

public class Casopractico1 extends JFrame {
    private final JTextField[] txtVentas = new JTextField[3];
    private final JTextField[] txtPrecios = new JTextField[3];
    private final String[] PRODUCTOS = {"Cola", "Naranja", "Limon"};
    private DefaultTableModel tableModel;
    private JLabel lblTotalGlobal;
    private static final double MAX_VENTAS = 5000000.0;
    private static final DecimalFormat DF = new DecimalFormat(pattern:"#,##0.00");
    private static final DecimalFormat DF_CANTIDAD = new DecimalFormat(pattern:"#,##0");

    public Casopractico1() {
        setTitle(title:"Informe de Ventas Simple");
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        setLayout(new BorderLayout());
        JPanel panelEntrada = new JPanel(new GridLayout(rows:3, cols:4, hgap:10, vgap:5));
        panelEntrada.setBorder(BorderFactory.createTitledBorder("Datos de Ventas"));
        for (int i = 0; i < PRODUCTOS.length; i++) {
            panelEntrada.add(new JLabel(PRODUCTOS[i] + " - Cantidad (Máx 5M):"));
            txtVentas[i] = new JTextField(columns:5);
            panelEntrada.add(txtVentas[i]);
        }
        panelEntrada.add(new JLabel(text:"Precio (B./):"));
        txtPrecios[i] = new JTextField(columns:5);
        panelEntrada.add(txtPrecios[i]);
    }
    JButton btnCalcular = new JButton(text:"Calcular y Mostrar Informe");
    btnCalcular.addActionListener(e -> calcularVentas());
    lblTotalGlobal = new JLabel(text:"TOTAL VENTAS: B/. 0.00");
    lblTotalGlobal.setFont(new Font(name:"Arial", Font.BOLD, size:14));
    JPanel panelSur = new JPanel(new BorderLayout());
    panelSur.add(btnCalcular, BorderLayout.WEST);
    panelSur.add(lblTotalGlobal, BorderLayout.CENTER);
}
```

Producto	Ventas	Precio	Total
Cola	23	0.17	3.91
Naranja	35	0.20	7.00
Limon	34	0.19	6.46

