

Laboratorio de bases de datos

Grupo 2

Practica 2 Entorno de trabajo

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Practica 2 Entorno de Trabajo

Introducción

En esta práctica realizamos la instalación del software necesario con el que trabajaremos en el semestre. también, vimos algunos ejercicios como la como la conexión del servidor en el cual trabajaremos, conociendo algunas funciones como la consulta en tablas y creamos nuestra propia carpeta en el servidor.

Objetivo

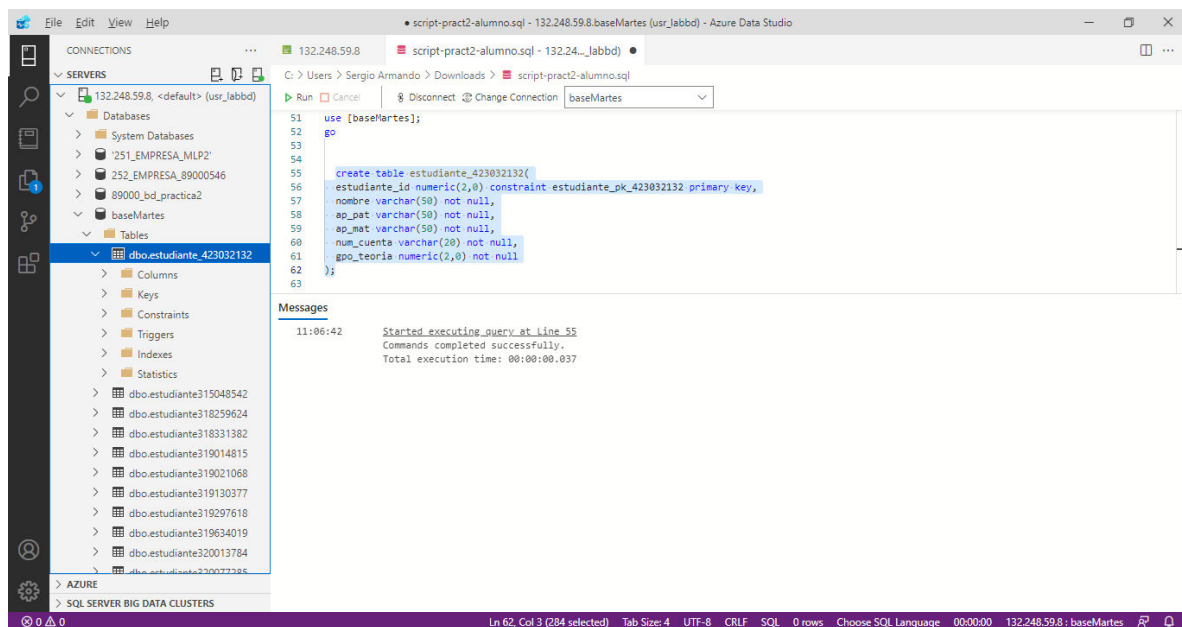
El alumno conocerá el entorno de trabajo del manejador de base de datos que utilizará en las prácticas siguientes.

Actividades a realizar

2.2. Explorar el diccionario de datos

Posterior a la configuración de conexión hacia el servidor de base de datos, en esta actividad se creará una tabla de prueba empleada para validar los privilegios otorgados a cada usuario. No preocuparse por la sintaxis, este tema se revisará en prácticas posteriores.

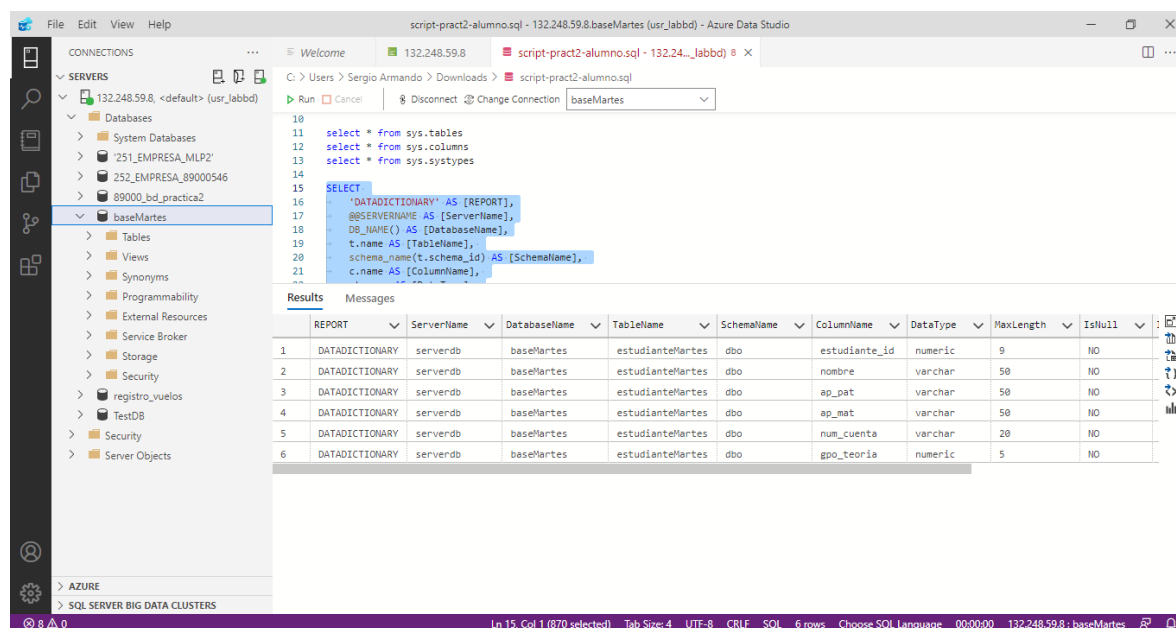
C1



2.3. Creación de objeto de prueba

Ejecutar la siguiente instrucción para verificar que el usuario tiene privilegios para crear tablas e insertar datos. La tabla deberá ser creada en la base de datos correspondiente: grupo de día martes en la base llamada baseMartes, el grupo del viernes utilizará la base nombrada como baseViernes y en baseSabado el grupo que toma laboratorio en día sábado. Sustituir los paréntesis <> con los valores correspondientes (del alumno)

C2



The screenshot shows the Azure Data Studio interface. The left sidebar displays the 'CONNECTIONS' pane with a tree view of the server '132.248.59.8'. The 'baseMartes' database is selected. The main editor shows a SQL script with the following content:

```
10
11 select * from sys.tables
12 select * from sys.columns
13 select * from sys.systypes
14
15
16 SELECT
17     'DATADictionary' AS [REPORT],
18     @@SERVERNAME AS [ServerName],
19     DB_NAME() AS [DatabaseName],
20     t.name AS [TableName],
21     schema_name(t.schema_id) AS [SchemaName],
22     c.name AS [ColumnName]
```

Below the script, the 'Results' pane displays a table with 6 rows and 9 columns. The columns are: REPORT, ServerName, DatabaseName, TableName, SchemaName, ColumnName, DataType, MaxLength, and IsNull. The rows represent the metadata of the tables in the 'baseMartes' database.

REPORT	ServerName	DatabaseName	TableName	SchemaName	ColumnName	DataType	MaxLength	IsNull	
1	DATADictionary	serverdb	baseMartes	estudianteMartes	dbo	estudiante_id	numeric	9	NO
2	DATADictionary	serverdb	baseMartes	estudianteMartes	dbo	nombre	varchar	50	NO
3	DATADictionary	serverdb	baseMartes	estudianteMartes	dbo	ap_pat	varchar	50	NO
4	DATADictionary	serverdb	baseMartes	estudianteMartes	dbo	ap_mat	varchar	50	NO
5	DATADictionary	serverdb	baseMartes	estudianteMartes	dbo	num_cuenta	varchar	20	NO
6	DATADictionary	serverdb	baseMartes	estudianteMartes	dbo	gpo_teoría	numeric	5	NO

2.4. Inserción de un registro

Ejecutar la siguiente sentencia SQL para guardar los datos de cada estudiante. Sustituir los parentesis <> con los valores correspondientes (del alumno). El registro deberá ser insertado en la tabla llamada estudianteMartes dentro de la base de datos llamada baseMartes. El grupo del viernes usará tabla estudianteViernes que está dentro de la base llamada baseViernes y el grupo del día sábado en su base correspondiente.

C3

```
insert into estudianteMartes(estudiante_id,nombre,ap_pat,ap_mat,num_cuenta,gpo_teoría)
values(28,'Sergio','Calzada','Lozada','423032132',1);
```

2.5. Actividad: Consultar un registro

Ejecutar las siguientes instrucciones para mostrar el registro insertado anteriormente.

Sustituir <id> con el valor correspondiente.

C4

The screenshot shows the Azure Data Studio interface. The left pane displays a list of servers under 'SERVERS', including 'dbo.estudiante315048542' through 'dbo.estudiante320324091'. The main editor shows a SQL script with the following content:

```
58 ap_pat varchar(50) not null,
59 ap_mat varchar(50) not null,
60 num_cuenta varchar(28) not null,
61 gpo_teoría numeric(2,0) not null
62 );
63
64
65 insert into estudianteMartes(estudiante_id,nombre,ap_pat,ap_mat,num_cuenta,gpo_teoría)
66 values(28,'Sergio','Calzada','Lozada','423032132',1);
67
68 SELECT * FROM estudianteMartes
69 WHERE num_cuenta = '28'
```

The 'Results' pane shows the output of the query, displaying a table with 14 rows and 7 columns: estudiante_id, nombre, ap_pat, ap_mat, num_cuenta, and gpo_teoría. The data is as follows:

estudiante_id	nombre	ap_pat	ap_mat	num_cuenta	gpo_teoría	
1	0	nombre	apellido1	apellido2	numCta	4
2	2	Cinthya	Aguiar	Mora	320240755	1
3	3	OSCAR	ITURBIDE	LOPEZ	319014815	2
4	5	Valeria	Chavez	Serna	320267561	4
5	6	Regina	Gutierrez	Benavides	320233454	6
6	7	Daniel	Villanueva	Figueroa	320173985	7
7	8	Jesus	Fernandez	Hernandez	424063980	4
8	9	Arturo	Gutierrez	Gutierrez	Arturo	1
9	11	Gerardo	Barrera	Treviño	320013784	4
10	12	Emiliano	Hernandez	Ledesma	423028980	1
11	13	Esteban	Martinez	Herrera	315048542	4
12	14	Francisco Javier	Perez	Nava	320328305	4

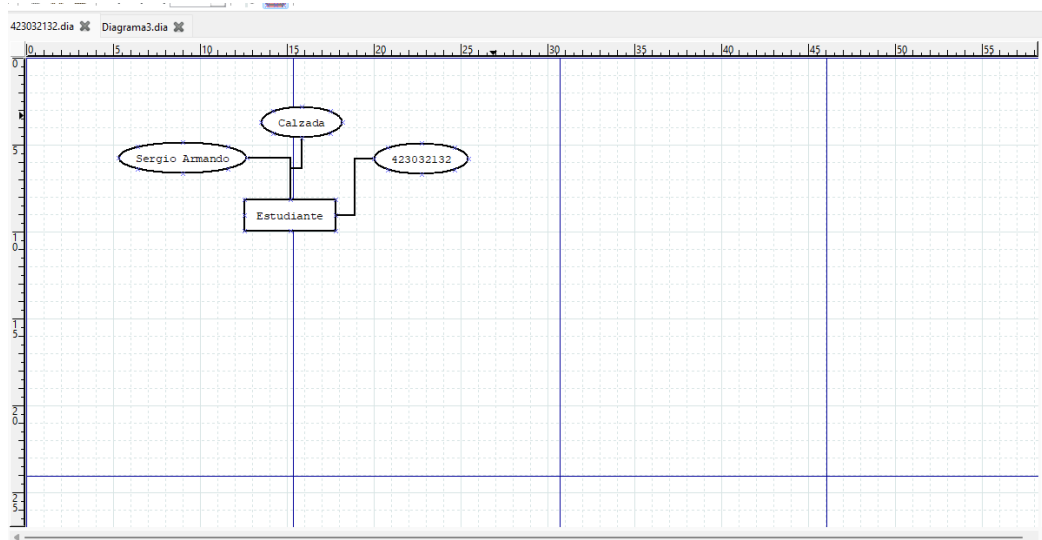
2.6. Explorando la herramienta para modelado DIA

Verificar que la aplicación DIA esté instalada, y realizar el siguiente diagrama ER

Seleccionando la opción “ER” el en menú de tipos de diagramas. Agregar los atributos

faltantes. En el atributo nombre colocar su nombre de pila, el nombre del diagrama debe

ser su número de cuenta



C5

2.8. Instalación del software de la base de datos

- Seguir las indicaciones de la profesora, incluir las instrucciones y/o imágenes correspondientes para realizar la instalación del manejador de bases de datos a utilizar en su equipo personal.

C6. Incluir en el reporte imágenes de la configuración y de la conexión exitosa la base de datos (del manejador instalado en su equipo de cómputo) con ambos usuarios –sa y Windows-. Incluir en el informe el password asignado al sa.

SQL Server 2022 Setup

Edition

Select the edition of SQL Server 2022 you want to install.

Edition

License Terms

Global Rules

Microsoft Update

Product Updates

Install Setup Files

Install Rules

Azure Extension for SQL Server

Feature Selection

Feature Rules

Feature Configuration Rules

Ready to Install

Installation Progress

Complete

Select an edition of SQL Server to install. You can choose to either use a SQL Server license that you have already purchased by entering the product key or choose pay-as-you-go billing through Microsoft Azure. You can also specify a free edition of SQL Server: Developer, Evaluation, or Express. Evaluation has the largest set of SQL Server features, as documented in SQL Server Books Online, and is activated with a 180 -day expiration. Developer edition does not have an expiration, has the same set of features found in Evaluation, but is licensed for non-production database application development only. To upgrade from one installed edition to another, run the Edition Upgrade Wizard.

☒ Specify a free edition:

Developer

☐ Use pay-as-you-go billing through Microsoft Azure:

Warning: To enable this option, you must have an active Azure subscription that you will be required to provide along with a resource group, Azure region, and tenant ID later in setup. For more information, see <https://aka.ms/ArcEnabledSqlPAYG>.

Standard

☐ Enter the product key:

- - - -

☐ I have a SQL Server license with Software Assurance or SQL Software Subscription

☐ I have a SQL Server license only



Install Rules

Setup rules identify potential problems that might occur while running Setup. Failures must be corrected before Setup can continue.

[Edition](#)[License Terms](#)[Global Rules](#)[Microsoft Update](#)[Product Updates](#)[Install Setup Files](#)**Install Rules**[Azure Extension for SQL Server](#)[Feature Selection](#)[Feature Rules](#)[Feature Configuration Rules](#)[Ready to Install](#)[Installation Progress](#)[Complete](#)

Operation completed. Passed: 4. Failed 0. Warning 1. Skipped 0.

[Hide details <<](#)[Re-run](#)[View detailed report](#)

Result	Rule	Status
✓	Machine Learning Server shared feature support	Passed
✓	Consistency validation for SQL Server registry keys	Passed
✓	Computer domain controller	Passed
⚠	Windows Firewall	Warning
✓	Microsoft .NET Framework 4.7.2, or newer, is required	Passed

SQL Server 2022 Setup

Instance Configuration

Specify the name and instance ID for the instance of SQL Server. Instance ID becomes part of the installation path.

Edition

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Database Engine Configuration

Feature Configuration Rules

Ready to Install

Installation Progress

Complete

☐ Default instance

☒ Named instance: *

SACLSQL2022

Instance ID:

SACLSQL2022

SQL Server directory:

C:\Program Files\Microsoft SQL Server\MSSQL16.SACLSQL2022

Installed instances:

Instance Name	Instance ID	Features	Edition	Version
---------------	-------------	----------	---------	---------

License Terms

To install SQL Server 2022, you must accept the Microsoft Software License Terms.

Edition

License Terms

Global Rules

Microsoft Update

Product Updates

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Install Rules

Azure Extension for SQL Server

Feature Selection

Feature Rules

Feature Configuration Rules

Ready to Install

Installation Progress

Complete

SQL Server 2022 Developer Edition

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SQL Server transmits information about your installation experience as well as other usage and performance data. Azure Arc connection also transmits the configuration data to allow you to manage and protect your SQL Server instance using Azure Portal and services. To learn more about data processing and privacy controls, and to turn off the collection of certain information, see the [documentation](#).



Install Rules

Setup rules identify potential problems that might occur while running Setup. Failures must be corrected before Setup can continue.

[Edition](#)[License Terms](#)[Global Rules](#)[Microsoft Update](#)[Product Updates](#)[Install Setup Files](#)**[Install Rules](#)**[Azure Extension for SQL Server](#)[Feature Selection](#)[Feature Rules](#)[Feature Configuration Rules](#)[Ready to Install](#)[Installation Progress](#)[Complete](#)

Operation completed. Passed: 4. Failed 0. Warning 1. Skipped 0.

[Hide details <<](#)[Re-run](#)[View detailed report](#)

Result	Rule	Status
✓	Machine Learning Server shared feature support	Passed
✓	Consistency validation for SQL Server registry keys	Passed
✓	Computer domain controller	Passed
⚠	Windows Firewall	Warning
✓	Microsoft .NET Framework 4.7.2, or newer, is required	Passed

SQL Server 2022 Setup

Feature Selection

Select the Developer features to install.

Edition

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Azure Extension for SQL Server

Feature Selection

Feature Rules

Instance Configuration

Server Configuration

Database Engine Configuration

Feature Configuration Rules

Ready to Install

Installation Progress

Complete

Looking for Reporting Services? [Download it from the web](#)

Features:

Instance Features

☒ Database Engine Services

☐ SQL Server Replication

☐ Machine Learning Services and Language Ext

☐ Full-Text and Semantic Extractions for Search

☐ Data Quality Services

☐ PolyBase Query Service for External Data

☐ Analysis Services

Shared Features

☐ Data Quality Client

☐ Integration Services

☐ Scale Out Master

☐ Scale Out Worker

☐ Master Data Services

Redistributable Features

Select All

Unselect All

Instance root directory:

C:\Program Files\Microsoft SQL Server\

...

Shared feature directory:

C:\Program Files\Microsoft SQL Server\

...

Shared feature directory (x86):

C:\Program Files (x86)\Microsoft SQL Server\

...

Feature description:

The configuration and operation of each instance feature of a SQL Server instance is isolated from other SQL Server instances. SQL Server instances can operate side-by-side on the same computer.

Prerequisites for selected features:

Already installed:

... Windows PowerShell 3.0 or higher

... Microsoft Visual C++ 2017 Redistributable

Disk Space Requirements

Drive C: 994 MB required, 29233 MB available

SQL Server 2022 Setup

Instance Configuration

Specify the name and instance ID for the instance of SQL Server. Instance ID becomes part of the installation path.

Edition

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Azure Extension for SQL Server

Feature Selection

Feature Rules

Instance Configuration

Server Configuration

Database Engine Configuration

Feature Configuration Rules

Ready to Install

Installation Progress

Complete

☐ Default instance

☒ Named instance: *

SACLSQL2022

Instance ID:

MSSQLSERVER

SQL Server directory:

C:\Program Files\Microsoft SQL Server\MSSQL16.MSSQLSERVER

Installed instances:

Instance Name	Instance ID	Features	Edition	Version
---------------	-------------	----------	---------	---------

SQL Server 2022 Setup

Server Configuration

Specify the service accounts and collation configuration.

Edition

License Terms

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Install Rules

Azure Extension for SQL Server

Feature Selection

Feature Rules

Instance Configuration

Server Configuration

Database Engine Configuration

Feature Configuration Rules

Ready to Install

Installation Progress

Complete

Service Accounts

Collation

Microsoft recommends that you use a separate account for each SQL Server service.

Service	Account Name	Password	Startup Type
SQL Server Agent	NT Service\SQLAgent\$S...		Manual
SQL Server Database Engine	NT Service\MSSQL\$SAC...		Automatic
SQL Server Browser	NT AUTHORITY\LOCAL ...		Automatic

☐ Grant Perform Volume Maintenance Tasks privilege to SQL Server Database Engine Service

This privilege enables instant file initialization by avoiding zeroing of data pages. This may lead to information disclosure by allowing deleted content to be accessed.
[Click here for details](#)

SQL Server 2022 Setup

Installation Progress

Edition

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Product Updates

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Azure Extension for SQL Server

Feature Selection

Feature Rules

Instance Configuration

Server Configuration

Database Engine Configuration

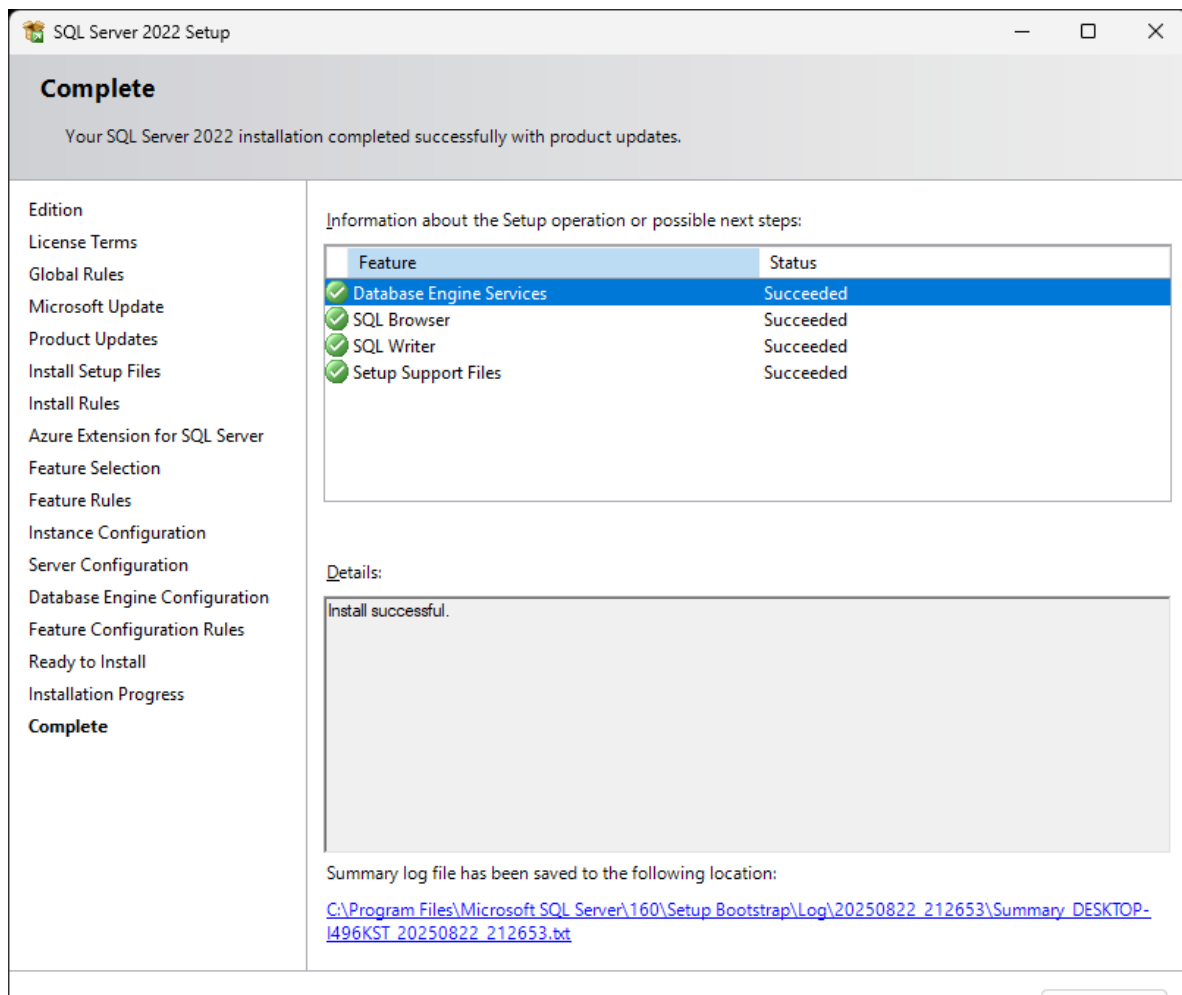
Feature Configuration Rules

Ready to Install

Installation Progress

Complete

Running package: SqlWriter : Removing applications



Password: 123456

conclusión

En esta práctica vimos la introducción hacia nuestro entorno de trabajo, llevamos el proceso de instalado de las herramientas, así como un pequeño control sobre la base de datos donde vamos a trabajar, esto nos mostró el funcionamiento de cada herramienta y como se muestra tanto en un server, como de forma gráfica en un diagrama. Los objetivos de la práctica se concluyeron con éxito.