

Advanced Database Management Systems

Final Project Summary

Prof. Ashish Gulati

Due Date: Apr/24/2024

Team 26:

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Rishitha Bejjanki (1229494775)

Creating Database:

```
CREATE DATABASE Team26
```

```
GO
```

```
USE Team26
```

```
GO
```

The screenshot shows the Microsoft SQL Server Management Studio interface. In the Object Explorer, under the 'Databases' node, a new database named 'Team26' is visible. The 'SQLQuery1.sql' query window contains the T-SQL code for creating the database and switching to it. The 'Messages' pane at the bottom indicates that the command(s) completed successfully. The taskbar at the bottom shows various application icons and the system clock.

```
/*
** Author: Saloni Mourya & Rishitha Bejjanki
** Course: IFT/530
** SQL Server Version: Microsoft SQL Server 2012 (SP1)
** History
** Date Created    Comments
** 04/23/2024      Final Project
*/
CREATE DATABASE Team26
GO

USE Team26
GO
```

100 %

Messages

Command(s) completed successfully.

100 %

Query executed successfully.

ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\bejja (53) Team26 00:00:00 0 rows

Ready

Tomorrow's high
Near record

Search

Ln 7 Col 9 Ch 9 INS

ENG IN 15:14 23-04-2024 FAX

Creating Tables:

-- Create Sensor_Details table

```
CREATE TABLE Sensor_Details (
    sensor_id INT PRIMARY KEY,
    sensor_name VARCHAR(100) NOT NULL,
    sensor_type VARCHAR(100) NOT NULL,
    spectral_range VARCHAR(100),
    resolution NUMERIC NOT NULL CHECK (resolution > 0),
    vendor VARCHAR(100)
);
```

The screenshot shows the Microsoft SQL Server Management Studio interface. The Object Explorer pane on the left lists databases such as ASHRITHA\SQLEXPRESS, AP, creatables, DVdatabase, MyGuitarShop, Northwind, and pubs. The central pane displays a query window titled 'SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Team26 (ASHRITHA\bejja (53)) - Microsoft SQL Server Management Studio'. The query code is as follows:

```
-- Author: Saloni Mourya & Rishitha Bejjanki
-- Course: IFT/530
-- SQL Server Version: Microsoft SQL Server 2012 (SP1)
-- History
-- Date Created    Comments
-- 04/23/2024      Final Project
/*
-----Creating Tables-----
-- Create Sensor_Details table
CREATE TABLE Sensor_Details (
    sensor_id INT PRIMARY KEY,
    sensor_name VARCHAR(100) NOT NULL,
    sensor_type VARCHAR(100) NOT NULL,
    spectral_range VARCHAR(100),
    resolution NUMERIC NOT NULL CHECK (resolution > 0),
    vendor VARCHAR(100)
);
```

The 'Messages' pane at the bottom shows the message: 'Command(s) completed successfully.' The status bar at the bottom right indicates 'LN 20 COL 3 CH 3 INS'.

```
-- Create Data_Providers table
CREATE TABLE Data_Providers (
    provider_id INT NOT NULL PRIMARY KEY,
    provider_name VARCHAR(100) NOT NULL,
    contact_person VARCHAR(100) NOT NULL,
    email VARCHAR(100) NOT NULL,
    phone_number VARCHAR(20) NOT NULL
);
```

The screenshot shows the Microsoft SQL Server Management Studio interface. The title bar reads "SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Team26 (ASHRITHA\bejja (53)) - Microsoft SQL Server Management Studio". The Object Explorer sidebar shows the database structure, including System Databases, AP, createtables, DVDatabase, MyGuitarShop, Northwind, and pubs. The main query window displays the SQL code for creating the Data_Providers table, which includes a comment block at the top and the table definition below. The status bar at the bottom right shows the connection details: ASHRITHA\SQLEXPRESS (11.0 SP1), ASHRITHA\bejja (53), Team26, 00:00:00, 0 rows, and the current date and time: 23-04-2024 15:15.

```
-- Create Data_Providers table
CREATE TABLE Data_Providers (
    provider_id INT NOT NULL PRIMARY KEY,
    provider_name VARCHAR(100) NOT NULL,
    contact_person VARCHAR(100) NOT NULL,
    email VARCHAR(100) NOT NULL,
    phone_number VARCHAR(20) NOT NULL
);
```

```
-- Create Satellite_Imagery table
CREATE TABLE Satellite_Imagery (
    satellite_id INT NOT NULL,
    satellite_name VARCHAR(100) NOT NULL, -- Adjusted to VARCHAR(100)
    capture_date DATE NOT NULL,
    sensor_id INT NOT NULL,
    resolution NUMERIC NOT NULL CHECK (resolution > 0),
    latitude NUMERIC NOT NULL,
    longitude NUMERIC NOT NULL,
    cloud_cover_percentage NUMERIC,
    sun_angle NUMERIC,
    processing_status VARCHAR(20), -- Adjusted to VARCHAR(20)
    provider_id INT NOT NULL,
    PRIMARY KEY (satellite_id),
    FOREIGN KEY (sensor_id) REFERENCES Sensor_Details(sensor_id),
    FOREIGN KEY (provider_id) REFERENCES Data_Providers(provider_id)
);
```

The screenshot shows the Microsoft SQL Server Management Studio interface. The title bar reads "SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Team26 (ASHRITHA\bejja (53)) - Microsoft SQL Server Management Studio". The main window has two panes: "Object Explorer" on the left and "SQLQuery1.sql - AS...HRITHA\bejja (53)" on the right. The Object Explorer pane shows the database structure. The SQL pane contains the SQL code for creating the Satellite_Imagery table, which includes comments at the top and a detailed description of the table structure. The status bar at the bottom indicates the session details: ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\bejja (53) Team26 00:00:00 0 rows.

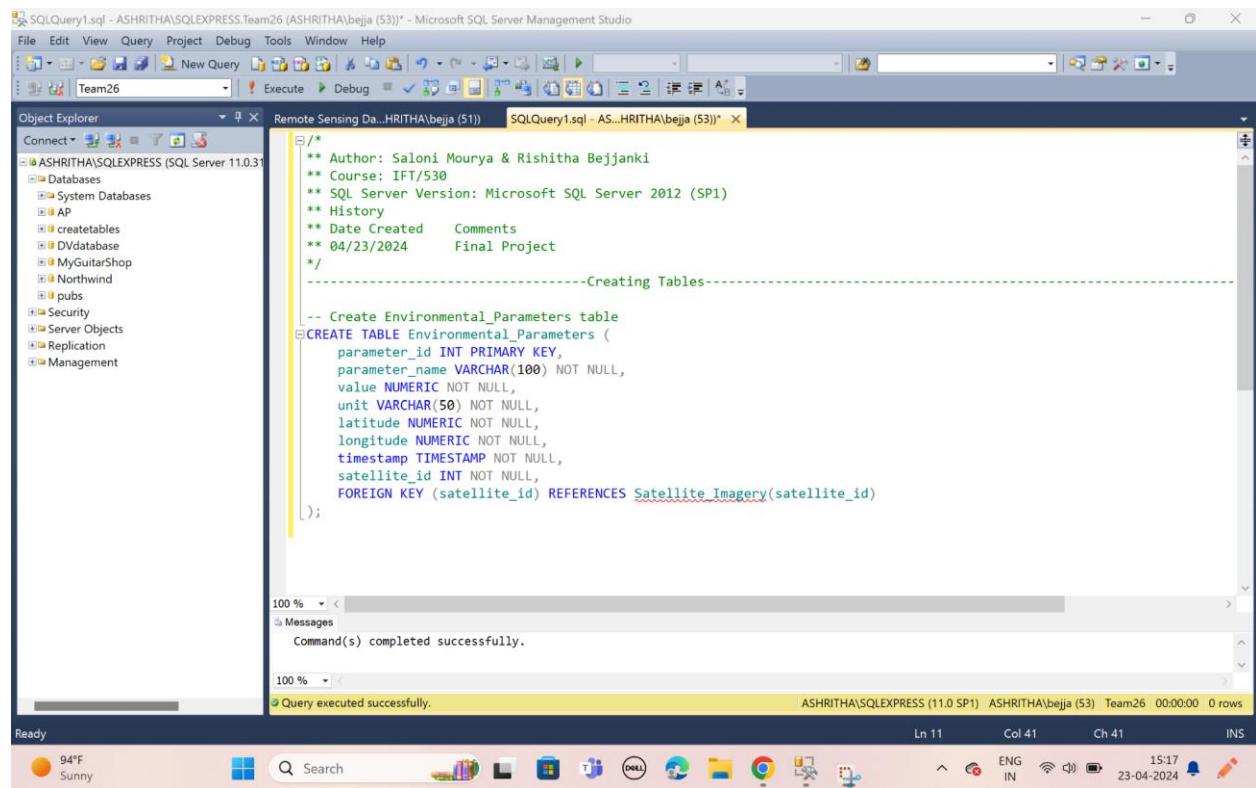
```
-- Author: Saloni Mourya & Rishitha Bejjanki
-- Course: IFT/530
-- SQL Server Version: Microsoft SQL Server 2012 (SP1)
-- History
-- Date Created   Comments
-- 04/23/2024     Final Project
*/
-----Creating Tables-----
-- Create Satellite_Imagery table
CREATE TABLE Satellite_Imagery (
    satellite_id INT NOT NULL,
    satellite_name VARCHAR(100) NOT NULL, -- Adjusted to VARCHAR(100)
    capture_date DATE NOT NULL,
    sensor_id INT NOT NULL,
    resolution NUMERIC NOT NULL CHECK (resolution > 0),
    latitude NUMERIC NOT NULL,
    longitude NUMERIC NOT NULL,
    cloud_cover_percentage NUMERIC,
    sun_angle NUMERIC,
    processing_status VARCHAR(20), -- Adjusted to VARCHAR(20)
    provider_id INT NOT NULL,
    PRIMARY KEY (satellite_id),
    FOREIGN KEY (sensor_id) REFERENCES Sensor_Details(sensor_id),
    FOREIGN KEY (provider_id) REFERENCES Data_Providers(provider_id)
);
100 % < Messages
Command(s) completed successfully.
100 % > Query executed successfully.
ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\bejja (53) Team26 00:00:00 0 rows
Ready Ln 8 Col 3 Ch 3 INS
Upcoming Earnings Search DELL Google Chrome File Explorer Task View 15:16 ENG IN 23-04-2024
```

```
-- Create Aerial_Photography table
CREATE TABLE Aerial_Photography (
    photo_id INT PRIMARY KEY,
    flight_date DATE NOT NULL,
    camera_type VARCHAR(20) NOT NULL, -- Adjust the length as per your requirements
    altitude NUMERIC NOT NULL CHECK (altitude > 0),
    latitude NUMERIC NOT NULL,
    longitude NUMERIC NOT NULL,
    aircraft_details TEXT,
    processing_details TEXT,
    provider_id INT NOT NULL,
    FOREIGN KEY (provider_id) REFERENCES Data_Providers(provider_id)
);
```

The screenshot shows the Microsoft SQL Server Management Studio interface. The title bar reads "SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Team26 (ASHRITHA\bejja (53)) - Microsoft SQL Server Management Studio". The Object Explorer sidebar shows the database structure, including databases like AP, createtables, DVdatabase, MyGuitarShop, Northwind, and pubs. The main query window displays the SQL code for creating the Aerial_Photography table, including comments at the top and a section titled "-----Creating Tables-----". The code is highlighted in green. Below the code, the status bar shows "100 %", "Messages", and "Command(s) completed successfully.". At the bottom, the taskbar shows the weather as "94°F Sunny", system icons, and the date/time as "23-04-2024 15:17".

```
-- Create Aerial_Photography table
CREATE TABLE Aerial_Photography (
    photo_id INT PRIMARY KEY,
    flight_date DATE NOT NULL,
    camera_type VARCHAR(20) NOT NULL, -- Adjust the length as per your requirements
    altitude NUMERIC NOT NULL CHECK (altitude > 0),
    latitude NUMERIC NOT NULL,
    longitude NUMERIC NOT NULL,
    aircraft_details TEXT,
    processing_details TEXT,
    provider_id INT NOT NULL,
    FOREIGN KEY (provider_id) REFERENCES Data_Providers(provider_id)
);
```

```
-- Create Environmental_Parameters table
CREATE TABLE Environmental_Parameters (
    parameter_id INT PRIMARY KEY,
    parameter_name VARCHAR(100) NOT NULL,
    value NUMERIC NOT NULL,
    unit VARCHAR(50) NOT NULL,
    latitude NUMERIC NOT NULL,
    longitude NUMERIC NOT NULL,
    timestamp TIMESTAMP NOT NULL,
    satellite_id INT NOT NULL,
    FOREIGN KEY (satellite_id) REFERENCES Satellite_Imagery(satellite_id)
);
```



The screenshot shows the Microsoft SQL Server Management Studio interface. The title bar reads "SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Tea...". The main window displays the following SQL code:

```
/*
** Author: Saloni Mourya & Rishitha Bejjanki
** Course: IFT/530
** SQL Server Version: Microsoft SQL Server 2012 (SP1)
** History
** Date Created   Comments
** 04/23/2024     Final Project
*/
-----Creating Tables-----
-- Create Environmental_Parameters table
CREATE TABLE Environmental_Parameters (
    parameter_id INT PRIMARY KEY,
    parameter_name VARCHAR(100) NOT NULL,
    value NUMERIC NOT NULL,
    unit VARCHAR(50) NOT NULL,
    latitude NUMERIC NOT NULL,
    longitude NUMERIC NOT NULL,
    timestamp TIMESTAMP NOT NULL,
    satellite_id INT NOT NULL,
    FOREIGN KEY (satellite_id) REFERENCES Satellite_Imagery(satellite_id)
);
```

The "Messages" pane at the bottom shows the message: "Command(s) completed successfully." The status bar at the bottom right indicates "Query executed successfully." and "0 rows".

```
-- Create Geospatial_Data table
CREATE TABLE Geospatial_Data (
    data_id INT PRIMARY KEY,
    data_type VARCHAR(100) NOT NULL,
    source VARCHAR(100) NOT NULL,
    description TEXT,
    latitude NUMERIC NOT NULL,
    longitude NUMERIC NOT NULL,
    satellite_id INT NOT NULL,
    FOREIGN KEY (satellite_id) REFERENCES Satellite_Imagery(satellite_id),
);

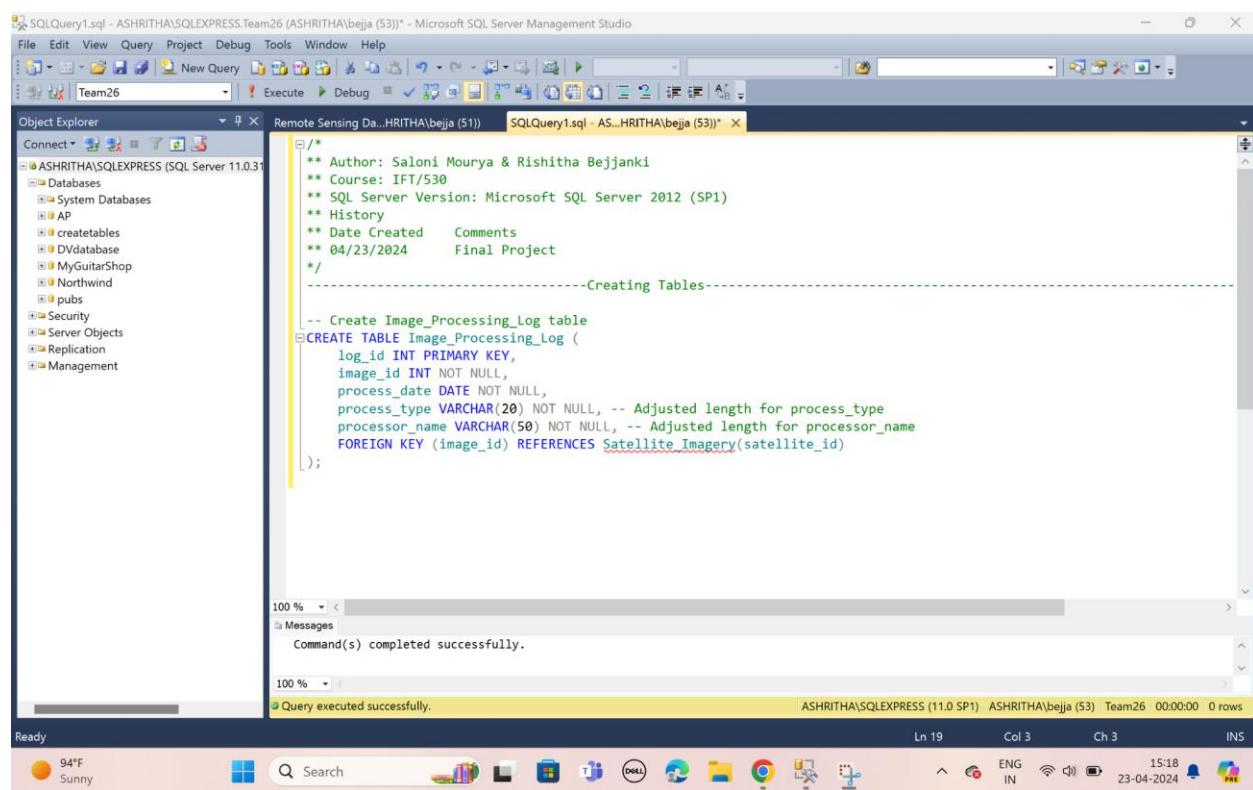
```

The screenshot shows the Microsoft SQL Server Management Studio interface. The title bar reads "SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Team26 (ASHRITHA\bejja (53)) - Microsoft SQL Server Management Studio". The main window displays a SQL script for creating a table named "Geospatial_Data". The script includes comments at the top and a section titled "-----Creating Tables-----". The table definition follows, including columns for data_id (primary key), data_type, source, description, latitude, longitude, and satellite_id, with a foreign key constraint referencing the "satellite_id" column in the "Satellite_Imagery" table. The "Messages" pane at the bottom shows the message "Command(s) completed successfully." and the status "Query executed successfully." The status bar at the bottom right indicates the session is "ASHRITHA\SQLEXPRESS (11.0 SP1)" on "ASHRITHA\bejja (53)" at "Team26" with "00:00:00" duration and "0 rows" affected.

```
/*
** Author: Saloni Mourya & Rishitha Bejjanki
** Course: IFT/530
** SQL Server Version: Microsoft SQL Server 2012 (SP1)
** History
** Date Created      Comments
** 04/23/2024        Final Project
*/
-----Creating Tables-----
-- Create Geospatial_Data table
CREATE TABLE Geospatial_Data (
    data_id INT PRIMARY KEY,
    data_type VARCHAR(100) NOT NULL,
    source VARCHAR(100) NOT NULL,
    description TEXT,
    latitude NUMERIC NOT NULL,
    longitude NUMERIC NOT NULL,
    satellite_id INT NOT NULL,
    FOREIGN KEY (satellite_id) REFERENCES Satellite_Imagery(satellite_id),
);

```

```
-- Create Image_Processing_Log table
CREATE TABLE Image_Processing_Log (
    log_id INT PRIMARY KEY,
    image_id INT NOT NULL,
    process_date DATE NOT NULL,
    process_type VARCHAR(20) NOT NULL, -- Adjusted length for process_type
    processor_name VARCHAR(50) NOT NULL, -- Adjusted length for processor_name
    FOREIGN KEY (image_id) REFERENCES Satellite_Imagery(satellite_id)
);
```



The screenshot shows the Microsoft SQL Server Management Studio interface. The title bar reads "SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Tea... (ASHRITHA\bejja (53)) - Microsoft SQL Server Management Studio". The main window displays a query editor with the following SQL code:

```
/*
** Author: Saloni Mourya & Rishitha Bejjanki
** Course: IFT/530
** SQL Server Version: Microsoft SQL Server 2012 (SP1)
** History
** Date Created   Comments
** 04/23/2024     Final Project
*/
-----Creating Tables-----
-- Create Image_Processing_Log table
CREATE TABLE Image_Processing_Log (
    log_id INT PRIMARY KEY,
    image_id INT NOT NULL,
    process_date DATE NOT NULL,
    process_type VARCHAR(20) NOT NULL, -- Adjusted length for process_type
    processor_name VARCHAR(50) NOT NULL, -- Adjusted length for processor_name
    FOREIGN KEY (image_id) REFERENCES Satellite_Imagery(satellite_id)
);
```

The "Messages" pane at the bottom shows the output: "Command(s) completed successfully." and "Query executed successfully." The status bar at the bottom right indicates the session details: ASHRITHA\SQLEXPRESS (11.0 SP1), ASHRITHA\bejja (53), Team26, 00:00:00, 0 rows.

```
-- Create Region_Boundaries table
CREATE TABLE Region_Boundaries (
    boundary_id INT PRIMARY KEY,
    region_name VARCHAR(255) NOT NULL,
    boundary_type VARCHAR(255) NOT NULL,
    boundary_geometry GEOMETRY NOT NULL,
    satellite_id INT NOT NULL,
    FOREIGN KEY (satellite_id) REFERENCES Satellite_Imagery(satellite_id)
);
```

SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Team26 (ASHRITHA\bejja (53)) - Microsoft SQL Server Management Studio

File Edit View Query Project Debug Tools Window Help

New Query Execute Debug

Team26 Object Explorer Remote Sensing Da...HRITHA\bejja (51) SQLQuery1.sql - ASHRITHA\bejja (53)*

```
/*
** Author: Saloni Mourya & Rishitha Bejjanki
** Course: IFT/530
** SQL Server Version: Microsoft SQL Server 2012 (SP1)
** History
** Date Created    Comments
** 04/23/2024      Final Project
*/
-----Creating Tables-----

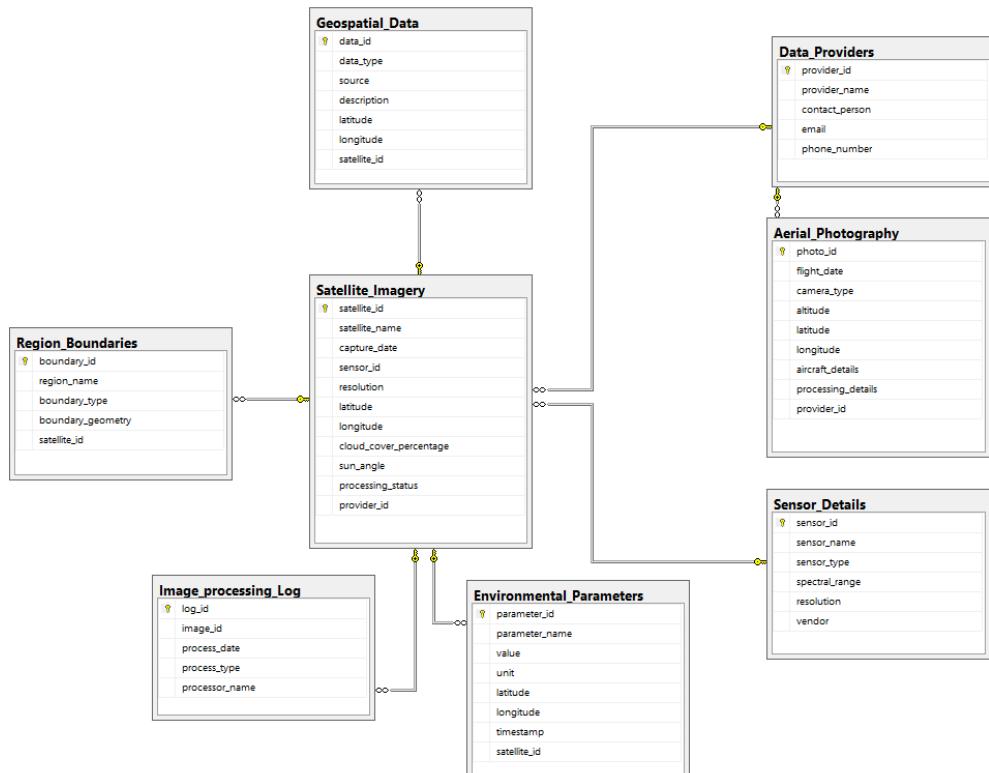
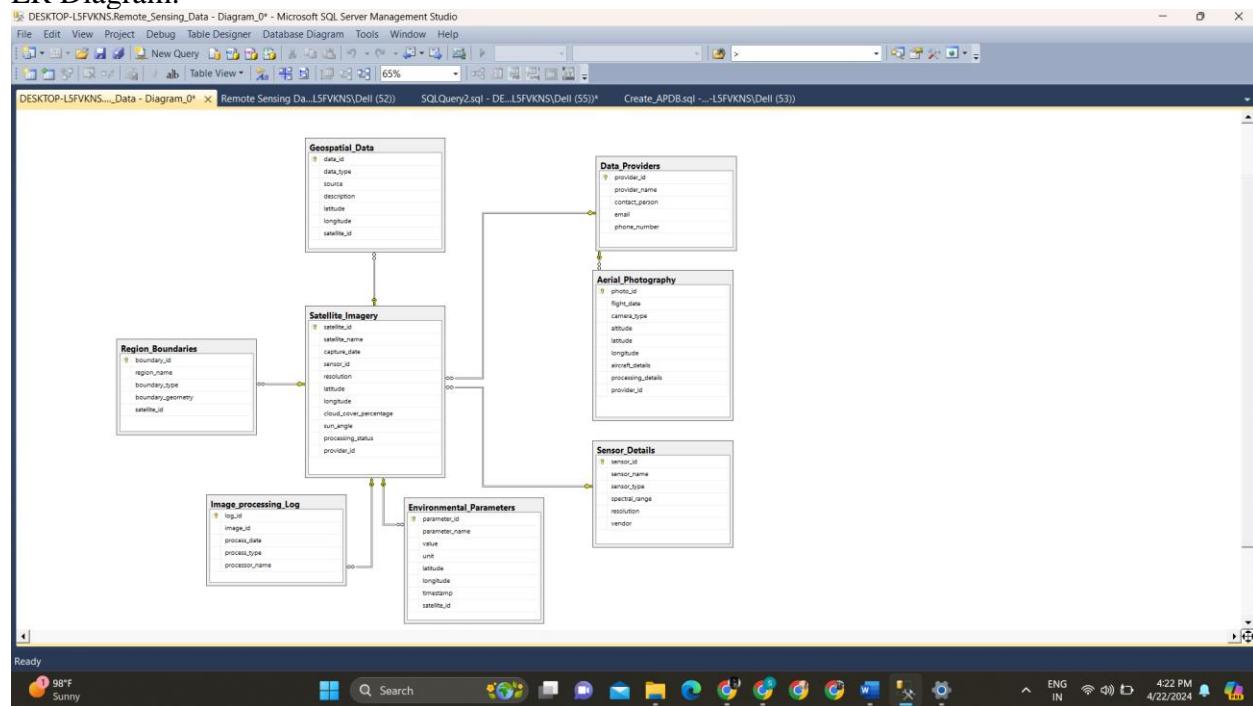
-- Create Region_Boundaries table
CREATE TABLE Region_Boundaries (
    boundary_id INT PRIMARY KEY,
    region_name VARCHAR(255) NOT NULL,
    boundary_type VARCHAR(255) NOT NULL,
    boundary_geometry GEOMETRY NOT NULL,
    satellite_id INT NOT NULL,
    FOREIGN KEY (satellite_id) REFERENCES Satellite_Imagery(satellite_id)
);
```

100 % < Messages Command(s) completed successfully.

100 % < Query executed successfully. ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\bejja (53) Team26 00:00:00 0 rows

Ready

ER Diagram:



Inserting Values:

Dimension Tables: Sensor_Details, Data_Providers

Transactional Tables: Satellite_Imagery, Aerial_Photography, Environmental_Parameters, Geospatial_Data, Image_Processing_Log, Region_Boundaries

```
INSERT INTO Sensor_Details (sensor_id, sensor_name, sensor_type, spectral_range, resolution, vendor)
```

```
VALUES
```

```
(1, 'Landsat-8 OLI', 'Optical', 'Visible, Near-infrared, Short-wave infrared', 30.0, 'USGS'),  
(2, 'Sentinel-2 MSI', 'Multispectral', 'Visible, Near-infrared, Short-wave infrared', 10.0, 'ESA'),  
(3, 'MODIS', 'Multispectral', 'Visible, Near-infrared, Thermal', 250.0, 'NASA'),  
(4, 'ASTER', 'Multispectral', 'Visible, Near-infrared, Thermal', 15.0, 'NASA'),  
(5, 'WorldView-3', 'Panchromatic', 'Visible', 3.31, 'Maxar'),  
(6, 'GOES-16 ABI', 'Imaging', 'Visible, Infrared', 2.0, 'NOAA'),  
(7, 'RADARSAT-2', 'SAR', 'Microwave', 8.0, 'MDA'),  
(8, 'Hyperspectral', 'Hyperspectral', 'Visible, Near-infrared, Infrared', 1.0, 'Specim'),  
(9, 'Pleiades', 'Optical', 'Visible, Near-infrared', 5.5, 'Airbus'),  
(10, 'TerraSAR-X', 'SAR', 'Microwave', 1.0, 'DLR');
```

```
Select * from Sensor_Details
```

The screenshot shows the Microsoft SQL Server Management Studio interface. The query window contains the following SQL code:

```
-- Author: Saloni Mourya & Rishitha Bejjanki  
-- Course: IFT/530  
-- SQL Server Version: Microsoft SQL Server 2012 (SP1)  
-- History  
-- Date Created    Comments  
-- 04/23/2024      Final Project  
  
-----Data insertion-----  
-- dimension tables  
INSERT INTO Sensor_Details (sensor_id, sensor_name, sensor_type, spectral_range, resolution, vendor)  
VALUES  
(1, 'Landsat-8 OLI', 'Optical', 'Visible, Near-infrared, Short-wave infrared', 30.0, 'USGS'),  
(2, 'Sentinel-2 MSI', 'Multispectral', 'Visible, Near-infrared, Short-wave infrared', 10.0, 'ESA'),  
(3, 'MODIS', 'Multispectral', 'Visible, Near-infrared, Thermal', 250.0, 'NASA'),  
(4, 'ASTER', 'Multispectral', 'Visible, Near-infrared, Thermal', 15.0, 'NASA'),  
(5, 'WorldView-3', 'Panchromatic', 'Visible', 3.31, 'Maxar'),  
(6, 'GOES-16 ABI', 'Imaging', 'Visible, Infrared', 2.0, 'NOAA'),  
(7, 'RADARSAT-2', 'SAR', 'Microwave', 8.0, 'MDA'),  
(8, 'Hyperspectral', 'Hyperspectral', 'Visible, Near-infrared, Infrared', 1.0, 'Specim'),  
(9, 'Pleiades', 'Optical', 'Visible, Near-infrared', 5.5, 'Airbus'),  
(10, 'TerraSAR-X', 'SAR', 'Microwave', 1.0, 'DLR');  
Select * from Sensor_Details
```

The results pane shows the inserted data:

	sensor_id	sensor_name	sensor_type	spectral_range	resolution	vendor
1	1	Landsat-8 OLI	Optical	Visible, Near-infrared, Short-wave infrared	30	USGS
2	2	Sentinel-2 MSI	Multispectral	Visible, Near-infrared, Short-wave infrared	10	ESA
3	3	MODIS	Multispectral	Visible, Near-infrared, Thermal	250	NASA

At the bottom, the status bar indicates "Query executed successfully." and shows system information like "ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\bejja (53) Team26 00:00:00 10 rows".

```

SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Team26 (ASHRITHA\bejja (53)) - Microsoft SQL Server Management Studio
File Edit View Query Project Debug Tools Window Help
Team26 New Query Execute Debug
Object Explorer Remote Sensing Da...HRITHA\bejja (51) SQLQuery1.sql - AS...HRITHA\bejja (53)
** Author: Saloni Mourya & Rishitha Bejjanki
** Course: IFT/530
** SQL Server Version: Microsoft SQL Server 2012 (SP1)
** History
** Date Created    Comments
** 04/23/2024      Final Project
*/
-- dimension tables
INSERT INTO Sensor_Details (sensor_id, sensor_name, sensor_type, spectral_range, resolution, vendor)
VALUES
(1, 'Landsat-8 OLI', 'Optical', 'Visible, Near-infrared, Short-wave infrared', 30.0, 'USGS'),
(2, 'Sentinel-2 MSI', 'Multispectral', 'Visible, Near-infrared, Short-wave infrared', 10, 'ESA'),
(3, 'MODIS', 'Multispectral', 'Visible, Near-infrared, Thermal', 250, 'NASA'),
(4, 'ASTER', 'Multispectral', 'Visible, Near-infrared, Thermal', 15, 'NASA'),
(5, 'WorldView-3', 'Panchrom...', 'Visible', 3, 'Maxar'),
(6, 'GOES-16 ABI', 'Imaging', 'Visible, Infrared', 2, 'NOAA'),
(7, 'RADARSAT-2', 'SAR', 'Microwave', 8, 'MDA'),
(8, 'Hyperspectral', 'Hyperspec...', 'Visible, Near-infrared, Infrared', 1, 'Spe...'),
(9, 'Pleiades', 'Optical', 'Visible, Near-infrared', 6, 'Airbus'),
(10, 'TerraSAR-X', 'SAR', 'Microwave', 1, 'DLR')

Results Messages
Query executed successfully.
ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\bejja (53) Team26 00:00:00 10 rows
Ready 94°F Sunny Search Ln 9 Col 131 Ch 131 INS

```

INSERT INTO Data_Providers (provider_id, provider_name, contact_person, email, phone_number)

VALUES

(101, 'NASA', 'John Smith', 'john.smith@nasa.gov', '+1 (123) 456-7890'),
 (102, 'European Space Agency', 'Emma Johnson', 'emma.johnson@esa.int', '+33 (0) 53 69 76 54'),
 (103, 'Maxar Technologies', 'Michael Brown', 'michael.brown@maxar.com', '+1 (987) 654-3210'),
 (104, 'Korea Aerospace Research Institute', 'David Lee', 'david.lee@kari.re.kr', '+82 42 860 2202'),
 (105, 'Specim', 'Laura White', 'laura.white@specim.fi', '+358 9 5617 3700'),
 (106, 'Canadian Space Agency', 'Sophie Martin', 'sophie.martin@asc-csa.gc.ca', '+1 (866) 562-7302'),
 (107, 'Japan Ministry of Economy, Trade and Industry', 'Kenji Yamamoto', 'kenji.yamamoto@meti.go.jp', '+81 3 3501 1511'),
 (108, 'NOAA', 'Emily Davis', 'emily.davis@noaa.gov', '+1 (301) 713-9434'),
 (109, 'SpaceX', 'Alex Turner', 'alex.turner@spacex.com', '+1 (310) 363-6492'),
 (110, 'Roscosmos', 'Sergei Ivanov', 'sergei.ivanov@roscosmos.ru', '+7 (495) 631-93-91');

Select * from Data_Providers

SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Team26 (ASHRITHA\bejja (53)) - Microsoft SQL Server Management Studio

File Edit View Query Project Debug Tools Window Help

Team26 New Query Execute Debug

Object Explorer

ASHRITHA\SQLEXPRESS (SQL Server 11.0.31)

Databases System Databases AP creatables DVdatabase MyGuitarShop Northwind pubs Security Server Objects Replication Management

Remote Sensing Da...HRITHA\bejja (51) SQLQuery1.sql - AS...HRITHA\bejja (53)"

```
/*
** Author: Saloni Mourya & Rishitha Bejjanki
** Course: IFT/530
** SQL Server Version: Microsoft SQL Server 2012 (SP1)
** History
** Date Created    Comments
** 04/23/2024      Final Project
*/
-----Data insertion-----
-- dimension tables
INSERT INTO Data_Providers (provider_id, provider_name, contact_person, email, phone_number)
VALUES
(101, 'NASA', 'John Smith', 'john.smith@nasa.gov', '+1 (123) 456-7890'),
(102, 'European Space Agency', 'Emma Johnson', 'emma.johnson@esa.int', '+33 (0)1 53 69 76 54'),
(103, 'Maxar Technologies', 'Michael Brown', 'michael.brown@maxar.com', '+1 (987) 654-3210'),
(104, 'Korea Aerospace Research Institute', 'David Lee', 'david.lee@kari.re.kr', '+82 42 860 2202'),
(105, 'Specim', 'Laura White', 'laura.white@specim.fi', '+358 9 5617 3700'),
(106, 'Canadian Space Agency', 'Sophie Martin', 'sophie.martin@asc-csa.gc.ca', '+1 (866) 562-7302'),
(107, 'Japan Ministry of Economy, Trade and Industry', 'Kenji Yamamoto', 'kenji.yamamoto@meti.go.jp', '+81 3 3501 1511'),
(108, 'NOAA', 'Emily Davis', 'emily.davis@noaa.gov', '+1 (301) 713-9434'),
(109, 'SpaceX', 'Alex Turner', 'alex.turner@spacex.com', '+1 (310) 363-6492'),
(110, 'Roscosmos', 'Sergei Ivanov', 'sergei.ivanov@roscosmos.ru', '+7 (495) 631-93-91');
Select * from Data_Providers
```

100 %

Results Messages

provider_id	provider_name	contact_person	email	phone_number
101	NASA	John Smith	john.smith@nasa.gov	+1 (123) 456-7890
102	European Space Agency	Emma Johnson	emma.johnson@esa.int	+33 (0)1 53 69 76 54

Query executed successfully.

ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\bejja (53) Team26 00:00:00 10 rows

Ready 94°F Sunny

File Edit View Query Project Debug Tools Window Help

Team26 New Query Execute Debug

Object Explorer

ASHRITHA\SQLEXPRESS (SQL Server 11.0.31)

Databases System Databases AP creatables DVdatabase MyGuitarShop Northwind pubs Security Server Objects Replication Management

Remote Sensing Da...HRITHA\bejja (51) SQLQuery1.sql - AS...HRITHA\bejja (53)"

```
/*
** Author: Saloni Mourya & Rishitha Bejjanki
** Course: IFT/530
** SQL Server Version: Microsoft SQL Server 2012 (SP1)
** History
** Date Created    Comments
** 04/23/2024      Final Project
*/
-----Data insertion-----
-- dimension tables
INSERT INTO Data_Providers (provider_id, provider_name, contact_person, email, phone_number)
VALUES
(101, 'NASA', 'John Smith', 'john.smith@nasa.gov', '+1 (123) 456-7890'),
(102, 'European Space Agency', 'Emma Johnson', 'emma.johnson@esa.int', '+33 (0)1 53 69 76 54'),
(103, 'Maxar Technologies', 'Michael Brown', 'michael.brown@maxar.com', '+1 (987) 654-3210'),
(104, 'Korea Aerospace Res... Specim', 'David Lee', 'david.lee@kari.re.kr', '+82 42 860 2202'),
(105, 'Laura White', 'laura.white@specim.fi', '+358 9 5617 3700'),
(106, 'Canadian Space Agency', 'Sophie Martin', 'sophie.martin@asc-csa.gc.ca', '+1 (866) 562-7302'),
(107, 'Japan Ministry of Econ...', 'Kenji Yamamoto', 'kenji.yamamoto@meti.go.jp', '+81 3 3501 1511'),
(108, 'Emily Davis', 'emily.davis@noaa.gov', '+1 (301) 713-9434'),
(109, 'SpaceX', 'Alex Turner', 'alex.turner@spacex.com', '+1 (310) 363-6492'),
(110, 'Roscosmos', 'Sergei Ivanov', 'sergei.ivanov@roskosmos.ru', '+7 (495) 631-93-91');
Select * from Data_Providers
```

100 %

Results Messages

provider_id	provider_name	contact_person	email	phone_number
101	NASA	John Smith	john.smith@nasa.gov	+1 (123) 456-7890
102	European Space Agency	Emma Johnson	emma.johnson@esa.int	+33 (0)1 53 69 76 54
103	Maxar Technologies	Michael Brown	michael.brown@maxar.com	+1 (987) 654-3210
104	Korea Aerospace Res...	David Lee	david.lee@kari.re.kr	+82 42 860 2202
105	Specim	Laura White	laura.white@specim.fi	+358 9 5617 3700
106	Canadian Space Agency	Sophie Martin	sophie.martin@asc-csa.gc.ca	+1 (866) 562-7302
107	Japan Ministry of Econ...	Kenji Yamamoto	kenji.yamamoto@meti.go.jp	+81 3 3501 1511
108	Emily Davis	emily.davis@noaa.gov	+1 (301) 713-9434	
109	SpaceX	Alex Turner	alex.turner@spacex.com	+1 (310) 363-6492
110	Roscosmos	Sergei Ivanov	sergei.ivanov@roskosmos.ru	+7 (495) 631-93-91

Query executed successfully.

ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\bejja (53) Team26 00:00:00 10 rows

Ready 94°F Sunny

SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Team26 (ASHRITHA\bejja (53)) - Microsoft SQL Server Management Studio

File Edit View Query Project Debug Tools Window Help

Team26 New Query Execute Debug

Object Explorer

ASHRITHA\SQLEXPRESS (SQL Server 11.0.31)

Databases System Databases AP creatables DVdatabase MyGuitarShop Northwind pubs Security Server Objects Replication Management

Remote Sensing Da...HRITHA\bejja (51) SQLQuery1.sql - AS...HRITHA\bejja (53)"

```
/*
** Author: Saloni Mourya & Rishitha Bejjanki
** Course: IFT/530
** SQL Server Version: Microsoft SQL Server 2012 (SP1)
** History
** Date Created    Comments
** 04/23/2024      Final Project
*/
-----Data insertion-----
-- dimension tables
INSERT INTO Data_Providers (provider_id, provider_name, contact_person, email, phone_number)
VALUES
(101, 'NASA', 'John Smith', 'john.smith@nasa.gov', '+1 (123) 456-7890'),
(102, 'European Space Agency', 'Emma Johnson', 'emma.johnson@esa.int', '+33 (0)1 53 69 76 54'),
(103, 'Maxar Technologies', 'Michael Brown', 'michael.brown@maxar.com', '+1 (987) 654-3210'),
(104, 'Korea Aerospace Res... Specim', 'David Lee', 'david.lee@kari.re.kr', '+82 42 860 2202'),
(105, 'Laura White', 'laura.white@specim.fi', '+358 9 5617 3700'),
(106, 'Canadian Space Agency', 'Sophie Martin', 'sophie.martin@asc-csa.gc.ca', '+1 (866) 562-7302'),
(107, 'Japan Ministry of Econ...', 'Kenji Yamamoto', 'kenji.yamamoto@meti.go.jp', '+81 3 3501 1511'),
(108, 'Emily Davis', 'emily.davis@noaa.gov', '+1 (301) 713-9434'),
(109, 'SpaceX', 'Alex Turner', 'alex.turner@spacex.com', '+1 (310) 363-6492'),
(110, 'Roscosmos', 'Sergei Ivanov', 'sergei.ivanov@roskosmos.ru', '+7 (495) 631-93-91");
Select * from Data_Providers
```

100 %

Results Messages

provider_id	provider_name	contact_person	email	phone_number
101	NASA	John Smith	john.smith@nasa.gov	+1 (123) 456-7890
102	European Space Agency	Emma Johnson	emma.johnson@esa.int	+33 (0)1 53 69 76 54
103	Maxar Technologies	Michael Brown	michael.brown@maxar.com	+1 (987) 654-3210
104	Korea Aerospace Res...	David Lee	david.lee@kari.re.kr	+82 42 860 2202
105	Specim	Laura White	laura.white@specim.fi	+358 9 5617 3700
106	Canadian Space Agency	Sophie Martin	sophie.martin@asc-csa.gc.ca	+1 (866) 562-7302
107	Japan Ministry of Econ...	Kenji Yamamoto	kenji.yamamoto@meti.go.jp	+81 3 3501 1511
108	Emily Davis	emily.davis@noaa.gov	+1 (301) 713-9434	
109	SpaceX	Alex Turner	alex.turner@spacex.com	+1 (310) 363-6492
110	Roscosmos	Sergei Ivanov	sergei.ivanov@roskosmos.ru	+7 (495) 631-93-91

Query executed successfully.

ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\bejja (53) Team26 00:00:00 10 rows

Ready 94°F Sunny

```
INSERT INTO Aerial_Photography (photo_id, flight_date, camera_type, altitude, latitude, longitude, aircraft_details, processing_details, provider_id)
VALUES
(201, '2024-04-20', 'Digital', 1000, 37.7749, -122.4194, 'Cessna 172', 'Processed using Pix4Dmapper', 101),
(202, '2024-04-18', 'Analog', 1500, 40.7128, -74.0060, 'Piper PA-28', 'Manual stitching', 102),
(203, '2024-04-16', 'Digital', 1200, 34.0522, -118.2437, 'Cessna 206', 'Processed using Agisoft Metashape', 103),
(204, '2024-04-14', 'Analog', 1100, 41.8781, -87.6298, 'Beechcraft Baron', 'Manual stitching', 104),
(205, '2024-04-12', 'Digital', 1300, 51.5074, -0.1278, 'Cessna 172', 'Processed using Pix4Dmapper', 105),
(206, '2024-04-10', 'Analog', 1400, 48.8566, 2.3522, 'Piper PA-28', 'Manual stitching', 106),
(207, '2024-04-08', 'Digital', 1100, 35.6895, 139.6917, 'Cessna 206', 'Processed using Agisoft Metashape', 107),
(208, '2024-04-06', 'Analog', 1200, 37.7749, -122.4194, 'Beechcraft Baron', 'Manual stitching', 108),
(209, '2024-04-04', 'Digital', 1500, 40.7128, -74.0060, 'Cessna 172', 'Processed using Pix4Dmapper', 109),
(210, '2024-04-02', 'Analog', 1000, 34.0522, -118.2437, 'Piper PA-28', 'Manual stitching', 110),
(211, '2024-03-31', 'Digital', 1300, 41.8781, -87.6298, 'Cessna 206', 'Processed using Agisoft Metashape', 101),
(212, '2024-03-29', 'Analog', 1200, 51.5074, -0.1278, 'Beechcraft Baron', 'Manual stitching', 102),
(213, '2024-03-27', 'Digital', 1400, 48.8566, 2.3522, 'Cessna 172', 'Processed using Pix4Dmapper', 103),
(214, '2024-03-25', 'Analog', 1100, 35.6895, 139.6917, 'Piper PA-28', 'Manual stitching', 104),
(215, '2024-03-23', 'Digital', 1000, 37.7749, -122.4194, 'Cessna 206', 'Processed using Agisoft Metashape', 105),
(216, '2024-03-21', 'Analog', 1500, 40.7128, -74.0060, 'Beechcraft Baron', 'Manual stitching', 106),
(217, '2024-03-19', 'Digital', 1200, 34.0522, -118.2437, 'Cessna 172', 'Processed using Pix4Dmapper', 107),
(218, '2024-03-17', 'Analog', 1300, 41.8781, -87.6298, 'Piper PA-28', 'Manual stitching', 108),
(219, '2024-03-15', 'Digital', 1100, 51.5074, -0.1278, 'Cessna 206', 'Processed using Agisoft Metashape', 109),
(220, '2024-03-13', 'Analog', 1200, 48.8566, 2.3522, 'Beechcraft Baron', 'Manual stitching', 110);
```

Select * from Aerial_Photography

SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Team26 (ASHRITHA\bejja (53)) - Microsoft SQL Server Management Studio

File Edit View Query Project Debug Tools Window Help

Team26 Execute Debug

Object Explorer

ASHRITHA\SQLEXPRESS (SQL Server 11.0.31)

- Databases
 - System Databases
 - AP
 - createtables
 - DVdatabase
 - MyGuitarShop
 - Northwind
 - pubs
 - Security
 - Server Objects
 - Replication
 - Management

Remote Sensing Da...HRITHA\bejja (51) SQLQuery1.sql - AS...HRITHA\bejja (53)" X

```
/*
** Author: Saloni Mourya & Rishitha Bejjanki
** Course: IFT/530
** SQL Server Version: Microsoft SQL Server 2012 (SP1)
** History
** Date Created    Comments
** 04/23/2024    Final Project
*/
-----Data insertion-----
--transactional tables
INSERT INTO Aerial_Photography (photo_id, flight_date, camera_type, altitude, latitude, longitude, aircraft_details, provider_id, processing_details)
VALUES
(201, '2024-04-20', 'Digital', 1000, 37.7749, -122.4194, 'Cessna 172', 'Processed using Pix4Dmapper', 101),
(202, '2024-04-18', 'Analog', 1500, 40.7128, -74.0060, 'Piper PA-28', 'Manual stitching', 102),
(203, '2024-04-16', 'Digital', 1200, 34.0522, -118.2437, 'Cessna 206', 'Processed using Agisoft Metashape', 103),
(204, '2024-04-14', 'Analog', 1100, 41.8781, -87.6298, 'Beechcraft Baron', 'Manual stitching', 104),
(205, '2024-04-12', 'Digital', 1300, 51.5074, -0.1278, 'Cessna 172', 'Processed using Pix4Dmapper', 105),
(206, '2024-04-10', 'Analog', 1400, 48.8566, 2.3522, 'Piper PA-28', 'Manual stitching', 106),
(207, '2024-04-08', 'Digital', 1100, 35.6895, 139.6917, 'Cessna 206', 'Processed using Agisoft Metashape', 107),
(208, '2024-04-06', 'Analog', 1200, 37.7749, -122.4194, 'Beechcraft Baron', 'Manual stitching', 108),
(209, '2024-04-04', 'Digital', 1500, 40.7128, -74.0060, 'Cessna 172', 'Processed using Pix4Dmapper', 109),
(210, '2024-04-02', 'Analog', 1000, 34.0522, -118.2437, 'Piper PA-28', 'Manual stitching', 110),
(211, '2024-03-31', 'Digital', 1300, 41.8781, -87.6298, 'Cessna 206', 'Processed using Agisoft Metashape', 101),
(212, '2024-03-29', 'Analog', 1200, 51.5074, -0.1278, 'Beechcraft Baron', 'Manual stitching', 102),
(213, '2024-03-27', 'Digital', 1400, 48.8566, 2.3522, 'Cessna 172', 'Processed using Pix4Dmapper', 103),
(214, '2024-03-25', 'Analog', 1100, 35.6895, 139.6917, 'Piper PA-28', 'Manual stitching', 104),
(215, '2024-03-23', 'Digital', 1000, 37.7749, -122.4194, 'Cessna 206', 'Processed using Agisoft Metashape', 105),
(216, '2024-03-21', 'Analog', 1500, 40.7128, -74.0060, 'Beechcraft Baron', 'Manual stitching', 106),
(217, '2024-03-19', 'Digital', 1200, 34.0522, -118.2437, 'Cessna 172', 'Processed using Pix4Dmapper', 107),
(218, '2024-03-17', 'Analog', 1300, 41.8781, -87.6298, 'Piper PA-28', 'Manual stitching', 108),
(219, '2024-03-15', 'Digital', 1100, 51.5074, -0.1278, 'Cessna 206', 'Processed using Agisoft Metashape', 109),
(220, '2024-03-13', 'Analog', 1200, 48.8566, 2.3522, 'Beechcraft Baron', 'Manual stitching', 110);
Select * from Aerial_Photography
```

Results Messages

photo_id	flight_date	camera_type	altitude	latitude	longitude	aircraft_details	processing_details	provider_id
201	2024-04-20	Digital	1000	38	-122	Cessna 172	Processed using Pix4Dmapper	101
202	2024-04-18	Analog	1500	41	-74	Piper PA-28	Manual stitching	102
203	2024-04-16	Digital	1200	34	-118	Cessna 206	Processed using Agisoft Metashape	103

Query executed successfully.

ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\bejja (53) Team26 00:00:00 20 rows

Ready

94°F Sunny

Search

Ln 33 Col 33 Ch 33 INS

15:21 23-04-2024

SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Team26 (ASHRITHA\bejja (53)) - Microsoft SQL Server Management Studio

File Edit View Query Project Debug Tools Window Help

Team26 Execute Debug

Object Explorer

ASHRITHA\SQLEXPRESS (SQL Server 11.0.31)

- Databases
 - System Databases
 - AP
 - createtables
 - DVdatabase
 - MyGuitarShop
 - Northwind
 - pubs
 - Security
 - Server Objects
 - Replication
 - Management

Remote Sensing Da...HRITHA\bejja (51) SQLQuery1.sql - AS...HRITHA\bejja (53)" X

```
/*
-----Data insertion-----
--transactional tables
INSERT INTO Aerial_Photography (photo_id, flight_date, camera_type, altitude, latitude, longitude, aircraft_details, provider_id, processing_details)
VALUES
(201, '2024-04-20', 'Digital', 1000, 37.7749, -122.4194, 'Cessna 172', 'Processed using Pix4Dmapper', 101),
(202, '2024-04-18', 'Analog', 1500, 40.7128, -74.0060, 'Piper PA-28', 'Manual stitching', 102),
(203, '2024-04-16', 'Digital', 1200, 34.0522, -118.2437, 'Cessna 206', 'Processed using Agisoft Metashape', 103),
(204, '2024-04-14', 'Analog', 1100, 41.8781, -87.6298, 'Beechcraft Baron', 'Manual stitching', 104),
(205, '2024-04-12', 'Digital', 1300, 51.5074, -0.1278, 'Cessna 172', 'Processed using Pix4Dmapper', 105),
(206, '2024-04-10', 'Analog', 1400, 48.8566, 2.3522, 'Piper PA-28', 'Manual stitching', 106),
(207, '2024-04-08', 'Digital', 1100, 35.6895, 139.6917, 'Cessna 206', 'Processed using Agisoft Metashape', 107),
(208, '2024-04-06', 'Analog', 1200, 37.7749, -122.4194, 'Beechcraft Baron', 'Manual stitching', 108),
(209, '2024-04-04', 'Digital', 1500, 40.7128, -74.0060, 'Cessna 172', 'Processed using Pix4Dmapper', 109),
(210, '2024-04-02', 'Analog', 1000, 34.0522, -118.2437, 'Piper PA-28', 'Manual stitching', 110),
(211, '2024-03-31', 'Digital', 1300, 41.8781, -87.6298, 'Cessna 206', 'Processed using Agisoft Metashape', 101),
(212, '2024-03-29', 'Analog', 1200, 51.5074, -0.1278, 'Beechcraft Baron', 'Manual stitching', 102),
(213, '2024-03-27', 'Digital', 1400, 48.8566, 2.3522, 'Cessna 172', 'Processed using Pix4Dmapper', 103),
(214, '2024-03-25', 'Analog', 1100, 35.6895, 139.6917, 'Piper PA-28', 'Manual stitching', 104),
(215, '2024-03-23', 'Digital', 1000, 37.7749, -122.4194, 'Cessna 206', 'Processed using Agisoft Metashape', 105),
(216, '2024-03-21', 'Analog', 1500, 40.7128, -74.0060, 'Beechcraft Baron', 'Manual stitching', 106),
(217, '2024-03-19', 'Digital', 1200, 34.0522, -118.2437, 'Cessna 172', 'Processed using Pix4Dmapper', 107),
(218, '2024-03-17', 'Analog', 1300, 41.8781, -87.6298, 'Piper PA-28', 'Manual stitching', 108),
(219, '2024-03-15', 'Digital', 1100, 51.5074, -0.1278, 'Cessna 206', 'Processed using Agisoft Metashape', 109),
(220, '2024-03-13', 'Analog', 1200, 48.8566, 2.3522, 'Beechcraft Baron', 'Manual stitching', 110);
Select * from Aerial_Photography
```

Results Messages

photo_id	flight_date	camera_type	altitude	latitude	longitude	aircraft_details	processing_details	provider_id
201	2024-04-20	Digital	1000	38	-122	Cessna 172	Processed using Pix4Dmapper	101
202	2024-04-18	Analog	1500	41	-74	Piper PA-28	Manual stitching	102
203	2024-04-16	Digital	1200	34	-118	Cessna 206	Processed using Agisoft Metashape	103

Query executed successfully.

ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\bejja (53) Team26 00:00:00 20 rows

Ready

94°F Sunny

Search

Ln 33 Col 33 Ch 33 INS

15:22 23-04-2024

```

-- Data insertion --
-- transactional tables

photo_id flight_date camera_type altitude latitude longitude aircraft_data... processing_details provider_id
1 201 2024-04-20 Digital 1000 38 -122 Cessna 172 Processed using Pix4Dmapper 101
2 202 2024-04-18 Analog 1500 41 -74 Piper PA-28 Manual stitching 102
3 203 2024-04-16 Digital 1200 34 -118 Cessna 206 Processed using Agisoft Metashape 103
4 204 2024-04-14 Analog 1100 42 -88 Beechcraft ... Manual stitching 104
5 205 2024-04-12 Digital 1300 52 0 Cessna 172 Processed using Pix4Dmapper 105
6 206 2024-04-10 Analog 1400 49 2 Piper PA-28 Manual stitching 106
7 207 2024-04-08 Digital 1100 36 140 Cessna 206 Processed using Agisoft Metashape 107
8 208 2024-04-06 Analog 1200 38 -122 Beechcraft ... Manual stitching 108
9 209 2024-04-04 Digital 1500 41 -74 Cessna 172 Processed using Pix4Dmapper 109
10 210 2024-04-02 Analog 1000 34 -118 Piper PA-28 Manual stitching 110
11 211 2024-03-31 Digital 1300 42 -88 Cessna 206 Processed using Agisoft Metashape 101
12 212 2024-03-29 Analog 1200 52 0 Beechcraft ... Manual stitching 102
13 213 2024-03-27 Digital 1400 49 2 Cessna 172 Processed using Pix4Dmapper 103
14 214 2024-03-25 Analog 1100 36 140 Piper PA-28 Manual stitching 104
15 215 2024-03-23 Digital 1000 38 -122 Cessna 206 Processed using Agisoft Metashape 105
16 216 2024-03-21 Analog 1500 41 -74 Beechcraft ... Manual stitching 106
17 217 2024-03-19 Digital 1200 34 -118 Cessna 172 Processed using Pix4Dmapper 107
18 218 2024-03-17 Analog 1300 42 -88 Piper PA-28 Manual stitching 108
19 219 2024-03-15 Digital 1100 52 0 Cessna 206 Processed using Agisoft Metashape 109
20 220 2024-03-13 Analog 1200 49 2 Beechcraft ... Manual stitching 110

```

Query executed successfully.

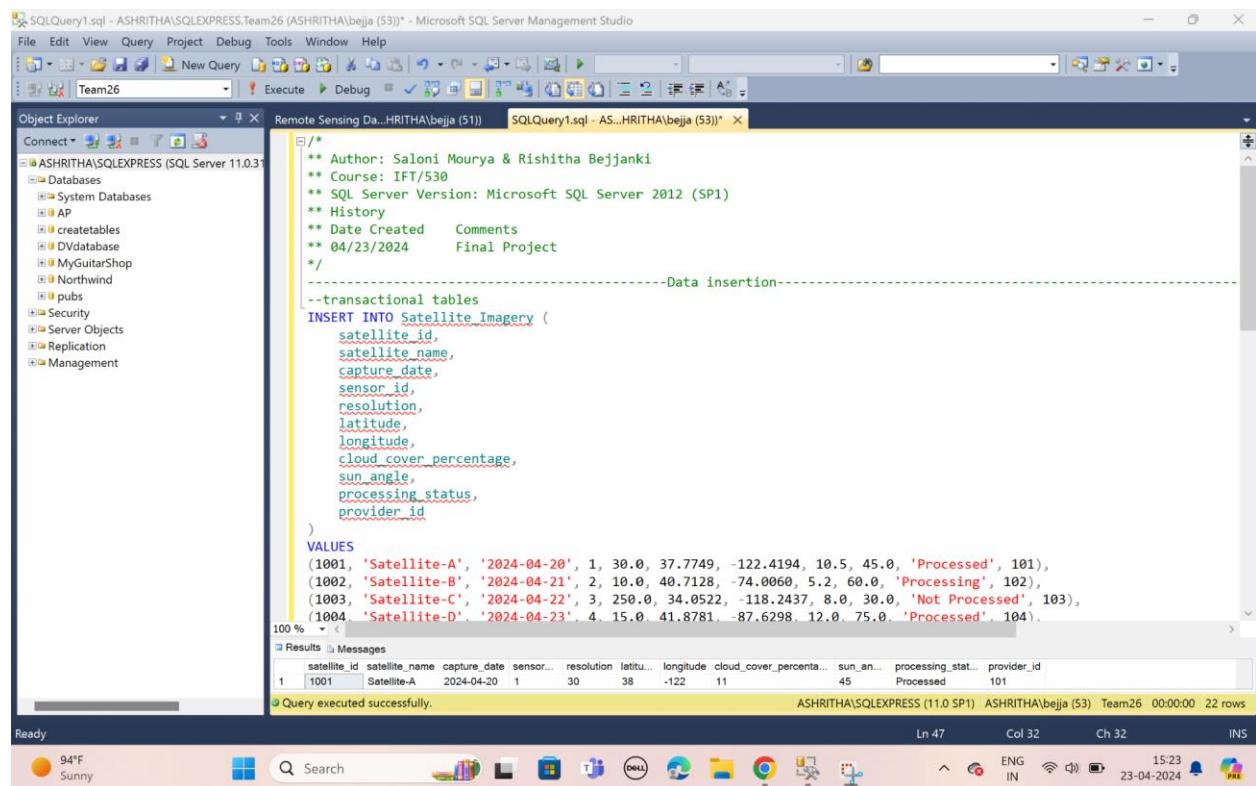
```

INSERT INTO Satellite_Imagery (
    satellite_id,
    satellite_name,
    capture_date,
    sensor_id,
    resolution,
    latitude,
    longitude,
    cloud_cover_percentage,
    sun_angle,
    processing_status,
    provider_id
)
VALUES
(1001, 'Satellite-A', '2024-04-20', 1, 30.0, 37.7749, -122.4194, 10.5, 45.0, 'Processed', 101),
(1002, 'Satellite-B', '2024-04-21', 2, 10.0, 40.7128, -74.0060, 5.2, 60.0, 'Processing', 102),
(1003, 'Satellite-C', '2024-04-22', 3, 250.0, 34.0522, -118.2437, 8.0, 30.0, 'Not Processed', 103),
(1004, 'Satellite-D', '2024-04-23', 4, 15.0, 41.8781, -87.6298, 12.0, 75.0, 'Processed', 104),
(1005, 'Satellite-E', '2024-04-24', 5, 3.31, 51.5074, -0.1278, 3.8, 55.0, 'Processing', 105),
(1006, 'Satellite-F', '2024-04-25', 6, 2.0, 48.8566, 2.3522, 6.5, 70.0, 'Not Processed', 106),
(1007, 'Satellite-G', '2024-04-26', 7, 8.0, 35.6895, 139.6917, 9.2, 40.0, 'Processed', 107),
(1008, 'Satellite-H', '2024-04-27', 8, 1.0, 59.3293, 18.0686, 15.0, 80.0, 'Processing', 108),
(1009, 'Satellite-I', '2024-04-28', 9, 5.5, 60.1695, 24.9354, 4.5, 65.0, 'Not Processed', 109),

```

```
(1010, 'Satellite-J', '2024-04-29', 10, 1.0, 55.7558, 37.6176, 7.8, 50.0, 'Processed', 110),
(1011, 'Satellite-K', '2024-04-30', 1, 30.0, 34.0522, -118.2437, 8.0, 30.0, 'Not Processed', 101),
(1012, 'Satellite-L', '2024-05-01', 2, 10.0, 40.7128, -74.0060, 5.2, 60.0, 'Processing', 102),
(1013, 'Satellite-M', '2024-05-02', 3, 250.0, 37.7749, -122.4194, 10.5, 45.0, 'Processed', 103),
(1014, 'Satellite-N', '2024-05-03', 4, 15.0, 41.8781, -87.6298, 12.0, 75.0, 'Processed', 104),
(1015, 'Satellite-O', '2024-05-04', 5, 3.31, 51.5074, -0.1278, 3.8, 55.0, 'Processing', 105),
(1016, 'Satellite-P', '2024-05-05', 6, 2.0, 48.8566, 2.3522, 6.5, 70.0, 'Not Processed', 106),
(1017, 'Satellite-Q', '2024-05-06', 7, 8.0, 35.6895, 139.6917, 9.2, 40.0, 'Processed', 107),
(1018, 'Satellite-R', '2024-05-07', 8, 1.0, 59.3293, 18.0686, 15.0, 80.0, 'Processing', 108),
(1019, 'Satellite-S', '2024-05-08', 9, 5.5, 60.1695, 24.9354, 4.5, 65.0, 'Not Processed', 109),
(1020, 'Satellite-T', '2024-05-09', 10, 1.0, 55.7558, 37.6176, 7.8, 50.0, 'Processed', 110),
(1021, 'Satellite-U', '2024-05-10', 1, 30.0, 34.0522, -118.2437, 8.0, 30.0, 'Not Processed', 101),
(1022, 'Satellite-V', '2024-05-11', 2, 10.0, 40.7128, -74.0060, 5.2, 60.0, 'Processing', 102);
```

Select * from Satellite_Imagery



```
-- Author: Saloni Mourya & Rishitha Bejjanki
-- Course: IFT/530
-- SQL Server Version: Microsoft SQL Server 2012 (SP1)
-- History
-- Date Created    Comments
-- 04/23/2024      Final Project
/*
-----Data insertion-----
-transactional tables
INSERT INTO Satellite_Imagery (
    satellite_id,
    satellite_name,
    capture_date,
    sensor_id,
    resolution,
    latitude,
    longitude,
    cloud_cover_percentage,
    sun_angle,
    processing_status,
    provider_id
)
VALUES
(1001, 'Satellite-A', '2024-04-20', 1, 30.0, 37.7749, -122.4194, 10.5, 45.0, 'Processed', 101),
(1002, 'Satellite-B', '2024-04-21', 2, 10.0, 40.7128, -74.0060, 5.2, 60.0, 'Processing', 102),
(1003, 'Satellite-C', '2024-04-22', 3, 250.0, 34.0522, -118.2437, 8.0, 30.0, 'Not Processed', 103),
(1004, 'Satellite-D', '2024-04-23', 4, 15.0, 41.8781, -87.6298, 12.0, 75.0, 'Processed', 104).
100 %
```

	satellite_id	satellite_name	capture_date	sensor_id	resolution	latitude	longitude	cloud_cover_percentage	sun_angle	processing_status	provider_id
1	1001	Satellite-A	2024-04-20	1	30	38	-122	11	45	Processed	101

Query executed successfully.

SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Team26 (ASHRITHA\bejja (53)) - Microsoft SQL Server Management Studio

File Edit View Query Project Debug Tools Window Help

New Query Execute Debug

Object Explorer

Team26

SQLQuery1.sql - AS...HRITHA\bejja (53) X

```

processing_status,
provider_id
)
VALUES
(1001, 'Satellite-A', '2024-04-20', 1, 30.0, 37.7749, -122.4194, 10.5, 45.0, 'Processed', 101),
(1002, 'Satellite-B', '2024-04-21', 2, 10.0, 40.7128, -74.0060, 5.2, 60.0, 'Processing', 102),
(1003, 'Satellite-C', '2024-04-22', 3, 250.0, 34.0522, -118.2437, 8.0, 30.0, 'Not Processed', 103),
(1004, 'Satellite-D', '2024-04-23', 4, 15.0, 41.8781, -87.6298, 12.0, 75.0, 'Processed', 104),
(1005, 'Satellite-E', '2024-04-24', 5, 3.31, 51.5074, -0.1278, 3.8, 55.0, 'Processing', 105),
(1006, 'Satellite-F', '2024-04-25', 6, 2.0, 48.8566, 2.3522, 6.5, 70.0, 'Not Processed', 106),
(1007, 'Satellite-G', '2024-04-26', 7, 8.0, 35.6895, 139.6917, 9.2, 40.0, 'Processed', 107),
(1008, 'Satellite-H', '2024-04-27', 8, 1.0, 59.3293, 18.0686, 15.0, 80.0, 'Processing', 108),
(1009, 'Satellite-I', '2024-04-28', 9, 5.5, 60.1695, 24.9354, 4.5, 65.0, 'Not Processed', 109),
(1010, 'Satellite-J', '2024-04-29', 10, 1.0, 55.7558, 37.6176, 7.8, 50.0, 'Processed', 110),
(1011, 'Satellite-K', '2024-04-30', 1, 30.0, 34.0522, -118.2437, 8.0, 30.0, 'Not Processed', 101),
(1012, 'Satellite-L', '2024-05-01', 2, 10.0, 40.7128, -74.0060, 5.2, 60.0, 'Processing', 102),
(1013, 'Satellite-M', '2024-05-02', 3, 250.0, 37.7749, -122.4194, 10.5, 45.0, 'Processed', 103),
(1014, 'Satellite-N', '2024-05-03', 4, 15.0, 41.8781, -87.6298, 12.0, 75.0, 'Processed', 104),
(1015, 'Satellite-O', '2024-05-04', 5, 3.31, 51.5074, -0.1278, 3.8, 55.0, 'Processing', 105),
(1016, 'Satellite-P', '2024-05-05', 6, 2.0, 48.8566, 2.3522, 6.5, 70.0, 'Not Processed', 106),
(1017, 'Satellite-Q', '2024-05-06', 7, 8.0, 35.6895, 139.6917, 9.2, 40.0, 'Processed', 107),
(1018, 'Satellite-R', '2024-05-07', 8, 1.0, 59.3293, 18.0686, 15.0, 80.0, 'Processing', 108),
(1019, 'Satellite-S', '2024-05-08', 9, 5.5, 60.1695, 24.9354, 4.5, 65.0, 'Not Processed', 109),
(1020, 'Satellite-T', '2024-05-09', 10, 1.0, 55.7558, 37.6176, 7.8, 50.0, 'Processed', 110),
(1021, 'Satellite-U', '2024-05-10', 1, 30.0, 34.0522, -118.2437, 8.0, 30.0, 'Not Processed', 101),
(1022, 'Satellite-V', '2024-05-11', 2, 10.0, 40.7128, -74.0060, 5.2, 60.0, 'Processing', 102);
Select * from Satellite_Imagery

```

Results Messages

satellite_id	satellite_name	capture_date	sensor...	resolution	latitu...	longitude	cloud_cove...	sun_an...	processing_stat...	provider_id	
1	1001	Satellite-A	2024-04-20	1	30	38	-122	11	45	Processed	101

Query executed successfully.

ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\bejja (53) Team26 00:00:00 22 rows

Ready

94°F Sunny

File Edit View Query Project Debug Tools Window Help

New Query Execute Debug

Object Explorer

Team26

SQLQuery1.sql - AS...HRITHA\bejja (53) X

SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Team26 (ASHRITHA\bejja (53)) - Microsoft SQL Server Management Studio

File Edit View Query Project Debug Tools Window Help

New Query Execute Debug

Object Explorer

Team26

SQLQuery1.sql - AS...HRITHA\bejja (53) X

```

/*
** Author: Saloni Mourya & Rishitha Bejjanki
** Course: IFT/530
** SQL Server Version: Microsoft SQL Server 2012 (SP1)
** History
** Date Created    Comments
** 04/23/2024      Final Project
*/
-----Data insertion-----
-----transactional_tablec

```

Results Messages

satellite_id	satellite_name	capture_date	sensor...	resolution	latitu...	longitude	cloud_cove...	sun_an...	processing_stat...	provider_id	
1	1001	Satellite-A	2024-04-20	1	30	38	-122	11	45	Processed	101
2	1002	Satellite-B	2024-04-21	2	10	41	-74	5	60	Processing	102
3	1003	Satellite-C	2024-04-22	3	250	34	-118	8	30	Not Processed	103
4	1004	Satellite-D	2024-04-23	4	15	42	-88	12	75	Processed	104
5	1005	Satellite-E	2024-04-24	5	3	52	0	4	55	Processing	105
6	1006	Satellite-F	2024-04-25	6	2	49	2	7	70	Not Processed	106
7	1007	Satellite-G	2024-04-26	7	8	36	140	9	40	Processed	107
8	1008	Satellite-H	2024-04-27	8	1	59	18	15	80	Processing	108
9	1009	Satellite-I	2024-04-28	9	6	60	25	5	65	Not Processed	109
10	1010	Satellite-J	2024-04-29	10	1	56	38	8	50	Processed	110
11	1011	Satellite-K	2024-04-30	1	30	34	-118	8	30	Not Processed	101
12	1012	Satellite-L	2024-05-01	2	10	41	-74	5	60	Processing	102
13	1013	Satellite-M	2024-05-02	3	250	38	-122	11	45	Processed	103
14	1014	Satellite-N	2024-05-03	4	15	42	-88	12	75	Processed	104
15	1015	Satellite-O	2024-05-04	5	3	52	0	4	55	Processing	105
16	1016	Satellite-P	2024-05-05	6	2	49	2	7	70	Not Processed	106
17	1017	Satellite-Q	2024-05-06	7	8	36	140	9	40	Processed	107
18	1018	Satellite-R	2024-05-07	8	1	59	18	15	80	Processing	108
19	1019	Satellite-S	2024-05-08	9	6	60	25	5	65	Not Processed	109
20	1020	Satellite-T	2024-05-09	10	1	56	38	8	50	Processed	110
21	1021	Satellite-U	2024-05-10	1	30	34	-118	8	30	Not Processed	101
22	1022	Satellite-V	2024-05-11	2	10	41	-74	5	60	Processing	102

Query executed successfully.

ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\bejja (53) Team26 00:00:00 22 rows

Ready

94°F Sunny

File Edit View Query Project Debug Tools Window Help

New Query Execute Debug

Object Explorer

Team26

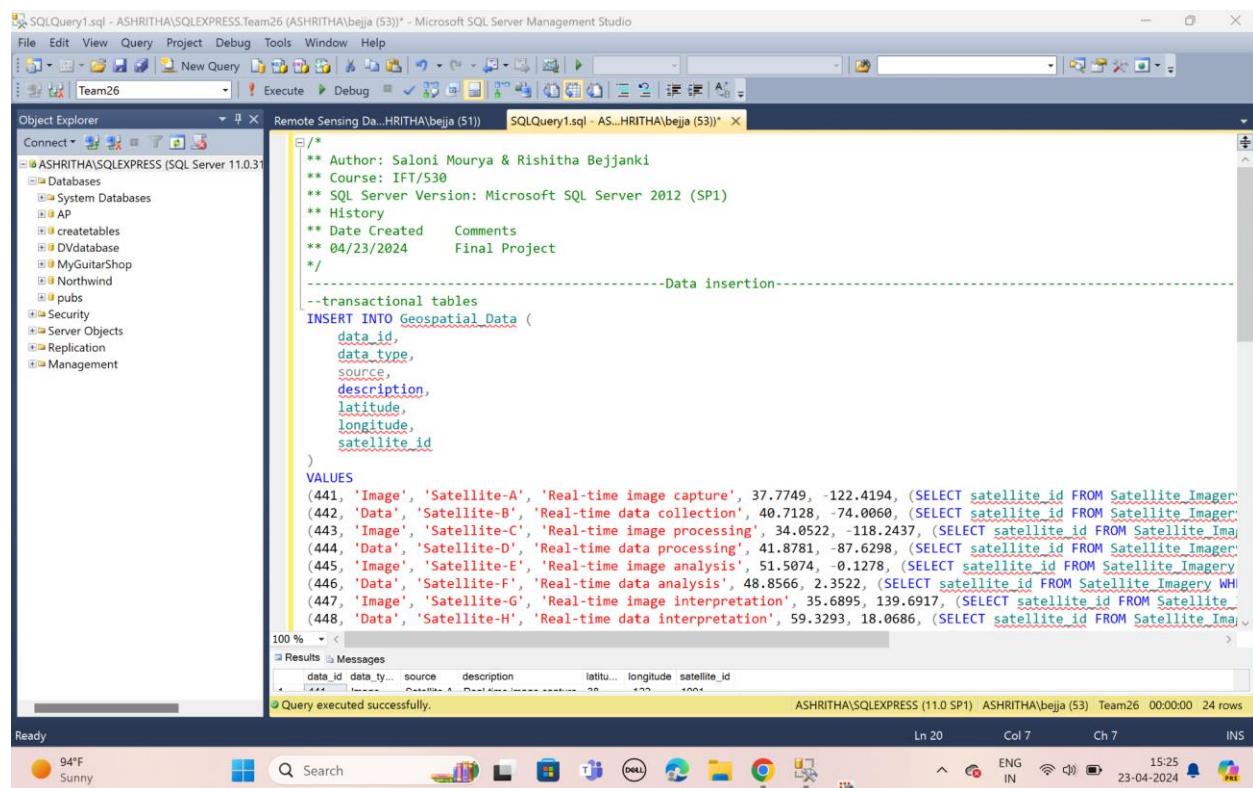
SQLQuery1.sql - AS...HRITHA\bejja (53) X

INSERT INTO Geospatial_Data (

```
    data_id,  
    data_type,  
    source,  
    description,  
    latitude,  
    longitude,  
    satellite_id  
)  
VALUES  
(441, 'Image', 'Satellite-A', 'Real-time image capture', 37.7749, -122.4194, (SELECT satellite_id  
FROM Satellite_Imagery WHERE satellite_name = 'Satellite-A')),  
(442, 'Data', 'Satellite-B', 'Real-time data collection', 40.7128, -74.0060, (SELECT satellite_id  
FROM Satellite_Imagery WHERE satellite_name = 'Satellite-B')),  
(443, 'Image', 'Satellite-C', 'Real-time image processing', 34.0522, -118.2437, (SELECT  
satellite_id FROM Satellite_Imagery WHERE satellite_name = 'Satellite-C')),  
(444, 'Data', 'Satellite-D', 'Real-time data processing', 41.8781, -87.6298, (SELECT satellite_id  
FROM Satellite_Imagery WHERE satellite_name = 'Satellite-D')),  
(445, 'Image', 'Satellite-E', 'Real-time image analysis', 51.5074, -0.1278, (SELECT satellite_id  
FROM Satellite_Imagery WHERE satellite_name = 'Satellite-E')),  
(446, 'Data', 'Satellite-F', 'Real-time data analysis', 48.8566, 2.3522, (SELECT satellite_id  
FROM Satellite_Imagery WHERE satellite_name = 'Satellite-F')),  
(447, 'Image', 'Satellite-G', 'Real-time image interpretation', 35.6895, 139.6917, (SELECT  
satellite_id FROM Satellite_Imagery WHERE satellite_name = 'Satellite-G')),  
(448, 'Data', 'Satellite-H', 'Real-time data interpretation', 59.3293, 18.0686, (SELECT satellite_id  
FROM Satellite_Imagery WHERE satellite_name = 'Satellite-H')),  
(449, 'Image', 'Satellite-I', 'Real-time image classification', 60.1695, 24.9354, (SELECT  
satellite_id FROM Satellite_Imagery WHERE satellite_name = 'Satellite-I')),  
(450, 'Data', 'Satellite-J', 'Real-time data classification', 55.7558, 37.6176, (SELECT satellite_id  
FROM Satellite_Imagery WHERE satellite_name = 'Satellite-J')),  
(451, 'Image', 'Satellite-K', 'Real-time image monitoring', 34.0522, -118.2437, (SELECT  
satellite_id FROM Satellite_Imagery WHERE satellite_name = 'Satellite-K')),  
(452, 'Data', 'Satellite-L', 'Real-time data monitoring', 40.7128, -74.0060, (SELECT satellite_id  
FROM Satellite_Imagery WHERE satellite_name = 'Satellite-L')),  
(453, 'Image', 'Satellite-M', 'Real-time image tracking', 37.7749, -122.4194, (SELECT  
satellite_id FROM Satellite_Imagery WHERE satellite_name = 'Satellite-M')),  
(454, 'Data', 'Satellite-N', 'Real-time data tracking', 41.8781, -87.6298, (SELECT satellite_id  
FROM Satellite_Imagery WHERE satellite_name = 'Satellite-N')),  
(455, 'Image', 'Satellite-O', 'Real-time image visualization', 51.5074, -0.1278, (SELECT  
satellite_id FROM Satellite_Imagery WHERE satellite_name = 'Satellite-O')),  
(456, 'Data', 'Satellite-P', 'Real-time data visualization', 48.8566, 2.3522, (SELECT satellite_id  
FROM Satellite_Imagery WHERE satellite_name = 'Satellite-P')),  
(457, 'Image', 'Satellite-Q', 'Real-time image mapping', 35.6895, 139.6917, (SELECT satellite_id  
FROM Satellite_Imagery WHERE satellite_name = 'Satellite-Q')),  
(458, 'Data', 'Satellite-R', 'Real-time data mapping', 59.3293, 18.0686, (SELECT satellite_id  
FROM Satellite_Imagery WHERE satellite_name = 'Satellite-R'))
```

(459, 'Image', 'Satellite-S', 'Real-time image processing', 60.1695, 24.9354, (SELECT satellite_id
 FROM Satellite_Imagery WHERE satellite_name = 'Satellite-S')),
 (460, 'Data', 'Satellite-T', 'Real-time data processing', 55.7558, 37.6176, (SELECT satellite_id
 FROM Satellite_Imagery WHERE satellite_name = 'Satellite-T')),
 (461, 'Image', 'Satellite-U', 'Real-time image analysis', 34.0522, -118.2437, (SELECT satellite_id
 FROM Satellite_Imagery WHERE satellite_name = 'Satellite-U')),
 (462, 'Data', 'Satellite-V', 'Real-time data analysis', 40.7128, -74.0060, (SELECT satellite_id
 FROM Satellite_Imagery WHERE satellite_name = 'Satellite-V')),
 (463, 'Image', 'Satellite-A', 'Real-time image interpretation', 37.7749, -122.4194, (SELECT
 satellite_id FROM Satellite_Imagery WHERE satellite_name = 'Satellite-A')),
 (464, 'Data', 'Satellite-B', 'Real-time data interpretation', 40.7128, -74.0060, (SELECT
 satellite_id FROM Satellite_Imagery WHERE satellite_name = 'Satellite-B'));

Select * from Geospatial_Data



The screenshot shows the Microsoft SQL Server Management Studio interface. The title bar reads "SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Tea... (53)* - Microsoft SQL Server Management Studio". The main area displays a SQL script for inserting data into the "Geospatial_Data" table. The script includes comments about the author, course, and creation date, followed by a section for transactional tables and an INSERT statement with VALUES. The values listed correspond to the data points provided in the question. The status bar at the bottom indicates the query was executed successfully and returned 24 rows.

```

-- Author: Saloni Mourya & Rishitha Bejjanki
-- Course: IFT/530
-- SQL Server Version: Microsoft SQL Server 2012 (SP1)
-- History
-- Date Created   Comments
-- 04/23/2024     Final Project
*/
-----Data insertion-----
INSERT INTO Geospatial_Data (
  data_id,
  data_type,
  source,
  description,
  latitude,
  longitude,
  satellite_id
)
VALUES
(441, 'Image', 'Satellite-A', 'Real-time image capture', 37.7749, -122.4194, (SELECT satellite_id FROM Satellite_Imagery
(442, 'Data', 'Satellite-B', 'Real-time data collection', 40.7128, -74.0060, (SELECT satellite_id FROM Satellite_Imagery
(443, 'Image', 'Satellite-C', 'Real-time image processing', 34.0522, -118.2437, (SELECT satellite_id FROM Satellite_Imagery
(444, 'Data', 'Satellite-D', 'Real-time data processing', 41.8781, -87.6298, (SELECT satellite_id FROM Satellite_Imagery
(445, 'Image', 'Satellite-E', 'Real-time image analysis', 51.5074, -0.1278, (SELECT satellite_id FROM Satellite_Imagery
(446, 'Data', 'Satellite-F', 'Real-time data analysis', 48.8566, 2.3522, (SELECT satellite_id FROM Satellite_Imagery WH
(447, 'Image', 'Satellite-G', 'Real-time image interpretation', 35.6895, 139.6917, (SELECT satellite_id FROM Satellite_Imagery
(448, 'Data', 'Satellite-H', 'Real-time data interpretation', 59.3293, 18.0686, (SELECT satellite_id FROM Satellite_Imagery

```

data_id	data_type	source	description	latitude	longitude	satellite_id
441	Image	Satellite-A	Real-time image capture	37.7749	-122.4194	1001
442	Data	Satellite-B	Real-time data collection	40.7128	-74.0060	1002
443	Image	Satellite-C	Real-time image processing	34.0522	-118.2437	1003
444	Data	Satellite-D	Real-time data processing	41.8781	-87.6298	1004
445	Image	Satellite-E	Real-time image analysis	51.5074	-0.1278	1005
446	Data	Satellite-F	Real-time data analysis	48.8566	2.3522	1006
447	Image	Satellite-G	Real-time image interpretation	35.6895	139.6917	1007
448	Data	Satellite-H	Real-time data interpretation	59.3293	18.0686	1008

Query executed successfully.

SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Team26 (ASHRITHA\bejja (53)) - Microsoft SQL Server Management Studio

File Edit View Query Project Debug Tools Window Help

New Query Execute Debug

Object Explorer

Team26

Remote Sensing Da...HRITHA\bejja (51) SQLQuery1.sql - AS...HRITHA\bejja (53) X

```

        )
VALUES
(441, 'Image', 'Satellite-A', 'Real-time image capture', 37.7749, -122.4194, (SELECT satellite_id FROM Satellite_Imager
(442, 'Data', 'Satellite-B', 'Real-time data collection', 40.7128, -74.0060, (SELECT satellite_id FROM Satellite_Imager
(443, 'Image', 'Satellite-C', 'Real-time image processing', 34.0522, -118.2437, (SELECT satellite_id FROM Satellite_Imager
(444, 'Data', 'Satellite-D', 'Real-time data processing', 41.8781, -87.6298, (SELECT satellite_id FROM Satellite_Imager
(445, 'Image', 'Satellite-E', 'Real-time image analysis', 51.5074, -0.1278, (SELECT satellite_id FROM Satellite_Imagery
(446, 'Data', 'Satellite-F', 'Real-time data analysis', 48.8566, 2.3522, (SELECT satellite_id FROM Satellite_Imagery WH
(447, 'Image', 'Satellite-G', 'Real-time image interpretation', 35.6895, 139.6917, (SELECT satellite_id FROM Satellite_Imagery
(448, 'Data', 'Satellite-H', 'Real-time data interpretation', 59.3293, 18.6666, (SELECT satellite_id FROM Satellite_Imagery
(449, 'Image', 'Satellite-I', 'Real-time image classification', 60.1695, 24.9354, (SELECT satellite_id FROM Satellite_Imagery
(450, 'Data', 'Satellite-J', 'Real-time data classification', 55.7558, 37.6176, (SELECT satellite_id FROM Satellite_Imagery
(451, 'Image', 'Satellite-K', 'Real-time image monitoring', 34.0522, -118.2437, (SELECT satellite_id FROM Satellite_Imagery
(452, 'Data', 'Satellite-L', 'Real-time data monitoring', 40.7128, -74.0060, (SELECT satellite_id FROM Satellite_Imagery
(453, 'Image', 'Satellite-M', 'Real-time image tracking', 37.7749, -122.4194, (SELECT satellite_id FROM Satellite_Imagery
(454, 'Data', 'Satellite-N', 'Real-time data tracking', 41.8781, -87.6298, (SELECT satellite_id FROM Satellite_Imagery
(455, 'Image', 'Satellite-O', 'Real-time image visualization', 51.5074, -0.1278, (SELECT satellite_id FROM Satellite_Imagery
(456, 'Data', 'Satellite-P', 'Real-time data visualization', 48.8566, 2.3522, (SELECT satellite_id FROM Satellite_Imagery
(457, 'Image', 'Satellite-Q', 'Real-time image mapping', 35.6895, 139.6917, (SELECT satellite_id FROM Satellite_Imagery
(458, 'Data', 'Satellite-R', 'Real-time data mapping', 59.3293, 18.6666, (SELECT satellite_id FROM Satellite_Imagery WH
(459, 'Image', 'Satellite-S', 'Real-time image processing', 60.1695, 24.9354, (SELECT satellite_id FROM Satellite_Imagery
(460, 'Data', 'Satellite-T', 'Real-time data processing', 55.7558, 37.6176, (SELECT satellite_id FROM Satellite_Imagery
(461, 'Image', 'Satellite-U', 'Real-time image analysis', 34.0522, -118.2437, (SELECT satellite_id FROM Satellite_Imagery
(462, 'Data', 'Satellite-V', 'Real-time data analysis', 40.7128, -74.0060, (SELECT satellite_id FROM Satellite_Imagery
(463, 'Image', 'Satellite-A', 'Real-time image interpretation', 37.7749, -122.4194, (SELECT satellite_id FROM Satellite_Imagery
(464, 'Data', 'Satellite-B', 'Real-time data interpretation', 40.7128, -74.0060, (SELECT satellite_id FROM Satellite_Imagery
Select * from Geospatial_Data

```

Results Messages

data_id	data_ty...	source	description	latitu...	longitude	satellite_id
1	441	Image	Satellite-A Real-time image capture	38	-122	1001
2	442	Data	Satellite-B Real-time data collect...	41	-74	1002
3	443	Image	Satellite-C Real-time image proces...	34	-118	1003
4	444	Data	Satellite-D Real-time data proces...	42	-88	1004
5	445	Image	Satellite-E Real-time image analy...	52	0	1005
6	446	Data	Satellite-F Real-time data analys...	49	2	1006
7	447	Image	Satellite... Real-time image interp...	36	140	1007
8	448	Data	Satellite-H Real-time data interp...	59	18	1008
9	449	Image	Satellite-I Real-time image classif...	60	25	1009
10	450	Data	Satellite-J Real-time data classif...	56	38	1010
11	451	Image	Satellite-K Real-time image monit...	34	-118	1011
12	452	Data	Satellite-L Real-time data monitor...	41	-74	1012
13	453	Image	Satellite... Real-time image tracki...	38	-122	1013
14	454	Data	Satellite-N Real-time data tracking	42	-88	1014
15	455	Image	Satellite... Real-time image visuali...	52	0	1015
16	456	Data	Satellite-P Real-time data visuali...	49	2	1016
17	457	Image	Satellite... Real-time image mappi...	36	140	1017
18	458	Data	Satellite-R Real-time data mappi...	59	18	1018
19	459	Image	Satellite-S Real-time image proces...	60	25	1019
20	460	Data	Satellite-T Real-time data proces...	56	38	1020
21	461	Image	Satellite-U Real-time image analy...	34	-118	1021
22	462	Data	Satellite-V Real-time data analysis	41	-74	1022
23	463	Image	Satellite-A Real-time image interp...	38	-122	1001

Query executed successfully.

ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\bejja (53) Team26 00:00:00 24 rows

Ready

94°F Sunny

File Edit View Query Project Debug Tools Window Help

New Query Execute Debug

Object Explorer

Team26

Remote Sensing Da...HRITHA\bejja (51) SQLQuery1.sql - AS...HRITHA\bejja (53) X

```

/*
** Author: Saloni Mourya & Rishitha Bejjanki
** Course: IFT/530
** SQL Server Version: Microsoft SQL Server 2012 (SP1)
** History
** Date Created    Comments
** 04/23/2024      Final Project
*/

```

Results Messages

data_id	data_ty...	source	description	latitu...	longitude	satellite_id
1	441	Image	Satellite-A Real-time image capture	38	-122	1001
2	442	Data	Satellite-B Real-time data collect...	41	-74	1002
3	443	Image	Satellite-C Real-time image proces...	34	-118	1003
4	444	Data	Satellite-D Real-time data proces...	42	-88	1004
5	445	Image	Satellite-E Real-time image analy...	52	0	1005
6	446	Data	Satellite-F Real-time data analys...	49	2	1006
7	447	Image	Satellite... Real-time image interp...	36	140	1007
8	448	Data	Satellite-H Real-time data interp...	59	18	1008
9	449	Image	Satellite-I Real-time image classif...	60	25	1009
10	450	Data	Satellite-J Real-time data classif...	56	38	1010
11	451	Image	Satellite-K Real-time image monit...	34	-118	1011
12	452	Data	Satellite-L Real-time data monitor...	41	-74	1012
13	453	Image	Satellite... Real-time image tracki...	38	-122	1013
14	454	Data	Satellite-N Real-time data tracking	42	-88	1014
15	455	Image	Satellite... Real-time image visuali...	52	0	1015
16	456	Data	Satellite-P Real-time data visuali...	49	2	1016
17	457	Image	Satellite... Real-time image mappi...	36	140	1017
18	458	Data	Satellite-R Real-time data mappi...	59	18	1018
19	459	Image	Satellite-S Real-time image proces...	60	25	1019
20	460	Data	Satellite-T Real-time data proces...	56	38	1020
21	461	Image	Satellite-U Real-time image analy...	34	-118	1021
22	462	Data	Satellite-V Real-time data analysis	41	-74	1022
23	463	Image	Satellite-A Real-time image interp...	38	-122	1001

Query executed successfully.

ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\bejja (53) Team26 00:00:00 24 rows

Ready

94°F Sunny

SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Team26 (ASHRITHA\bejja (53)) - Microsoft SQL Server Management Studio

File Edit View Query Project Debug Tools Window Help

New Query Execute Debug

Object Explorer

Team26

Remote Sensing Da...HRITHA\bejja (51) SQLQuery1.sql - AS...HRITHA\bejja (53) X

```

/*
** Author: Saloni Mourya & Rishitha Bejjanki
** Course: IFT/530
** SQL Server Version: Microsoft SQL Server 2012 (SP1)
** History
** Date Created    Comments
** 04/23/2024      Final Project
*/

```

Results Messages

data_id	data_ty...	source	description	latitu...	longitude	satellite_id
1	441	Image	Satellite-A Real-time image capture	38	-122	1001
2	442	Data	Satellite-B Real-time data collect...	41	-74	1002
3	443	Image	Satellite-C Real-time image proces...	34	-118	1003
4	444	Data	Satellite-D Real-time data proces...	42	-88	1004
5	445	Image	Satellite-E Real-time image analy...	52	0	1005
6	446	Data	Satellite-F Real-time data analys...	49	2	1006
7	447	Image	Satellite... Real-time image interp...	36	140	1007
8	448	Data	Satellite-H Real-time data interp...	59	18	1008
9	449	Image	Satellite-I Real-time image classif...	60	25	1009
10	450	Data	Satellite-J Real-time data classif...	56	38	1010
11	451	Image	Satellite-K Real-time image monit...	34	-118	1011
12	452	Data	Satellite-L Real-time data monitor...	41	-74	1012
13	453	Image	Satellite... Real-time image tracki...	38	-122	1013
14	454	Data	Satellite-N Real-time data tracking	42	-88	1014
15	455	Image	Satellite... Real-time image visuali...	52	0	1015
16	456	Data	Satellite-P Real-time data visuali...	49	2	1016
17	457	Image	Satellite... Real-time image mappi...	36	140	1017
18	458	Data	Satellite-R Real-time data mappi...	59	18	1018
19	459	Image	Satellite-S Real-time image proces...	60	25	1019
20	460	Data	Satellite-T Real-time data proces...	56	38	1020
21	461	Image	Satellite-U Real-time image analy...	34	-118	1021
22	462	Data	Satellite-V Real-time data analysis	41	-74	1022
23	463	Image	Satellite-A Real-time image interp...	38	-122	1001

Query executed successfully.

ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\bejja (53) Team26 00:00:00 24 rows

Ready

94°F Sunny

```
INSERT INTO Region_Boundaries (boundary_id, region_name, boundary_type,
boundary_geometry, satellite_id)
VALUES
(552, 'Central Park', 'Park', 'POLYGON ((40.7850 -73.9680, 40.7850 -73.9580, 40.7740 -
73.9580, 40.7740 -73.9680, 40.7850 -73.9680))', 1001),
(553, 'Serengeti National Park', 'National Park', 'POLYGON ((-2.3328 34.8888, -2.3328 35.5249,
-3.2733 35.5249, -3.2733 34.8888, -2.3328 34.8888))', 1002),
(554, 'Great Barrier Reef', 'Marine Park', 'POLYGON ((-18.2871 147.6991, -18.2871 154.1171, -
24.7184 154.1171, -24.7184 147.6991, -18.2871 147.6991))', 1003),
(555, 'Amazon Rainforest', 'Forest Reserve', 'POLYGON ((-3.137 -59.955, -3.137 -59.950, -
3.141 -59.950, -3.141 -59.955, -3.137 -59.955))', 1004),
(556, 'Great Wall of China', 'Historical Site', 'LINESTRING (40.4319 116.5704, 40.4319
116.4273)', 1005),
(557, 'Mount Everest', 'Mountain', 'POINT (27.9881 86.9250)', 1006),
(558, 'Victoria Falls', 'Waterfall', 'POINT (-17.9244 25.8567)', 1007),
(559, 'Gobi Desert', 'Desert', 'POLYGON ((42.8855 88.1877, 42.8855 120.1016, 42.2175
120.1016, 42.2175 88.1877, 42.8855 88.1877))', 1008),
(560, 'Niagara Falls', 'Waterfall', 'POINT (43.0782 -79.0758)', 1009),
(561, 'Taj Mahal', 'Historical Site', 'POINT (27.1751 78.0421)', 1010),
(562, 'Galápagos Islands', 'Island', 'MULTIPOINT ((-0.6132 -90.8593), (-0.8406 -91.0684), (-
0.5714 -90.3136), (-0.3207 -89.9764), (-0.3804 -89.6498))', 1011),
(563, 'Victoria Peak', 'Mountain', 'POINT (22.2687 114.1531)', 1012),
(564, 'Grand Canyon', 'Canyon', 'POLYGON ((36.1069 -112.1129, 36.1069 -113.2636, 36.9762 -
113.2636, 36.9762 -112.1129, 36.1069 -112.1129))', 1013),
(565, 'Mount Kilimanjaro', 'Mountain', 'POINT (-3.0674 37.3556)', 1014),
(566, 'Machu Picchu', 'Historical Site', 'POINT (-13.1631 -72.5450)', 1015),
(567, 'Great Barrier Reef', 'Marine Park', 'POLYGON ((-18.2871 147.6991, -18.2871 154.1171, -
24.7184 154.1171, -24.7184 147.6991, -18.2871 147.6991))', 1016),
(568, 'Yellowstone National Park', 'National Park', 'POLYGON ((44.4280 -110.5885, 44.4280 -
111.0498, 44.0125 -111.0498, 44.0125 -110.5885, 44.4280 -110.5885))', 1017),
(569, 'Everglades National Park', 'National Park', 'POLYGON ((25.2866 -80.8987, 25.2866 -
80.4994, 25.1216 -80.4994, 25.1216 -80.8987, 25.2866 -80.8987))', 1018),
(570, 'Lake Baikal', 'Lake', 'POLYGON ((53.5587 108.1650, 53.5587 109.6007, 51.6650
109.6007, 51.6650 108.1650, 53.5587 108.1650))', 1019),
(571, 'Great Smoky Mountains National Park', 'National Park', 'POLYGON ((35.6554 -83.4681,
35.6554 -83.0265, 35.4676 -83.0265, 35.4676 -83.4681, 35.6554 -83.4681))', 1020),
(572, 'Uluru (Ayers Rock)', 'Rock Formation', 'POINT (-25.3444 131.0369)', 1021);
Select * from Region_Boundaries
```

SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Team26 (ASHRITHA\beija (53)) - Microsoft SQL Server Management Studio

File Edit View Query Project Debug Tools Window Help

Team26 New Query Execute Debug A

Object Explorer Remote Sensing Da... ASHRITHA\beija (51) SQLQuery1.sql - AS... ASHRITHA\beija (53)*

```
--transactional tables
INSERT INTO Region_Boundaries (boundary_id, region_name, boundary_type, boundary_geometry, satellite_id)
VALUES
(552, 'Central Park', 'Park', 'POLYGON ((40.7850 -73.9680, 40.7850 -73.9580, 40.7740 -73.9580, 40.7740 -73.9680, 40.7850
(553, 'Serengeti National Park', 'National Park', 'POLYGON ((-2.3328 34.8888, -2.3328 35.5249, -3.2733 35.5249, -3.2733
(554, 'Great Barrier Reef', 'Marine Park', 'POLYGON ((-18.2871 147.6991, -18.2871 154.1171, -24.7184 154.1171, -24.7184
(555, 'Amazon Rainforest', 'Forest Reserve', 'POLYGON ((-3.137 -59.955, -3.137 -59.950, -3.141 -59.950, -3.141 -59.955,
(556, 'Great Wall of China', 'Historical Site', 'LINESTRING (40.4319 116.5704, 40.4319 116.4273)', 1005),
(557, 'Mount Everest', 'Mountain', 'POINT (27.9881 86.9250)', 1006),
(558, 'Victoria Falls', 'Waterfall', 'POINT (-17.9244 25.8567)', 1007),
(559, 'Gobi Desert', 'Desert', 'POLYGON ((42.8855 88.1877, 42.8855 120.1016, 42.2175 120.1016, 42.2175 88.1877, 42.8855
(560, 'Niagara Falls', 'Waterfall', 'POINT (43.0782 -79.0758)', 1009),
(561, 'Taj Mahal', 'Historical Site', 'POINT (27.1751 78.0421)', 1010),
(562, 'Galapagos Islands', 'Island', 'MULTIPOLYGON ((-0.6130 -90.8593, (-0.8406 -91.0684), (-0.5714 -90.3136), (-0.3207
(563, 'Victoria Peak', 'Mountain', 'POINT (22.2687 114.1531)', 1012),
(564, 'Grand Canyon', 'Canyon', 'POLYGON ((36.1069 -112.1129, 36.1069 -113.2636, 36.9762 -113.2636, 36.9762 -112.1129,
(565, 'Mount Kilimanjaro', 'Mountain', 'POINT (-3.0674 37.3556)', 1014),
(566, 'Machu Picchu', 'Historical Site', 'POINT (-13.1631 -72.5450)', 1015),
(567, 'Great Barrier Reef', 'Marine Park', 'POLYGON ((-18.2871 147.6991, -18.2871 154.1171, -24.7184 154.1171, -24.7184
(568, 'Yellowstone National Park', 'National Park', 'POLYGON ((44.4280 -110.5885, 44.4280 -111.0498, 44.0125 -111.0498,
(569, 'Everglades National Park', 'National Park', 'POLYGON ((25.2866 -80.8987, 25.2866 -80.4994, 25.1216 -80.4994, 25.
(570, 'Lake Baikal', 'Lake', 'POLYGON ((53.5587 108.1650, 53.5587 109.6007, 51.6650 109.6007, 51.6650 108.1650, 53.5587
(571, 'Great Smoky Mountains National Park', 'National Park', 'POLYGON ((35.6554 -83.4681, 35.6554 -83.0265, 35.4676 -8
(572, 'Uluru (Ayers Rock)', 'Rock Formation', 'POINT (-25.3444 131.0369)', 1021);
Select * from Region_Boundaries
```

Results Spatial results Messages

	boundary_id	region_name	boundary_type	boundary_geometry	satellite_id
1	552	Central Park	Park	0x000000001040500000014AE47E17A64440CBA15B6F3...	1001
2	553	Serengeti ...	National Park	0x00000000104050000003DE00B93A902C0A857CA32C4...	1002

Query executed successfully. ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\beija (53) Team26 00:00:00 21 rows

Ready

94°F Sunny

Search

Dell

Google Chrome

File Col 34 Col 32 Ch 32 INS

ENG IN 15:27 23-04-2024

The screenshot shows the Microsoft SQL Server Management Studio interface. The title bar reads "SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Team26 (ASHRITHA\bejja (53)) - Microsoft SQL Server Management Studio". The Object Explorer pane on the left shows the database structure for "ASHRITHA\SQLEXPRESS". The main Results pane displays a table named "boundary" with 21 rows of spatial data. The columns are: boundary_id, region_name, boundary_type, boundary_geometry, and satellite_id. The results show various geographical features like National Parks, Marine Parks, and Historical Sites. The status bar at the bottom indicates "Query executed successfully." and "ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\bejja (53) Team26 00:00:00 21 rows".

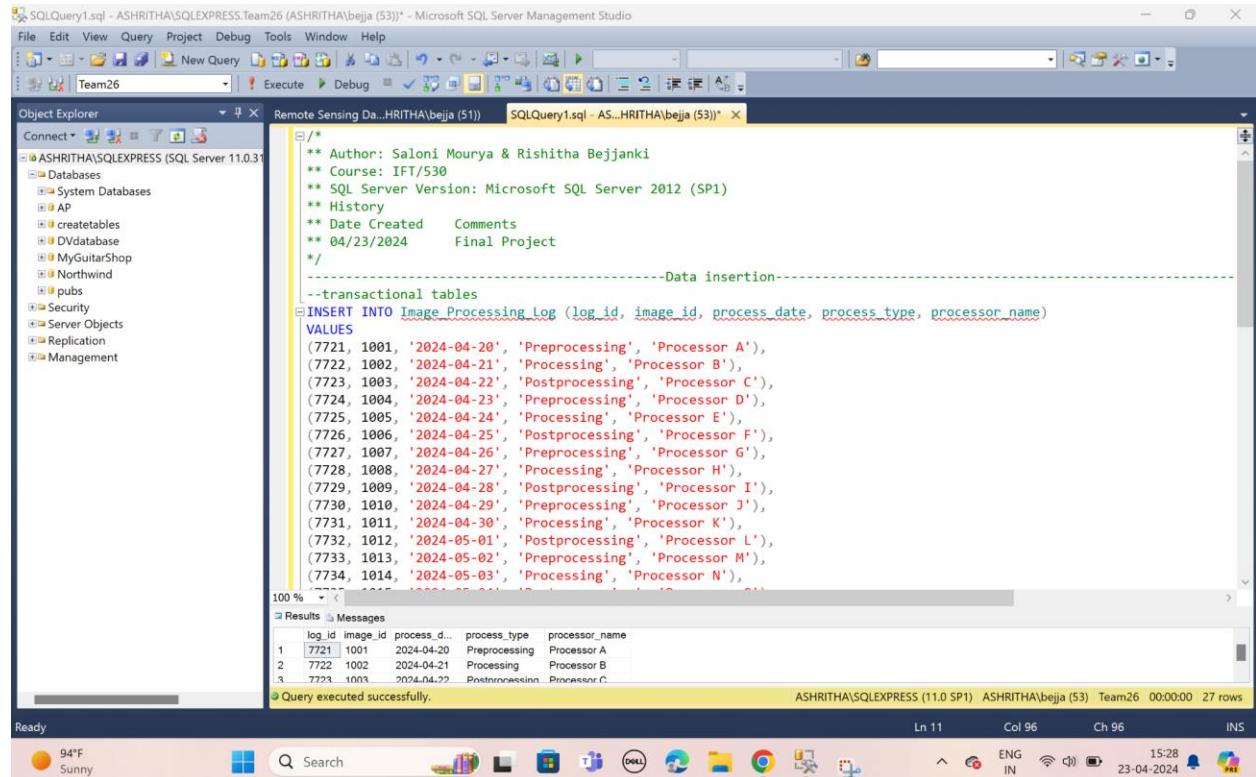
boundary_id	region_name	boundary_type	boundary_geometry	satellite_id
1	552	Central Park	Park	0x0000000001040500000014AE47E17A64440CBA145B6F3...
2	553	Serengeti ...	National Park	0x00000000010405000000D3DEE00B93A902C0A857CA32C4...
3	554	Great Barn...	Marine Park	0x000000000104050000007DAEB627F4932C04694F6065F...
4	555	Amazon R...	Forest Rese...	0x0000000001040500000076ABC74931809C00AD7A3703D...
5	556	Great Wall...	Historical Site	0x0000000001143A92CB7F48374440D8000F81245D403A...
6	557	Mount Eve...	Mountain	0x00000000010C772D211FFA4FC3B40333333333B85540
7	558	Victoria Fa...	Waterfall	0x00000000010C226C78AA5EC31C0B37BF2805D0C8940
8	559	Gobi Desert	Desert	0x00000000010405000000D34D621058714540645DC46030...
9	560	Niagara F...	Waterfall	0x00000000010C0B462575028A4505B423EE8D9C453C0
10	561	Taj Mahal	Historical Site	0x00000000010C9487855AD32C3B4058CA32C4B1825340
11	562	Galapagos...	Island	0x00000000010405000000C073DB559FE3BFF85C8DC5F...
12	563	Victoria Pe...	Mountain	0x00000000010C89FF085C94436402041F163CC895C40
13	564	Grand Can...	Canyon	0x00000000010405000000A1F831E6AE0D4240FAED0BC039...
14	565	Mount Kill...	Mountain	0x00000000010CD200DE02098A08C0933A014D84D4240
15	566	Machu Pic...	Historical Site	0x00000000010C88F40BD781532AC07B14A47E12252C0
16	567	Great Barn...	Marine Park	0x000000000104050000007DAEB627F4932C04694F6065F...
17	568	Yellowston...	National Park	0x0000000001040500000010583984C8354940888CE7FB49...
18	569	Everglade...	National Park	0x000000000104050000009A081B1E5E493940933A014D843...
19	570	Lake Baikal	Lake	0x000000000104050000003A234A7B83C74A40C3F5285C8F...
20	571	Great Smo...	National Park	0x0000000001040500000032E6AE25E4D341407D0B359F5...
21	572	Uluru (Aye...	Rock Format...	0x00000000010C0E8E30992A5839C01EA7E8482E616040

```
INSERT INTO Image_Processing_Log (log_id, image_id, process_date, process_type,
processor_name)
VALUES
```

```
(7721, 1001, '2024-04-20', 'Preprocessing', 'Processor A'),
(7722, 1002, '2024-04-21', 'Processing', 'Processor B'),
(7723, 1003, '2024-04-22', 'Postprocessing', 'Processor C'),
(7724, 1004, '2024-04-23', 'Preprocessing', 'Processor D'),
(7725, 1005, '2024-04-24', 'Processing', 'Processor E'),
(7726, 1006, '2024-04-25', 'Postprocessing', 'Processor F'),
(7727, 1007, '2024-04-26', 'Preprocessing', 'Processor G'),
(7728, 1008, '2024-04-27', 'Processing', 'Processor H'),
(7729, 1009, '2024-04-28', 'Postprocessing', 'Processor I'),
(7730, 1010, '2024-04-29', 'Preprocessing', 'Processor J'),
(7731, 1011, '2024-04-30', 'Processing', 'Processor K'),
(7732, 1012, '2024-05-01', 'Postprocessing', 'Processor L'),
(7733, 1013, '2024-05-02', 'Preprocessing', 'Processor M'),
(7734, 1014, '2024-05-03', 'Processing', 'Processor N'),
(7735, 1015, '2024-05-04', 'Postprocessing', 'Processor O'),
(7736, 1016, '2024-05-05', 'Preprocessing', 'Processor P'),
(7737, 1017, '2024-05-06', 'Processing', 'Processor Q'),
(7738, 1018, '2024-05-07', 'Postprocessing', 'Processor R'),
(7739, 1019, '2024-05-08', 'Preprocessing', 'Processor S'),
(7740, 1020, '2024-05-09', 'Processing', 'Processor T'),
(7741, 1021, '2024-05-10', 'Postprocessing', 'Processor U'),
```

(7742, 1022, '2024-05-11', 'Preprocessing', 'Processor V'),
 (7743, 1001, '2024-04-20', 'Processing', 'Processor A'),
 (7744, 1002, '2024-04-21', 'Postprocessing', 'Processor B'),
 (7745, 1003, '2024-04-22', 'Preprocessing', 'Processor C'),
 (7746, 1004, '2024-04-23', 'Processing', 'Processor D'),
 (7747, 1005, '2024-04-24', 'Postprocessing', 'Processor E');

Select * from Image_Processing_Log



The screenshot shows a Microsoft SQL Server Management Studio (SSMS) interface. The title bar reads "SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Team26 (ASHRITHA\bejja (53)) - Microsoft SQL Server Management Studio". The main area displays an SQL script named "SQLQuery1.sql". The script includes comments at the top and a section titled "--Data insertion--" containing an INSERT INTO statement for the "Image Processing Log" table. The table has columns: log_id, image_id, process_date, process_type, and processor_name. The script inserts 27 rows of data. Below the script, the "Results" tab is selected, showing the inserted data in a grid:

	log_id	image_id	process_date	process_type	processor_name
1	7721	1001	2024-04-20	Preprocessing	Processor A
2	7722	1002	2024-04-21	Processing	Processor B
3	7723	1003	2024-04-22	Postprocessing	Processor C
4	7724	1004	2024-04-23	Preprocessing	Processor D
5	7725	1005	2024-04-24	Processing	Processor E
6	7726	1006	2024-04-25	Postprocessing	Processor F
7	7727	1007	2024-04-26	Preprocessing	Processor G
8	7728	1008	2024-04-27	Processing	Processor H
9	7729	1009	2024-04-28	Postprocessing	Processor I
10	7730	1010	2024-04-29	Preprocessing	Processor J
11	7731	1011	2024-04-30	Processing	Processor K
12	7732	1012	2024-05-01	Postprocessing	Processor L
13	7733	1013	2024-05-02	Preprocessing	Processor M
14	7734	1014	2024-05-03	Processing	Processor N
15	7735	1001	2024-05-04	Postprocessing	Processor O
16	7736	1002	2024-05-05	Preprocessing	Processor P
17	7737	1003	2024-05-06	Processing	Processor Q
18	7738	1004	2024-05-07	Postprocessing	Processor R
19	7739	1005	2024-05-08	Preprocessing	Processor S
20	7740	1006	2024-05-09	Processing	Processor T
21	7741	1007	2024-05-10	Postprocessing	Processor U
22	7742	1008	2024-05-11	Preprocessing	Processor V
23	7743	1009	2024-05-12	Processing	Processor W
24	7744	1010	2024-05-13	Postprocessing	Processor X
25	7745	1011	2024-05-14	Preprocessing	Processor Y
26	7746	1012	2024-05-15	Processing	Processor Z
27	7747	1013	2024-05-16	Postprocessing	Processor AA

The status bar at the bottom right shows "ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\bejja (53) Team26 00:00:00 27 rows". The taskbar at the bottom includes icons for weather (94°F), search, file explorer, task manager, and other system applications.

SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Team26 (ASHRITHA\bejja (53)) - Microsoft SQL Server Management Studio

File Edit View Query Project Debug Tools Window Help

New Query Execute Debug

Object Explorer

Team26

Remote Sensing Da...HRITHA\bejja (51) SQLQuery1.sql - AS...HRITHA\bejja (53)" x

```
(7724, 1004, '2024-04-23', 'Preprocessing', 'Processor D'),
(7725, 1005, '2024-04-24', 'Processing', 'Processor E'),
(7726, 1006, '2024-04-25', 'Postprocessing', 'Processor F'),
(7727, 1007, '2024-04-26', 'Preprocessing', 'Processor G'),
(7728, 1008, '2024-04-27', 'Processing', 'Processor H'),
(7729, 1009, '2024-04-28', 'Postprocessing', 'Processor I'),
(7730, 1010, '2024-04-29', 'Preprocessing', 'Processor J'),
(7731, 1011, '2024-04-30', 'Processing', 'Processor K'),
(7732, 1012, '2024-05-01', 'Postprocessing', 'Processor L'),
(7733, 1013, '2024-05-02', 'Preprocessing', 'Processor M'),
(7734, 1014, '2024-05-03', 'Processing', 'Processor N'),
(7735, 1015, '2024-05-04', 'Postprocessing', 'Processor O'),
(7736, 1016, '2024-05-05', 'Preprocessing', 'Processor P'),
(7737, 1017, '2024-05-06', 'Processing', 'Processor Q'),
(7738, 1018, '2024-05-07', 'Postprocessing', 'Processor R'),
(7739, 1019, '2024-05-08', 'Preprocessing', 'Processor S'),
(7740, 1020, '2024-05-09', 'Processing', 'Processor T'),
(7741, 1021, '2024-05-10', 'Postprocessing', 'Processor U'),
(7742, 1022, '2024-05-11', 'Preprocessing', 'Processor V'),
(7743, 1001, '2024-04-20', 'Processing', 'Processor A'),
(7744, 1002, '2024-04-21', 'Postprocessing', 'Processor B'),
(7745, 1003, '2024-04-22', 'Preprocessing', 'Processor C'),
(7746, 1004, '2024-04-23', 'Processing', 'Processor D'),
(7747, 1005, '2024-04-24', 'Postprocessing', 'Processor E');
```

Select * from Image Processing Log

Result Messages

log_id	image_id	process_d...	process_type	processor_name
1	7721	1001	2024-04-20	Preprocessing Processor A
2	7722	1002	2024-04-21	Processing Processor B
3	7723	1003	2024-04-22	Postprocessing Processor C

Query executed successfully.

ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\bejja (53) Team26 00:00:00 27 rows

Ready

94% Search

Ln 11 Col 96 Ch 96 INS

15:28 IN 23-04-2024

SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Team26 (ASHRITHA\bejja (53)) - Microsoft SQL Server Management Studio

File Edit View Query Project Debug Tools Window Help

New Query Execute Debug

Object Explorer

Team26

Remote Sensing Da...HRITHA\bejja (51) SQLQuery1.sql - AS...HRITHA\bejja (53)" x

```
/*
** Author: Saloni Mourya & Rishitha Bejjanki
** Course: IFT/530
** SQL Server Version: Microsoft SQL Server 2012 (SP1)
** History
```

Result Messages

log_id	image_id	process_d...	process_type	processor_name
1	7721	1001	2024-04-20	Preprocessing Processor A
2	7722	1002	2024-04-21	Processing Processor B
3	7723	1003	2024-04-22	Postprocessing Processor C
4	7724	1004	2024-04-23	Preprocessing Processor D
5	7725	1005	2024-04-24	Processing Processor E
6	7726	1006	2024-04-25	Postprocessing Processor F
7	7727	1007	2024-04-26	Preprocessing Processor G
8	7728	1008	2024-04-27	Processing Processor H
9	7729	1009	2024-04-28	Postprocessing Processor I
10	7730	1010	2024-04-29	Preprocessing Processor J
11	7731	1011	2024-04-30	Processing Processor K
12	7732	1012	2024-05-01	Postprocessing Processor L
13	7733	1013	2024-05-02	Preprocessing Processor M
14	7734	1014	2024-05-03	Processing Processor N
15	7735	1015	2024-05-04	Postprocessing Processor O
16	7736	1016	2024-05-05	Preprocessing Processor P
17	7737	1017	2024-05-06	Processing Processor Q
18	7738	1018	2024-05-07	Postprocessing Processor R
19	7739	1019	2024-05-08	Preprocessing Processor S
20	7740	1020	2024-05-09	Processing Processor T
21	7741	1021	2024-05-10	Postprocessing Processor U
22	7742	1022	2024-05-11	Preprocessing Processor V
23	7743	1001	2024-04-20	Processing Processor A
24	7744	1002	2024-04-21	Postprocessing Processor B
25	7745	1003	2024-04-22	Preprocessing Processor C
26	7746	1004	2024-04-23	Processing Processor D
27	7747	1005	2024-04-24	Postprocessing Processor E

Query executed successfully.

ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\bejja (53) Team26 00:00:00 27 rows

Ready

95% Search

Ln 4 Col 56 Ch 56 INS

15:29 IN 23-04-2024

```
INSERT INTO Environmental_Parameters (parameter_id, parameter_name, value, unit, latitude, longitude, timestamp, satellite_id)
VALUES
(1111, 'Temperature', 25.3, 'Celsius', 37.7749, -122.4194, DEFAULT, 1001),
(1112, 'Humidity', 65.8, 'Percentage', 40.7128, -74.0060, DEFAULT, 1002),
(1113, 'Air Pressure', 1012.5, 'hPa', 34.0522, -118.2437, DEFAULT, 1003),
(1114, 'Wind Speed', 15.2, 'm/s', 41.8781, -87.6298, DEFAULT, 1004),
(1115, 'CO2 Level', 400.0, 'ppm', 51.5074, -0.1278, DEFAULT, 1005),
(1116, 'NO2 Level', 0.02, 'ppm', 48.8566, 2.3522, DEFAULT, 1006),
(1117, 'Ozone Level', 0.03, 'ppm', 35.6895, 139.6917, DEFAULT, 1007),
(1118, 'PM2.5 Level', 10.5, 'µg/m³', 59.3293, 18.0686, DEFAULT, 1008),
(1119, 'UV Index', 8, "", 60.1695, 24.9354, DEFAULT, 1009),
(1120, 'Rainfall', 3.5, 'mm', 55.7558, 37.6176, DEFAULT, 1010),
(1121, 'Temperature', 24.8, 'Celsius', 34.0522, -118.2437, DEFAULT, 1011),
(1122, 'Humidity', 64.2, 'Percentage', 40.7128, -74.0060, DEFAULT, 1012),
(1123, 'Air Pressure', 1013.2, 'hPa', 37.7749, -122.4194, DEFAULT, 1013),
(1124, 'Wind Speed', 16.1, 'm/s', 41.8781, -87.6298, DEFAULT, 1014),
(1125, 'CO2 Level', 410.0, 'ppm', 51.5074, -0.1278, DEFAULT, 1015),
(1126, 'NO2 Level', 0.03, 'ppm', 48.8566, 2.3522, DEFAULT, 1016),
(1127, 'Ozone Level', 0.04, 'ppm', 35.6895, 139.6917, DEFAULT, 1017),
(1128, 'PM2.5 Level', 11.8, 'µg/m³', 59.3293, 18.0686, DEFAULT, 1018),
(1129, 'UV Index', 7, "", 60.1695, 24.9354, DEFAULT, 1019),
(1130, 'Rainfall', 4.2, 'mm', 55.7558, 37.6176, DEFAULT, 1020);
```

Select * from Environmental_Parameters

SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Team26 (ASHRITHA\bejja (53)) - Microsoft SQL Server Management Studio

File Edit View Query Project Debug Tools Window Help

New Query Execute Debug

Object Explorer

Team26

Remote Sensing Da...HRITHA\bejja (52) SQLQuery1.sql - AS...HRITHA\bejja (53)"

```
/*
** Author: Saloni Mourya & Rishitha Bejjanki
** Course: IFT/530
** SQL Server Version: Microsoft SQL Server 2012 (SP1)
** History
** Date Created    Comments
** 04/23/2024      Final Project
*/
INSERT INTO Environmental_Parameters (parameter_id, parameter_name, value, unit, latitude, longitude, timestamp, satellite_id)
VALUES
(1111, 'Temperature', 25.3, 'Celsius', 37.7749, -122.4194, DEFAULT, 1001),
(1112, 'Humidity', 65.8, 'Percentage', 40.7128, -74.0060, DEFAULT, 1002),
(1113, 'Air Pressure', 1012.5, 'hPa', 34.0522, -118.2437, DEFAULT, 1003),
(1114, 'Wind Speed', 15.2, 'm/s', 41.8781, -87.6298, DEFAULT, 1004),
(1115, 'CO2 Level', 400.0, 'ppm', 51.5074, -0.1278, DEFAULT, 1005),
(1116, 'NO2 Level', 0.02, 'ppm', 48.8566, 2.3522, DEFAULT, 1006),
(1117, 'Ozone Level', 0.03, 'ppm', 35.6895, 139.6917, DEFAULT, 1007),
(1118, 'PM2.5 Level', 10.5, 'ug/m³', 59.3293, 18.0686, DEFAULT, 1008),
(1119, 'UV Index', 8.0, 60.1695, 24.9354, DEFAULT, 1009),
(1120, 'Rainfall', 3.5, 'mm', 55.7558, 37.6176, DEFAULT, 1010),
(1121, 'Temperature', 24.8, 'Celsius', 34.0522, -118.2437, DEFAULT, 1011),
(1122, 'Humidity', 64.2, 'Percentage', 40.7128, -74.0060, DEFAULT, 1012),
(1123, 'Air Pressure', 1013.2, 'hPa', 37.7749, -122.4194, DEFAULT, 1013),
(1124, 'Wind Speed', 16.1, 'm/s', 41.8781, -87.6298, DEFAULT, 1014),
(1125, 'CO2 Level', 410.0, 'ppm', 51.5074, -0.1278, DEFAULT, 1015),
(1126, 'NO2 Level', 0.03, 'ppm', 48.8566, 2.3522, DEFAULT, 1016),
(1127, 'Ozone Level', 0.04, 'ppm', 35.6895, 139.6917, DEFAULT, 1017),
(1128, 'PM2.5 Level', 11.8, 'ug/m³', 59.3293, 18.0686, DEFAULT, 1018),
(1129, 'UV Index', 7.0, 60.1695, 24.9354, DEFAULT, 1019),
(1130, 'Rainfall', 4.2, 'mm', 55.7558, 37.6176, DEFAULT, 1020);
Select * from Environmental_Parameters
```

Result Messages

	parameter_id	parameter_name	value	unit	latitude	longitude	timestamp	satellite_id
1	1111	Temperature	25	Celsius	38	-122	0x00000000000000811	1001
2	1112	Humidity	66	Percentage	41	-74	0x00000000000000812	1002
3	1113	Air Pressure	1013	hPa	34	-118	0x00000000000000813	1003
4	1114	Wind Speed	15	m/s	42	-88	0x00000000000000814	1004

Query executed successfully.

ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\bejja (53) Team26 00:00:00 20 rows

Ready

95% 15:38 23-04-2024

SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Team26 (ASHRITHA\bejja (53)) - Microsoft SQL Server Management Studio

File Edit View Query Project Debug Tools Window Help

New Query Execute Debug

Object Explorer

Team26

Remote Sensing Da...HRITHA\bejja (52) SQLQuery1.sql - AS...HRITHA\bejja (53)"

```
** 04/23/2024      Final Project
*/
INSERT INTO Environmental_Parameters (parameter_id, parameter_name, value, unit, latitude, longitude, timestamp, satellite_id)
VALUES
(1111, 'Temperature', 25.3, 'Celsius', 37.7749, -122.4194, DEFAULT, 1001),
(1112, 'Humidity', 65.8, 'Percentage', 40.7128, -74.0060, DEFAULT, 1002),
(1113, 'Air Pressure', 1012.5, 'hPa', 34.0522, -118.2437, DEFAULT, 1003),
(1114, 'Wind Speed', 15.2, 'm/s', 41.8781, -87.6298, DEFAULT, 1004),
(1115, 'CO2 Level', 400.0, 'ppm', 51.5074, -0.1278, DEFAULT, 1005),
(1116, 'NO2 Level', 0.02, 'ppm', 48.8566, 2.3522, DEFAULT, 1006),
(1117, 'Ozone Level', 0.03, 'ppm', 35.6895, 139.6917, DEFAULT, 1007),
(1118, 'PM2.5 Level', 10.5, 'ug/m³', 59.3293, 18.0686, DEFAULT, 1008),
(1119, 'UV Index', 8.0, 60.1695, 24.9354, DEFAULT, 1009),
(1120, 'Rainfall', 3.5, 'mm', 55.7558, 37.6176, DEFAULT, 1010),
(1121, 'Temperature', 24.8, 'Celsius', 34.0522, -118.2437, DEFAULT, 1011),
(1122, 'Humidity', 64.2, 'Percentage', 40.7128, -74.0060, DEFAULT, 1012),
(1123, 'Air Pressure', 1013.2, 'hPa', 37.7749, -122.4194, DEFAULT, 1013),
(1124, 'Wind Speed', 16.1, 'm/s', 41.8781, -87.6298, DEFAULT, 1014),
(1125, 'CO2 Level', 410.0, 'ppm', 51.5074, -0.1278, DEFAULT, 1015),
(1126, 'NO2 Level', 0.03, 'ppm', 48.8566, 2.3522, DEFAULT, 1016),
(1127, 'Ozone Level', 0.04, 'ppm', 35.6895, 139.6917, DEFAULT, 1017),
(1128, 'PM2.5 Level', 11.8, 'ug/m³', 59.3293, 18.0686, DEFAULT, 1018),
(1129, 'UV Index', 7.0, 60.1695, 24.9354, DEFAULT, 1019),
(1130, 'Rainfall', 4.2, 'mm', 55.7558, 37.6176, DEFAULT, 1020);
Select * from Environmental_Parameters
```

Result Messages

	parameter_id	parameter_name	value	unit	latitude	longitude	timestamp	satellite_id
1	1111	Temperature	25	Celsius	38	-122	0x00000000000000811	1001
2	1112	Humidity	66	Percentage	41	-74	0x00000000000000812	1002
3	1113	Air Pressure	1013	hPa	34	-118	0x00000000000000813	1003
4	1114	Wind Speed	15	m/s	42	-88	0x00000000000000814	1004

Query executed successfully.

ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\bejja (53) Team26 00:00:00 20 rows

Ready

95% 15:39 23-04-2024

SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Team26 (ASHRITHA\bejja (53)) - Microsoft SQL Server Management Studio

File Edit View Query Project Debug Tools Window Help

New Query Execute Debug

Team26

Object Explorer

Connect ASHRITHA\SQLEXPRESS (SQL Server 11.0.31)

Databases Security Server Objects Replication Management

Remote Sensing Da...HRITHA\bejja (52) SQLQuery1.sql - AS...HRITHA\bejja (53)"

```
/*
** Author: Saloni Mourya & Rishitha Bejjanki
** Course: IFT/530
** SQL Server Version: Microsoft SQL Server 2012 (SP1)
** History
** Date Created    Comments
** 04/23/2024      Final Project
*/
INSERT INTO Environmental_Parameters (parameter_id, parameter_name, value, unit, latitude, longitude, timestamp, satellite_id)
VALUES
```

100 %

Results Messages

	parameter_id	parameter_name	value	unit	latitude	longitude	timestamp	satellite_id
1	1111	Temperature	25	Celsius	38	-122	0x00000000000000811	1001
2	1112	Humidity	66	Percentage	41	-74	0x00000000000000812	1002
3	1113	Air Pressure	1013	hPa	34	-118	0x00000000000000813	1003
4	1114	Wind Speed	15	m/s	42	-88	0x00000000000000814	1004
5	1115	CO2 Level	400	ppm	52	0	0x00000000000000815	1005
6	1116	NO2 Level	0	ppm	49	2	0x00000000000000816	1006
7	1117	Ozone Level	0	ppm	36	140	0x00000000000000817	1007
8	1118	PM2.5 Level	11	µg/m³	59	18	0x00000000000000818	1008
9	1119	UV Index	8		60	25	0x00000000000000819	1009
10	1120	Rainfall	4	mm	56	38	0x000000000000008...	1010
11	1121	Temperature	25	Celsius	34	-118	0x000000000000008...	1011
12	1122	Humidity	64	Percentage	41	-74	0x000000000000008...	1012
13	1123	Air Pressure	1013	hPa	38	-122	0x000000000000008...	1013
14	1124	Wind Speed	16	m/s	42	-88	0x000000000000008...	1014
15	1125	CO2 Level	410	ppm	52	0	0x0000000000000081F	1015
16	1126	NO2 Level	0	ppm	49	2	0x00000000000000820	1016
17	1127	Ozone Level	0	ppm	36	140	0x00000000000000821	1017
18	1128	PM2.5 Level	12	µg/m³	59	18	0x00000000000000822	1018
19	1129	UV Index	7		60	25	0x00000000000000823	1019
20	1130	Rainfall	4	mm	56	38	0x00000000000000824	1020

Query executed successfully.

ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\bejja (53) Team26 00:00:00 20 rows

Ready

Ln 10 Col 7 Ch 7 INS

95% Search

DELL 15:39 23-04-2024 ENG IN

Views:

View 1: Retrieve Processed Satellite Imagery Details by Provider

This view shows users information about processed satellite imagery, such as collection date, resolution, cloud cover %, and processing status, organized by a data provider. Researchers and urban planners who rely on processed satellite imagery can use this view to find accessible data sources and compare the quality of processed imagery given by various providers.

--View 1: Retrieve Processed Satellite Imagery Details by Provider

```
CREATE VIEW Processed_Satellite_Imagery_View AS
```

```
SELECT si.satellite_name, si.capture_date, si.resolution, si.cloud_cover_percentage,  
si.sun_angle, si.processing_status, dp.provider_name
```

```
FROM Satellite_Imagery si
```

```
JOIN Data_Providers dp ON si.provider_id = dp.provider_id
```

```
WHERE si.processing_status = 'Processed';
```

```
Select * from Processed_Satellite_Imagery_View
```

The screenshot shows the Microsoft SQL Server Management Studio interface. The query editor window displays the following SQL code:

```
/*
** Author: Saloni Mourya & Rishitha Bejjanki
** Course: IFT/530
** SQL Server Version: Microsoft SQL Server 2012 (SP1)
** History
** Date Created    Comments
** 04/23/2024      Final Project
*/
-----Views-----
--View 1: Retrieve Processed Satellite Imagery Details by Provider
CREATE VIEW Processed_Satellite_Imagery_View AS
SELECT si.satellite_name, si.capture_date, si.resolution, si.cloud_cover_percentage, si.sun_angle, si.processing_status
FROM Satellite_Imagery si
JOIN Data_Providers dp ON si.provider_id = dp.provider_id
WHERE si.processing_status = 'Processed';

---Select * from Processed_Satellite_Imagery_View
```

The 'Messages' pane at the bottom of the query editor shows the message: "Command(s) completed successfully." The status bar at the bottom right indicates the session details: ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\bejja (53) Team26 00:00:00 0 rows.

```

/*
** Author: Saloni Mourya & Rishitha Bejjanki
** Course: IFT530
** SQL Server Version: Microsoft SQL Server 2012 (SP1)
** History
** Date Created    Comments
** 04/23/2024      Final Project
*/
-----Views-----
--View 1: Retrieve Processed Satellite Imagery Details by Provider

Select * from Processed Satellite_Imagery View

```

	satellite_name	capture_date	resolution	cloud_cover_percent	sun_angle	processing_status	provider_name
1	Satellite-A	2024-04-20	30	11	45	Processed	NASA
2	Satellite-D	2024-04-23	15	12	75	Processed	Korea Aerospace Research Institute
3	Satellite-G	2024-04-26	8	9	40	Processed	Japan Ministry of Economy, Trade and Industry
4	Satellite-J	2024-04-29	1	8	50	Processed	Roscosmos
5	Satellite-M	2024-05-02	250	11	45	Processed	Maxar Technologies
6	Satellite-N	2024-05-03	15	12	75	Processed	Korea Aerospace Research Institute
7	Satellite-Q	2024-05-06	8	9	40	Processed	Japan Ministry of Economy, Trade and Industry
8	Satellite-T	2024-05-09	1	8	50	Processed	Roscosmos

Query executed successfully.

View 2: Environmental Parameters by Date Range

Researchers, environmentalists, and planners can use this view to analyze environmental changes over a specific time period, aiding in trend identification, impact assessment, and policy formulation.

--View 2: Environmental Parameters by Date Range

```

CREATE VIEW Environmental_Parameters_Date_Range AS
SELECT ep.parameter_id, ep.parameter_name, ep.value, ep.unit, ep.latitude, ep.longitude,
ep.timestamp, si.satellite_name, si.capture_date
FROM Environmental_Parameters ep
JOIN Satellite_Imagery si ON ep.satellite_id = si.satellite_id
WHERE si.capture_date BETWEEN '2024-04-26' AND '2024-05-05';

```

```
Select * from Environmental_Parameters_Date_Range
```

SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Team26 (ASHRITHA\bejja (53)) - Microsoft SQL Server Management Studio

```

File Edit View Query Project Debug Tools Window Help
New Query Execute Debug
Object Explorer Remote Sensing Da...HRITHA\bejja (52) SQLQuery1.sql - AS...HRITHA\bejja (53)*
Team26
/*
** Author: Saloni Mourya & Rishitha Bejjanki
** Course: IFT/530
** SQL Server Version: Microsoft SQL Server 2012 (SP1)
** History
** Date Created    Comments
** 04/23/2024      Final Project
*/
-----Views-----
--View 2: Environmental Parameters by Date Range
CREATE VIEW Environmental_Parameters_Date_Range AS
SELECT ep.parameter_id, ep.parameter_name, ep.value, ep.unit, ep.latitude, ep.longitude, ep.timestamp, si.satellite_name
FROM Environmental_Parameters ep
JOIN Satellite_Imagery si ON ep.satellite_id = si.satellite_id
WHERE si.capture_date BETWEEN '2024-04-26' AND '2024-05-05';

---Select * from Environmental_Parameters_Date_Range

100 % < Messages
Query executed successfully.

Ln 17 Col 4 Ch 4 INS
ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\bejja (53) Team26 00:00:00 0 rows
Ready 95% Search
15:40 23-04-2024 ENG IN

```

SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Team26 (ASHRITHA\bejja (53)) - Microsoft SQL Server Management Studio

```

File Edit View Query Project Debug Tools Window Help
New Query Execute Debug
Object Explorer Remote Sensing Da...HRITHA\bejja (52) SQLQuery1.sql - AS...HRITHA\bejja (53)*
Team26
/*
** Author: Saloni Mourya & Rishitha Bejjanki
** Course: IFT/530
** SQL Server Version: Microsoft SQL Server 2012 (SP1)
** History
** Date Created    Comments
** 04/23/2024      Final Project
*/
-----Views-
--View 2: Environmental Parameters by Date Range
Select * from Environmental_Parameters_Date_Range

100 % < Messages
Results
Query executed successfully.

Ln 12 Col 1 Ch 1 INS
ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\bejja (53) Team26 00:00:00 10 rows
Ready 95% Search
15:41 23-04-2024 ENG IN

```

parameter_id	parameter_name	value	unit	latitude	longitude	timestamp	satellite_name	capture_date
1117	Ozone Level	0	ppm	36	140	0x00000000000000000000000000000017	Satellite-G	2024-04-26
1118	PM2.5 Level	11	µg/m³	59	18	0x00000000000000000000000000000018	Satellite-H	2024-04-27
1119	UV Index	8		60	25	0x00000000000000000000000000000019	Satellite-I	2024-04-28
1120	Rainfall	4	mm	56	38	0x0000000000000000000000000000001A	Satellite-J	2024-04-29
1121	Temperature	25	Celsius	34	-118	0x0000000000000000000000000000001B	Satellite-K	2024-04-30
1122	Humidity	64	Percentage	41	-74	0x0000000000000000000000000000001C	Satellite-L	2024-05-01
1123	Air Pressure	1013	hPa	38	-122	0x0000000000000000000000000000001D	Satellite-M	2024-05-02
1124	Wind Speed	16	m/s	42	-88	0x0000000000000000000000000000001E	Satellite-N	2024-05-03
1125	CO2 Level	410	ppm	52	0	0x0000000000000000000000000000001F	Satellite-O	2024-05-04
1126	NO2 Level	0	ppm	49	2	0x00000000000000000000000000000020	Satellite-P	2024-05-05

View 3: Retrieve Environmental Parameters for a Specific Location

This view obtains environmental parameters for a specified place using latitude and longitude coordinates. It contains the parameters' names, values, units, timestamps, and the satellite name from which the data was derived. This view is beneficial for users who want to understand the environmental conditions at specific geographic points, which can help with study, planning, and monitoring.

--View 3: Retrieve Environmental Parameters for a Specific Location

```
CREATE VIEW Environmental_Parameters_For_Location AS
```

```
SELECT
```

```
    ep.parameter_name,
```

```
    ep.value,
```

```
    ep.unit,
```

```
    ep.timestamp,
```

```
    si.satellite_name
```

```
FROM
```

```
    Environmental_Parameters ep
```

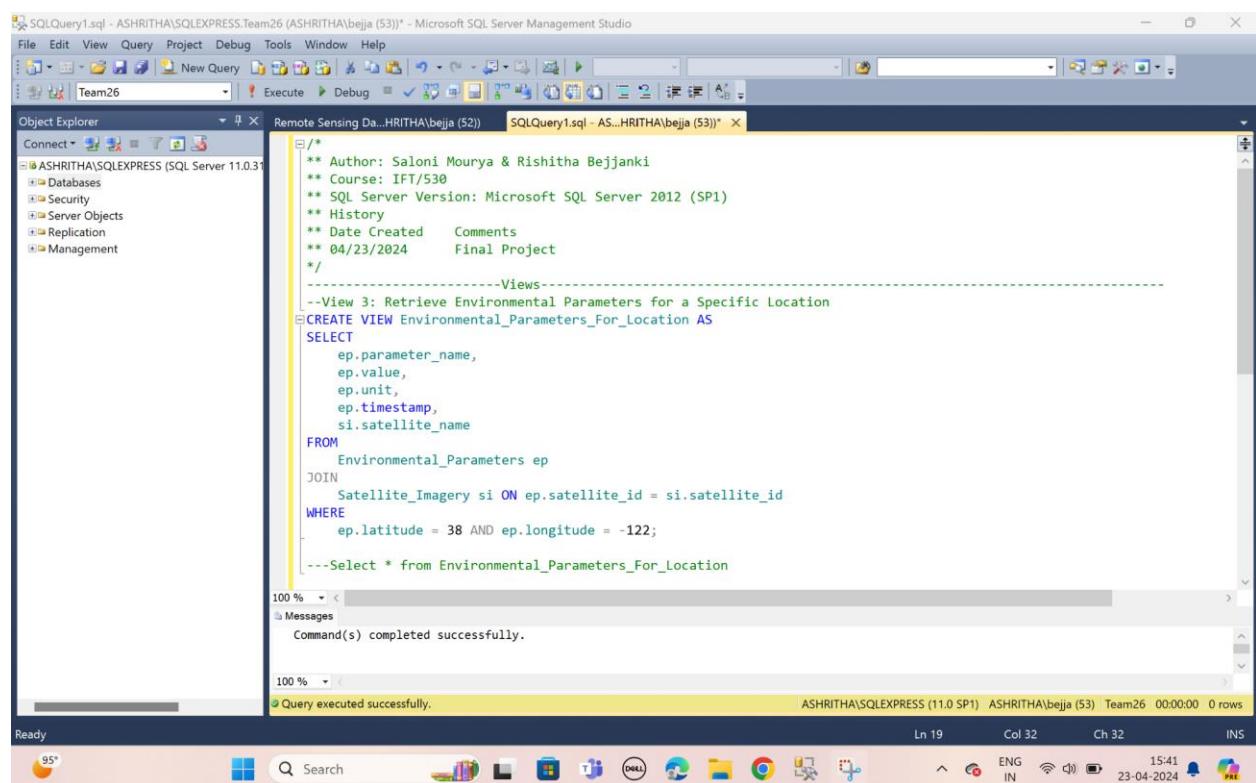
```
JOIN
```

```
    Satellite_Imagery si ON ep.satellite_id = si.satellite_id
```

```
WHERE
```

```
    ep.latitude = 38 AND ep.longitude = -122;
```

```
Select * from Environmental_Parameters_For_Location
```



```
/*
** Author: Saloni Mourya & Rishitha Bejjanki
** Course: IFT/530
** SQL Server Version: Microsoft SQL Server 2012 (SP1)
** History
** Date Created    Comments
** 04/23/2024      Final Project
*/
--Views
--View 3: Retrieve Environmental Parameters for a Specific Location
CREATE VIEW Environmental_Parameters_For_Location AS
SELECT
    ep.parameter_name,
    ep.value,
    ep.unit,
    ep.timestamp,
    si.satellite_name
FROM
    Environmental_Parameters ep
JOIN
    Satellite_Imagery si ON ep.satellite_id = si.satellite_id
WHERE
    ep.latitude = 38 AND ep.longitude = -122;
---Select * from Environmental_Parameters_For_Location

100 % < Messages
Command(s) completed successfully.

100 % < Query executed successfully. ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\bejja (53) Team26 00:00:00 0 rows
Ready Ln 19 Col 32 Ch 32 INS
95% Search DELL 15:41 23-04-2024 ENG IN
```

```

-- Author: Saloni Mourya & Rishitha Bejjanki
-- Course: IFT/530
-- SQL Server Version: Microsoft SQL Server 2012 (SP1)
-- History
-- Date Created    Comments
-- 04/23/2024      Final Project
*/
--View 3: Retrieve Environmental Parameters for a Specific Location
Select * from Environmental_Parameters_For_Location

```

	parameter_name	value	unit	timestamp	satellite_name
1	Temperature	25	Celsius	0x00000000000000811	Satellite-A
2	Air Pressure	1013	hPa	0x0000000000000081D	Satellite-M

Query executed successfully.

Audit Table:

```
-- Create Sensor_Details_Audit table
CREATE TABLE Sensor_Details_Audit (
    audit_id INT IDENTITY(1,1) PRIMARY KEY,
    sensor_id INT,
    sensor_name VARCHAR(100) NOT NULL,
    sensor_type VARCHAR(100) NOT NULL,
    spectral_range VARCHAR(100),
    resolution NUMERIC NOT NULL CHECK (resolution > 0),
    vendor VARCHAR(100),
    action VARCHAR(10) NOT NULL,
    change_datetime DATETIME DEFAULT GETDATE() -- Additional column for datetime field
);
```

The screenshot shows the Microsoft SQL Server Management Studio interface. A query window titled 'SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Team26 (ASHRITHA\bejja (53))' is open. The code in the window creates a table named 'Sensor_Details_Audit' and defines a trigger named 'tr_Sensor_Details_Insert'. The table has columns for audit_id (primary key), sensor_id, sensor_name, sensor_type, spectral_range, resolution, vendor, action, and change_datetime. The trigger inserts rows into the audit table whenever a new row is inserted into the Sensor_Details table.

```
-- Author: Saloni Mourya & Rishitha Bejjanki
-- Course: IFT/530
-- SQL Server Version: Microsoft SQL Server 2012 (SP1)
-- History
-- Date Created    Comments
-- 04/23/2024      Final Project
/*
-----Audit table-----
-- Create Sensor_Details_Audit table
CREATE TABLE Sensor_Details_Audit (
    audit_id INT IDENTITY(1,1) PRIMARY KEY,
    sensor_id INT,
    sensor_name VARCHAR(100) NOT NULL,
    sensor_type VARCHAR(100) NOT NULL,
    spectral_range VARCHAR(100),
    resolution NUMERIC NOT NULL CHECK (resolution > 0),
    vendor VARCHAR(100),
    action VARCHAR(10) NOT NULL,
    change_datetime DATETIME DEFAULT GETDATE() -- Additional column for datetime field
);

100 % < Messages
Command(s) completed successfully.

100 % < Query executed successfully. ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\bejja (53) Team26 00:00:00 0 rows
Ready Ln 11 Col 36 Ch 36 INS
95% Search DELL 15:43 23-04-2024 ENG IN
```

```
-- Trigger for INSERT operation on Sensor_Details
CREATE TRIGGER tr_Sensor_Details_Insert
ON Sensor_Details
AFTER INSERT
AS
BEGIN
    INSERT INTO Sensor_Details_Audit (sensor_id, sensor_name, sensor_type, spectral_range,
resolution, vendor, action)
    SELECT sensor_id, sensor_name, sensor_type, spectral_range, resolution, vendor,
'INSERTED'
        FROM inserted;
END;
GO
```

The screenshot shows the Microsoft SQL Server Management Studio interface. The title bar reads "SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Team26 (ASHRITHA\bejja (53)) - Microsoft SQL Server Management Studio". The main window displays a T-SQL script for creating a trigger. The script includes comments at the top and a trigger definition for the "Sensor_Details" table. The trigger, named "tr_Sensor_Details_Insert", is defined to run AFTER INSERT. It inserts data into the "Sensor_Details_Audit" table, selecting columns from the inserted rows and setting the "action" column to 'INSERTED'. The status bar at the bottom shows "Ready", "LN 9", "Col 1", "Ch 1", "INS", and a timestamp "23-04-2024 15:43".

```
-- Author: Saloni Mourya & Rishitha Bejjanki
-- Course: IFT530
-- SQL Server Version: Microsoft SQL Server 2012 (SP1)
-- History
-- Date Created    Comments
-- 04/23/2024      Final Project

-- Trigger for INSERT operation on Sensor_Details
CREATE TRIGGER tr_Sensor_Details_Insert
ON Sensor_Details
AFTER INSERT
AS
BEGIN
    INSERT INTO Sensor_Details_Audit (sensor_id, sensor_name, sensor_type, spectral_range, resolution, vendor, action)
    SELECT sensor_id, sensor_name, sensor_type, spectral_range, resolution, vendor, 'INSERTED'
    FROM inserted;
END;
GO
```

```
-- Trigger for UPDATE operation on Sensor_Details
CREATE TRIGGER tr_Sensor_Details_Update
ON Sensor_Details
AFTER UPDATE
AS
BEGIN
    INSERT INTO Sensor_Details_Audit (sensor_id, sensor_name, sensor_type, spectral_range,
resolution, vendor, action)
    SELECT sensor_id, sensor_name, sensor_type, spectral_range, resolution, vendor,
'UPDATED'
    FROM inserted;
END;
GO
```

The screenshot shows the Microsoft SQL Server Management Studio interface. The title bar reads "SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Team26 (ASHRITHA\bejja (53)) - Microsoft SQL Server Management Studio". The main window displays a T-SQL script for creating a trigger. The script includes comments at the top and a trigger definition for the "Sensor_Details" table. The trigger, named "tr_Sensor_Details_Update", is defined to run AFTER UPDATE. It inserts a row into the "Sensor_Details_Audit" table, copying columns from the inserted rows and setting the "action" column to 'UPDATED'. The script concludes with an END; statement and a GO command. Below the script, the "Messages" pane shows the message "Command(s) completed successfully." The status bar at the bottom right indicates the session details: ASHRITHA\SQLEXPRESS (11.0 SP1), ASHRITHA\bejja (53), Team26, 00:00:00, 0 rows.

```
-- Author: Saloni Mourya & Rishitha Bejjanki
-- Course: IFT/530
-- SQL Server Version: Microsoft SQL Server 2012 (SP1)
-- History
-- Date Created    Comments
-- 04/23/2024      Final Project
*/

-- Trigger for UPDATE operation on Sensor_Details
CREATE TRIGGER tr_Sensor_Details_Update
ON Sensor_Details
AFTER UPDATE
AS
BEGIN
    INSERT INTO Sensor_Details_Audit (sensor_id, sensor_name, sensor_type, spectral_range, resolution, vendor, action)
    SELECT sensor_id, sensor_name, sensor_type, spectral_range, resolution, vendor, 'UPDATED'
    FROM inserted;
END;
GO
```

```
-- Trigger for DELETE operation on Sensor_Details
CREATE TRIGGER tr_Sensor_Details_Delete
ON Sensor_Details
AFTER DELETE
AS
BEGIN
    INSERT INTO Sensor_Details_Audit (sensor_id, sensor_name, sensor_type, spectral_range,
resolution, vendor, action)
    SELECT sensor_id, sensor_name, sensor_type, spectral_range, resolution, vendor,
'DELETED'
    FROM deleted;
END;
GO
```

SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Team26 (ASHRITHA\bejja (53)) - Microsoft SQL Server Management Studio

```

File Edit View Query Project Debug Tools Window Help
New Query Execute Debug
Object Explorer Remote Sensing Da...HRITHA\bejja (52) SQLQuery1.sql - AS...HRITHA\bejja (53)*
Team26
/*
** Author: Saloni Mourya & Rishitha Bejjanki
** Course: IFT/530
** SQL Server Version: Microsoft SQL Server 2012 (SP1)
** History
** Date Created    Comments
** 04/23/2024      Final Project
*/

-- Trigger for DELETE operation on Sensor_Details
CREATE TRIGGER tr_Sensor_Details_Delete
ON Sensor_Details
AFTER DELETE
AS
BEGIN
    INSERT INTO Sensor_Details_Audit (sensor_id, sensor_name, sensor_type, spectral_range, resolution, vendor, action)
    SELECT sensor_id, sensor_name, sensor_type, spectral_range, resolution, vendor, 'DELETED'
    FROM deleted;
END;
GO

```

100 % < Messages Command(s) completed successfully.

100 % < Query executed successfully. ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\bejja (53) Team26 00:00:00 0 rows

Ready Ln 10 Col 50 Ch 50 INS

Select * from Sensor_Details

SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Team26 (ASHRITHA\bejja (53)) - Microsoft SQL Server Management Studio

```

File Edit View Query Project Debug Tools Window Help
New Query Execute Debug
Object Explorer Remote Sensing Da...HRITHA\bejja (52) SQLQuery1.sql - AS...HRITHA\bejja (53)*
Team26
/*
** Course: IFT/530
** SQL Server Version: Microsoft SQL Server 2012 (SP1)
** History
** Date Created    Comments
** 04/23/2024      Final Project
*/
Select * from Sensor_Details

100 % < Results


|    | sensor_id | sensor_name    | sensor_type   | spectral_range                              | resolution | vendor |
|----|-----------|----------------|---------------|---------------------------------------------|------------|--------|
| 1  | 1         | Landsat-8 OLI  | Optical       | Visible, Near-infrared, Short-wave infrared | 30         | USGS   |
| 2  | 2         | Sentinel-2 MSI | Multispectral | Visible, Near-infrared, Short-wave infrared | 10         | ESA    |
| 3  | 3         | MODIS          | Multispectral | Visible, Near-infrared, Thermal             | 250        | NASA   |
| 4  | 4         | ASTER          | Multispectral | Visible, Near-infrared, Thermal             | 15         | NASA   |
| 5  | 5         | WorldView-3    | Panchrom...   | Visible                                     | 3          | Maxar  |
| 6  | 6         | GOES-16 ABI    | Imaging       | Visible, Infrared                           | 2          | NOAA   |
| 7  | 7         | RADARSAT-2     | SAR           | Microwave                                   | 8          | MDA    |
| 8  | 8         | Hyperspectral  | Hyperspec...  | Visible, Near-infrared, Infrared            | 1          | Spe... |
| 9  | 9         | Pleiades       | Optical       | Visible, Near-infrared                      | 6          | Airbus |
| 10 | 10        | TerraSAR-X     | SAR           | Microwave                                   | 1          | DLR    |



100 % < Messages Query executed successfully. ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\bejja (53) Team26 00:00:00 10 rows



Ready Ln 8 Col 3 Ch 3 INS


```

Testing:

-- Insert operation

```
INSERT INTO Sensor_Details (sensor_id, sensor_name, sensor_type, spectral_range, resolution, vendor)
```

```
VALUES (11, 'TerraSAR-XZ', 'SARA', 'Microwave', 4, 'NASA');
```

```
Select * from Sensor_Details
```

The screenshot shows the Microsoft SQL Server Management Studio interface. The Query Editor window contains a SQL script with comments and a data insert statement. The results pane displays a table of sensor details with 11 rows. The status bar at the bottom indicates the query was executed successfully.

```
** Course: IFT/530
** SQL Server Version: Microsoft SQL Server 2012 (SP1)
** History
** Date Created    Comments
** 04/23/2024      Final Project
*/
-- Insert operation
INSERT INTO Sensor_Details (sensor_id, sensor_name, sensor_type, spectral_range, resolution, vendor)
VALUES (11, 'TerraSAR-XZ', 'SARA', 'Microwave', 4, 'NASA');
Select * from Sensor_Details
```

	sensor_id	sensor_name	sensor_type	spectral_range	resolution	vendor
1	1	Landsat-8 OLI	Optical	Visible, Near-infrared, Short-wave infrared	30	USGS
2	2	Sentinel-2 MSI	Multispectral	Visible, Near-infrared, Short-wave infrared	10	ESA
3	3	MODIS	Multispectral	Visible, Near-infrared, Thermal	250	NASA
4	4	ASTER	Multispectral	Visible, Near-infrared, Thermal	15	NASA
5	5	WorldView-3	Panchromatic	Visible	3	Maxar
6	6	GOES-16 ABI	Imaging	Visible, Infrared	2	NOAA
7	7	RADARSAT-2	SAR	Microwave	8	MDA
8	8	Hyperspectral	Hyperspectral	Visible, Near-infrared, Infrared	1	Specim
9	9	Pleiades	Optical	Visible, Near-infrared	6	Airbus
10	10	TerraSAR-X	SAR	Microwave	1	DLR
11	11	TerraSAR-XZ	SARA	Microwave	4	NASA

Query executed successfully.

ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\beija (53) Team26 00:00:00 11 rows

Ready Ln 15 Col 1 Ch 1 INS

95% Search 23-04-2024 15:47 ENG IN

```
-- Update operation
UPDATE Sensor_Details
SET sensor_name = 'UpdatedSensor1'
WHERE sensor_id = 11;
Select * from Sensor_Details
```

The screenshot shows the Microsoft SQL Server Management Studio interface. In the Object Explorer, a database named 'Team26' is selected. A query window titled 'SQLQuery1.sql - ASHRITHA\bejja (53)*' contains the provided SQL code. The results pane displays the updated data in a table:

	sensor_id	sensor_name	sensor_type	spectral_range	resolution	vendor
1	1	Landsat-8 OLI	Optical	Visible, Near-infrared, Short-wave infrared	30	USGS
2	2	Sentinel-2 MSI	Multispectral	Visible, Near-infrared, Short-wave infrared	10	ESA
3	3	MODIS	Multispectral	Visible, Near-infrared, Thermal	250	NASA
4	4	ASTER	Multispectral	Visible, Near-infrared, Thermal	15	NASA
5	5	WorldView-3	Panchromatic	Visible	3	Maxar
6	6	GOES-16 ABI	Imaging	Visible, Infrared	2	NOAA
7	7	RADARSAT-2	SAR	Microwave	8	MDA
8	8	Hyperspectral	Hyperspectral	Visible, Near-infrared, Infrared	1	Specim
9	9	Pleiades	Optical	Visible, Near-infrared	6	Airbus
10	10	TerraSAR-X	SAR	Microwave	1	DLR
11	11	UpdatedSensor1	SARA	Microwave	4	NASA

At the bottom of the results pane, a message states: "Query executed successfully." The status bar at the bottom right shows the session details: ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\bejja (53) Team26 00:00:00 11 rows.

```
-- Delete operation
DELETE FROM Sensor_Details
WHERE sensor_id = 11;
Select * from Sensor_Details
```

SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Team26 (ASHRITHA\bejja (53)) - Microsoft SQL Server Management Studio

File Edit View Query Project Debug Tools Window Help

Team26 Execute Debug

Object Explorer

Remote Sensing Da...HRITHA\bejja (52) SQLQuery1.sql - AS...HRITHA\bejja (53)*

```
** Course: IFT/530
** SQL Server Version: Microsoft SQL Server 2012 (SP1)
** History
** Date Created    Comments
** 04/23/2024        Final Project
*/
-- Delete operation
DELETE FROM Sensor_Details
WHERE sensor_id = 11;
Select * from Sensor_Details
```

Results Messages

sensor_id	sensor_name	sensor_type	spectral_range	resolution	vendor
1	Sentinel-8 OLI	Optical	Visible, Near-infrared, Short-wave infrared	30	USGS
2	Sentinel-2 MSI	Multispectral	Visible, Near-infrared, Short-wave infrared	10	ESA
3	MODIS	Multispectral	Visible, Near-infrared, Thermal	250	NASA
4	ASTER	Multispectral	Visible, Near-infrared, Thermal	15	NASA
5	WorldView-3	Panchromatic	Visible	3	Maxar
6	GOES-16 ABI	Imaging	Visible, Infrared	2	NOAA
7	RADARSAT-2	SAR	Microwave	8	MDA
8	Hyperspectral	Hyperspectral	Visible, Near-infrared, Infrared	1	Specim
9	Pleiades	Optical	Visible, Near-infrared	6	Airbus
10	TerraSAR-X	SAR	Microwave	1	DLR

Query executed successfully.

ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\bejja (53) Team26 00:00:00 10 rows

Ready Ln 13 Col 29 Ch 29 INS

95% Search 15:47 23-04-2024 ENG IN

-- Check audit table

SELECT * FROM Sensor_Details_Audit;

SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Team26 (ASHRITHA\bejja (53)) - Microsoft SQL Server Management Studio

File Edit View Query Project Debug Tools Window Help

Team26 Execute Debug

Object Explorer

Remote Sensing Da...HRITHA\bejja (52) SQLQuery1.sql - AS...HRITHA\bejja (53)*

```
** Course: IFT/530
** SQL Server Version: Microsoft SQL Server 2012 (SP1)
** History
** Date Created    Comments
** 04/23/2024        Final Project
*/
-- Check audit table
SELECT * FROM Sensor_Details_Audit;
```

Results Messages

audit_id	sensor...	sensor_name	sensor_ty...	spectral_range	resolution	vendor	action	change_datetime	
1	11	TerraSAR-XZ	SARA	Microwave	4	NASA	INSERTED	2024-04-23 15:47:05.863	
2	2	11	UpdatedSensor1	Microwave	4	NASA	UPDATED	2024-04-23 15:47:27.477	
3	3	11	UpdatedSensor1	SARA	Microwave	4	NASA	DELETED	2024-04-23 15:47:53.640

Query executed successfully.

ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\bejja (53) Team26 00:00:00 3 rows

Ready Ln 11 Col 36 Ch 36 INS

95% Search 15:48 23-04-2024 ENG IN

Stored procedures and User Defined Function:

Creating a stored procedure that retrieves all satellite imagery captured on a specific date. This stored procedure retrieves all satellite imagery captured on a specific date.

This stored procedure takes a date parameter (@captureDate) and selects all records from the Satellite_Imagery table where the capture_date matches the provided date.

```
-- Create the stored procedure
```

```
CREATE PROCEDURE GetSatelliteImageryByDate
```

```
    @captureDate DATE
```

```
AS
```

```
BEGIN
```

```
    SELECT *
```

```
    FROM Satellite_Imagery
```

```
    WHERE capture_date = @captureDate;
```

```
END;
```

The screenshot shows the Microsoft SQL Server Management Studio interface. The left pane displays the Object Explorer with a connection to 'ASHRITHA\SQLEXPRESS (SQL Server 11.0.3110)'. The right pane contains a query window titled 'SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Tea...'. The code in the window is as follows:

```
/*
** Author: Saloni Mourya & Rishitha Bejjanki
** Course: IFT/530
** SQL Server Version: Microsoft SQL Server 2012 (SP1)
** History
** Date Created   Comments
** 04/23/2024     Final Project
*/

-----stored procedures and User Defined Function-----

--create a stored procedure that retrieves all satellite imagery captured on a specific date:
--This stored procedure retrieves all satellite imagery captured on a specific date.
--This stored procedure takes a date parameter (@captureDate) and selects all records from the Satellite_Imagery table where the capture_date matches the provided date.
-- Create the stored procedure
CREATE PROCEDURE GetSatelliteImageryByDate
    @captureDate DATE
AS
BEGIN
    SELECT *
    FROM Satellite_Imagery
    WHERE capture_date = @captureDate;
END;
```

The status bar at the bottom indicates 'Query executed successfully.' and shows the session details: ASHRITHA\SQLEXPRESS (11.0 SP1), ASHRITHA\bejja (53), Team26, 00:00:00, 0 rows.

Creating a stored procedure that retrieves all satellite imagery captured on a specific date:
This stored procedure retrieves all satellite imagery captured on a specific date.
This stored procedure takes a date parameter (@captureDate) and selects all records from the Satellite_Imagery table where the capture_date matches the provided date.

```
-- Create the stored procedure
CREATE PROCEDURE GetSatelliteImageryByDate
    @captureDate DATE
AS
BEGIN
    SELECT *
    FROM Satellite_Imagery
    WHERE capture_date = @captureDate;
END;
```

The screenshot shows the Microsoft SQL Server Management Studio interface. The query editor window displays the creation of a stored procedure named 'GetSatelliteImageryByDate'. The code includes a comment block at the top and a UDF definition below it. The status bar at the bottom right indicates the command was executed successfully with 0 rows affected.

```
-- Author: Saloni Mourya & Rishitha Bejjanki
-- Course: IFT/530
-- SQL Server Version: Microsoft SQL Server 2012 (SP1)
-- History
-- Date Created    Comments
-- 04/23/2024      Final Project
*/
--create a user-defined function (UDF) that calculates the distance between two geographical points (given their latitude and longitude)
-- Create the user-defined function (UDF)
CREATE FUNCTION CalculateDistance (
    @lat1 NUMERIC,
    @lon1 NUMERIC,
    @lat2 NUMERIC,
    @lon2 NUMERIC
)
RETURNS NUMERIC
AS
BEGIN
    DECLARE @R NUMERIC = 6371; -- Earth's radius in kilometers
    DECLARE @dLat NUMERIC = RADIANS(@lat2 - @lat1);
    DECLARE @dLon NUMERIC = RADIANS(@lon2 - @lon1);

    DECLARE @a NUMERIC = SIN(@dLat / 2) * SIN(@dLat / 2) +
    COS(SIN(@lat1) * SIN(@lat2)) * COS(@lon1 - @lon2);
    RETURN 2 * @R * ATAN2(SQRT(@a), SQRT(1 - @a));
END
```

100 % Messages Command(s) completed successfully.

100 % Query executed successfully. ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\bejja (53) Team26 00:00:00 0 rows

Ready Ln 33 Col 5 Ch 5 INS

95% Search Home Task View Start File Explorer This PC Control Panel Dell Help 15:52 23-04-2024

```

-- Create a user-defined function (UDF) that calculates the distance between two geographical points (given their latitude and longitude)
-- Create the user-defined function (UDF)
CREATE FUNCTION CalculateDistance (
    @lat1 NUMERIC,
    @lon1 NUMERIC,
    @lat2 NUMERIC,
    @lon2 NUMERIC
)
RETURNS NUMERIC
AS
BEGIN
    DECLARE @R NUMERIC = 6371; -- Earth's radius in kilometers

    DECLARE @dLat NUMERIC = RADIANS(@lat2 - @lat1);
    DECLARE @dLon NUMERIC = RADIANS(@lon2 - @lon1);

    DECLARE @a NUMERIC = SIN(@dLat / 2) * SIN(@dLat / 2) +
        COS(RADIANS(@lat1)) * COS(RADIANS(@lat2)) *
        SIN(@dLon / 2) * SIN(@dLon / 2);

    DECLARE @c NUMERIC = 2 * ATN2(SQRT(@a), SQRT(1 - @a));

    RETURN @R * @c; -- Distance in kilometers
END;

```

100 % < Messages
Command(s) completed successfully.

100 % < Query executed successfully. ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\beija (53) Team26 00:00:00 0 rows

Ready Ln 33 Col 5 Ch 5 INS

Including the scripts to drop these stored procedures and UDFs when they're no longer needed:

-- Drop the stored procedure if it exists

```

IF EXISTS (SELECT * FROM sys.objects WHERE object_id =
OBJECT_ID(N'[dbo].[GetSatelliteImageryByDate]') AND type in (N'P', N'PC'))
DROP PROCEDURE [dbo].[GetSatelliteImageryByDate];

```

-- Drop the user-defined function (UDF) if it exists

```

IF EXISTS (SELECT * FROM sys.objects WHERE object_id =
OBJECT_ID(N'[dbo].[CalculateDistance]') AND type in (N'FN', N'IF', N'TF', N'FS', N'FT'))
DROP FUNCTION [dbo].[CalculateDistance];

```

The screenshot shows the Microsoft SQL Server Management Studio interface. The title bar reads "SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Team26 (ASHRITHA\bejja (53)) - Microsoft SQL Server Management Studio". The main window displays a T-SQL script for dropping stored procedures and functions. The script includes comments at the top and several IF EXISTS statements for dropping objects like stored procedures and functions. The status bar at the bottom shows "ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\bejja (53) Team26 00:00:00 0 rows".

```

/*
** Author: Saloni Mourya & Rishitha Bejjanki
** Course: IFT/530
** SQL Server Version: Microsoft SQL Server 2012 (SP1)
** History
** Date Created    Comments
** 04/23/2024      Final Project
*/

-- include the scripts to drop these stored procedures and UDFs when they're no longer needed:
-- Drop the stored procedure if it exists
IF EXISTS (SELECT * FROM sys.objects WHERE object_id = OBJECT_ID(N'[dbo].[GetSatelliteImageryByDate]') AND type in (N'P')
DROP PROCEDURE [dbo].[GetSatelliteImageryByDate];

-- Drop the user-defined function (UDF) if it exists
IF EXISTS (SELECT * FROM sys.objects WHERE object_id = OBJECT_ID(N'[dbo].[CalculateDistance]') AND type in (N'FN', N'IF')
DROP FUNCTION [dbo].[CalculateDistance];

```

Cursor:

```

-- Create a cursor to fetch data from the Satellite_Imagery table
DECLARE satellite_cursor CURSOR FOR
SELECT satellite_id, satellite_name, capture_date, sensor_id, resolution, latitude, longitude,
cloud_cover_percentage, sun_angle, processing_status, provider_id
FROM Satellite_Imagery;

-- Open the cursor
OPEN satellite_cursor;

-- Fetch the data from the cursor
FETCH NEXT FROM satellite_cursor;

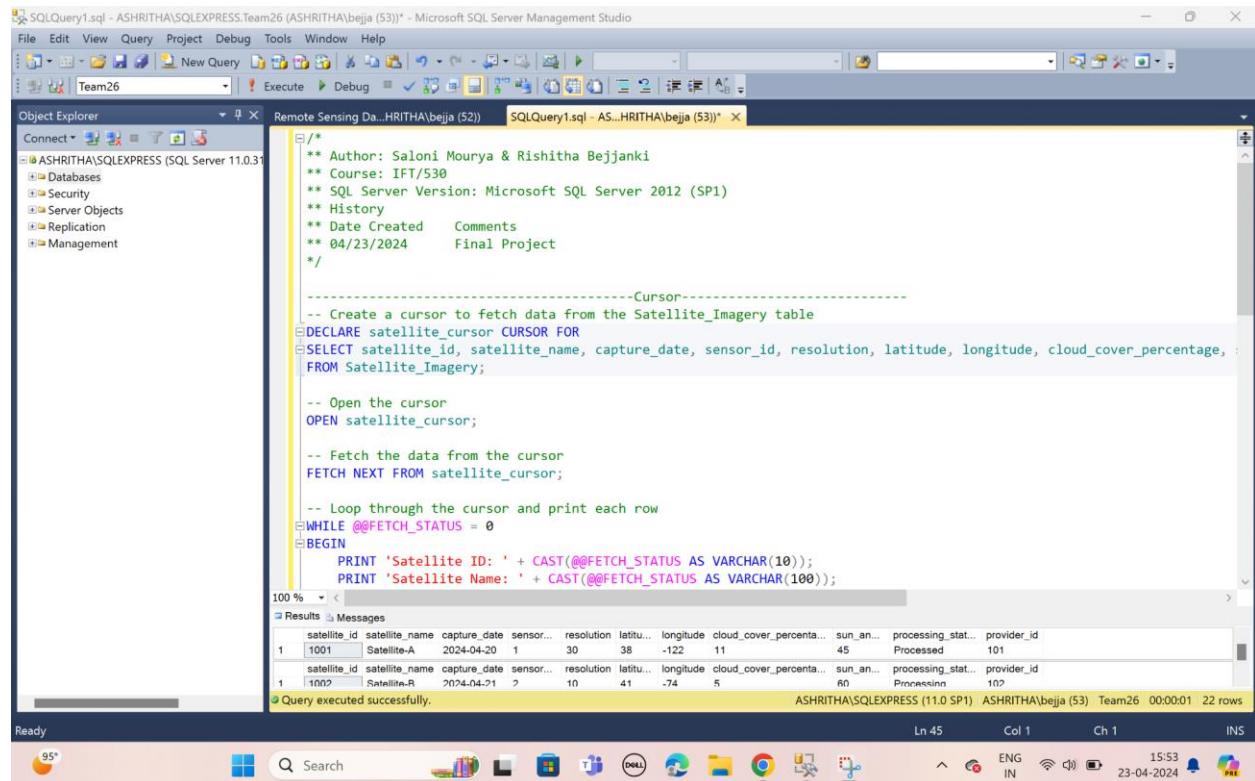
-- Loop through the cursor and print each row
WHILE @@FETCH_STATUS = 0
BEGIN
    PRINT 'Satellite ID: ' + CAST(@@FETCH_STATUS AS VARCHAR(10));
    PRINT 'Satellite Name: ' + CAST(@@FETCH_STATUS AS VARCHAR(100));
    -- Add more prints for other columns as needed

    -- Fetch the next row
    FETCH NEXT FROM satellite_cursor;
END

```

```
-- Close the cursor
CLOSE satellite_cursor;

-- Deallocate the cursor
DEALLOCATE satellite_cursor;
```



The screenshot shows the Microsoft SQL Server Management Studio interface. The query window displays the following SQL script:

```

/*
** Author: Saloni Mourya & Rishitha Bejjanki
** Course: IFT/530
** SQL Server Version: Microsoft SQL Server 2012 (SP1)
** History
** Date Created    Comments
** 04/23/2024      Final Project
*/

-----Cursor-----
-- Create a cursor to fetch data from the Satellite_Imagery table
DECLARE satellite_cursor CURSOR FOR
SELECT satellite_id, satellite_name, capture_date, sensor_id, resolution, latitude, longitude, cloud_cover_percentage, sun_angle, processing_status, provider_id
FROM Satellite_Imagery;

-- Open the cursor
OPEN satellite_cursor;

-- Fetch the data from the cursor
FETCH NEXT FROM satellite_cursor;

-- Loop through the cursor and print each row
WHILE @@FETCH_STATUS = 0
BEGIN
    PRINT 'Satellite ID: ' + CAST(@@FETCH_STATUS AS VARCHAR(10));
    PRINT 'Satellite Name: ' + CAST(@@FETCH_STATUS AS VARCHAR(100));
END

```

The results pane shows the output of the query, which consists of two rows of data from the Satellite_Imagery table:

	satellite_id	satellite_name	capture_date	sensor_id	resolution	latitude	longitude	cloud_cover_percentage	sun_angle	processing_status	provider_id
1	1001	Satellite-A	2024-04-20	1	30	38	-122	11	45	Processed	101
1	1002	Satellite-B	2024-04-21	2	10	41	-74	5	60	InProcessing	102

Below the results, a message indicates the query was executed successfully.

SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Team26 (ASHRITHA\bejja (53)) - Microsoft SQL Server Management Studio

File Edit View Query Project Debug Tools Window Help

Team26 New Query Execute Debug

Object Explorer

Remote Sensing Da...HRITHA\bejja (52) SQLQuery1.sql - AS...HRITHA\bejja (53)" X

```

SELECT satellite_id, satellite_name, capture_date, sensor_id, resolution, latitude, longitude, cloud_cover_percentage,
FROM Satellite_Imagery;

-- Open the cursor
OPEN satellite_cursor;

-- Fetch the data from the cursor
FETCH NEXT FROM satellite_cursor;

-- Loop through the cursor and print each row
WHILE @@FETCH_STATUS = 0
BEGIN
    PRINT 'Satellite ID: ' + CAST(@@FETCH_STATUS AS VARCHAR(10));
    PRINT 'Satellite Name: ' + CAST(@@FETCH_STATUS AS VARCHAR(100));
    -- Add more prints for other columns as needed

    -- Fetch the next row
    FETCH NEXT FROM satellite_cursor;
END

-- Close the cursor
CLOSE satellite_cursor;

-- Deallocate the cursor
DEALLOCATE satellite_cursor;

```

Result Messages

	satellite_id	satellite_name	capture_date	sensor_id	resolution	latitude	longitude	cloud_cover_percenta...	sun_an...	processing_stat...	provider_id
1	1001	Satellite-A	2024-04-20	1	30	38	-122	11	45	Processed	101
1	1002	Satellite-B	2024-04-21	2	10	41	-74	5	60	Processing	102

Query executed successfully.

ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\bejja (53) Team26 00:00:01 22 rows

Ready

95% Search

Ln 45 Col 1 Ch 1 INS

15:54 IN 23-04-2024

SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Team26 (ASHRITHA\bejja (53)) - Microsoft SQL Server Management Studio

File Edit View Query Project Debug Tools Window Help

Team26 New Query Execute Debug

Object Explorer

Remote Sensing Da...HRITHA\bejja (52) SQLQuery1.sql - AS...HRITHA\bejja (53)" X

```

/*
** Author: Saloni Mourya & Rishitha Bejjanki
** Course: IFT/530
** SQL Server Version: Microsoft SQL Server 2012 (SP1)
** History
** Date Created Comments
** 04/23/2024 Final Project

```

Result Messages

	satellite_id	satellite_name	capture_date	sensor_id	resolution	latitude	longitude	cloud_cover_percenta...	sun_an...	processing_stat...	provider_id
1	1001	Satellite-A	2024-04-20	1	30	38	-122	11	45	Processed	101
1	1002	Satellite-B	2024-04-21	2	10	41	-74	5	60	Processing	102
1	1003	Satellite-C	2024-04-22	3	250	34	-118	8	30	Not Processed	103
1	1004	Satellite-D	2024-04-23	4	15	42	-88	12	75	Processed	104
1	1005	Satellite-E	2024-04-24	5	3	52	0	4	55	Processing	105
1	1006	Satellite-F	2024-04-25	6	2	49	2	7	70	Not Processed	106
1	1007	Satellite-G	2024-04-26	7	8	36	140	9	40	Processed	107
1	1008	Satellite-H	2024-04-27	8	1	59	18	15	80	Processing	108
1	1009	Satellite-I	2024-04-28	9	6	60	25	5	65	Not Processed	109
1	1010	Satellite-J	2024-04-29	10	1	56	38	8	50	Processed	110
1	1011	Satellite-K	2024-04-30	1	30	34	-118	8	30	Not Processed	101
1	1012	Satellite-L	2024-05-01	2	10	41	-74	5	60	Processing	102

Query executed successfully.

ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\bejja (53) Team26 00:00:01 22 rows

Ready

95% Search

Ln 45 Col 1 Ch 1 INS

15:55 IN 23-04-2024

SQLQuery1.sql - ASHRITHA\SQLEXPRESS.Team26 (ASHRITHA\bejja (53)) - Microsoft SQL Server Management Studio

File Edit View Query Project Debug Tools Window Help

Team26 New Query Execute Debug

Object Explorer Remote Sensing Da...HRITHA\bejja (52) SQLQuery1.sql - AS...HRITHA\bejja (53)"

```
/*
** Author: Saloni Mourya & Rishitha Bejjanki
** Course: IFT/530
** SQL Server Version: Microsoft SQL Server 2012 (SP1)
** History
** Date Created    Comments
** 04/23/2024      Final Project
```

100 %

Results Messages

	satellite_id	satellite_name	capture_date	sensor...	resolution	latitu...	longitude	cloud_cover_percenta...	sun_an...	processing_stat...	provider_id
1	1012	Satellite-L	2024-05-01	2	10	41	-74	5	60	Processing	102
1	1013	Satellite-M	2024-05-02	3	250	38	-122	11	45	Processed	103
1	1014	Satellite-N	2024-05-03	4	15	42	-88	12	75	Processed	104
1	1015	Satellite-O	2024-05-04	5	3	52	0	4	55	Processing	105
1	1016	Satellite-P	2024-05-05	6	2	49	2	7	70	Not Processed	106
1	1017	Satellite-Q	2024-05-06	7	8	36	140	9	40	Processed	107
1	1018	Satellite-R	2024-05-07	8	1	59	18	15	80	Processing	108
1	1019	Satellite-S	2024-05-08	9	6	60	25	5	65	Not Processed	109
1	1020	Satellite-T	2024-05-09	10	1	56	38	8	50	Processed	110
1	1021	Satellite-U	2024-05-10	1	30	34	-118	8	30	Not Processed	101
1	1022	Satellite-V	2024-05-11	2	10	41	-74	5	60	Processing	102
											processing_stat...
											provider_id

Query executed successfully.

ASHRITHA\SQLEXPRESS (11.0 SP1) ASHRITHA\bejja (53) Team26 00:00:01 22 rows

Ready Ln 45 Col 1 Ch 1 INS

95% Search ENG IN 15:56 23-04-2024