Coding Challenge

1. Provide a SQL script that initializes the database for the Job Board scenario “CareerHub”.

```
IF NOT EXISTS (SELECT * FROM sys.databases WHERE name = 'CareerHub')
BEGIN
    CREATE DATABASE CareerHub;
    USE CareerHub;
END;
```

2. Create tables for Companies, Jobs, Applicants and Applications.

3. Define appropriate primary keys, foreign keys, and constraints.

4. Ensure the script handles potential errors, such as if the database or tables already exist.

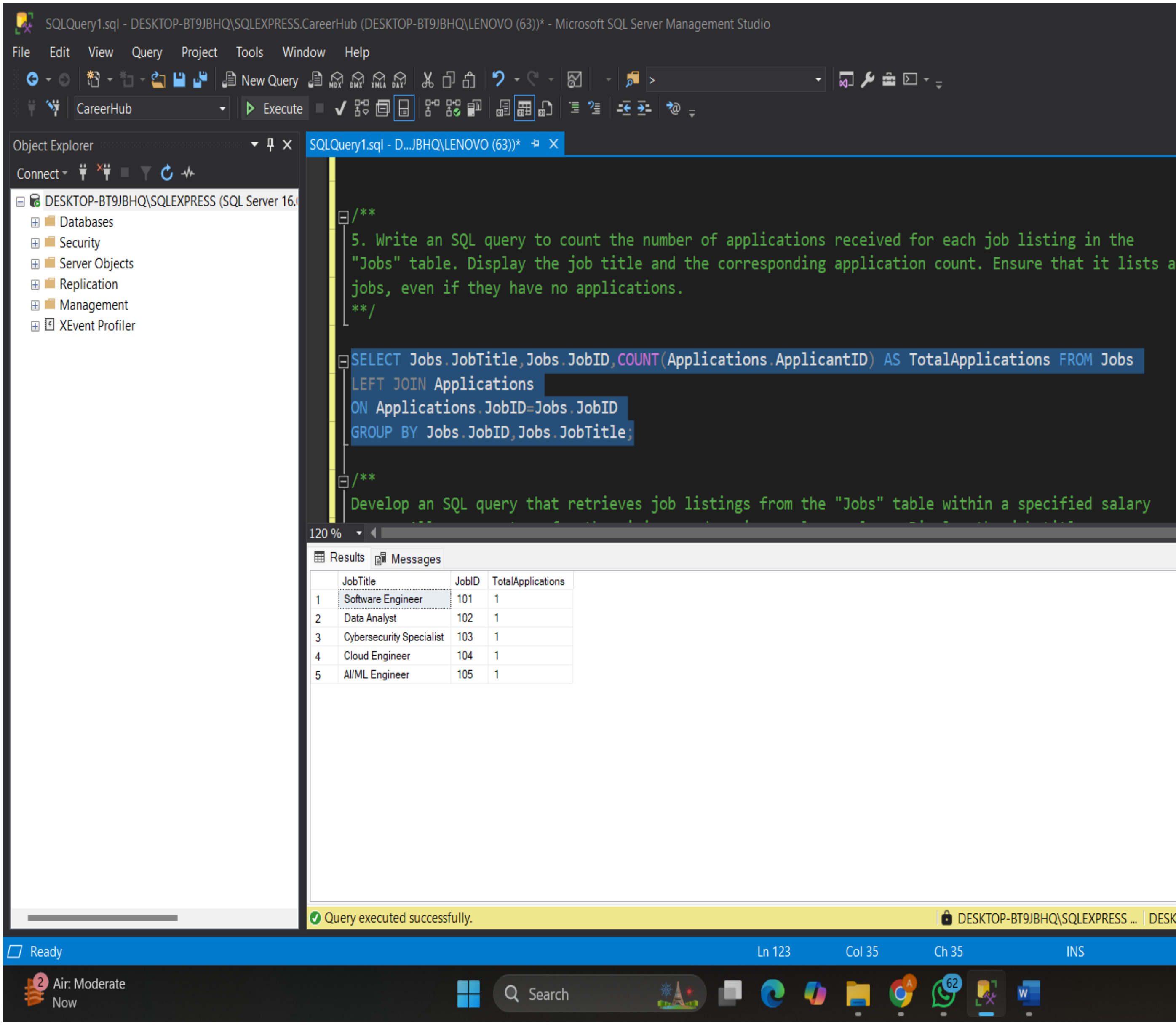
```
-- 1 Create Companies Table
IF NOT EXISTS (SELECT * FROM INFORMATION_SCHEMA.TABLES WHERE TABLE_NAME
= 'Companies')
BEGIN
    CREATE TABLE Companies (
        CompanyID INT PRIMARY KEY,  -- Unique identifier for each
company
        CompanyName VARCHAR(255) NOT NULL,
        Location VARCHAR(255) NOT NULL
    );
END;
GO

-- 2 Create Jobs Table
IF NOT EXISTS (SELECT * FROM INFORMATION_SCHEMA.TABLES WHERE TABLE_NAME
= 'Jobs')
BEGIN
    CREATE TABLE Jobs (
        JobID INT PRIMARY KEY,
        CompanyID INT NOT NULL,
        JobTitle VARCHAR(255) NOT NULL,
        JobDescription TEXT NOT NULL,
        JobLocation VARCHAR(255) NOT NULL,
        Salary DECIMAL(10,2) CHECK (Salary > 0),
        JobType VARCHAR(50) CHECK (JobType IN ('Full-time', 'Part-
time', 'Contract')),
        PostedDate DATETIME DEFAULT CURRENT_TIMESTAMP,
        FOREIGN KEY (CompanyID) REFERENCES Companies(CompanyID) ON
DELETE CASCADE
```

```
    );
END;
GO

-- 3 Create Applicants Table
IF NOT EXISTS (SELECT * FROM INFORMATION_SCHEMA.TABLES WHERE TABLE_NAME
= 'Applicants')
BEGIN
    CREATE TABLE Applicants (
        ApplicantID INT PRIMARY KEY,  -- Unique identifier for each
applicant
        FirstName VARCHAR(100) NOT NULL,
        LastName VARCHAR(100) NOT NULL,
        Email VARCHAR(255) UNIQUE NOT NULL, -- Ensure unique emails
        Phone VARCHAR(20) UNIQUE NOT NULL, -- Ensure unique phone
numbers
        Resume TEXT NOT NULL,
        Experience INT CHECK (Experience >= 0), -- Experience must be
non-negative
        City VARCHAR(100),
        State VARCHAR(100)
    );
END;
GO

-- 4 Create Applications Table
IF NOT EXISTS (SELECT * FROM INFORMATION_SCHEMA.TABLES WHERE TABLE_NAME
= 'Applications')
BEGIN
    CREATE TABLE Applications (
        ApplicationID INT PRIMARY KEY,
        JobID INT NOT NULL,
        ApplicantID INT NOT NULL,
        ApplicationDate DATETIME DEFAULT CURRENT_TIMESTAMP,
        CoverLetter TEXT NOT NULL,
        FOREIGN KEY (JobID) REFERENCES Jobs(JobID) ON DELETE CASCADE,
        FOREIGN KEY (ApplicantID) REFERENCES Applicants(ApplicantID) ON
DELETE CASCADE
    );
END;

-- 5. Insert Sample Data into Companies
INSERT INTO Companies (CompanyID, CompanyName, Location) VALUES
(1, 'TCS', 'Mumbai'),
(2, 'Infosys', 'Bangalore'),
(3, 'Wipro', 'Pune'),
(4, 'HCL Technologies', 'Noida'),
(5, 'Tech Mahindra', 'Hyderabad');
GO
```

```sql
-- 6. Insert Sample Data into Jobs
INSERT INTO Jobs (JobID, CompanyID, JobTitle, JobDescription,
JobLocation, Salary, JobType) VALUES
(101, 1, 'Software Engineer', 'Develop and maintain web applications.',
'Mumbai', 700000.00, 'Full-time'),
(102, 2, 'Data Analyst', 'Analyze and visualize business data.',
'Bangalore', 650000.00, 'Full-time'),
(103, 3, 'Cybersecurity Specialist', 'Monitor and secure network
systems.', 'Pune', 800000.00, 'Full-time'),
(104, 4, 'Cloud Engineer', 'Manage cloud-based infrastructure.',
'Noida', 900000.00, 'Full-time'),
(105, 5, 'AI/ML Engineer', 'Develop machine learning models.',
'Hyderabad', 950000.00, 'Full-time');

GO

-- 7. Insert Sample Data into Applicants
INSERT INTO Applicants (ApplicantID, FirstName, LastName, Email, Phone,
Resume) VALUES
(1, 'Rohan', 'Sharma', 'rohan.sharma@example.com', '9876543210',
'Experienced software engineer with 3 years in web development.'),
(2, 'Sneha', 'Patel', 'sneha.patel@example.com', '9876543211', 'Data
analyst with expertise in Python, SQL, and Power BI.'),
(3, 'Amit', 'Verma', 'amit.verma@example.com', '9876543212',
'Cybersecurity specialist with strong experience in network
security.'),
(4, 'Pooja', 'Nair', 'pooja.nair@example.com', '9876543213', 'Cloud
engineer skilled in AWS, Azure, and DevOps.'),
(5, 'Vikas', 'Reddy', 'vikas.reddy@example.com', '9876543214', 'AI/ML
engineer with expertise in deep learning and NLP.');
GO

-- 8. Insert Sample Data into Applications
INSERT INTO Applications (ApplicationID, JobID, ApplicantID,
CoverLetter) VALUES
(201, 101, 1, 'I am excited to apply for the Software Engineer role at
TCS.'),
(202, 102, 2, 'I am passionate about data analysis and eager to join
Infosys.'),
(203, 103, 3, 'I have experience in cybersecurity and would love to
work at Wipro.'),
(204, 104, 4, 'Cloud computing is my expertise, and I am interested in
HCL.'),
(205, 105, 5, 'AI/ML is my field of interest, and I would love to join
Tech Mahindra.');
GO
```

5. Write an SQL query to count the number of applications received for each job listing in the "Jobs" table. Display the job title and the corresponding application count. Ensure that it lists all jobs, even if they have no applications.

```sql
SELECT Jobs.JobTitle,Jobs.JobID,COUNT(Applications.ApplicantID) AS
TotalApplications FROM Jobs
LEFT JOIN Applications
ON Applications.JobID=Jobs.JobID
GROUP BY Jobs.JobID,Jobs.JobTitle;
```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```sql
/**
5. Write an SQL query to count the number of applications received for each job listing in the
"Jobs" table. Display the job title and the corresponding application count. Ensure that it lists a
jobs, even if they have no applications.
**/

SELECT Jobs.JobTitle,Jobs.JobID,COUNT(Applications.ApplicantID) AS TotalApplications FROM Jobs
LEFT JOIN Applications
ON Applications.JobID=Jobs.JobID
GROUP BY Jobs.JobID,Jobs.JobTitle;

/**
Develop an SQL query that retrieves job listings from the "Jobs" table within a specified salary
```

	JobTitle	JobID	TotalApplications
1	Software Engineer	101	1
2	Data Analyst	102	1
3	Cybersecurity Specialist	103	1
4	Cloud Engineer	104	1
5	AI/ML Engineer	105	1

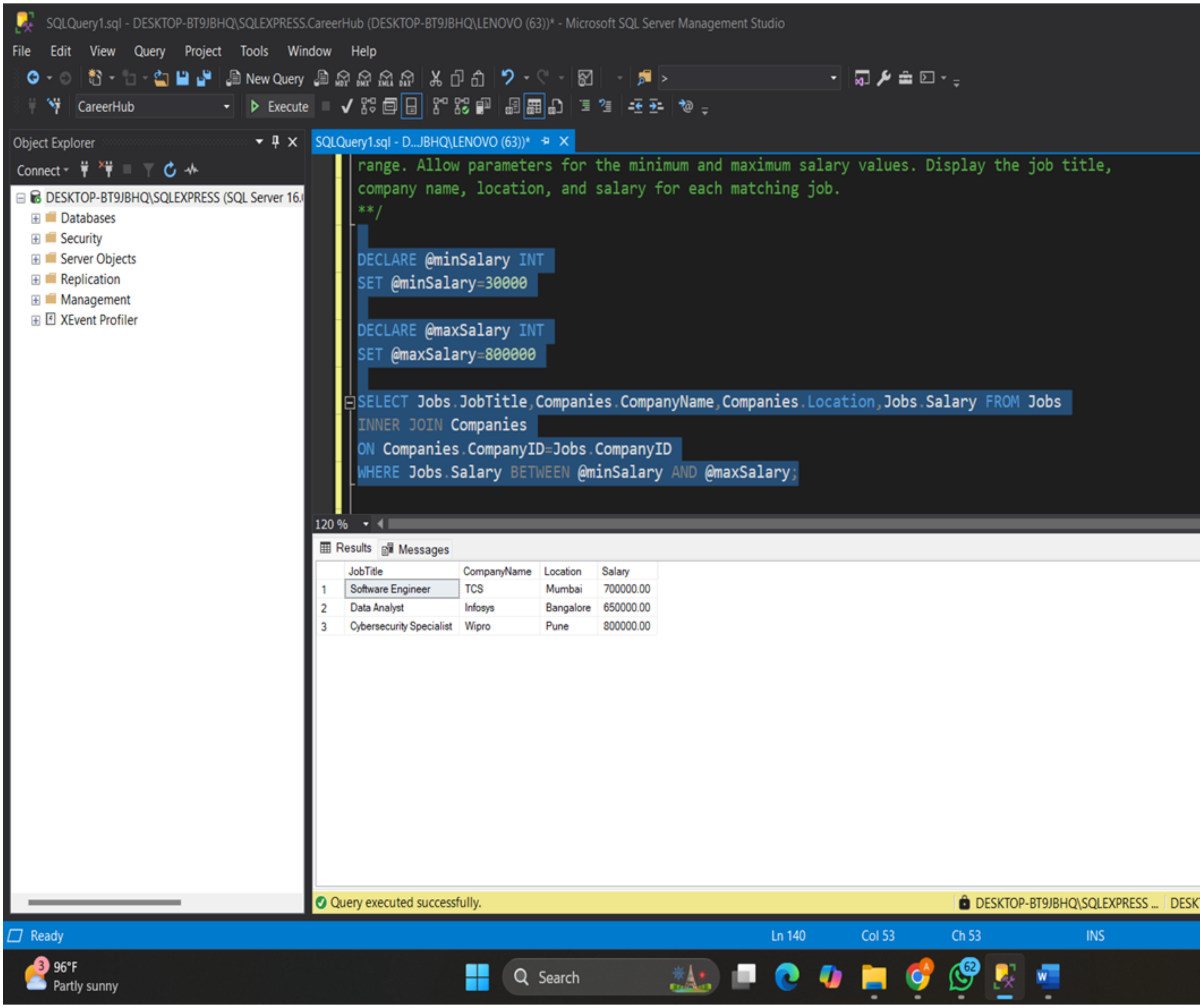
Query executed successfully.

6. Develop an SQL query that retrieves job listings from the "Jobs" table within a specified salary range. Allow parameters for the minimum and maximum salary values. Display the job title, company name, location, and salary for each matching job.

```
DECLARE @minSalary INT
SET @minSalary=30000

DECLARE @maxSalary INT
SET @maxSalary=800000

SELECT
Jobs.JobTitle,Companies.CompanyName,Companies.Location,Jobs.Salary FROM
Jobs
INNER JOIN Companies
ON Companies.CompanyID=Jobs.CompanyID
WHERE Jobs.Salary BETWEEN @minSalary AND @maxSalary;
```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```
range. Allow parameters for the minimum and maximum salary values. Display the job title,
company name, location, and salary for each matching job.
**/

DECLARE @minSalary INT
SET @minSalary=30000

DECLARE @maxSalary INT
SET @maxSalary=800000

SELECT Jobs.JobTitle,Companies.CompanyName,Companies.Location,Jobs.Salary FROM Jobs
INNER JOIN Companies
ON Companies.CompanyID=Jobs.CompanyID
WHERE Jobs.Salary BETWEEN @minSalary AND @maxSalary;
```

	JobTitle	CompanyName	Location	Salary
1	Software Engineer	TCS	Mumbai	700000.00
2	Data Analyst	Infosys	Bangalore	650000.00
3	Cybersecurity Specialist	Wipro	Pune	800000.00

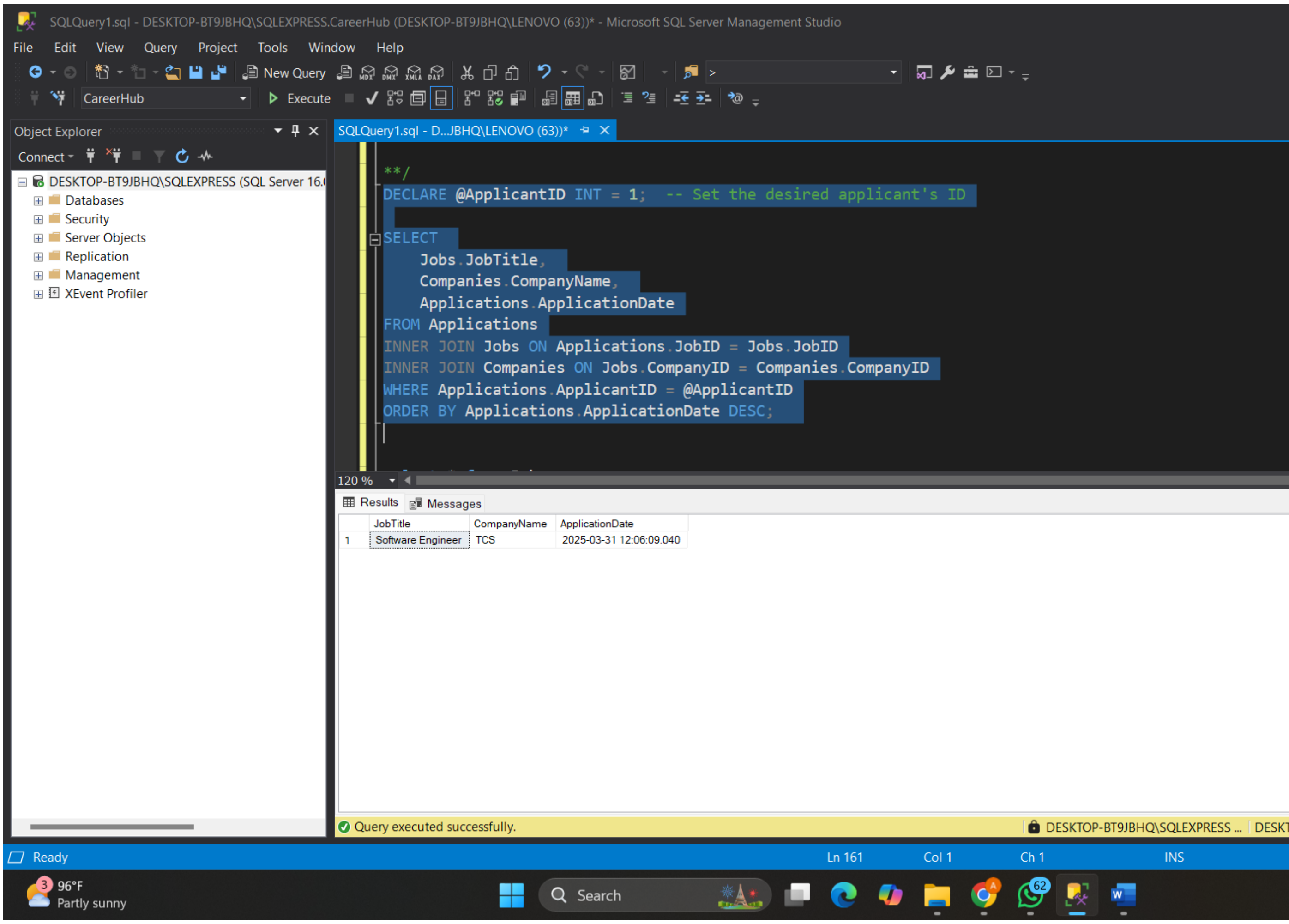
Query executed successfully.

7. Write an SQL query that retrieves the job application history for a specific applicant. Allow a parameter for the ApplicantID, and return a result set with the job titles, company names, and application dates for all the jobs the applicant has applied to.

```
DECLARE @ApplicantID INT = 1;  -- Set the desired applicant's ID

SELECT
    Jobs.JobTitle,
    Companies.CompanyName,
    Applications.ApplicationDate
FROM Applications
```

```
INNER JOIN Jobs ON Applications.JobID = Jobs.JobID
INNER JOIN Companies ON Jobs.CompanyID = Companies.CompanyID
WHERE Applications.ApplicantID = @ApplicantID
ORDER BY Applications.ApplicationDate DESC;
```



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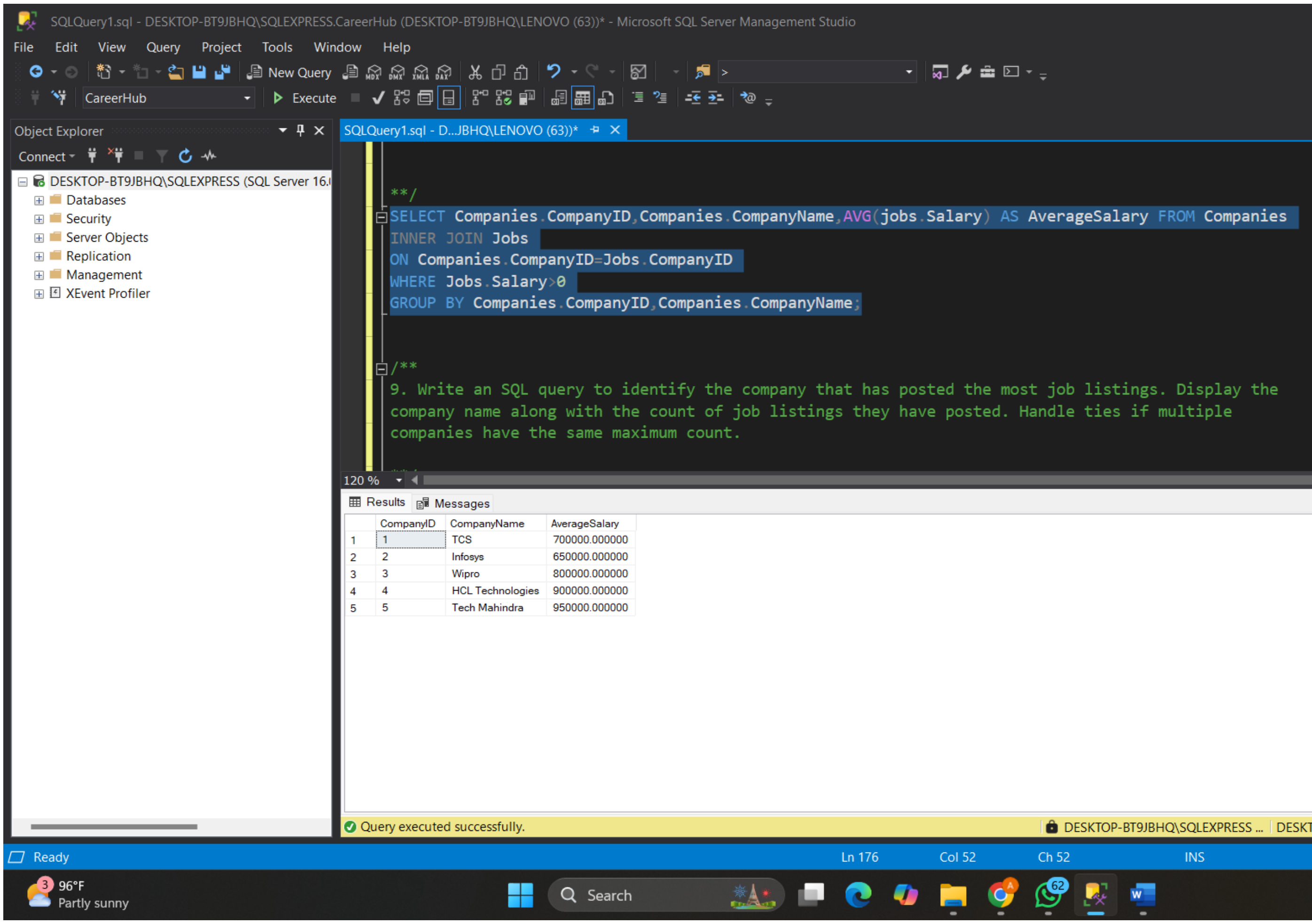
```
**/
DECLARE @ApplicantID INT = 1;  -- Set the desired applicant's ID

SELECT
    Jobs.JobTitle,
    Companies.CompanyName,
    Applications.ApplicationDate
FROM Applications
INNER JOIN Jobs ON Applications.JobID = Jobs.JobID
INNER JOIN Companies ON Jobs.CompanyID = Companies.CompanyID
WHERE Applications.ApplicantID = @ApplicantID
ORDER BY Applications.ApplicationDate DESC;
```

	JobTitle	CompanyName	ApplicationDate
1	Software Engineer	TCS	2025-03-31 12:06:09.040

Query executed successfully.

8. Create an SQL query that calculates and displays the average salary offered by all companies for job listings in the "Jobs" table. Ensure that the query filters out jobs with a salary of zero.

```
SELECT Companies.CompanyID,Companies.CompanyName,AVG(jobs.Salary) AS
AverageSalary FROM Companies
INNER JOIN Jobs
ON Companies.CompanyID=Jobs.CompanyID
WHERE Jobs.Salary>0
GROUP BY Companies.CompanyID,Companies.CompanyName;
```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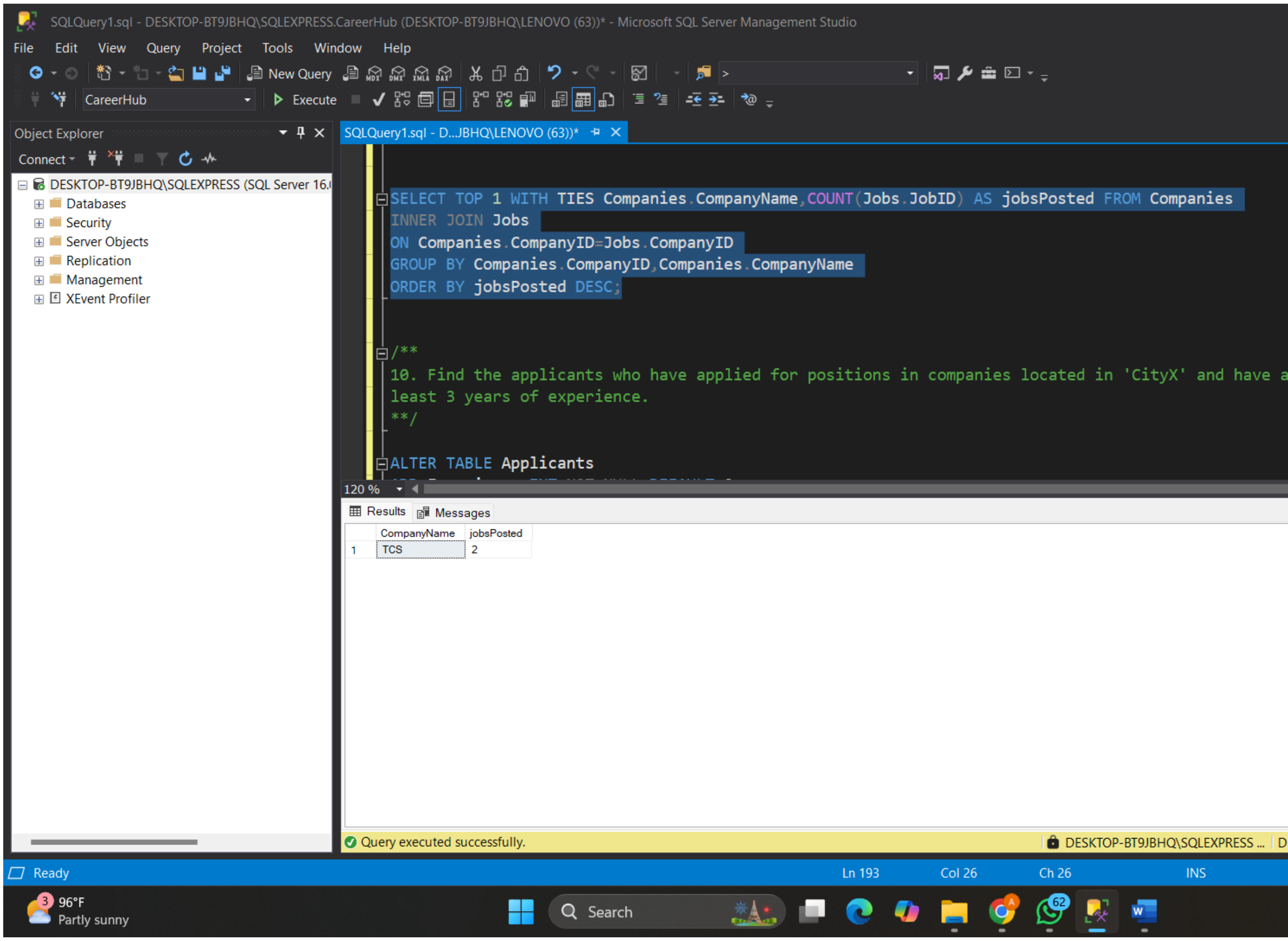
```
**/
SELECT Companies.CompanyID,Companies.CompanyName,AVG(jobs.Salary) AS AverageSalary FROM Companies
INNER JOIN Jobs
ON Companies.CompanyID=Jobs.CompanyID
WHERE Jobs.Salary>0
GROUP BY Companies.CompanyID,Companies.CompanyName;


/**
9. Write an SQL query to identify the company that has posted the most job listings. Display the
company name along with the count of job listings they have posted. Handle ties if multiple
companies have the same maximum count.
```

	CompanyID	CompanyName	AverageSalary
1	1	TCS	700000.000000
2	2	Infosys	650000.000000
3	3	Wipro	800000.000000
4	4	HCL Technologies	900000.000000
5	5	Tech Mahindra	950000.000000

Query executed successfully.

9. Write an SQL query to identify the company that has posted the most job listings. Display the company name along with the count of job listings they have posted. Handle ties if multiple companies have the same maximum count.

```
SELECT TOP 1 WITH TIES Companies.CompanyName,COUNT(Jobs.JobID) AS
jobsPosted FROM Companies
INNER JOIN Jobs
ON Companies.CompanyID=Jobs.CompanyID
GROUP BY Companies.CompanyID,Companies.CompanyName
ORDER BY jobsPosted DESC;
```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```sql
SELECT TOP 1 WITH TIES Companies.CompanyName,COUNT(Jobs.JobID) AS jobsPosted FROM Companies
INNER JOIN Jobs
ON Companies.CompanyID=Jobs.CompanyID
GROUP BY Companies.CompanyID,Companies.CompanyName
ORDER BY jobsPosted DESC;


/**
10. Find the applicants who have applied for positions in companies located in 'CityX' and have a
least 3 years of experience.
**/

ALTER TABLE Applicants
```

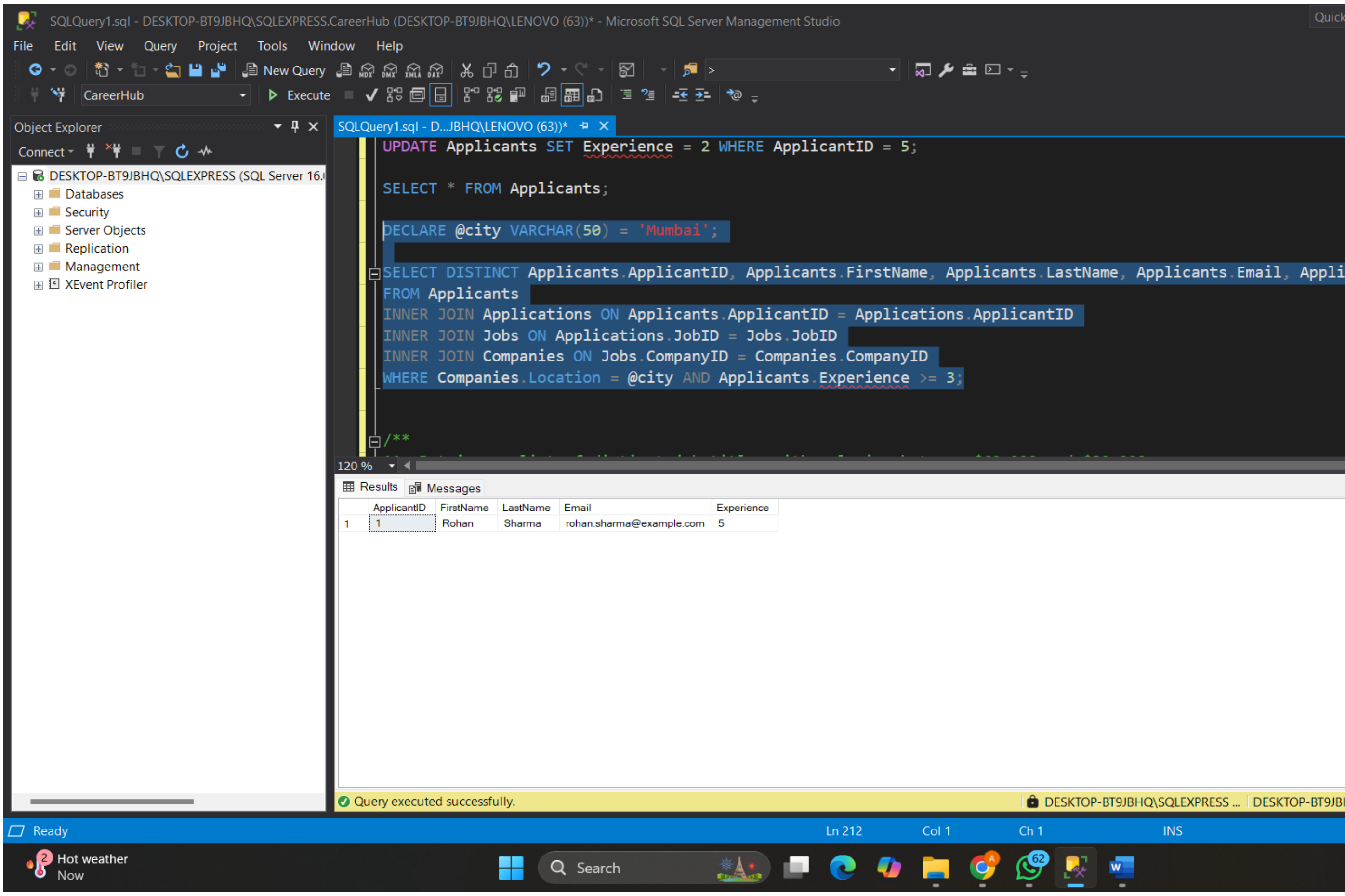
	CompanyName	jobsPosted
1	TCS	2

Query executed successfully.

10. Find the applicants who have applied for positions in companies located in 'CityX' and have at least 3 years of experience.

```sql
DECLARE @city VARCHAR(50) = 'Mumbai';

SELECT DISTINCT Applicants.ApplicantID, Applicants.FirstName,
Applicants.LastName, Applicants.Email, Applicants.Experience
FROM Applicants
INNER JOIN Applications ON Applicants.ApplicantID =
Applications.ApplicantID
INNER JOIN Jobs ON Applications.JobID = Jobs.JobID
INNER JOIN Companies ON Jobs.CompanyID = Companies.CompanyID
WHERE Companies.Location = @city AND Applicants.Experience >= 3;
```



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```
UPDATE Applicants SET Experience = 2 WHERE ApplicantID = 5;

SELECT * FROM Applicants;

DECLARE @city VARCHAR(50) = 'Mumbai';

SELECT DISTINCT Applicants.ApplicantID, Applicants.FirstName, Applicants.LastName, Applicants.Email, Appli
FROM Applicants
INNER JOIN Applications ON Applicants.ApplicantID = Applications.ApplicantID
INNER JOIN Jobs ON Applications.JobID = Jobs.JobID
INNER JOIN Companies ON Jobs.CompanyID = Companies.CompanyID
WHERE Companies.Location = @city AND Applicants.Experience >= 3;

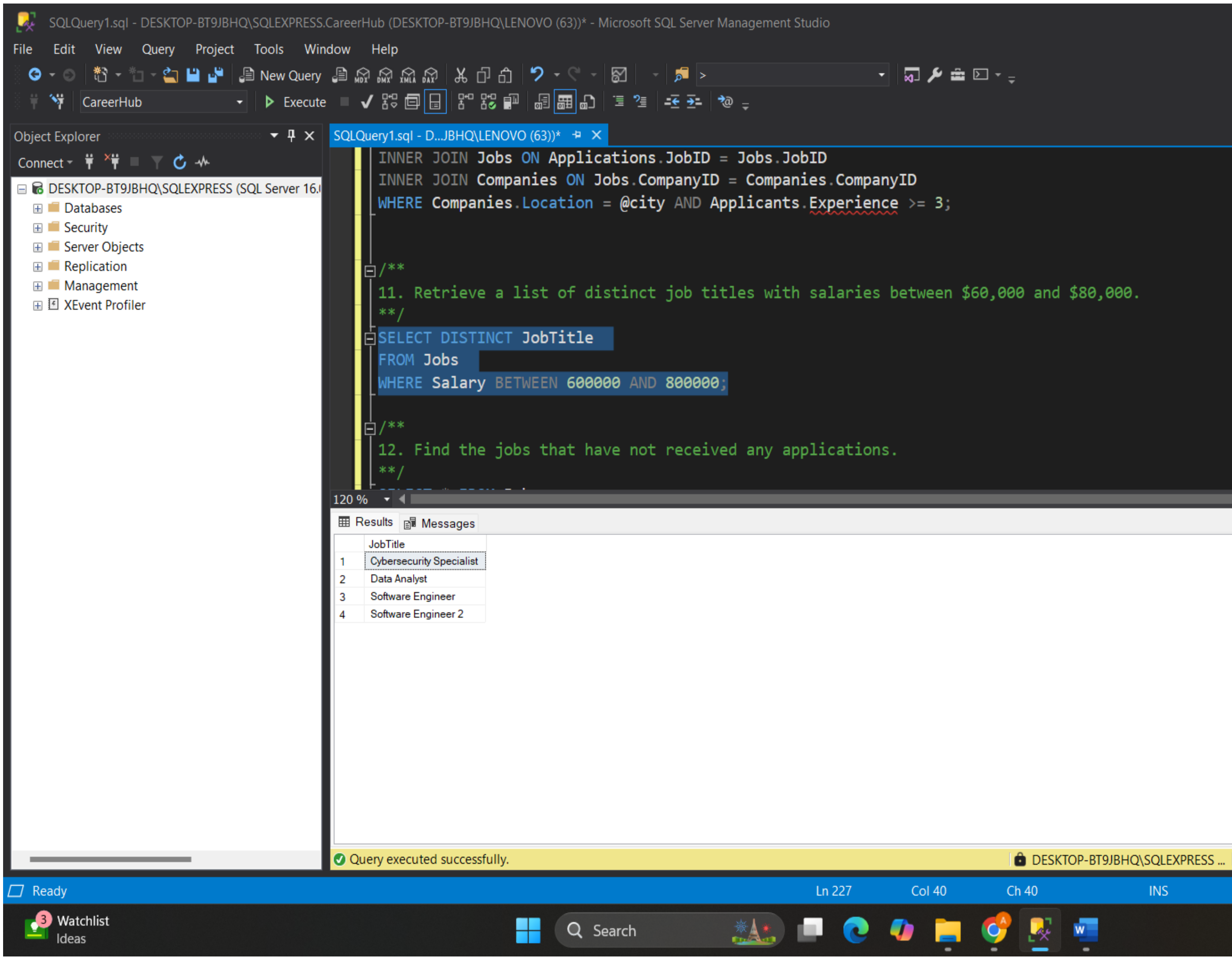

/**
```

	ApplicantID	FirstName	LastName	Email	Experience
1	1	Rohan	Sharma	rohan.sharma@example.com	5

Query executed successfully.

11. Retrieve a list of distinct job titles with salaries between $60,000 and $80,000.

```
SELECT DISTINCT JobTitle
FROM Jobs
WHERE Salary BETWEEN 600000 AND 800000;
```



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```
INNER JOIN Jobs ON Applications.JobID = Jobs.JobID
INNER JOIN Companies ON Jobs.CompanyID = Companies.CompanyID
WHERE Companies.Location = @city AND Applicants.Experience >= 3;

/**
11. Retrieve a list of distinct job titles with salaries between $60,000 and $80,000.
**/
SELECT DISTINCT JobTitle
FROM Jobs
WHERE Salary BETWEEN 600000 AND 800000;

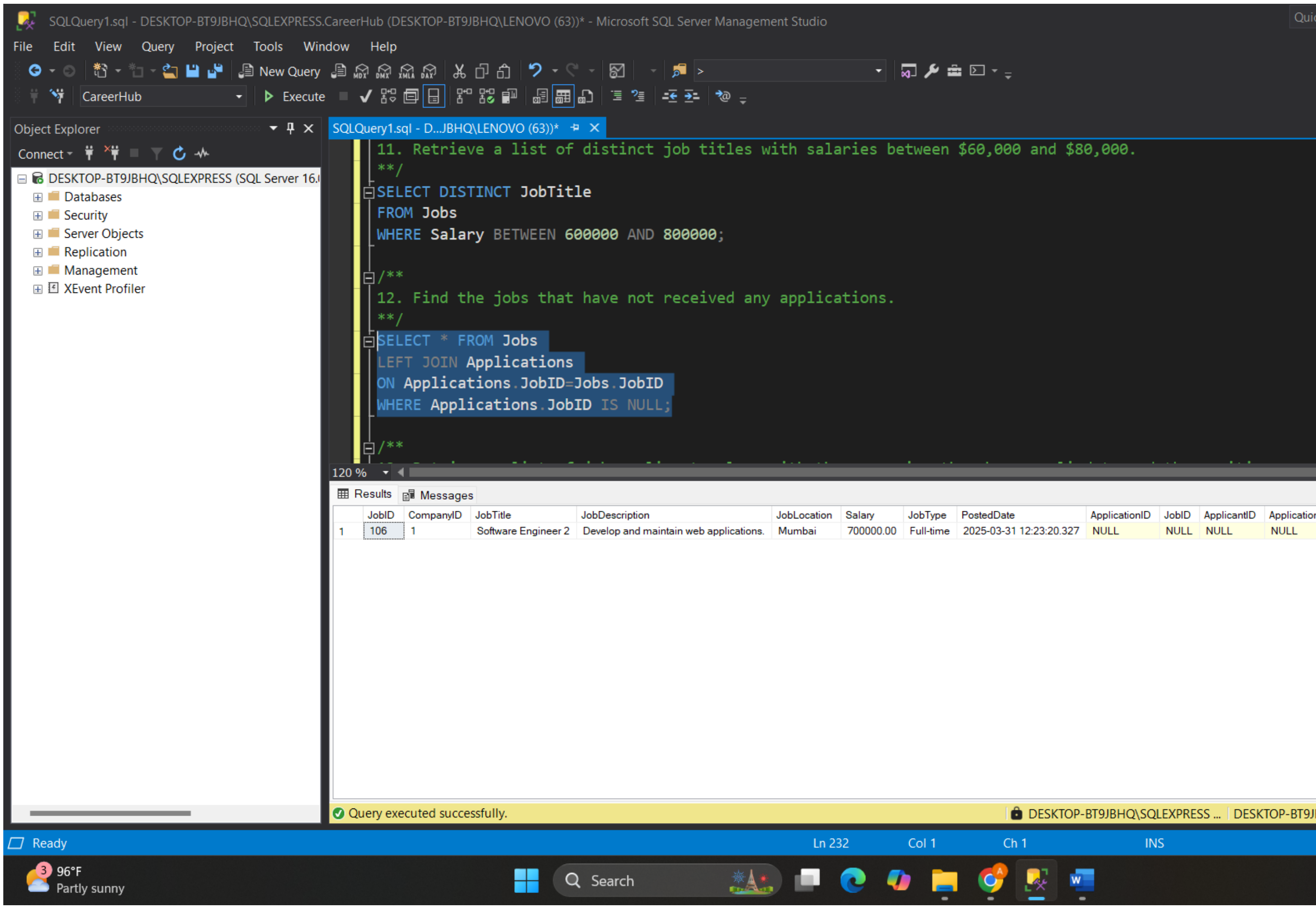
/**
12. Find the jobs that have not received any applications.
**/
```

	JobTitle
1	Cybersecurity Specialist
2	Data Analyst
3	Software Engineer
4	Software Engineer 2

Query executed successfully.

12. Find the jobs that have not received any applications.

```
SELECT * FROM Jobs
LEFT JOIN Applications
ON Applications.JobID=Jobs.JobID
WHERE Applications.JobID IS NULL;
```



```
11. Retrieve a list of distinct job titles with salaries between $60,000 and $80,000.
**/
SELECT DISTINCT JobTitle
FROM Jobs
WHERE Salary BETWEEN 600000 AND 800000;

/**
12. Find the jobs that have not received any applications.
**/
SELECT * FROM Jobs
LEFT JOIN Applications
ON Applications.JobID=Jobs.JobID
WHERE Applications.JobID IS NULL;

/**
```

	JobID	CompanyID	JobTitle	JobDescription	JobLocation	Salary	JobType	PostedDate	ApplicationID	JobID	ApplicantID	Applicatio
1	106	1	Software Engineer 2	Develop and maintain web applications.	Mumbai	700000.00	Full-time	2025-03-31 12:23:20.327	NULL	NULL	NULL	NULL

Query executed successfully.

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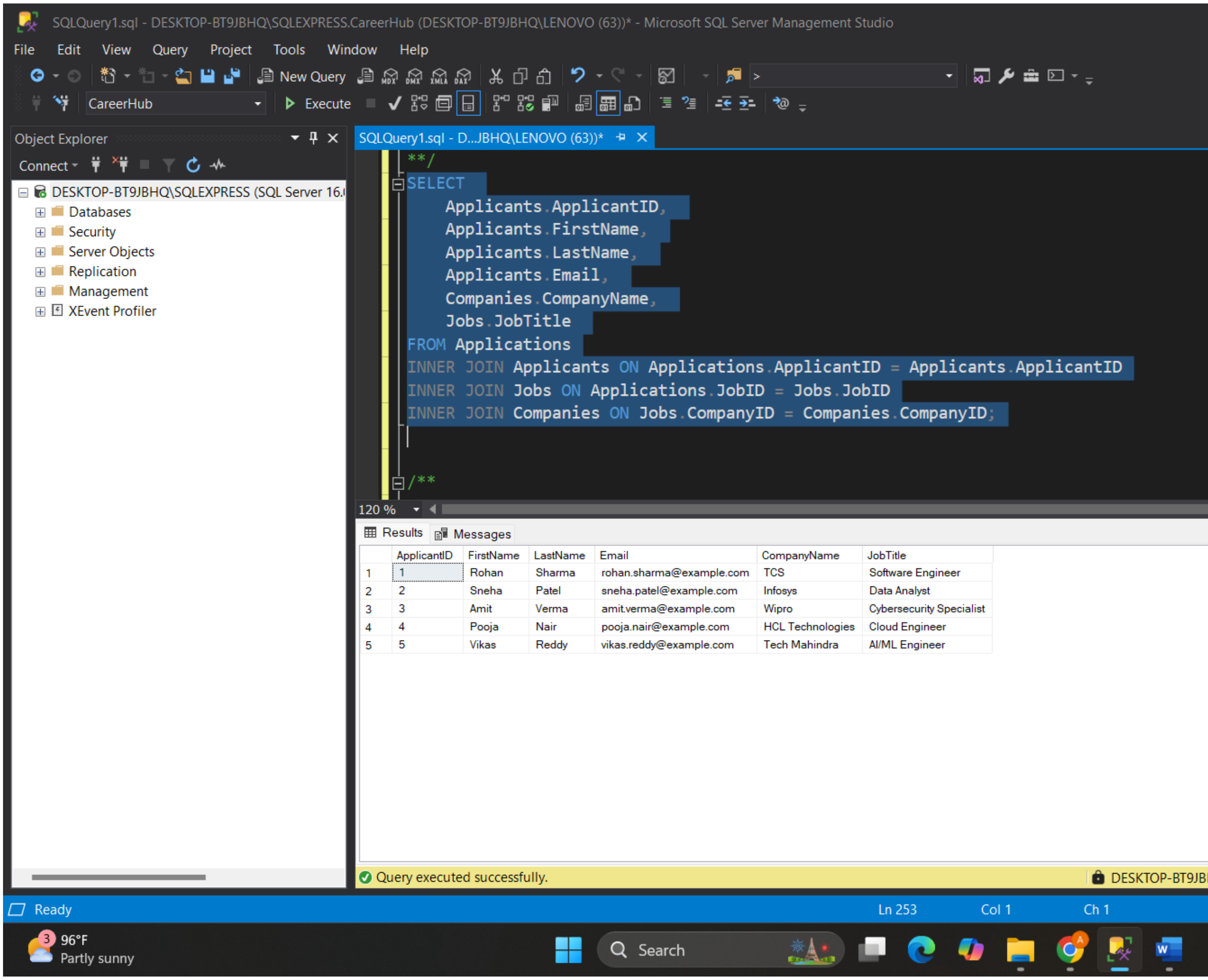
13. Retrieve a list of job applicants along with the companies they have applied to and the positions they have applied for.

```
SELECT
    Applicants.ApplicantID,
    Applicants.FirstName,
    Applicants.LastName,
    Applicants.Email,
    Companies.CompanyName,
    Jobs.JobTitle
FROM Applications
INNER JOIN Applicants ON Applications.ApplicantID =
Applicants.ApplicantID
INNER JOIN Jobs ON Applications.JobID = Jobs.JobID
INNER JOIN Companies ON Jobs.CompanyID = Companies.CompanyID;
```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```
**/
SELECT
    Applicants.ApplicantID,
    Applicants.FirstName,
    Applicants.LastName,
    Applicants.Email,
    Companies.CompanyName,
    Jobs.JobTitle
FROM Applications
INNER JOIN Applicants ON Applications.ApplicantID = Applicants.ApplicantID
INNER JOIN Jobs ON Applications.JobID = Jobs.JobID
INNER JOIN Companies ON Jobs.CompanyID = Companies.CompanyID;

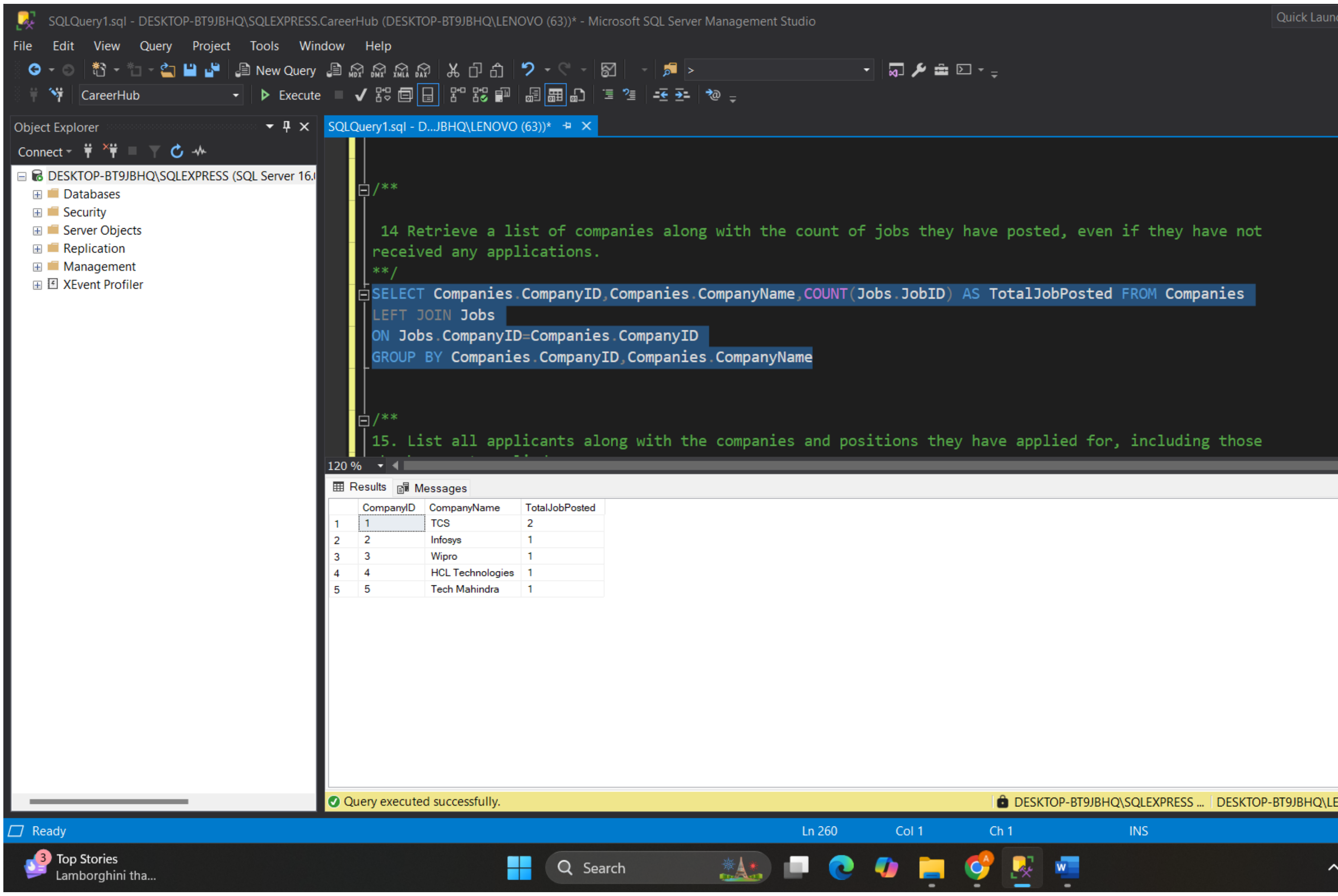
/**
```

	ApplicantID	FirstName	LastName	Email	CompanyName	JobTitle
1	1	Rohan	Sharma	rohan.sharma@example.com	TCS	Software Engineer
2	2	Sneha	Patel	sneha.patel@example.com	Infosys	Data Analyst
3	3	Amit	Verma	amit.verma@example.com	Wipro	Cybersecurity Specialist
4	4	Pooja	Nair	pooja.nair@example.com	HCL Technologies	Cloud Engineer
5	5	Vikas	Reddy	vikas.reddy@example.com	Tech Mahindra	AI/ML Engineer

Query executed successfully.

14. Retrieve a list of companies along with the count of jobs they have posted, even if they have not received any applications.

```
SELECT Companies.CompanyID,Companies.CompanyName,COUNT(Jobs.JobID) AS
TotalJobPosted FROM Companies
LEFT JOIN Jobs
ON Jobs.CompanyID=Companies.CompanyID
GROUP BY Companies.CompanyID,Companies.CompanyName
```



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/**

 14 Retrieve a list of companies along with the count of jobs they have posted, even if they have not
received any applications.
**/
SELECT Companies.CompanyID,Companies.CompanyName,COUNT(Jobs.JobID) AS TotalJobPosted FROM Companies
LEFT JOIN Jobs
ON Jobs.CompanyID=Companies.CompanyID
GROUP BY Companies.CompanyID,Companies.CompanyName


/**
15. List all applicants along with the companies and positions they have applied for, including those
```

	CompanyID	CompanyName	TotalJobPosted
1	1	TCS	2
2	2	Infosys	1
3	3	Wipro	1
4	4	HCL Technologies	1
5	5	Tech Mahindra	1

Query executed successfully.

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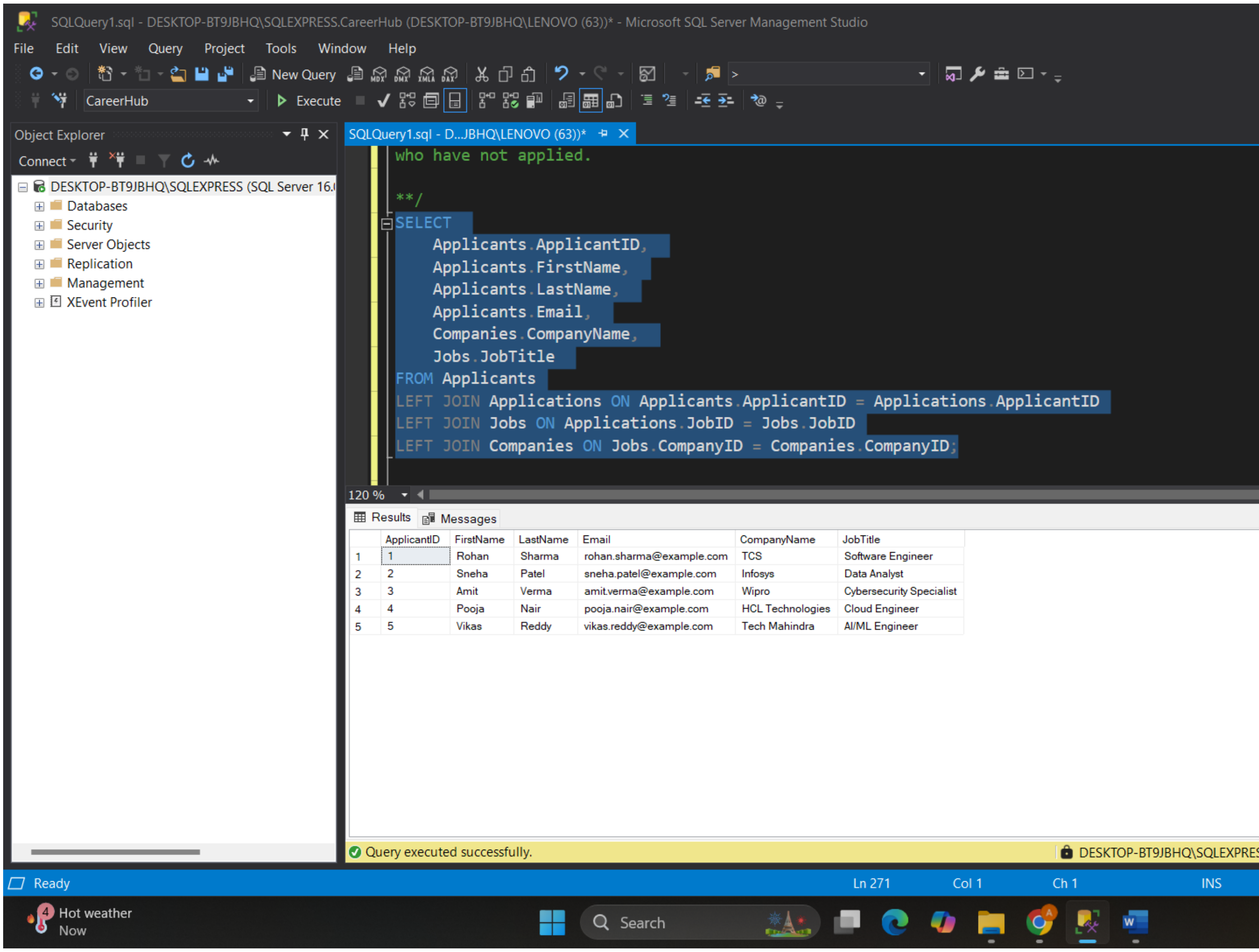
15. List all applicants along with the companies and positions they have applied for, including those who have not applied.

```
SELECT
    Applicants.ApplicantID,
    Applicants.FirstName,
    Applicants.LastName,
    Applicants.Email,
    Companies.CompanyName,
    Jobs.JobTitle
FROM Applicants
LEFT JOIN Applications ON Applicants.ApplicantID =
Applications.ApplicantID
LEFT JOIN Jobs ON Applications.JobID = Jobs.JobID
LEFT JOIN Companies ON Jobs.CompanyID = Companies.CompanyID;
```


SQLQuery1.sql - DESKTOP-BT9JBHQ\SQLEXPRESS.CareerHub (DESKTOP-BT9JBHQ\LENOVO (63))* - Microsoft SQL Server Management Studio
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New Query
CareerHub
Execute
Object Explorer
Connect
DESKTOP-BT9JBHQ\SQLEXPRESS (SQL Server 16.
Databases
Security
Server Objects
Replication
Management
XEvent Profiler
SQLQuery1.sql - D...JBHQ\LENOVO (63))*
120 %
Results
Messages
DESKTOP-BT9JBHQ\SQLEXPRES
Ready
Ln 271
Col 1
Ch 1
INS
Hot weather
Now
Search

```
who have not applied.

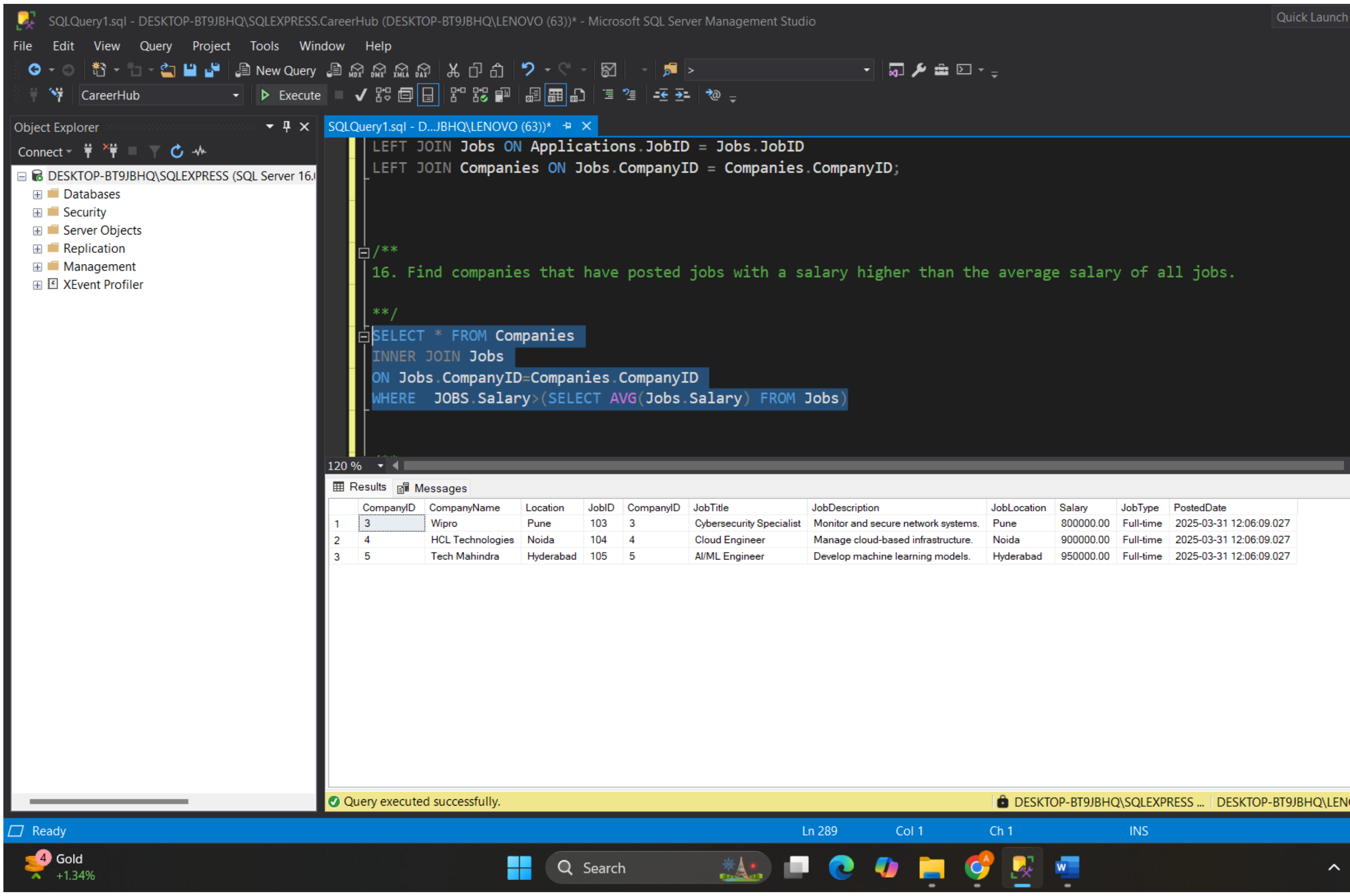
**/
SELECT
    Applicants.ApplicantID,
    Applicants.FirstName,
    Applicants.LastName,
    Applicants.Email,
    Companies.CompanyName,
    Jobs.JobTitle
FROM Applicants
LEFT JOIN Applications ON Applicants.ApplicantID = Applications.ApplicantID
LEFT JOIN Jobs ON Applications.JobID = Jobs.JobID
LEFT JOIN Companies ON Jobs.CompanyID = Companies.CompanyID;
```

	ApplicantID	FirstName	LastName	Email	CompanyName	JobTitle
1	1	Rohan	Sharma	rohan.sharma@example.com	TCS	Software Engineer
2	2	Sneha	Patel	sneha.patel@example.com	Infosys	Data Analyst
3	3	Amit	Verma	amit.verma@example.com	Wipro	Cybersecurity Specialist
4	4	Pooja	Nair	pooja.nair@example.com	HCL Technologies	Cloud Engineer
5	5	Vikas	Reddy	vikas.reddy@example.com	Tech Mahindra	AI/ML Engineer

Query executed successfully.

16. Find companies that have posted jobs with a salary higher than the average salary of all jobs.

```
SELECT * FROM Companies
INNER JOIN Jobs
ON Jobs.CompanyID=Companies.CompanyID
WHERE  JOBS.Salary>(SELECT AVG(Jobs.Salary) FROM Jobs)
```



```
LEFT JOIN Jobs ON Applications.JobID = Jobs.JobID
LEFT JOIN Companies ON Jobs.CompanyID = Companies.CompanyID;



/**
16. Find companies that have posted jobs with a salary higher than the average salary of all jobs.

**/
SELECT * FROM Companies
INNER JOIN Jobs
ON Jobs.CompanyID=Companies.CompanyID
WHERE  JOBS.Salary>(SELECT AVG(Jobs.Salary) FROM Jobs)
```

	CompanyID	CompanyName	Location	JobID	CompanyID	JobTitle	JobDescription	JobLocation	Salary	JobType	PostedDate
1	3	Wipro	Pune	103	3	Cybersecurity Specialist	Monitor and secure network systems.	Pune	800000.00	Full-time	2025-03-31 12:06:09.027
2	4	HCL Technologies	Noida	104	4	Cloud Engineer	Manage cloud-based infrastructure.	Noida	900000.00	Full-time	2025-03-31 12:06:09.027
3	5	Tech Mahindra	Hyderabad	105	5	AI/ML Engineer	Develop machine learning models.	Hyderabad	950000.00	Full-time	2025-03-31 12:06:09.027

Query executed successfully.

SQLQuery1.sql - DESKTOP-BT9JBHQ\SQLEXPRESS.CareerHub (DESKTOP-BT9JBHQ\LENOVO (63))* - Microsoft SQL Server Management Studio
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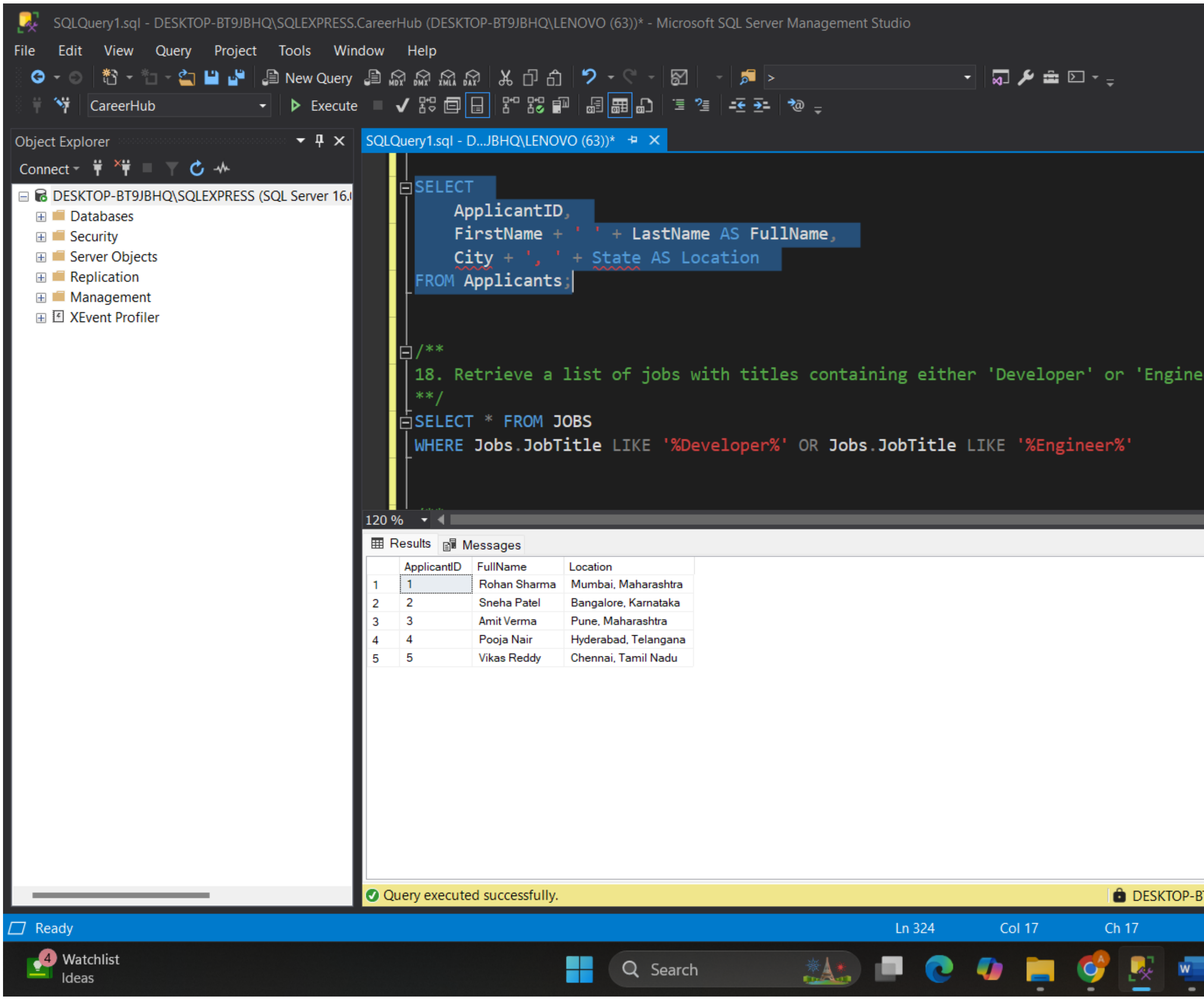
Server Objects
Replication
Management
XEvent Profiler
SQLQuery1.sql - D...JBHQ\LENOVO (63))*
120 %
Results
Messages
DESKTOP-BT9JBHQ\SQLEXPRESS ...
Ready
Ln 289
Col 1
Ch 1
INS
Gold +1.34%
Search

17. Display a list of applicants with their names and a concatenated string of their city and state.

```
SELECT
    ApplicantID,
    FirstName + ' ' + LastName AS FullName,
    City + ', ' + State AS Location
FROM Applicants;
```



```
SELECT
    ApplicantID,
    FirstName + ' ' + LastName AS FullName,
    City + ', ' + State AS Location
FROM Applicants;

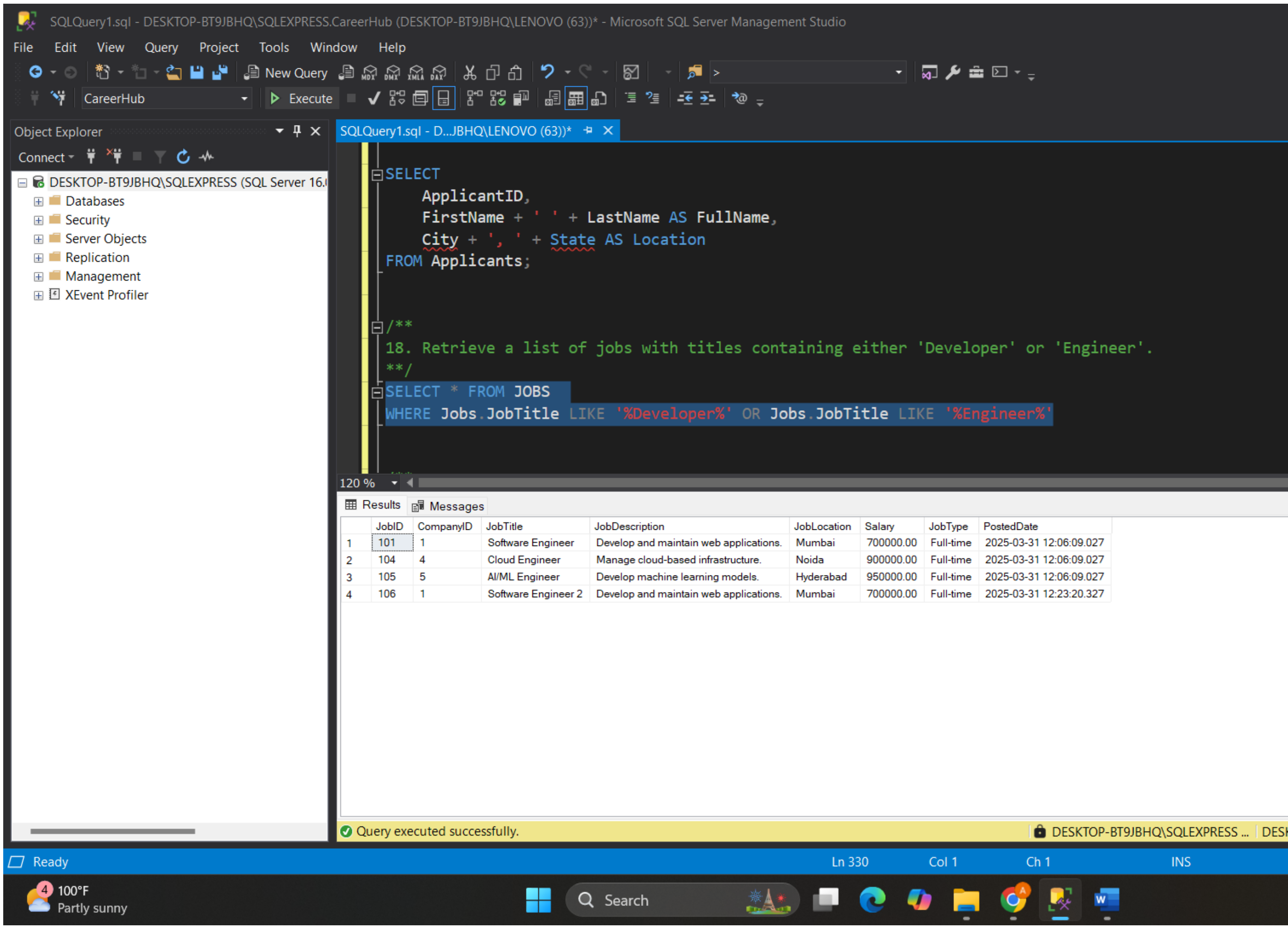

/**
18. Retrieve a list of jobs with titles containing either 'Developer' or 'Engine
**/
SELECT * FROM JOBS
WHERE Jobs.JobTitle LIKE '%Developer%' OR Jobs.JobTitle LIKE '%Engineer%'
```

	ApplicantID	FullName	Location
1	1	Rohan Sharma	Mumbai, Maharashtra
2	2	Sneha Patel	Bangalore, Karnataka
3	3	Amit Verma	Pune, Maharashtra
4	4	Pooja Nair	Hyderabad, Telangana
5	5	Vikas Reddy	Chennai, Tamil Nadu

Query executed successfully.

18. Retrieve a list of jobs with titles containing either 'Developer' or 'Engineer'.

```
SELECT * FROM JOBS
WHERE Jobs.JobTitle LIKE '%Developer%' OR Jobs.JobTitle LIKE
'%Engineer%'
```



SQLQuery1.sql - DESKTOP-BT9JBHQ\SQLEXPRESS.CareerHub (DESKTOP-BT9JBHQ\LENOVO (63))* - Microsoft SQL Server Management Studio
File
Edit
View
Query
Project
Tools
Window
Help
New Query
CareerHub
Execute
Object Explorer
Connect
DESKTOP-BT9JBHQ\SQLEXPRESS (SQL Server 16.
Databases
Security
Server Objects
Replication
Management
XEvent Profiler
SQLQuery1.sql - D...JBHQ\LENOVO (63))*
120 %
Results
Messages
DESKTOP-BT9JBHQ\SQLEXPRESS ...
Ready
Ln 330
Col 1
Ch 1
INS
100°F
Partly sunny
Search

```
SELECT
    ApplicantID,
    FirstName + ' ' + LastName AS FullName,
    City + ', ' + State AS Location
FROM Applicants;

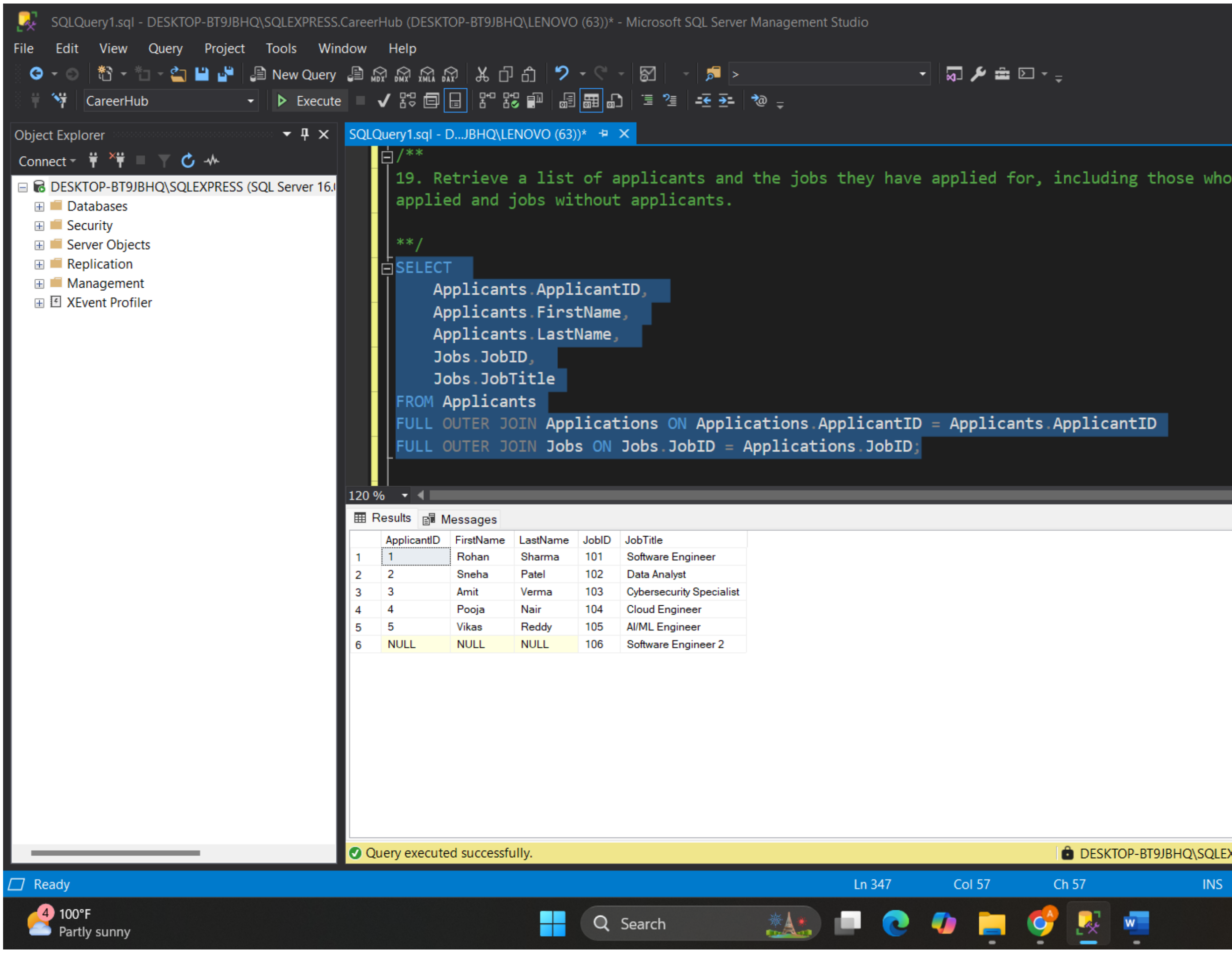

/**
18. Retrieve a list of jobs with titles containing either 'Developer' or 'Engineer'.
**/
SELECT * FROM JOBS
WHERE Jobs.JobTitle LIKE '%Developer%' OR Jobs.JobTitle LIKE '%Engineer%'
```

	JobID	CompanyID	JobTitle	JobDescription	JobLocation	Salary	JobType	PostedDate
1	101	1	Software Engineer	Develop and maintain web applications.	Mumbai	700000.00	Full-time	2025-03-31 12:06:09.027
2	104	4	Cloud Engineer	Manage cloud-based infrastructure.	Noida	900000.00	Full-time	2025-03-31 12:06:09.027
3	105	5	AI/ML Engineer	Develop machine learning models.	Hyderabad	950000.00	Full-time	2025-03-31 12:06:09.027
4	106	1	Software Engineer 2	Develop and maintain web applications.	Mumbai	700000.00	Full-time	2025-03-31 12:23:20.327

Query executed successfully.

19. Retrieve a list of applicants and the jobs they have applied for, including those who have not applied and jobs without applicants.

```
SELECT
    Applicants.ApplicantID,
    Applicants.FirstName,
    Applicants.LastName,
    Jobs.JobID,
    Jobs.JobTitle
FROM Applicants
FULL OUTER JOIN Applications ON Applications.ApplicantID =
Applicants.ApplicantID
FULL OUTER JOIN Jobs ON Jobs.JobID = Applications.JobID;
```


SQLQuery1.sql - DESKTOP-BT9JBHQ\SQLEXPRESS.CareerHub (DESKTOP-BT9JBHQ\LENOVO (63))* - Microsoft SQL Server Management Studio
File Edit View Query Project Tools Window Help
New Query
CareerHub
Execute
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Connect
DESKTOP-BT9JBHQ\SQLEXPRESS (SQL Server 16.
Databases
Security
Server Objects
Replication
Management
XEvent Profiler
SQLQuery1.sql - D...JBHQ\LENOVO (63))*
120 %
Results
Messages
DESKTOP-BT9JBHQ\SQLEX
Ready
Ln 347
Col 57
Ch 57
INS
100°F
Partly sunny
Search

```
/**
19. Retrieve a list of applicants and the jobs they have applied for, including those who
applied and jobs without applicants.

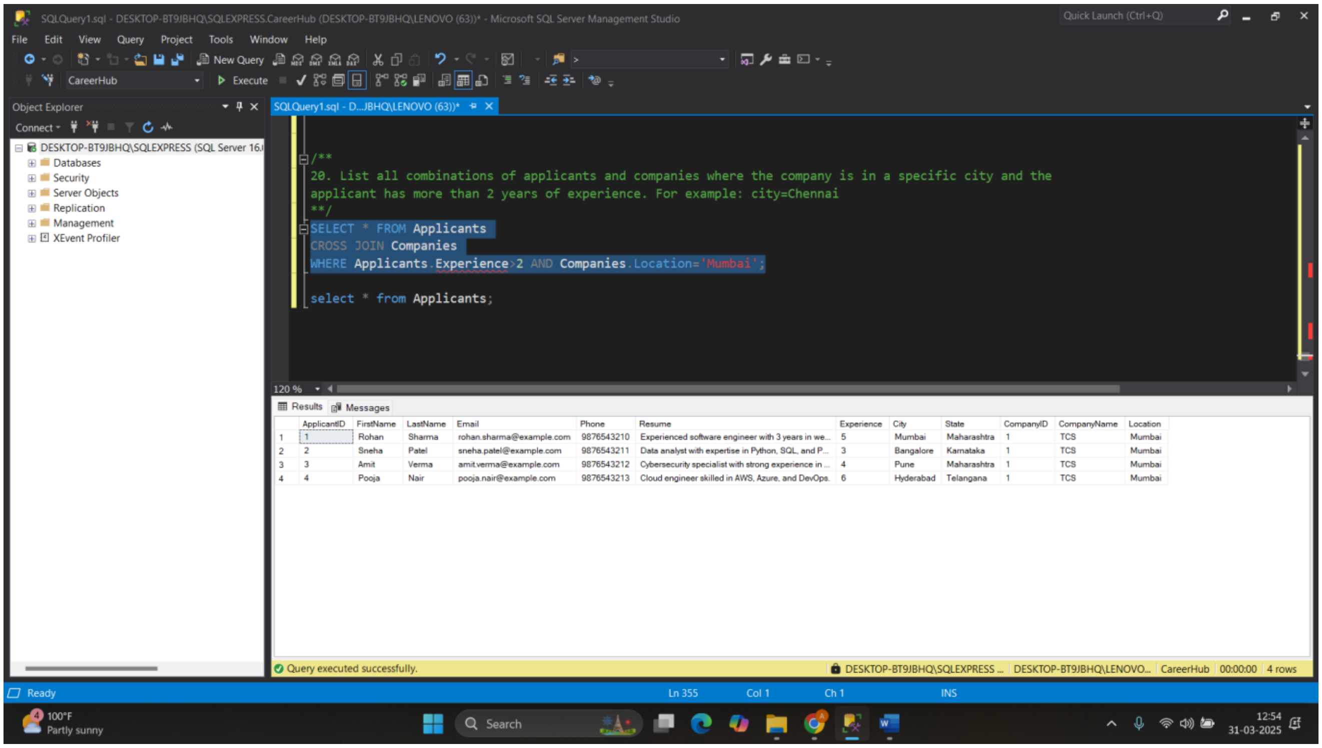
**/
SELECT
    Applicants.ApplicantID,
    Applicants.FirstName,
    Applicants.LastName,
    Jobs.JobID,
    Jobs.JobTitle
FROM Applicants
FULL OUTER JOIN Applications ON Applications.ApplicantID = Applicants.ApplicantID
FULL OUTER JOIN Jobs ON Jobs.JobID = Applications.JobID;
```

	ApplicantID	FirstName	LastName	JobID	JobTitle
1	1	Rohan	Sharma	101	Software Engineer
2	2	Sneha	Patel	102	Data Analyst
3	3	Amit	Verma	103	Cybersecurity Specialist
4	4	Pooja	Nair	104	Cloud Engineer
5	5	Vikas	Reddy	105	AI/ML Engineer
6	NULL	NULL	NULL	106	Software Engineer 2

Query executed successfully.

20. List all combinations of applicants and companies where the company is in a specific city and the applicant has more than 2 years of experience. For example: city=Chennai

```
SELECT * FROM Applicants
CROSS JOIN Companies
WHERE Applicants.Experience>2 AND Companies.Location='Mumbai';
```


SQLQuery1.sql - DESKTOP-BT9JBHQ\SQLEXPRESS.CareerHub (DESKTOP-BT9JBHQ\LENOVO (63))* - Microsoft SQL Server Management Studio
Quick Launch (Ctrl+Q)
File Edit View Query Project Tools Window Help
New Query
CareerHub
Execute
Object Explorer
Connect
DESKTOP-BT9JBHQ\SQLEXPRESS (SQL Server 16.
Databases
Security
Server Objects
Replication
Management
XEvent Profiler
SQLQuery1.sql - D...JBHQ\LENOVO (63))*
120 %
Results
Messages
Ready
Ln 355
Col 1
Ch 1
INS
100°F
Partly sunny
Search
12:54
31-03-2025

```
/**
20. List all combinations of applicants and companies where the company is in a specific city and the
applicant has more than 2 years of experience. For example: city=Chennai
**/
SELECT * FROM Applicants
CROSS JOIN Companies
WHERE Applicants.Experience>2 AND Companies.Location='Mumbai';

select * from Applicants;
```

	ApplicantID	FirstName	LastName	Email	Phone	Resume	Experience	City	State	CompanyID	CompanyName	Location
1	1	Rohan	Sharma	rohan.sharma@example.com	9876543210	Experienced software engineer with 3 years in we...	5	Mumbai	Maharashtra	1	TCS	Mumbai
2	2	Sneha	Patel	sneha.patel@example.com	9876543211	Data analyst with expertise in Python, SQL, and P...	3	Bangalore	Karnataka	1	TCS	Mumbai
3	3	Amit	Verma	amit.verma@example.com	9876543212	Cybersecurity specialist with strong experience in ...	4	Pune	Maharashtra	1	TCS	Mumbai
4	4	Pooja	Nair	pooja.nair@example.com	9876543213	Cloud engineer skilled in AWS, Azure, and DevOps.	6	Hyderabad	Telangana	1	TCS	Mumbai

Query executed successfully. DESKTOP-BT9JBHQ\SQLEXPRESS ... DESKTOP-BT9JBHQ\LENOVO... CareerHub 00:00:00 4 rows