

Project-2 DBMS
Title: Recruitment Hospital

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ABSTRACT:

Background: In the dynamic environment of healthcare, the success of medical facilities hinges on the ability and readiness of their staff. Efficient and empathetic recruitment processes are vital to attract and maintain a workforce capable of delivering compassionate and high-quality patient care. The recruitment challenges in healthcare, characterized by the need for diverse roles ranging from administrative to clinical positions, demand an advanced and adaptable system to manage hiring intricacies.

Objective: This project seeks to develop a tailored database system for a University Medical Center, designed to nurture and enhance the recruitment journey. By focusing on a system that supports human resource professionals in nurturing potential employees from first contact through to hiring, we aim to foster a workplace that values thorough selection processes and thoughtful candidate engagement.

Methods: Employing SQL Server, we crafted a relational database to model the intricate web of interactions typical in healthcare recruitment. This database not only houses data but also mirrors the real-world processes of job applications, candidate evaluations, interviews, and final onboarding. Our approach emphasizes data integrity and user accessibility while ensuring sensitive information is safeguarded through robust security practices. Key elements such as stored procedures and triggers automate routine tasks and uphold data consistency, supporting staff in focusing more on candidate engagement and less on administrative burdens.

Implementation: Initial data populating the system reflects realistic recruitment scenarios, providing a foundation for rigorous testing and adjustments. The system is equipped with tools for generating insightful analytics, such as reports on time-to-hire metrics, effectiveness of recruitment channels, and interviewer performance, all aimed at refining the recruitment strategy continually.

Expected Outcomes: Anticipated benefits include a significant reduction in time and resources spent on recruitment activities, heightened transparency in recruitment statuses, and enriched decision-making through detailed analytical reports. By improving these aspects, the system will contribute to a more streamlined and candidate-focused recruitment process, enhancing staff satisfaction and retention rates.

OVERVIEW OF THE PROJECT DESIGN AND IMPLEMENTATION:

- The project establishes a comprehensive recruitment database for a University Medical Center to streamline the hiring process.
- A relational database is set up in SQL Server, structured to facilitate detailed tracking of job applications and recruitment processes.
- The database includes key entities such as Candidates, Jobs, JobOpenings, Applications, Interviews, and related entities.
- Candidates table stores personal and contact details of applicants, facilitating a structured repository for candidate data.
- Jobs table records available positions, along with job descriptions, types, and requirements.
- JobOpenings links to Jobs, indicating the number of positions open for each job role.
- Applications table connects candidates to job openings, tracking the status and progress of each application.
- Interviews and Tests tables manage the scheduling and outcomes of interviews and assessments linked to specific applications.
- Interviewers, Documents, BackgroundChecks, DrugTests, and Reimbursements tables provide additional support data for the recruitment process.
- Comprehensive foreign key relationships ensure data integrity and enforce logical connections between related data entities.
- Stored procedures automate routine database operations such as adding new candidates or updating application statuses.
- Triggers are employed to maintain data consistency, such as updating job opening counts or logging interview details.
- Views are created for easily querying common data sets, such as current job openings or candidate status reports.
- Security roles and permissions are carefully implemented to safeguard sensitive data and control access based on user roles.
- The database design emphasizes scalability and efficiency, enabling the HR department to efficiently manage recruitment activities and provide timely reports for decision-making.
- This summary encapsulates the strategic approach to database management, emphasizing operational efficiency, data integrity, and system security within the recruitment context.

ER Diagram

Entities and Their Attributes

Here's a breakdown of the entities (tables) included in the ER diagram, along with their primary attributes:

1. Candidates

- **CandidateID** (Primary Key)
- **Name**
- **Email**
- **Phone**
- **ShortProfile**

2. Jobs

- **JobID** (Primary Key)
- **Position**
- **Title**
- **Type**
- **Medium**
- **StartDate**
- **JobDescription**

3. Job Openings

- **OpeningID** (Primary Key)
- **JobID** (Foreign Key from Jobs)
- **NumberOfPositions**

4. Applications

- **ApplicationID** (Primary Key)
- **CandidateID** (Foreign Key from Candidates)
- **JobOpeningID** (Foreign Key from Job Openings)
- **ApplicationDate**
- **Status**

5. Interviews

- **InterviewID** (Primary Key)
- **ApplicationID** (Foreign Key from Applications)
- **InterviewType**
- **StartTime**
- **EndTime**

6. Tests

- **TestID** (Primary Key)
- **InterviewID** (Foreign Key from Interviews)
- **TestType**
- **StartTime**
- **EndTime**
- **Result**

7. Interviewers

- **InterviewerID** (Primary Key)
- **Name**
- **Department**
- **Title**

8. Documents

- **DocumentID** (Primary Key)
- **CandidateID** (Foreign Key from Candidates)
- **Type**
- **DocumentLink**

9. Background Checks

- **CheckID** (Primary Key)
- **CandidateID** (Foreign Key from Candidates)
- **CriminalBackground**
- **EmploymentHistory**
- **CheckStatus**
- **CheckDate**

10. Drug Tests

- **TestID** (Primary Key)
- **CandidateID** (Foreign Key from Candidates)
- **TestType**
- **TestDate**
- **Results**

11. Reimbursements

- **ReimbursementID** (Primary Key)
- **ApplicationID** (Foreign Key from Applications)
- **RequestedAmount**
- **ProcessedAmount**
- **Status**

12. Onboarding

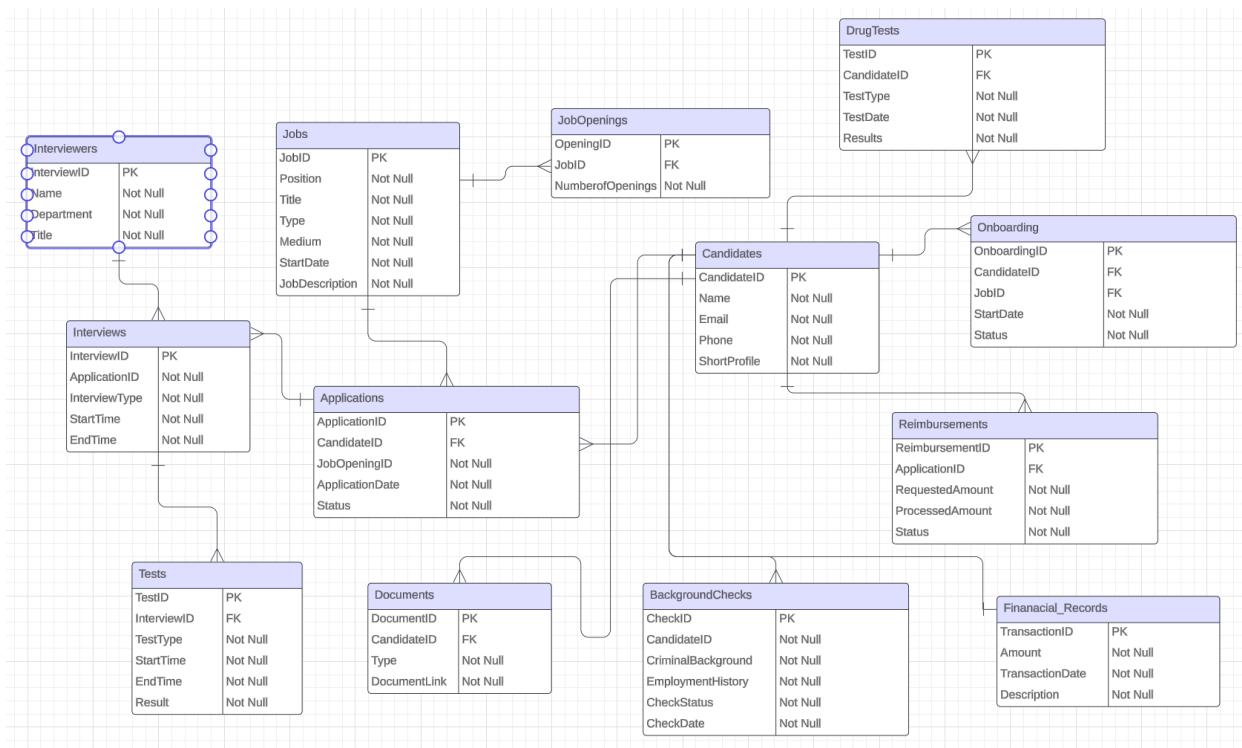
- **OnboardingID** (Primary Key)
- **CandidateID** (Foreign Key from Candidates)
- **JobID** (Foreign Key from Jobs)
- **StartDate**
- **Status**

Relationships

- **Candidates to Applications:** One-to-Many (A candidate can have multiple applications)
- **Jobs to Job Openings:** One-to-Many (A job can have multiple openings)
- **Job Openings to Applications:** One-to-Many (A job opening can receive multiple applications)
- **Applications to Interviews:** One-to-Many (An application can lead to multiple interviews)
- **Interviews to Tests:** One-to-Many (An interview can have multiple tests)

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- **Candidates to Documents, Background Checks, Drug Tests, Onboarding:** One-to-Many (A candidate can have multiple documents, background checks, drug tests, and one onboarding process)



Create Commands

Query1:

```
USE master;
GO

IF NOT EXISTS (
    SELECT name
    FROM sys.databases
    WHERE name = N'Recruitment_Hospital'
)
CREATE DATABASE [Recruitment_Hospital];
GO

IF SERVERPROPERTY('ProductVersion') > '12'
    ALTER DATABASE [Recruitment_Hospital] SET QUERY_STORE = ON;
GO
```

This SQL script checks if the "Recruitment_Hospital" database exists in SQL Server; if not, it creates it. Additionally, it enables the Query Store feature for performance analysis if the server version is above 12.

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The screenshot shows the SSMS interface with the following details:

- Connections:** ATHARVAA is selected.
- Databases:** A new database named "Recruitment_Hospital" is being created.
- Script:** The T-SQL script for creating the database is displayed in the main pane:

```
USE master;
GO
IF NOT EXISTS (
    SELECT name
    FROM sys.databases
    WHERE name = N'Recruitment_Hospital'
)
CREATE DATABASE [Recruitment_Hospital];
GO
IF SERVERPROPERTY('ProductVersion') > '12'
ALTER DATABASE [Recruitment_Hospital] SET QUERY_STORE = ON;
GO
```
- Messages:** The execution log shows successful command completion messages.
- Status Bar:** Shows the session ID (37), connection status (AZURE), and other metrics like rows affected and execution time.

-- We are creating a Table ---

Create Table:

-- Creating table for Candidates

```
CREATE TABLE Candidates (
    CandidateID INT PRIMARY KEY,
    Name VARCHAR(255),
    Email VARCHAR(255) UNIQUE,
    Phone VARCHAR(50),
    ShortProfile TEXT
);
```

-- Creating table for Jobs

```
CREATE TABLE Jobs (
    JobID INT PRIMARY KEY,
    Position VARCHAR(255),
    Title VARCHAR(255),
    Type VARCHAR(50),
    Medium VARCHAR(50),
    StartDate DATE,
    JobDescription TEXT
);
```

-- Creating table for Job Openings

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```
CREATE TABLE JobOpenings (
    OpeningID INT PRIMARY KEY,
    JobID INT,
    NumberOfPositions INT,
    FOREIGN KEY (JobID) REFERENCES Jobs(JobID)
);

-- Creating table for Applications
CREATE TABLE Applications (
    ApplicationID INT PRIMARY KEY,
    CandidateID INT,
    JobOpeningID INT,
    ApplicationDate DATE,
    Status VARCHAR(50),
    FOREIGN KEY (CandidateID) REFERENCES Candidates(CandidateID),
    FOREIGN KEY (JobOpeningID) REFERENCES JobOpenings(OpeningID)
);

-- Creating table for Interviews
CREATE TABLE Interviews (
    InterviewID INT PRIMARY KEY,
    ApplicationID INT,
    InterviewType VARCHAR(50),
    StartTime DATETIME,
    EndTime DATETIME,
    FOREIGN KEY (ApplicationID) REFERENCES Applications(ApplicationID)
);

-- Creating table for Tests
CREATE TABLE Tests (
    TestID INT PRIMARY KEY,
    InterviewID INT,
    TestType VARCHAR(50),
    StartTime DATETIME,
    EndTime DATETIME,
    Result VARCHAR(50),
    FOREIGN KEY (InterviewID) REFERENCES Interviews(InterviewID)
);

-- Creating table for Interviewers
CREATE TABLE Interviewers (
    InterviewerID INT PRIMARY KEY,
    Name VARCHAR(255),
    Department VARCHAR(255),
    Title VARCHAR(255)
);

-- Creating table for Documents
```

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```
CREATE TABLE Documents (
    DocumentID INT PRIMARY KEY,
    CandidateID INT,
    Type VARCHAR(50),
    DocumentLink TEXT,
    FOREIGN KEY (CandidateID) REFERENCES Candidates(CandidateID)
);

-- Creating table for Background Checks
CREATE TABLE BackgroundChecks (
    CheckID INT PRIMARY KEY,
    CandidateID INT,
    CriminalBackground VARCHAR(255),
    EmploymentHistory VARCHAR(255),
    CheckStatus VARCHAR(50),
    CheckDate DATE,
    FOREIGN KEY (CandidateID) REFERENCES Candidates(CandidateID)
);

-- Creating table for Drug Tests
CREATE TABLE DrugTests (
    TestID INT PRIMARY KEY,
    CandidateID INT,
    TestType VARCHAR(50),
    TestDate DATE,
    Results VARCHAR(50),
    FOREIGN KEY (CandidateID) REFERENCES Candidates(CandidateID)
);

-- Creating table for Reimbursements
CREATE TABLE Reimbursements (
    ReimbursementID INT PRIMARY KEY,
    ApplicationID INT,
    RequestedAmount DECIMAL(10,2),
    ProcessedAmount DECIMAL(10,2),
    Status VARCHAR(50),
    FOREIGN KEY (ApplicationID) REFERENCES Applications(ApplicationID)
);

-- Creating table for Onboarding
CREATE TABLE Onboarding (
    OnboardingID INT PRIMARY KEY,
    CandidateID INT,
    JobID INT,
    StartDate DATE,
    Status VARCHAR(50),
    FOREIGN KEY (CandidateID) REFERENCES Candidates(CandidateID),
    FOREIGN KEY (JobID) REFERENCES Jobs(JobID)
```

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);

This SQL script outlines the creation of a comprehensive database structure for managing a recruitment system. It includes tables for candidates, jobs, job openings, applications, interviews, and related entities like tests, interviewers, documents, background checks, drug tests, reimbursements, and onboarding. Each table is equipped with primary keys for identification and foreign keys to establish relationships between them, ensuring data integrity and relational management across the recruitment process.

```
27  -- Creating table for Jobs
28  CREATE TABLE Jobs (
29      JobID INT PRIMARY KEY,
30      Position VARCHAR(255),
31      Title VARCHAR(255),
32      Type VARCHAR(50),
33      Medium VARCHAR(50),
34      StartDate DATE,
35      JobDescription TEXT
36  );
37
38
39  -- Creating table for Job Openings
40  CREATE TABLE JobOpenings (
41      OpeningID INT PRIMARY KEY,
42      JobID INT,
43      NumberOfPositions INT,
44      FOREIGN KEY (JobID) REFERENCES Jobs(JobID)
45  );
46
47  -- Creating table for Applications
48  CREATE TABLE Applications (
49      ApplicationID INT PRIMARY KEY,
50      CandidateID INT,
51      JobOpeningID INT,
52      ApplicationDate DATE,
53      Status VARCHAR(50),
54      FOREIGN KEY (CandidateID) REFERENCES Candidates(CandidateID),
55      FOREIGN KEY (JobOpeningID) REFERENCES JobOpenings(OpeningID)
56  );
57
58  -- Creating table for Interviews
59  CREATE TABLE Interviews (
60      InterviewID INT PRIMARY KEY,
61      ApplicationID INT,
62      InterviewType VARCHAR(50),
63      StartTime DATETIME,
64      EndTime DATETIME,
65      FOREIGN KEY (ApplicationID) REFERENCES Applications(ApplicationID)
66  );
67
68  -- Creating table for Tests
69  CREATE TABLE Tests (
70      TestID INT PRIMARY KEY,
71      TestName VARCHAR(50)
72  );
```

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```

-- Creating table for Tests
CREATE TABLE Tests (
    TestID INT PRIMARY KEY,
    InterviewID INT,
    TestType VARCHAR(50),
    StartTime DATETIME,
    EndTime DATETIME,
    Result VARCHAR(50),
    FOREIGN KEY (InterviewID) REFERENCES Interviews(InterviewID)
);

-- Creating table for Interviewers
CREATE TABLE Interviewers (
    InterviewerID INT PRIMARY KEY,
    Name VARCHAR(255),
    Department VARCHAR(255),
    Title VARCHAR(255)
);

-- Creating table for Documents
CREATE TABLE Documents (
    DocumentID INT PRIMARY KEY,
    CandidateID INT,
    Type VARCHAR(50),
    DocumentLink TEXT,
    FOREIGN KEY (CandidateID) REFERENCES Candidates(CandidateID)
);

-- Creating table for Background Checks
CREATE TABLE BackgroundChecks (
    CheckID INT PRIMARY KEY,
    CandidateID INT,
    CriminalBackground VARCHAR(255),
    EmploymentHistory VARCHAR(255),
    CheckStatus VARCHAR(50),
    CheckDate DATE,
    FOREIGN KEY (CandidateID) REFERENCES Candidates(CandidateID)
);

-- Creating table for Drug Tests
CREATE TABLE DrugTests (
    TestID INT PRIMARY KEY,
    ...
);

```

Ln 304, Col 14 Spaces: 4 UTF-8 LF SQL 11 rows MSSQL 00:00:00 127.0.0.1 : Recruitment_Hospital

```

-- Creating table for Reimbursements
CREATE TABLE Reimbursements (
    ReimbursementID INT PRIMARY KEY,
    ApplicationID INT,
    RequestedAmount DECIMAL(10,2),
    ProcessedAmount DECIMAL(10,2),
    Status VARCHAR(50),
    FOREIGN KEY (ApplicationID) REFERENCES Applications(ApplicationID)
);

-- Creating table for Onboarding
CREATE TABLE Onboarding (
    OnboardingID INT PRIMARY KEY,
    CandidateID INT,
    JobID INT,
    StartDate DATE,
    Status VARCHAR(50),
    FOREIGN KEY (CandidateID) REFERENCES Candidates(CandidateID),
    FOREIGN KEY (JobID) REFERENCES Jobs(JobID)
);

CREATE TABLE FinancialRecords (
    TransactionID UNIQUEIDENTIFIER PRIMARY KEY,
    Amount DECIMAL(10, 2),
    TransactionDate DATETIME,
    Description NVARCHAR(255)
);

```

Ln 304, Col 14 Spaces: 4 UTF-8 LF SQL 11 rows MSSQL 00:00:00 127.0.0.1 : Recruitment_Hospital

Insert Commands

This SQL script efficiently populates a recruitment system database by inserting detailed entries into tables that manage candidates, job openings, applications, interviews, and several supportive elements such as drug tests and reimbursements. The script meticulously establishes relationships using foreign keys, ensuring data consistency across different facets of the recruitment process. It covers the entire hiring lifecycle, from candidate entry, job listing, and application management to interview scheduling, background verification, and onboarding, demonstrating a thorough approach to recruitment data management.

```
INSERT INTO Candidates (CandidateID, Name, Email, Phone, ShortProfile) VALUES
(1011, 'Atharvaa Rane', 'atharvaa.rane@syr.edu', '315-555-2974', 'Radiologist with a
special interest in musculoskeletal imaging and sports injuries.'),
(1012, 'Nolan Case', 'nolan.case@healthnet.com', '716-555-4521', 'Epidemiologist with
a strong background in infectious diseases and public health.'),
(1013, 'Lydia Bennett', 'lydia.bennett@clinic.org', '607-555-9832', 'Dermatologist
focusing on pediatric and adolescent skin conditions.'),
(1014, 'Reed Morales', 'reed.morales@pioneerhealth.com', '845-555-7391', 'Biochemist
with expertise in pharmaceutical developments and patient safety.'),
(1015, 'Eva Summers', 'eva.summers@welllife.com', '518-555-8264', 'Nutritionist
specializing in dietetics for chronic diseases and senior health.'),
(1016, 'Hugo Ross', 'hugo.ross@medicalcore.com', '914-555-4930', 'General practitioner
with a comprehensive approach to primary care and wellness.'),
(1017, 'Vivian Lacroix', 'vivian.lacroix@integrahealth.com', '347-555-1824', 'A
seasoned physical therapist dedicated to rehabilitation and recovery processes.'),
(1018, 'Miles Archer', 'miles.archer@lifeline.com', '631-555-5010', 'Clinical research
coordinator focusing on trials for cutting-edge cancer treatments.'),
(1019, 'Tara Flynn', 'tara.flynn@careplus.org', '212-555-2213', 'Anesthesiologist with
a focus on perioperative care and pain management.'),
(1020, 'Leo Carver', 'leo.carver@pharmtech.com', '646-555-6668', 'Pharmaceutical
technician engaged in medication therapy management and patient counseling.');
```

```
INSERT INTO Jobs (JobID, Position, Title, Type, Medium, StartDate, JobDescription)
VALUES
(2011, 'Cardiologist', 'Consultant Cardiologist', 'Full-time', 'Onsite', '2024-02-20',
'Diagnoses and treats patients with heart and cardiovascular conditions.'),
(2012, 'Medical Illustrator', 'Lead Medical Illustrator', 'Contract', 'Remote', '2024-
03-15', 'Creates detailed medical graphics to aid patient understanding and medical
education.'),
(2013, 'Genetic Counselor', 'Senior Genetic Counselor', 'Part-time', 'Onsite', '2024-
04-10', 'Provides genetic counseling and conducts risk assessments for patients.'),
(2014, 'Neurologist', 'Chief of Neurology', 'Full-time', 'Onsite', '2024-05-05',
'Heads the department of neurology and oversees treatment of neurological
disorders.');
```

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```
(2015, 'Medical Coder', 'Medical Coding Specialist', 'Full-time', 'Remote', '2024-06-12', 'Ensures accurate coding of health services and procedures for billing and documentation.'),  
(2016, 'Pediatric Oncologist', 'Pediatric Cancer Specialist', 'Full-time', 'Onsite', '2024-07-22', 'Specializes in diagnosing and treating cancers affecting children.'),  
(2017, 'Speech Therapist', 'Speech-Language Pathologist', 'Full-time', 'Onsite', '2024-08-18', 'Assists patients in improving speech disorders and swallowing difficulties.'),  
(2018, 'Health Data Analyst', 'Senior Data Analyst', 'Contract', 'Remote', '2024-09-01', 'Analyzes health data to help improve hospital systems and patient care outcomes.'),  
(2019, 'Occupational Therapist', 'Lead Occupational Therapist', 'Part-time', 'Onsite', '2024-10-25', 'Helps patients develop and recover daily living and work skills.'),  
(2020, 'Clinical Psychologist', 'Behavioral Health Specialist', 'Full-time', 'Onsite', '2024-11-15', 'Provides psychological assessments and therapy to patients dealing with mental health issues.');
```

```
INSERT INTO JobOpenings (OpeningID, JobID, NumberOfPositions) VALUES  
(3011, 2011, 2), -- Cardiologist  
(3012, 2012, 1), -- Medical Illustrator  
(3013, 2013, 1), -- Genetic Counselor  
(3014, 2014, 1), -- Neurologist  
(3015, 2015, 2), -- Medical Coder  
(3016, 2016, 2), -- Pediatric Oncologist  
(3017, 2017, 2), -- Speech Therapist  
(3018, 2018, 1), -- Health Data Analyst  
(3019, 2019, 2), -- Occupational Therapist  
(3020, 2020, 1); -- Clinical Psychologist
```

```
-- Inserting application data into the 'Applications' table  
INSERT INTO Applications (ApplicationID, CandidateID, JobOpeningID, ApplicationDate, Status) VALUES  
(4011, 1011, 3011, '2023-10-04', 'Under Review'),  
(4012, 1012, 3012, '2023-09-20', 'Submitted'),  
(4013, 1013, 3013, '2023-09-18', 'Under Review'),  
(4014, 1014, 3014, '2023-09-15', 'Submitted'),  
(4015, 1015, 3015, '2023-10-07', 'Under Review'),  
(4016, 1016, 3016, '2023-09-22', 'Submitted'),  
(4017, 1017, 3017, '2023-09-30', 'Under Review'),  
(4018, 1018, 3018, '2023-09-21', 'Submitted'),  
(4019, 1019, 3019, '2023-10-01', 'Submitted'),  
(4020, 1020, 3020, '2023-09-19', 'Under Review');
```

```
-- Inserting data into the 'Interviews' table  
INSERT INTO Interviews (InterviewID, ApplicationID, InterviewType, StartTime, EndTime)  
VALUES
```

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```
(5001, 4011, 'Initial Screening', '2023-10-05 09:00:00', '2023-10-05 10:00:00'),  
(5002, 4012, 'Technical Interview', '2023-09-21 11:00:00', '2023-09-21 12:30:00'),  
(5003, 4013, 'Panel Interview', '2023-09-19 14:00:00', '2023-09-19 15:30:00'),  
(5004, 4014, 'HR Interview', '2023-09-16 10:00:00', '2023-09-16 11:00:00'),  
(5005, 4015, 'Technical Interview', '2023-10-08 13:00:00', '2023-10-08 14:00:00'),  
(5006, 4016, 'Panel Interview', '2023-09-23 10:00:00', '2023-09-23 11:30:00'),  
(5007, 4017, 'HR Interview', '2023-09-01 09:00:00', '2023-09-01 10:00:00'),  
(5008, 4018, 'Initial Screening', '2023-09-22 13:00:00', '2023-09-22 14:00:00'),  
(5009, 4019, 'Technical Interview', '2023-10-02 10:00:00', '2023-10-02 11:00:00'),  
(5010, 4020, 'HR Interview', '2023-09-20 09:00:00', '2023-09-20 10:00:00');
```

```
INSERT INTO Tests (TestID, InterviewID, TestType, StartTime, EndTime, Result) VALUES  
(6001, 5001, 'Personality Test', '2023-10-05 11:00:00', '2023-10-05 12:00:00',  
'Passed'),  
(6002, 5002, 'Coding Test', '2023-09-21 13:30:00', '2023-09-21 15:30:00', 'Failed'),  
(6003, 5003, 'Panel Review', '2023-09-19 15:00:00', '2023-09-19 16:00:00', 'Passed'),  
(6004, 5004, 'Skill Assessment', '2023-09-16 10:30:00', '2023-09-16 11:30:00',  
'Failed'),  
(6005, 5005, 'Technical Quiz', '2023-10-08 14:30:00', '2023-10-08 15:30:00',  
'Passed'),  
(6006, 5006, 'Clinical Knowledge Test', '2023-09-23 11:00:00', '2023-09-23 12:00:00',  
'Failed'),  
(6007, 5007, 'Management Simulation', '2023-09-01 09:30:00', '2023-09-01 10:30:00',  
'Passed'),  
(6008, 5008, 'Communication Test', '2023-09-22 14:00:00', '2023-09-22 15:00:00',  
'Failed'),  
(6009, 5009, 'Problem Solving Test', '2023-10-02 11:00:00', '2023-10-02 12:00:00',  
'Passed'),  
(6010, 5010, 'Ethical Reasoning Test', '2023-09-20 09:30:00', '2023-09-20 10:30:00',  
'Passed');
```

```
INSERT INTO Interviewers (InterviewerID, Name, Department, Title) VALUES  
(7001, 'Dr. Lisa Ray', 'Cardiology', 'Senior Cardiologist'),  
(7002, 'Mr. James Smith', 'IT', 'IT Manager'),  
(7003, 'Ms. Nancy Drew', 'HR', 'HR Director'),  
(7004, 'Dr. Alan Grant', 'Oncology', 'Lead Oncologist'),  
(7005, 'Ms. Claire Dearing', 'Pediatrics', 'Pediatric Nurse Manager'),  
(7006, 'Dr. Henry Wu', 'Genetics', 'Chief Geneticist'),  
(7007, 'Mr. Owen Grady', 'Security', 'Security Supervisor'),  
(7008, 'Ms. Ellie Sattler', 'Botany', 'Head of Botanical Research'),  
(7009, 'Dr. Ian Malcolm', 'Mathematics', 'Statistical Analyst'),  
(7010, 'Dr. Victor Fries', 'Cryogenics', 'Cryogenics Specialist');
```

```
INSERT INTO Documents (DocumentID, CandidateID, Type, DocumentLink) VALUES  
(8001, 1011, 'Resume', 'https://docs.example.com/resumes/1011'),  
(8002, 1012, 'Cover Letter', 'https://docs.example.com/coverletters/1012'),  
(8003, 1013, 'Portfolio', 'https://docs.example.com/portfolios/1013');
```

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```
(8004, 1014, 'Resume', 'https://docs.example.com/resumes/1014'),
(8005, 1015, 'Cover Letter', 'https://docs.example.com/coverletters/1015'),
(8006, 1016, 'Portfolio', 'https://docs.example.com/portfolios/1016'),
(8007, 1017, 'Resume', 'https://docs.example.com/resumes/1017'),
(8008, 1018, 'Cover Letter', 'https://docs.example.com/coverletters/1018'),
(8009, 1019, 'Portfolio', 'https://docs.example.com/portfolios/1019'),
(8010, 1020, 'Resume', 'https://docs.example.com/resumes/1020');
```

```
INSERT INTO BackgroundChecks (CheckID, CandidateID, CriminalBackground,
EmploymentHistory, CheckStatus, CheckDate) VALUES
(9001, 1011, 'None', 'Verified', 'Completed', '2023-09-25'),
(9002, 1012, 'None', 'Verified', 'Completed', '2023-09-26'),
(9003, 1013, 'Minor', 'Verified', 'Pending', '2023-09-27'),
(9004, 1014, 'None', 'Verified', 'Completed', '2023-09-28'),
(9005, 1015, 'None', 'Verified', 'Completed', '2023-09-29'),
(9006, 1016, 'None', 'Verified', 'Completed', '2023-10-01'),
(9007, 1017, 'None', 'Verified', 'Completed', '2023-10-02'),
(9008, 1018, 'None', 'Verified', 'Completed', '2023-10-03'),
(9009, 1019, 'None', 'Verified', 'Completed', '2023-10-04'),
(9010, 1020, 'None', 'Verified', 'Completed', '2023-10-05');
```

```
INSERT INTO DrugTests (TestID, CandidateID, TestType, TestDate, Results) VALUES
(10001, 1011, 'Urine Test', '2023-09-30', 'Negative'),
(10002, 1012, 'Urine Test', '2023-10-01', 'Negative'),
(10003, 1013, 'Urine Test', '2023-10-02', 'Positive'),
(10004, 1014, 'Urine Test', '2023-10-03', 'Negative'),
(10005, 1015, 'Urine Test', '2023-10-04', 'Negative'),
(10006, 1016, 'Urine Test', '2023-10-05', 'Negative'),
(10007, 1017, 'Urine Test', '2023-10-06', 'Negative'),
(10008, 1018, 'Urine Test', '2023-10-07', 'Negative'),
(10009, 1019, 'Urine Test', '2023-10-08', 'Negative'),
(10010, 1020, 'Urine Test', '2023-10-09', 'Negative');
```

```
INSERT INTO Reimbursements (ReimbursementID, ApplicationID, RequestedAmount,
ProcessedAmount, Status) VALUES
(11001, 4011, 200.00, 200.00, 'Processed'),
(11002, 4012, 150.00, 150.00, 'Processed'),
(11003, 4013, 180.00, 180.00, 'Processed'),
(11004, 4014, 300.00, 290.00, 'Processed'),
(11005, 4015, 250.00, 250.00, 'Processed'),
(11006, 4016, 190.00, 180.00, 'Processed'),
(11007, 4017, 210.00, 200.00, 'Processed'),
(11008, 4018, 100.00, 100.00, 'Processed'),
(11009, 4019, 200.00, 190.00, 'Processed'),
(11010, 4020, 250.00, 250.00, 'Processed');
```

PROJECT-2 DBMS

```
INSERT INTO Onboarding (OnboardingID, CandidateID, JobID, StartDate, Status) VALUES
(12001, 1011, 2011, '2024-02-21', 'Active'),
(12002, 1012, 2012, '2024-03-16', 'Active'),
(12003, 1013, 2013, '2024-04-11', 'Pending'),
(12004, 1014, 2014, '2024-05-06', 'Active'),
(12005, 1015, 2015, '2024-06-13', 'Active'),
(12006, 1016, 2016, '2024-07-23', 'Pending'),
(12007, 1017, 2017, '2024-08-19', 'Active'),
(12008, 1018, 2018, '2024-09-02', 'Pending'),
(12009, 1019, 2019, '2024-10-26', 'Active'),
(12010, 1020, 2020, '2024-11-16', 'Active');

INSERT INTO FinancialRecords (TransactionID, Amount, TransactionDate, Description)
VALUES
(NEWID(), 1500.00, '2024-05-01', 'Payment for medical equipment'),
(NEWID(), 200.00, '2024-05-02', 'Refund of overcharged fees'),
(NEWID(), 1200.00, '2024-05-03', 'Consultation fees for cardiology department'),
(NEWID(), 750.00, '2024-05-04', 'Purchase of new office furniture for clinic'),
(NEWID(), 350.00, '2024-05-05', 'Software license renewal for administrative operations');
```

PROJECT-2 DBMS

The screenshot shows the SSMS interface with the following details:

- Left pane (Object Explorer):** Shows the connection to 'ATHARVAA' and the 'Recruitment_Hospital' database. Under 'Tables', it lists 13 tables: Applications, BackgroundChecks, Candidates, Documents, DrugTests, FinancialRecords, Interviewers, Interviews, JobOpenings, Jobs, Onboarding, Reimbursements, and Tests.
- Top bar:** Shows the path 'Users > atharvaarane > Desktop > DataBase > Project_2.sql - ATHARVAA 9+', along with various toolbar icons.
- Code Editor:** Displays the following T-SQL code:

```

293  (12807, 1017, 2017, '2024-08-19', 'Active'),
294  (12808, 1018, 2018, '2024-09-02', 'Pending'),
295  (12809, 1019, 2019, '2024-10-26', 'Active'),
296  (12810, 1020, 2020, '2024-11-16', 'Active');
297
298
299 USE Recruitment_Hospital;
300 SELECT * FROM information_schema.tables WHERE table_type = 'BASE TABLE';
301

```
- Results Grid:** A table titled 'Results' showing the following data:

	TABLE_CATALOG	TABLE_SCHEMA	TABLE_NAME	TABLE_TYPE
1	Recruitment_Hospital	dbo	Candidates	BASE TABLE
2	Recruitment_Hospital	dbo	Jobs	BASE TABLE
3	Recruitment_Hospital	dbo	JobOpenings	BASE TABLE
4	Recruitment_Hospital	dbo	Applications	BASE TABLE
5	Recruitment_Hospital	dbo	Interviews	BASE TABLE
6	Recruitment_Hospital	dbo	Tests	BASE TABLE
7	Recruitment_Hospital	dbo	Interviewers	BASE TABLE
8	Recruitment_Hospital	dbo	Documents	BASE TABLE
9	Recruitment_Hospital	dbo	BackgroundChecks	BASE TABLE
10	Recruitment_Hospital	dbo	DrugTests	BASE TABLE
11	Recruitment_Hospital	dbo	Reimbursements	BASE TABLE
12	Recruitment_Hospital	dbo	Onboarding	BASE TABLE
13	Recruitment_Hospital	dbo	FinancialRecords	BASE TABLE
- Bottom status bar:** Shows 'Ln 310, Col 14' and other system information.

- This SQL command selects and lists all base tables from the specified database "Recruitment_Hospital". It uses the `information_schema.tables` to fetch table details, filtering to show only user-created tables.
- We can see that these are the tables that are available.

PROJECT-2 DBMS

CONNECTIONS ... Welcome Project_2.sql - ATHARVA 9+ ●

Users > atharvaarane > Desktop > DataBase > Project_2.sql

Run Cancel ⚙ Change Database: Recruitment_Hospital Estimated Plan Enable Actual Plan Parse Enable SQLCMD To Notebook

```

183 -- Inserting application data into the 'Applications' table
184 INSERT INTO Applications (ApplicationID, CandidateID, JobOpeningID, ApplicationDate, Status) VALUES
185 (4011, 1011, 3011, '2023-10-04', 'Under Review'),
186 (4012, 1012, 3012, '2023-09-28', 'Submitted'),
187 (4013, 1013, 3013, '2023-09-18', 'Under Review'),
188 (4014, 1014, 3014, '2023-09-15', 'Submitted'),
189 (4015, 1015, 3015, '2023-10-07', 'Under Review'),
190 (4016, 1016, 3016, '2023-09-22', 'Submitted'),
191 (4017, 1017, 3017, '2023-09-30', 'Under Review'),
192 (4018, 1018, 3018, '2023-09-21', 'Submitted'),
193 (4019, 1019, 3019, '2023-10-01', 'Submitted'),
194 (4020, 1020, 3020, '2023-09-19', 'Under Review');
195
196

```

Tables Messages

	ApplicationID	CandidateID	JobOpeningID	ApplicationDate	Status
1	4011	1011	3011	2023-10-04	Under Review
2	4012	1012	3012	2023-09-28	Submitted
3	4013	1013	3013	2023-09-18	Under Review
4	4014	1014	3014	2023-09-15	Submitted
5	4015	1015	3015	2023-10-07	Under Review
6	4016	1016	3016	2023-09-22	Submitted
7	4017	1017	3017	2023-09-30	Under Review
8	4018	1018	3018	2023-09-21	Submitted
9	4019	1019	3019	2023-10-01	Submitted
10	4020	1020	3020	2023-09-19	Under Review

RESULTS Messages

Ln 299, Col 27 Spaces: 4 UTF-8 LF SQL 10 rows MSSQL 00:00:00 127.0.0.1 : Recruitment_Hospital

CONNECTIONS ... Welcome Project_2.sql - ATHARVA 9+ ●

Users > atharvaarane > Desktop > DataBase > Project_2.sql

Run Cancel ⚙ Change Database: Recruitment_Hospital Estimated Plan Enable Actual Plan Parse Enable SQLCMD To Notebook

```

245 (8010, 1028, 'Resume', 'https://docs.example.com/resumes/1020');
246
247
248 INSERT INTO BackgroundChecks (CheckID, CandidateID, CriminalBackground, EmploymentHistory, CheckStatus, CheckDate) VALUES
249 (9001, 1011, 'None', 'Verified', 'Completed', '2023-09-25'),
250 (9002, 1012, 'None', 'Verified', 'Completed', '2023-09-26'),
251 (9003, 1013, 'Minor', 'Verified', 'Pending', '2023-09-27'),
252 (9004, 1014, 'None', 'Verified', 'Completed', '2023-09-28'),
253 (9005, 1015, 'None', 'Verified', 'Completed', '2023-09-29'),
254 (9006, 1016, 'None', 'Verified', 'Completed', '2023-10-01'),
255 (9007, 1017, 'None', 'Verified', 'Completed', '2023-10-02'),
256 (9008, 1018, 'None', 'Verified', 'Completed', '2023-10-03'),
257 (9009, 1019, 'None', 'Verified', 'Completed', '2023-10-04'),
258 (9010, 1020, 'None', 'Verified', 'Completed', '2023-10-05');
259
260

```

Tables Messages

	CheckID	CandidateID	CriminalBackground	EmploymentHistory	CheckStatus	CheckDate
1	9001	1011	None	Verified	Completed	2023-09-25
2	9002	1012	None	Verified	Completed	2023-09-26
3	9003	1013	Minor	Verified	Pending	2023-09-27
4	9004	1014	None	Verified	Completed	2023-09-28
5	9005	1015	None	Verified	Completed	2023-09-29
6	9006	1016	None	Verified	Completed	2023-10-01
7	9007	1017	None	Verified	Completed	2023-10-02
8	9008	1018	None	Verified	Completed	2023-10-03
9	9009	1019	None	Verified	Completed	2023-10-04
10	9010	1020	None	Verified	Completed	2023-10-05

RESULTS Messages

Ln 302, Col 1 (30 selected) Spaces: 4 UTF-8 LF SQL 10 rows MSSQL 00:00:00 127.0.0.1 : Recruitment_Hospital

PROJECT-2 DBMS

Project_2.sql - ATHARVAA 9+

```

143 };
144
145
146 INSERT INTO Candidates (CandidateID, Name, Email, Phone, ShortProfile) VALUES
147 (1011, 'Atharvaa Rane', 'atharvaa.rane@syr.edu', '315-555-2974', 'Radiologist with a special interest in musculoskeletal imaging and sports injuries.'),
148 (1012, 'Nolan Case', 'nolan.case@healthnet.com', '716-555-4521', 'Epidemiologist with a strong background in infectious diseases and public health.'),
149 (1013, 'Lydia Bennett', 'lydia.bennett@clinic.org', '607-555-9832', 'Dermatologist focusing on pediatric and adolescent skin conditions.'),
150 (1014, 'Reed Morales', 'reed.morales@pioneerhealth.com', '845-555-7391', 'Biochemist with expertise in pharmaceutical developments and patient safety.'),
151 (1015, 'Eva Summers', 'eva.summers@welllife.com', '518-555-8264', 'Nutritionist specializing in dietetics for chronic diseases and senior health.'),
152 (1016, 'Hugo Ross', 'hugo.ross@medicalcore.com', '914-555-4930', 'General practitioner with a comprehensive approach to primary care and wellness.'),
153 (1017, 'Vivian Lacroix', 'vivian.lacroix@integrahealth.com', '347-555-1824', 'A seasoned physical therapist dedicated to rehabilitation and recovery processes.')
154 (1018, 'Miles Archer', 'miles.archer@lifeline.com', '631-555-5010', 'Clinical research coordinator focusing on trials for cutting-edge cancer treatments.')
155 (1019, 'Tara Flynn', 'tara.flynn@careplus.org', '212-555-2213', 'Anesthesiologist with a focus on perioperative care and pain management.')
156 (1020, 'Leo Carver', 'leo.carver@pharmtech.com', '646-555-6668', 'Pharmaceutical technician engaged in medication therapy management and patient counseling.')
157
158 INSERT INTO Jobs (JobID, Position, Title, Type, Medium, StartDate, JobDescription) VALUES

```

Results

	CandidateID	Name	Email	Phone	ShortProfile
1	1011	Atharvaa Rane	atharvaa.rane@syr.edu	315-555-2974	Radiologist with a special interest in musculoskeletal imaging and sports injuries.
2	1012	Nolan Case	nolan.case@healthnet.com	716-555-4521	Epidemiologist with a strong background in infectious diseases and public health.
3	1013	Lydia Bennett	lydia.bennett@clinic.org	607-555-9832	Dermatologist focusing on pediatric and adolescent skin conditions.
4	1014	Reed Morales	reed.morales@pioneerhealth.com	845-555-7391	Biochemist with expertise in pharmaceutical developments and patient safety.
5	1015	Eva Summers	eva.summers@welllife.com	518-555-8264	Nutritionist specializing in dietetics for chronic diseases and senior health.
6	1016	Hugo Ross	hugo.ross@medicalcore.com	914-555-4930	General practitioner with a comprehensive approach to primary care and wellness.
7	1017	Vivian Lacroix	vivian.lacroix@integrahealth.com	347-555-1824	A seasoned physical therapist dedicated to rehabilitation and recovery processes.
8	1018	Miles Archer	miles.archer@lifeline.com	631-555-5010	Clinical research coordinator focusing on trials for cutting-edge cancer treatments.
9	1019	Tara Flynn	tara.flynn@careplus.org	212-555-2213	Anesthesiologist with a focus on perioperative care and pain management.
10	1020	Leo Carver	leo.carver@pharmtech.com	646-555-6668	Pharmaceutical technician engaged in medication therapy management and patient counseling.

Messages

Project_2.sql - ATHARVAA 9+

```

232 (7009, 'Dr. Ian Malcolm', 'Mathematics', 'Statistical Analyst'),
233 (7010, 'Dr. Victor Fries', 'Cryogenics', 'Cryogenics Specialist');
234
235 INSERT INTO Documents (DocumentID, CandidateID, Type, DocumentLink) VALUES
236 (8001, 1011, 'Resume', 'https://docs.example.com/resumes/1011'),
237 (8002, 1012, 'Cover Letter', 'https://docs.example.com/coverletters/1012'),
238 (8003, 1013, 'Portfolio', 'https://docs.example.com/portfolios/1013'),
239 (8004, 1014, 'Resume', 'https://docs.example.com/resumes/1014'),
240 (8005, 1015, 'Cover Letter', 'https://docs.example.com/coverletters/1015'),
241 (8006, 1016, 'Portfolio', 'https://docs.example.com/portfolios/1016'),
242 (8007, 1017, 'Resume', 'https://docs.example.com/resumes/1017'),
243 (8008, 1018, 'Cover Letter', 'https://docs.example.com/coverletters/1018'),
244 (8009, 1019, 'Portfolio', 'https://docs.example.com/portfolios/1019'),
245 (8010, 1020, 'Resume', 'https://docs.example.com/resumes/1020');
246
247

```

Results

	DocumentID	CandidateID	Type	DocumentLink
1	8001	1011	Resume	https://docs.example.com/resumes/1011
2	8002	1012	Cover Letter	https://docs.example.com/coverletters/1012
3	8003	1013	Portfolio	https://docs.example.com/portfolios/1013
4	8004	1014	Resume	https://docs.example.com/resumes/1014
5	8005	1015	Cover Letter	https://docs.example.com/coverletters/1015
6	8006	1016	Portfolio	https://docs.example.com/portfolios/1016
7	8007	1017	Resume	https://docs.example.com/resumes/1017
8	8008	1018	Cover Letter	https://docs.example.com/coverletters/1018
9	8009	1019	Portfolio	https://docs.example.com/portfolios/1019
10	8010	1020	Resume	https://docs.example.com/resumes/1020

Messages

PROJECT-2 DBMS

CONNECTIONS

- ATHARVAA
 - Databases
 - System Databases
 - AP
 - Examples
 - Lab6
 - MyBookDB
 - MyCollege
 - MySchool
 - ProductOrders
 - Recruitment_Hospital
 - Tables
 - Views
 - Synonyms
 - Programmability
 - External Resources
 - Service Broker
 - Storage
 - Security
- AZURE

Welcome Project_2.sql - ATHARVAA 9+

Run Cancel Disconnect Change Database: Recruitment_Hospital Estimated Plan Enable Actual Plan Parse Enable SQLCMD To Notebook

```

259
260
261 INSERT INTO DrugTests (TestID, CandidateID, TestType, TestDate, Results) VALUES
262 (10001, 1011, 'Urine Test', '2023-09-30', 'Negative'),
263 (10002, 1012, 'Urine Test', '2023-10-01', 'Negative'),
264 (10003, 1013, 'Urine Test', '2023-10-02', 'Positive'),
265 (10004, 1014, 'Urine Test', '2023-10-03', 'Negative'),
266 (10005, 1015, 'Urine Test', '2023-10-04', 'Negative'),
267 (10006, 1016, 'Urine Test', '2023-10-05', 'Negative'),
268 (10007, 1017, 'Urine Test', '2023-10-06', 'Negative'),
269 (10008, 1018, 'Urine Test', '2023-10-07', 'Negative'),
270 (10009, 1019, 'Urine Test', '2023-10-08', 'Negative'),
271 (10010, 1020, 'Urine Test', '2023-10-09', 'Negative');
272
273
    
```

Results Messages

TestID	CandidateID	TestType	TestDate	Results
1	10001	1011	Urine Test	2023-09-30 Negative
2	10002	1012	Urine Test	2023-10-01 Negative
3	10003	1013	Urine Test	2023-10-02 Positive
4	10004	1014	Urine Test	2023-10-03 Negative
5	10005	1015	Urine Test	2023-10-04 Negative
6	10006	1016	Urine Test	2023-10-05 Negative
7	10007	1017	Urine Test	2023-10-06 Negative
8	10008	1018	Urine Test	2023-10-07 Negative
9	10009	1019	Urine Test	2023-10-08 Negative
10	10010	1020	Urine Test	2023-10-09 Negative

Ln 302, Col 1 (23 selected) Spaces: 4 UTF-8 LF SQL 10 rows MSSQL 00:00:00 127.0.0.1 : Recruitment_Hospital

CONNECTIONS

- ATHARVAA
 - Databases
 - System Databases
 - AP
 - Examples
 - Lab6
 - MyBookDB
 - MyCollege
 - MySchool
 - ProductOrders
 - Recruitment_Hospital
 - Tables
 - Views
 - Synonyms
 - Programmability
 - External Resources
 - Service Broker
 - Storage
 - Security
- AZURE

Welcome Project_2.sql - ATHARVAA 9+

Run Cancel Disconnect Change Database: Recruitment_Hospital Estimated Plan Enable Actual Plan Parse Enable SQLCMD To Notebook

```

288 (12802, 1012, 2012, '2024-03-16', 'Active'),
289 (12803, 1013, 2013, '2024-04-11', 'Pending'),
290 (12804, 1014, 2014, '2024-05-06', 'Active'),
291 (12805, 1015, 2015, '2024-06-13', 'Active'),
292 (12806, 1016, 2016, '2024-07-23', 'Pending'),
293 (12807, 1017, 2017, '2024-08-19', 'Active'),
294 (12808, 1018, 2018, '2024-09-02', 'Pending'),
295 (12809, 1019, 2019, '2024-10-26', 'Active'),
296 (12810, 1020, 2020, '2024-11-16', 'Active');

    
```

Results Messages

TransactionID	Amount	TransactionDate	Description
c499198c-e1e3-4356-b68e-340494d1381f	350.00	2024-05-05 00:00:00.000	Software license renewal for administrative operations
f878e6b4-bd0b-453f-9881-7a0262274dd4	1200.00	2024-05-03 00:00:00.000	Consultation fees for cardiology department
e3151d1f-43c1-407d-845e-840ec95fa8c7	150.00	2024-04-30 02:27:50.123	Reimbursement for candidate travel expenses
bfd08e34-46d0-452e-b25c-bbe5973e2809	200.00	2024-05-02 00:00:00.000	Refund of overcharged fees
cdc5dc97-f922-4a7f-b234-d9405943d9ed	750.00	2024-05-04 00:00:00.000	Purchase of new office furniture for clinic
8149acaf-0d2c-4475-b443-dd68b0669828	1500.00	2024-05-01 00:00:00.000	Payment for medical equipment

Ln 309, Col 1 (30 selected) Spaces: 4 UTF-8 LF SQL 6 rows MSSQL 00:00:00 127.0.0.1 : Recruitment_Hospital

PROJECT-2 DBMS

CONNECTIONS

- ATHARVAA
- Databases
 - System Databases
 - AP
 - Examples
 - Lab6
 - MyBookDB
 - MyCollege
 - MySchool
 - ProductOrders
 - Recruitment_Hospital
 - Tables
 - dbo.Applications
 - dbo.BackgroundChecks
 - dbo.Candidates
 - dbo.Documents
 - dbo.DrugTests
 - dbo.FinancialRecords
 - dbo.Interviewers
 - dbo.Interviews
 - dbo.JobOpenings
 - dbo.Jobs
 - dbo.Onboarding
 - dbo.Reimbursements
 - dbo.Tests
 - Views
 - Synonyms
 - Programmability
 - External Resources
 - Service Broker
 - Storage
 - Security
 - Security
 - Server Objects

Project_2.sql - ATHARVAA 9+ ●

```

220 (6009, 5009, 'Problem Solving Test', '2023-09-20 11:00:00', '2023-09-20 12:00:00', 'Passed'),
221 (6010, 5010, 'Ethical Reasoning Test', '2023-09-20 09:30:00', '2023-09-20 10:30:00', 'Passed');

223 INSERT INTO Interviewers (InterviewerID, Name, Department, Title) VALUES
224 (7001, 'Dr. Lisa Ray', 'Cardiology', 'Senior Cardiologist'),
225 (7002, 'Mr. James Smith', 'IT', 'IT Manager'),
226 (7003, 'Ms. Nancy Drew', 'HR', 'HR Director'),
227 (7004, 'Dr. Alan Grant', 'Oncology', 'Lead Oncologist'),
228 (7005, 'Ms. Claire Dearing', 'Pediatrics', 'Pediatric Nurse Manager'),
229 (7006, 'Dr. Henry Wu', 'Genetics', 'Chief Geneticist'),
230 (7007, 'Mr. Owen Grady', 'Security', 'Security Supervisor'),
231 (7008, 'Ms. Ellie Sattler', 'Botany', 'Head of Botanical Research'),
232 (7009, 'Dr. Ian Malcolm', 'Mathematics', 'Statistical Analyst'),
233 (7010, 'Dr. Victor Fries', 'Cryogenics', 'Cryogenics Specialist');

235 INSERT INTO Documents (DocumentID, CandidateID, Type, Documentlink) VALUES

```

Results Messages

	InterviewerID	Name	Department	Title
1	7001	Dr. Lisa Ray	Cardiology	Senior Cardiologist
2	7002	Mr. James Smith	IT	IT Manager
3	7003	Ms. Nancy Drew	HR	HR Director
4	7004	Dr. Alan Grant	Oncology	Lead Oncologist
5	7005	Ms. Claire Dearing	Pediatrics	Pediatric Nurse Manager
6	7006	Dr. Henry Wu	Genetics	Chief Geneticist
7	7007	Mr. Owen Grady	Security	Security Supervisor
8	7008	Ms. Ellie Sattler	Botany	Head of Botanical Research
9	7009	Dr. Ian Malcolm	Mathematics	Statistical Analyst
10	7010	Dr. Victor Fries	Cryogenics	Cryogenics Specialist

Ln 309, Col 1 (26 selected) Spaces: 4 UTF-8 LF SQL 10 rows MSSQL 00:00:00 127.0.0.1 : Recruitment_Hospital

CONNECTIONS

- ATHARVAA
- Databases
 - System Databases
 - AP
 - Examples
 - Lab6
 - MyBookDB
 - MyCollege
 - MySchool
 - ProductOrders
 - Recruitment_Hospital
 - Tables
 - dbo.Applications
 - dbo.BackgroundChecks
 - dbo.Candidates
 - dbo.Documents
 - dbo.DrugTests
 - dbo.FinancialRecords
 - dbo.Interviewers
 - dbo.Interviews
 - dbo.JobOpenings
 - dbo.Jobs
 - dbo.Onboarding
 - dbo.Reimbursements
 - dbo.Tests
 - Views
 - Synonyms
 - Programmability
 - External Resources
 - Service Broker
 - Storage
 - Security
 - Security
 - Server Objects

Project_2.sql - ATHARVAA 9+ ●

```

194 (4019, 1019, 3019, '2023-10-01', 'Submitted'),
195 (4020, 1020, 3020, '2023-09-19', 'Under Review');

197 -- Inserting data into the 'Interviews' table
198 INSERT INTO Interviews (InterviewID, ApplicationID, InterviewType, StartTime, EndTime) VALUES
199 (5001, 4011, 'Initial Screening', '2023-09-05 09:00:00', '2023-10-05 10:00:00'),
200 (5002, 4012, 'Technical Interview', '2023-09-21 11:00:00', '2023-09-21 12:30:00'),
201 (5003, 4013, 'Panel Interview', '2023-09-19 14:00:00', '2023-09-19 15:30:00'),
202 (5004, 4014, 'HR Interview', '2023-09-16 10:00:00', '2023-09-16 11:00:00'),
203 (5005, 4015, 'Technical Interview', '2023-10-09 13:00:00', '2023-10-09 14:00:00'),
204 (5006, 4016, 'Panel Interview', '2023-09-23 10:00:00', '2023-09-23 11:30:00'),
205 (5007, 4017, 'HR Interview', '2023-09-01 09:00:00', '2023-09-01 10:00:00'),
206 (5008, 4018, 'Initial Screening', '2023-09-22 13:00:00', '2023-09-22 14:00:00'),
207 (5009, 4019, 'Technical Interview', '2023-10-02 10:00:00', '2023-10-02 11:00:00'),
208 (5010, 4020, 'HR Interview', '2023-09-20 09:00:00', '2023-09-20 10:00:00');

209

```

Results Messages

	InterviewID	ApplicationID	InterviewType	StartTime	EndTime
1	5001	4011	Initial Screening	2023-10-05 09:00:00.000	2023-10-05 10:00:00.000
2	5002	4012	Technical Interview	2023-09-21 11:00:00.000	2023-09-21 12:30:00.000
3	5003	4013	Panel Interview	2023-09-19 14:00:00.000	2023-09-19 15:30:00.000
4	5004	4014	HR Interview	2023-09-16 10:00:00.000	2023-09-16 11:00:00.000
5	5005	4015	Technical Interview	2023-10-09 13:00:00.000	2023-10-09 14:00:00.000
6	5006	4016	Panel Interview	2023-09-23 10:00:00.000	2023-09-23 11:30:00.000
7	5007	4017	HR Interview	2023-09-01 09:00:00.000	2023-09-01 10:00:00.000
8	5008	4018	Initial Screening	2023-09-22 13:00:00.000	2023-09-22 14:00:00.000
9	5009	4019	Technical Interview	2023-10-02 10:00:00.000	2023-10-02 11:00:00.000
10	5010	4020	HR Interview	2023-09-20 09:00:00.000	2023-09-20 10:00:00.000

Ln 309, Col 1 (24 selected) Spaces: 4 UTF-8 LF SQL 10 rows MSSQL 00:00:00 127.0.0.1 : Recruitment_Hospital

PROJECT-2 DBMS

CONNECTIONS

- ATHARVAA
 - Databases
 - System Databases
 - AP
 - Examples
 - Lab6
 - MyBookDB
 - MyCollege
 - MySchool
 - ProductOrders
 - Recruitment_Hospital
 - Tables
 - dbo.Applications
 - dbo.Candidates
 - dbo.Documents
 - dbo.DrugTests
 - dbo.FinancialRecords
 - dbo.Interviewers
 - dbo.Interviews
 - dbo.JobOpenings
 - dbo.Jobs
 - dbo.Onboarding
 - dbo.Reimbursements
 - dbo.Tests
 - Views
 - Synonyms
 - Programmability
 - External Resources
 - Service Broker
 - Storage
 - Security
- Server Objects

RESULTS

JobID	Position	Title	Type	Medium	StartDate	JobDescription	
1	2011	Cardiologist	Consultant Cardiologist	Full-time	Onsite	2024-02-20	Diagnoses and treats patients with heart and cardiovascular conditions
2	2012	Medical Illustrator	Lead Medical Illustrator	Contract	Remote	2024-03-15	Creates detailed medical graphics to aid patient understanding
3	2013	Genetic Counselor	Senior Genetic Counselor	Part-time	Onsite	2024-04-10	Provides genetic counseling and conducts risk assessments for patients
4	2014	Neurologist	Chief of Neurology	Full-time	Onsite	2024-05-05	Heads the department of neurology and oversees treatment of neurological disorders
5	2015	Medical Coder	Medical Coding Specialist	Full-time	Remote	2024-06-12	Ensures accurate coding of health services and procedures for billing
6	2016	Pediatric Oncologist	Pediatric Cancer Specialist	Full-time	Onsite	2024-07-22	Specializes in diagnosing and treating cancers affecting children
7	2017	Speech Therapist	Speech-Language Pathologist	Full-time	Onsite	2024-08-18	Assists patients in improving speech disorders and swallowing difficulties
8	2018	Health Data Analyst	Senior Data Analyst	Contract	Remote	2024-09-01	Analyzes health data to help improve hospital systems and patient care
9	2019	Occupational Therapist	Lead Occupational Therapist	Part-time	Onsite	2024-10-25	Helps patients develop and recover daily living and work skills
10	2020	Clinical Psychologist	Behavioral Health Specialist	Full-time	Onsite	2024-11-15	Provides psychological assessments and therapy to patients
11	2021	Lab Technician	Senior Lab Technician	Full-time	Onsite	2024-01-15	Responsible for managing laboratory tests.

Ln 309, Col 1 (18 selected) Spaces: 4 UTF-8 LF SQL 11 rows MSSQL 00:00:00 127.0.0.1 : Recruitment_Hospital

CONNECTIONS

- ATHARVAA
 - Databases
 - System Databases
 - AP
 - Examples
 - Lab6
 - MyBookDB
 - MyCollege
 - MySchool
 - ProductOrders
 - Recruitment_Hospital
 - Tables
 - dbo.Applications
 - dbo.Candidates
 - dbo.Documents
 - dbo.DrugTests
 - dbo.FinancialRecords
 - dbo.Interviewers
 - dbo.Interviews
 - dbo.JobOpenings
 - dbo.Jobs
 - dbo.Onboarding
 - dbo.Reimbursements
 - dbo.Tests
 - Views
 - Synonyms
 - Programmability
 - External Resources
 - Service Broker
 - Storage
 - Security
- Server Objects

RESULTS

OpeningID	JobID	NumberOfPositions	
1	3011	2011	1
2	3012	2012	1
3	3013	2013	1
4	3014	2014	1
5	3015	2015	2
6	3016	2016	2
7	3017	2017	2
8	3018	2018	1
9	3019	2019	2
10	3020	2020	1
11	3021	2021	3

Ln 309, Col 1 (25 selected) Spaces: 4 UTF-8 LF SQL 11 rows MSSQL 00:00:00 127.0.0.1 : Recruitment_Hospital

PROJECT-2 DBMS

CONNECTIONS

- ATHARVAA
- Databases
 - System Databases
 - AP
 - Examples
 - Lab6
 - MyBookDB
 - MyCollege
 - MySchool
 - ProductOrders
 - Recruitment_Hospital
 - Tables
 - Applications
 - BackgroundChecks
 - Candidates
 - Documents
 - DrugTests
 - FinancialRecords
 - Interviewers
 - Interviews
 - JobOpenings
 - Jobs
 - Onboarding
 - Reimbursements
 - Tests
 - Views
 - Synonyms
 - Programmability
 - External Resources
 - Service Broker
 - Storage
 - Security
 - Server Objects
- AZURE

Project_2.sql - ATHARVAA 9+

Users > atharvaarane > Desktop > DataBase > Project_2.sql

Run Cancel Disconnect Change Database: Recruitment_Hospital Estimated Plan Enable Actual Plan Parse Enable SQLCMD To Notebook

```

285
286 INSERT INTO Onboarding (OnboardingID, CandidateID, JobID, StartDate, Status) VALUES
287 (12001, 1011, 2011, '2024-02-21', 'Active'),
288 (12002, 1012, 2012, '2024-03-16', 'Active'),
289 (12003, 1013, 2013, '2024-04-11', 'Pending'),
290 (12004, 1014, 2014, '2024-05-06', 'Active'),
291 (12005, 1015, 2015, '2024-06-13', 'Active'),
292 (12006, 1016, 2016, '2024-07-23', 'Pending'),
293 (12007, 1017, 2017, '2024-08-19', 'Active'),
294 (12008, 1018, 2018, '2024-09-02', 'Pending'),
295 (12009, 1019, 2019, '2024-10-26', 'Active'),
296 (12010, 1020, 2020, '2024-11-16', 'Active');

297
298 INSERT INTO FinancialRecords (TransactionID, Amount, TransactionDate, Description) VALUES
299 (NEWID(), 1500.00, '2024-05-01', 'Payment for medical equipment'),
300 (NEWID(), 200.00, '2024-05-02', 'Refund of overcharged fees');

```

Results Messages

	OnboardingID	CandidateID	JobID	StartDate	Status
1	12001	1011	2011	2024-02-21	Active
2	12002	1012	2012	2024-03-16	Active
3	12003	1013	2013	2024-04-11	Pending
4	12004	1014	2014	2024-05-06	Active
5	12005	1015	2015	2024-06-13	Active
6	12006	1016	2016	2024-07-23	Pending
7	12007	1017	2017	2024-08-19	Active
8	12008	1018	2018	2024-09-02	Pending
9	12009	1019	2019	2024-10-26	Active
10	12010	1020	2020	2024-11-16	Active
11	12011	1011	2011	2024-02-21	Active

Ln 293, Col 45 Spaces: 4 UTF-8 LF SQL 11 rows MSSQL 00:00:00 127.0.0.1 : Recruitment_Hospital

CONNECTIONS

- ATHARVAA
- Databases
 - System Databases
 - AP
 - Examples
 - Lab6
 - MyBookDB
 - MyCollege
 - MySchool
 - ProductOrders
 - Recruitment_Hospital
 - Tables
 - Applications
 - BackgroundChecks
 - Candidates
 - Documents
 - DrugTests
 - FinancialRecords
 - Interviewers
 - Interviews
 - JobOpenings
 - Jobs
 - Onboarding
 - Reimbursements
 - Tests
 - Views
 - Synonyms
 - Programmability
 - External Resources
 - Service Broker
 - Storage
 - Security
 - Server Objects
- AZURE

Project_2.sql - ATHARVAA 9+

Users > atharvaarane > Desktop > DataBase > Project_2.sql

Run Cancel Disconnect Change Database: Recruitment_Hospital Estimated Plan Enable Actual Plan Parse Enable SQLCMD To Notebook

```

270 (10009, 1019, 'Urine Test', '2023-10-08', 'Negative'),
271 (10010, 1020, 'Urine Test', '2023-10-09', 'Negative');

272
273
274 INSERT INTO Reimbursements (ReimbursementID, ApplicationID, RequestedAmount, ProcessedAmount, Status) VALUES
275 (11001, 4011, 200.00, 'Processed'),
276 (11002, 4012, 150.00, 'Processed'),
277 (11003, 4013, 180.00, 'Processed'),
278 (11004, 4014, 300.00, 290.00, 'Processed'),
279 (11005, 4015, 250.00, 250.00, 'Processed'),
280 (11006, 4016, 190.00, 180.00, 'Processed'),
281 (11007, 4017, 210.00, 200.00, 'Processed'),
282 (11008, 4018, 100.00, 100.00, 'Processed'),
283 (11009, 4019, 200.00, 190.00, 'Processed'),
284 (11010, 4020, 250.00, 250.00, 'Processed');

285

```

Results Messages

	ReimbursementID	ApplicationID	RequestedAmount	ProcessedAmount	Status
1	11001	4011	200.00	150.00	Processed
2	11002	4012	150.00	150.00	Processed
3	11003	4013	180.00	180.00	Processed
4	11004	4014	300.00	290.00	Processed
5	11005	4015	250.00	250.00	Processed
6	11006	4016	190.00	180.00	Processed
7	11007	4017	210.00	200.00	Processed
8	11008	4018	100.00	100.00	Processed
9	11009	4019	200.00	190.00	Processed
10	11010	4020	250.00	250.00	Processed

Ln 309, Col 1 (28 selected) Spaces: 4 UTF-8 LF SQL 10 rows MSSQL 00:00:00 127.0.0.1 : Recruitment_Hospital

PROJECT-2 DBMS

The screenshot shows the SSMS interface with the following details:

- Left pane (Connections):** Shows the server 'ATHARVAA' selected under 'Servers'. Other databases listed include 'System Databases', 'AP', 'Examples', 'Lab6', 'MyBookDB', 'MyCollege', 'MySchool', 'ProductOrders', and 'Recruitment_Hospital'.
- Top bar:** Displays the title 'Project_2.sql - ATHARVAA 9+' and various toolbar icons.
- Query window:** Shows a SQL script named 'Project_2.sql' with the following content:

```

206 (5008, 4018, 'Initial Screening', '2023-09-22 13:00:00', '2023-09-22 14:00:00'),
207 (5009, 4019, 'Technical Interview', '2023-10-02 10:00:00', '2023-10-02 11:00:00'),
208 (5010, 4020, 'HR Interview', '2023-09-20 09:00:00', '2023-09-20 10:00:00');

211 INSERT INTO Tests (TestId, InterviewID, TestType, StartTime, EndTime, Result) VALUES
212 (6001, 5001, 'Personality Test', '2023-10-05 11:00:00', '2023-10-05 12:00:00', 'Passed'),
213 (6002, 5002, 'Coding Test', '2023-09-21 13:30:00', '2023-09-21 15:30:00', 'Failed'),
214 (6003, 5003, 'Panel Review', '2023-09-19 15:00:00', '2023-09-19 16:00:00', 'Passed'),
215 (6004, 5004, 'Skill Assessment', '2023-09-16 10:30:00', '2023-09-16 11:30:00', 'Failed'),
216 (6005, 5005, 'Technical Quiz', '2023-10-08 14:30:00', '2023-10-08 15:30:00', 'Passed'),
217 (6006, 5006, 'Clinical Knowledge Test', '2023-09-23 11:00:00', '2023-09-23 12:00:00', 'Failed'),
218 (6007, 5007, 'Management Simulation', '2023-09-01 09:30:00', '2023-09-01 10:30:00', 'Passed'),
219 (6008, 5008, 'Communication Test', '2023-09-22 14:00:00', '2023-09-22 15:00:00', 'Failed'),
220 (6009, 5009, 'Problem Solving Test', '2023-10-02 11:00:00', '2023-10-02 12:00:00', 'Passed'),
221 (6010, 5010, 'Ethical Reasoning Test', '2023-09-20 09:30:00', '2023-09-20 10:30:00', 'Passed');

```
- Results grid:** Displays the results of the 'Tests' table query, showing 10 rows of data with columns: TestID, InterviewID, TestType, StartTime, EndTime, and Result.
- Bottom status bar:** Shows 'Ln 309, Col 1 (19 selected)', 'Spaces: 4', 'UTF-8', 'LF', 'SQL', '10 rows', 'MSSQL', '00:00:00', and '127.0.0.1:Recruitment_Hospital'.

View Commands

View1:

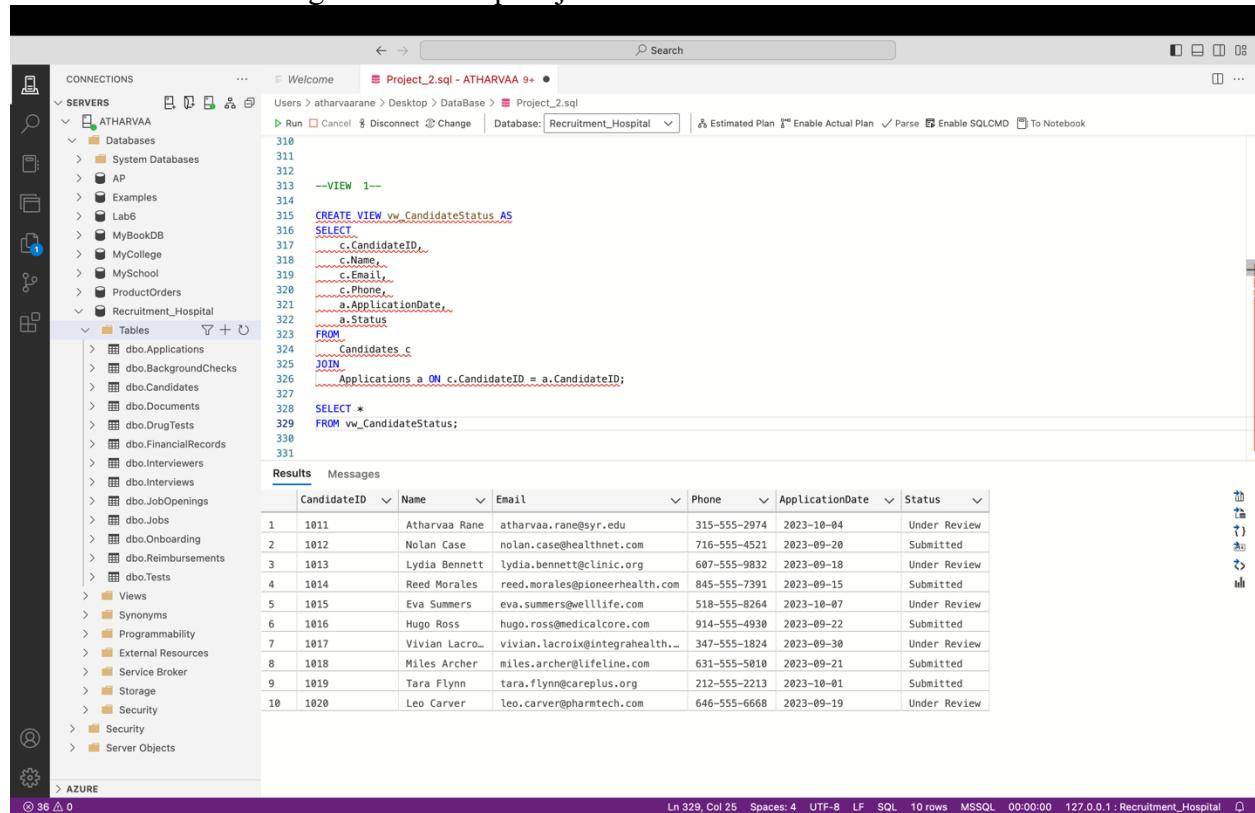
```

CREATE VIEW vw_CandidateStatus AS
SELECT
    c.CandidateID,
    c.Name,
    c.Email,
    c.Phone,
    a.ApplicationDate,
    a.Status
FROM
    Candidates c
JOIN
    Applications a ON c.CandidateID = a.CandidateID;

SELECT *
FROM vw_CandidateStatus;

```

The SQL script creates a view named `vw_CandidateStatus`. This view consolidates data from two tables: `Candidates` and `Applications`. It joins these tables on the `CandidateID` to provide a combined dataset that includes each candidate's ID, name, email, phone number, application date, and application status. This view can be used to easily query and report on candidate statuses without needing to write complex joins each time.



The screenshot shows the SSMS interface with the following details:

- Object Explorer (Left):** Shows the database structure under 'RECRUITMENT_HOSPITAL'. The 'Tables' node is expanded, showing various tables like 'dbo.Applications', 'dbo.BackgroundChecks', etc.
- Scripting Area (Top Right):** Displays the T-SQL code for creating the view. The code is as follows:

```

CREATE VIEW vw_CandidateStatus AS
SELECT
    c.CandidateID,
    c.Name,
    c.Email,
    c.Phone,
    a.ApplicationDate,
    a.Status
FROM
    Candidates c
JOIN
    Applications a ON c.CandidateID = a.CandidateID;

SELECT *
FROM vw_CandidateStatus;

```

- Status Bar (Bottom):** Shows the following information: Ln 329, Col 25, Spaces: 4, UTF-8, LF, SQL, 10 rows, MSSQL, 00:00:00, 127.0.0.1:Recruitment_Hospital.

PROJECT-2 DBMS

View2:

```

CREATE VIEW vw_JobOpeningsDetails AS
SELECT
    j.JobID,
    j.Position,
    j.Title,
    j.Type,
    j.Medium,
    j.StartDate,
    jo.NumberOfPositions AS AvailablePositions
FROM
    Jobs j
JOIN
    JobOpenings jo ON j.JobID = jo.JobID;

```

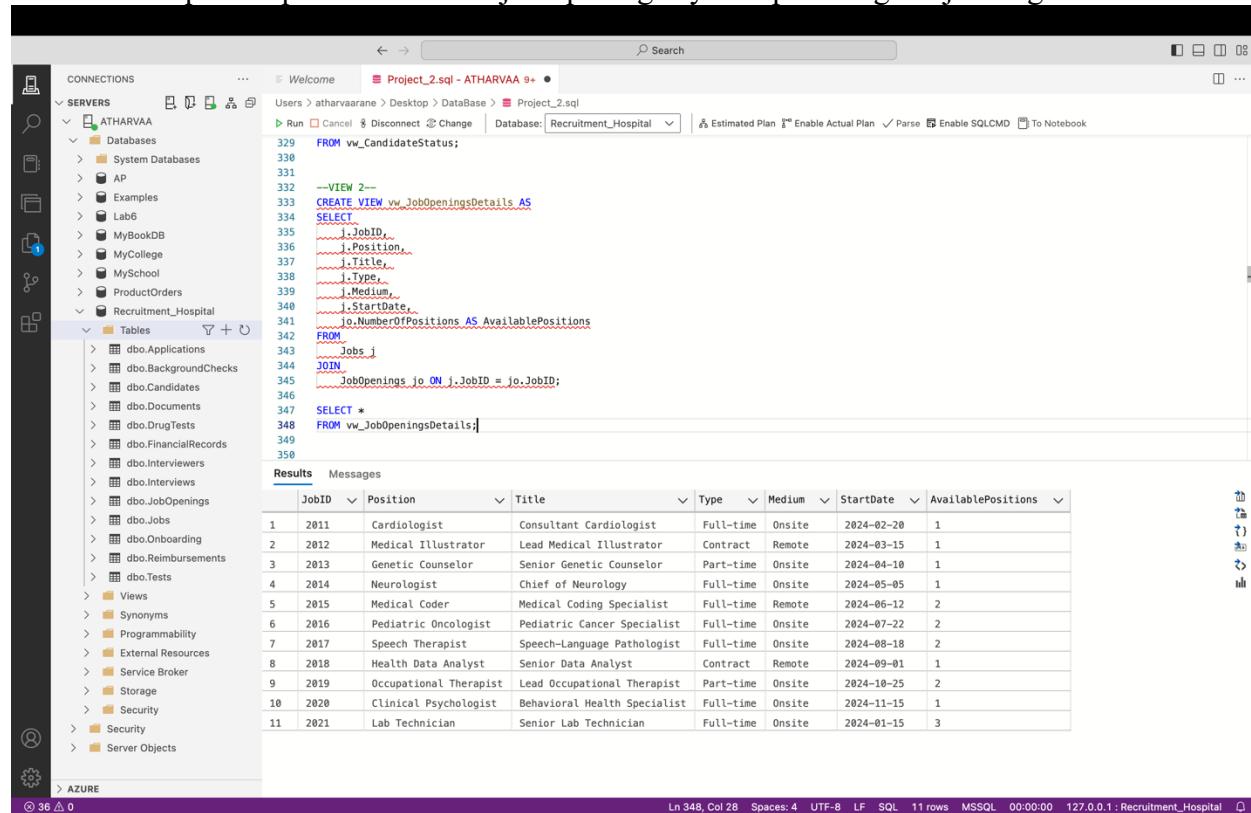


```

SELECT *
FROM vw_JobOpeningsDetails;

```

The SQL script creates a view named 'vw_JobOpeningsDetails'. This view is designed to provide detailed information about job openings by joining two tables: 'Jobs' and 'JobOpenings'. The view includes the job ID, position, title, type, medium, start date, and the number of available positions for each job. This facilitates easy access to comprehensive details about job openings, which can be particularly useful for HR departments or job listing platforms. The view simplifies queries related to job openings by encapsulating the join logic within it.



```

--VIEW 2--
CREATE VIEW vw_JobOpeningsDetails AS
SELECT
    j.JobID,
    j.Position,
    j.Title,
    j.Type,
    j.Medium,
    j.StartDate,
    jo.NumberOfPositions AS AvailablePositions
FROM
    Jobs j
JOIN
    JobOpenings jo ON j.JobID = jo.JobID;

```

	JobID	Position	Title	Type	Medium	StartDate	AvailablePositions
1	2011	Cardiologist	Consultant Cardiologist	Full-time	Onsite	2024-02-20	1
2	2012	Medical Illustrator	Lead Medical Illustrator	Contract	Remote	2024-03-15	1
3	2013	Genetic Counselor	Senior Genetic Counselor	Part-time	Onsite	2024-04-10	1
4	2014	Neurologist	Chief of Neurology	Full-time	Onsite	2024-05-05	1
5	2015	Medical Coder	Medical Coding Specialist	Full-time	Remote	2024-06-12	2
6	2016	Pediatric Oncologist	Pediatric Cancer Specialist	Full-time	Onsite	2024-07-22	2
7	2017	Speech Therapist	Speech-Language Pathologist	Full-time	Onsite	2024-08-18	2
8	2018	Health Data Analyst	Senior Data Analyst	Contract	Remote	2024-09-01	1
9	2019	Occupational Therapist	Lead Occupational Therapist	Part-time	Onsite	2024-10-25	2
10	2020	Clinical Psychologist	Behavioral Health Specialist	Full-time	Onsite	2024-11-15	1
11	2021	Lab Technician	Senior Lab Technician	Full-time	Onsite	2024-01-15	3

View3:

```

CREATE VIEW vw_CandidateInterview_Details AS
SELECT
    c.CandidateID,
    c.Name AS CandidateName,
    c.Email,
    c.Phone,
    a.ApplicationID,
    a.Status AS ApplicationStatus,
    a.ApplicationDate,
    i.InterviewID,
    i.InterviewType,
    i.StartTime,
    i.EndTime,
    iv.Name AS InterviewerName,
    iv.Department AS InterviewerDepartment
FROM
    Candidates c
JOIN
    Applications a ON c.CandidateID = a.CandidateID
JOIN
    Interviews i ON a.ApplicationID = i.ApplicationID
JOIN
    Interviewers iv ON i.InterviewID = iv.InterviewerID;

SELECT *
FROM vw_CandidateInterview_Details;

```

The SQL script defines a view called `vw_CandidateInterview_Details`. This view integrates data from four different tables: `Candidates`, `Applications`, `Interviews`, and `Interviewers`. By joining these tables, the view provides a comprehensive snapshot of each candidate's interview details. The fields included are the candidate's ID, name, email, phone, application ID, status of the application, date of the application, interview ID, type of interview, start and end times of the interview, and the interviewer's name and department. This view is particularly useful for HR departments to quickly access and review all relevant details related to a candidate's interview process in a single query, streamlining the recruitment workflow.

PROJECT-2 DBMS

```

CREATE VIEW vw_JobOpeningsDetails AS
SELECT
    c.CandidateID,
    c.Name AS CandidateName,
    c.Email,
    c.Phone,
    a.ApplicationID,
    a.Status AS ApplicationStatus,
    a.ApplicationDate,
    i.InterviewID,
    i.InterviewType,
    i.StartTime,
    i.EndTime,
    iv.Name AS InterviewerName,
    iv.Department AS InterviewerDepartment
FROM
    Candidates c
JOIN
    Applications a ON c.CandidateID = a.CandidateID
JOIN
    Interviews i ON a.ApplicationID = i.ApplicationID
JOIN
    Interviewers iv ON i.InterviewID = iv.InterviewerID;
SELECT *
FROM vw_JobOpeningsDetails;

```

View4:

```

CREATE VIEW vw_ReimbursementDetails AS
SELECT
    r.ReimbursementID,
    c.Name AS CandidateName,
    a.ApplicationDate,
    r.RequestedAmount,
    r.ProcessedAmount,
    r.Status
FROM
    Rebursements r
JOIN
    Applications a ON r.ApplicationID = a.ApplicationID
JOIN
    Candidates c ON a.CandidateID = c.CandidateID;

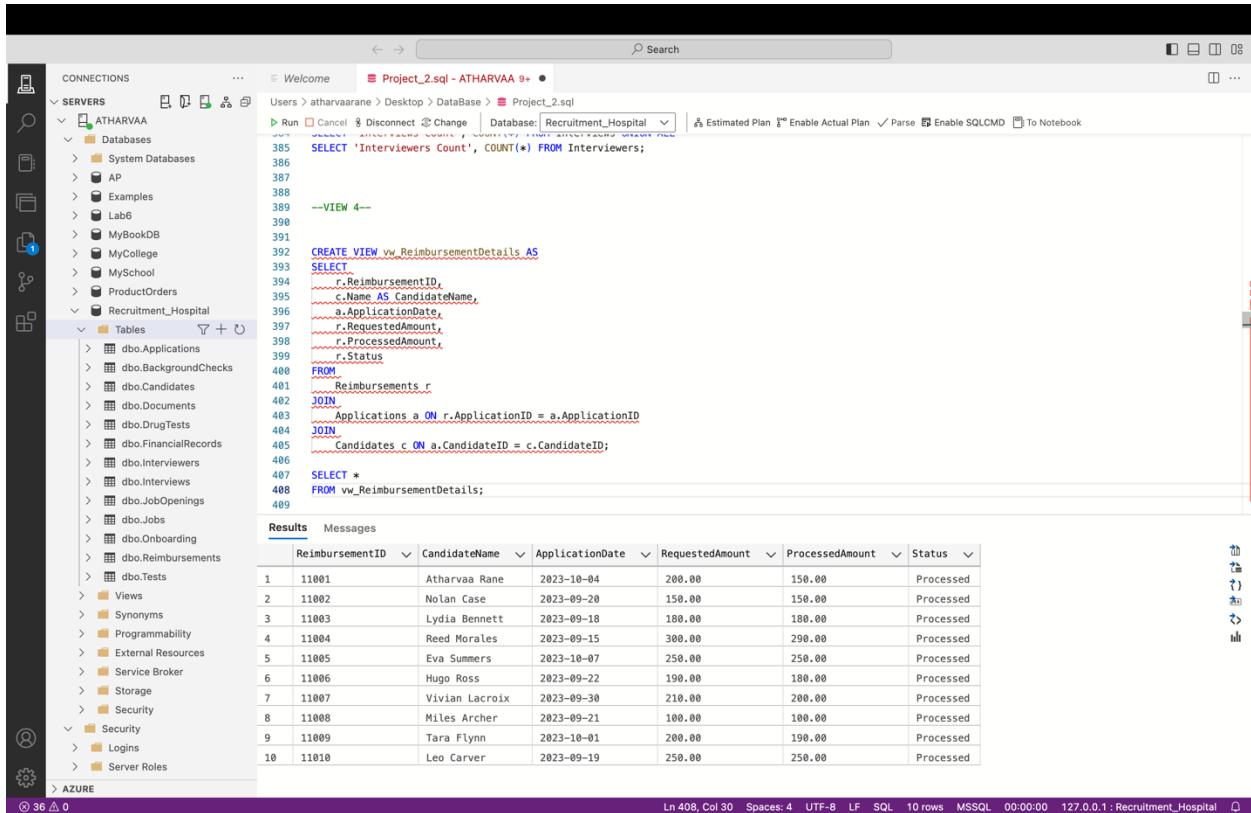
SELECT *
FROM vw_ReimbursementDetails;

```

The SQL script outlines the creation of a view called `vw_ReimbursementDetails`. This view is designed to consolidate data relevant to reimbursements within the context of job applications and candidates. By joining the `Rebursements`, `Applications`, and `Candidates` tables, the

PROJECT-2 DBMS

view efficiently gathers and presents key information including the reimbursement ID, the candidate's name, the application date, the amount requested for reimbursement, the amount that was processed, and the current status of the reimbursement. This view simplifies the process of tracking and analyzing reimbursement requests related to job applications, making it highly useful for financial and administrative personnel involved in managing such processes.



```

--VIEW 4--
CREATE VIEW vw_ReimbursementDetails AS
SELECT
    r.ReimbursementID,
    c.Name AS CandidateName,
    a.ApplicationDate,
    r.RequestedAmount,
    r.ProcessedAmount,
    r.Status
FROM
    Reimbursements r
JOIN
    Applications a ON r.ApplicationID = a.ApplicationID
JOIN
    Candidates c ON a.CandidateID = c.CandidateID;
SELECT *
FROM vw_ReimbursementDetails;

```

ReimbursementID	CandidateName	ApplicationDate	RequestedAmount	ProcessedAmount	Status
1	Atharvaa Rane	2023-10-04	200.00	150.00	Processed
2	Nolan Case	2023-09-20	150.00	150.00	Processed
3	Lydia Bennett	2023-09-18	180.00	180.00	Processed
4	Reed Morales	2023-09-15	300.00	290.00	Processed
5	Eva Summers	2023-10-07	250.00	250.00	Processed
6	Hugo Ross	2023-09-22	190.00	180.00	Processed
7	Vivian Lacroix	2023-09-30	210.00	200.00	Processed
8	Miles Archer	2023-09-21	100.00	100.00	Processed
9	Tara Flynn	2023-10-01	200.00	190.00	Processed
10	Leo Carver	2023-09-19	250.00	250.00	Processed

Procedure Commands

Procedure1:

```

CREATE PROCEDURE sp_AddCandidate
    @Name NVARCHAR(255),
    @Email NVARCHAR(255),
    @Phone NVARCHAR(50),
    @ShortProfile TEXT
AS
BEGIN
    INSERT INTO Candidates (Name, Email, Phone, ShortProfile)
    VALUES (@Name, @Email, @Phone, @ShortProfile);
END;

EXEC sp_AddCandidate @Name = 'Atharvaa Rane', @Email = 'atharvaa.rane@syr.edu', @Phone
= '315-555-2974', @ShortProfile = 'Radiologist with a special interest in
musculoskeletal imaging and sports injuries.';

SELECT * FROM Candidates WHERE Name = 'Atharvaa Rane';

```

The SQL script you provided defines a stored procedure named sp_AddCandidate for inserting a new candidate's details into the Candidates table. It takes four parameters—name, email, phone number, and a short profile—and inserts these into the database. The procedure is then executed with example data for a candidate named John Doe, showcasing how to add a record to the Candidates table using this procedure.

Parameters:

- @Name NVARCHAR(255): A variable to store the candidate's name, allowing for a maximum of 255 characters.
- @Email NVARCHAR(255): A variable for the candidate's email, also allowing up to 255 characters.
- @Phone NVARCHAR(50): A variable for the candidate's phone number, limited to 50 characters.
- @ShortProfile TEXT: A text variable for a brief profile or description of the candidate.

PROJECT-2 DBMS

```

CREATE PROCEDURE sp_AddCandidate
    @Name NVARCHAR(255),
    @Email NVARCHAR(255),
    @Phone NVARCHAR(50),
    @ShortProfile TEXT
AS
BEGIN
    INSERT INTO Candidates (Name, Email, Phone, ShortProfile)
    VALUES (@Name, @Email, @Phone, @ShortProfile);
END;
EXEC sp_AddCandidate @Name = 'Atharvaa Rane', @Email = 'atharvaa.rane@syr.edu', @Phone = '315-555-2974', @ShortProfile = 'Radiologist with a special interest in musculoskeletal imaging';
SELECT * FROM Candidates WHERE Name = 'Atharvaa Rane';

```

CandidateID	Name	Email	Phone	ShortProfile
1	Atharvaa Rane	atharvaa.rane@syr.edu	315-555-2974	Radiologist with a special interest in musculoskeletal imaging

Procedure2:

```

CREATE PROCEDURE sp_UpdateApplicationStatus
    @ApplicationID INT,
    @Status NVARCHAR(50)

AS
BEGIN
    UPDATE Applications
    SET Status = @Status
    WHERE ApplicationID = @ApplicationID;
END;

EXEC sp_UpdateApplicationStatus @ApplicationID = 4011, @Status = 'Under Review';

SELECT ApplicationID, Status FROM Applications WHERE ApplicationID = 4011;

```

The SQL script defines and uses a stored procedure called `sp_UpdateApplicationStatus` to update the status of an application in the `Applications` table. It takes two parameters: the application ID and the new status to be applied. After defining the procedure, it is executed to update the status of an application with ID 4011 to 'Under Review'. Finally, a `SELECT` query checks to ensure the status was updated correctly by retrieving and displaying the status for this application ID.

PROJECT-2 DBMS

```

419 INSERT INTO Candidates (Name, Email, Phone, ShortProfile)
420     VALUES (@Name, @Email, @Phone, @ShortProfile);
421 END;
422
423 EXEC sp_AddCandidate @Name = 'Atharvaa Rane', @Email = 'atharvaa.rane@syr.edu', @Phone = '315-555-2974', @ShortProfile = 'Radiologist with a special interest';
424
425 SELECT * FROM Candidates WHERE Name = 'Atharvaa Rane';
426
427
428 --Procedure 2--
429 CREATE PROCEDURE sp_UpdateApplicationStatus
430     (@ApplicationID INT,
431      @Status NVARCHAR(50))
432 AS
433 BEGIN
434     UPDATE Applications
435     SET Status = @Status
436     WHERE ApplicationID = @ApplicationID;
437 END;
438
439 EXEC sp_UpdateApplicationStatus @ApplicationID = 4011, @Status = 'Under Review';
440
441 SELECT ApplicationID, Status FROM Applications WHERE ApplicationID = 4011;
442
443 --Procedure 3--

```

	ApplicationID	Status
1	4011	Under Review

Procedure3:

```

CREATE PROCEDURE sp_ScheduleInterview
    @ApplicationID INT,
    @InterviewType NVARCHAR(50),
    @StartTime DATETIME,
    @EndTime DATETIME
AS
BEGIN
    INSERT INTO Interviews (ApplicationID, InterviewType, StartTime, EndTime)
    VALUES (@ApplicationID, @InterviewType, @StartTime, @EndTime);
END;

EXEC sp_ScheduleInterview @ApplicationID = 4011, @InterviewType = 'Technical',
@StartTime = '2023-12-01 10:00', @EndTime = '2023-12-01 11:00';

SELECT * FROM Interviews WHERE ApplicationID = 4011;

```

The SQL script sets up a stored procedure called `sp_ScheduleInterview` to insert interview details into the `Interviews` table. It takes parameters for application ID, interview type, start time, and end time. The procedure is used to schedule a technical interview for application ID 4011 from 10:00 AM to 11:00 AM on December 1, 2023. After scheduling, a query verifies the interview details by retrieving data for this application from the `Interviews` table.

PROJECT-2 DBMS

```

CREATE PROCEDURE sp_ScheduleInterview
    @ApplicationID INT,
    @InterviewType NVARCHAR(50),
    @StartTime DATETIME,
    @EndTime DATETIME
AS
BEGIN
    INSERT INTO Interviews (ApplicationID, InterviewType, StartTime, EndTime)
    VALUES (@ApplicationID, @InterviewType, @StartTime, @EndTime);
END;
EXEC sp_ScheduleInterview @ApplicationID = 4011, @InterviewType = 'Initial Screening', @StartTime = '2023-10-05 09:00:00.000', @EndTime = '2023-10-05 10:00:00.000';
SELECT * FROM Interviews WHERE ApplicationID = 4011;

```

InterviewID	ApplicationID	InterviewType	StartTime	EndTime
5001	4011	Initial Screening	2023-10-05 09:00:00.000	2023-10-05 10:00:00.000

Procedure4:

```

CREATE PROCEDURE sp_ProcessReimbursement
    @ReimbursementID INT,
    @ProcessedAmount DECIMAL(10, 2),
    @Status NVARCHAR(50)
AS
BEGIN
    UPDATE Rebursements
    SET ProcessedAmount = @ProcessedAmount,
        Status = @Status
    WHERE ReimbursementID = @ReimbursementID;
END;

EXEC sp_ProcessReimbursement @ReimbursementID = 11001, @ProcessedAmount = 200.00,
@Status = 'Processed';

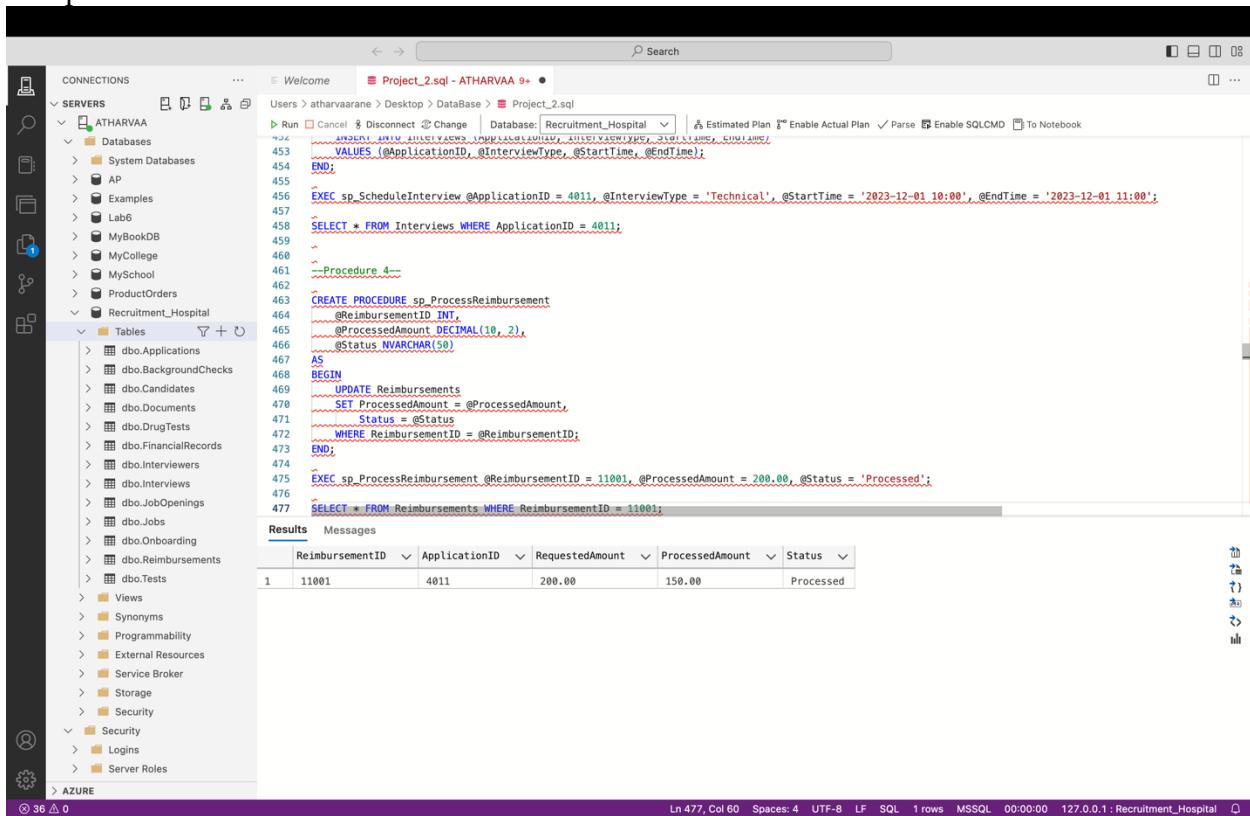
```

SELECT * FROM Rebursements WHERE ReimbursementID = 11001;

The SQL script defines a stored procedure called 'sp_ProcessReimbursement' that updates the 'ProcessedAmount' and 'Status' fields in the 'Rebursements' table for a specific 'ReimbursementID'. It is then executed to mark a reimbursement with ID 11001 as 'Processed' with a processed amount of \$200.00. A subsequent 'SELECT' query checks to confirm that the

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update has been applied correctly by retrieving the details from the 'Reimbursements' table for the specified ID.



The screenshot shows the SSMS interface with the following details:

- Left pane (Object Explorer):** Shows the database structure under 'RECRUITMENT_HOSPITAL'. It includes SERVERS, Databases (System Databases, AP, Examples, Lab6, MyBookDB, MyCollege, MySchool, ProductOrders), and Tables (Applications, BackgroundChecks, Candidates, Documents, DrugTests, FinancialRecords, Interviewers, Interviews, JobOpenings, Jobs, Onboarding, Reimbursements, Views, Synonyms, Programmability, External Resources, Service Broker, Storage, Security).
- Top bar:** Welcome, Project_2.sql - ATHARVAA 9+, Database: Recruitment_Hospital, Estimated Plan, Enable Actual Plan, Parse, Enable SQLCMD, To Notebook.
- Code Editor:** Contains T-SQL code for creating stored procedures and updating the Reimbursements table.


```

421 INSERT INTO Interviews (@ApplicationID, @InterviewType, @StartTime, @EndTime);
422 VALUES (@ApplicationID, @InterviewType, @StartTime, @EndTime);
423
424 EXEC sp_ScheduleInterview @ApplicationID = 4011, @InterviewType = 'Technical', @StartTime = '2023-12-01 10:00', @EndTime = '2023-12-01 11:00';
425
426 SELECT * FROM Interviews WHERE ApplicationID = 4011;
427
428
429 --Procedure 4--
430
431 CREATE PROCEDURE sp_ProcessReimbursement
432     @ReimbursementID INT,
433     @ProcessedAmount DECIMAL(10, 2),
434     @Status NVARCHAR(50)
435 AS
436 BEGIN
437     UPDATE Reimbursements
438     SET ProcessedAmount = @ProcessedAmount,
439         Status = @Status
440     WHERE ReimbursementID = @ReimbursementID;
441 END;
442
443 EXEC sp_ProcessReimbursement @ReimbursementID = 11001, @ProcessedAmount = 200.00, @Status = 'Processed';
444
445 SELECT * FROM Reimbursements WHERE ReimbursementID = 11001;
      
```
- Results Grid:** Displays the updated data in the Reimbursements table.

	ReimbursementID	ApplicationID	RequestedAmount	ProcessedAmount	Status
1	11001	4011	200.00	150.00	Processed
- Bottom status bar:** Ln 477, Col 60, Spaces: 4, UTF-8, LF, SQL, 1 rows, MSSQL, 00:00:00, 127.0.0.1:Recruitment_Hospital.

Functions

Function 1:

This function calculates the number of days between two dates, which can be useful for tracking the duration of the recruitment process or the time between application submission and interview dates.

```
CREATE FUNCTION fn_DaysBetween
(
    @StartDate DATE,
    @EndDate DATE
)
RETURNS INT
AS
BEGIN
    RETURN DATEDIFF(DAY, @StartDate, @EndDate);
END;

SELECT dbo.fn_DaysBetween('2023-01-01', '2023-01-31') AS DaysBetween;
```

```
469 UPDATE Reimbursements
470     SET ProcessedAmount = @ProcessedAmount,
471         Status = @Status
472     WHERE ReimbursementID = @ReimbursementID;
473 END;
474
475 EXEC sp_ProcessReimbursement @ReimbursementID = 11001, @ProcessedAmount = 200.00, @Status = 'Processed';
476
477 SELECT * FROM Reimbursements WHERE ReimbursementID = 11001;
478
479 Function 1
480
481 CREATE FUNCTION fn_DaysBetween
482 (
483     @StartDate DATE,
484     @EndDate DATE
485 )
486 RETURNS INT
487 AS
488 BEGIN
489     RETURN DATEDIFF(DAY, @StartDate, @EndDate);
490 END;
491
492 SELECT dbo.fn_DaysBetween('2023-01-01', '2023-01-31') AS DaysBetween;
493
494 Function 2 --
```

DaysBetween
1 30

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This function checks if a candidate's age is above a certain threshold based on their birthdate, a common requirement in job eligibility criteria.

```

CREATE FUNCTION fn_FormatPhoneNumber
(
    @PhoneNumber VARCHAR(10)
)
RETURNS VARCHAR(14)
AS
BEGIN
    RETURN '(' + SUBSTRING(@PhoneNumber, 1, 3) + ')' + SUBSTRING(@PhoneNumber, 4, 3)
+ '-' + SUBSTRING(@PhoneNumber, 7, 4);
END;

SELECT dbo.fn_FormatPhoneNumber('1234567890') AS FormattedPhone;

```

```

CREATE FUNCTION fn_FormatPhoneNumber
(
    @PhoneNumber VARCHAR(10)
)
RETURNS VARCHAR(14)
AS
BEGIN
    RETURN '(' + SUBSTRING(@PhoneNumber, 1, 3) + ')' + SUBSTRING(@PhoneNumber, 4, 3)
+ '-' + SUBSTRING(@PhoneNumber, 7, 4);
END;

SELECT dbo.fn_FormatPhoneNumber('1234567890') AS FormattedPhone;

```

Function 3 :

Function fn_CountApplicationsPerJob that returns the number of applications for a specified job ID by querying the Applications table, and it is then executed to get the application count for job ID 3001.

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```
CREATE FUNCTION fn_CountApplicationsPerJob
(
    @JobID INT
)
RETURNS INT
AS
BEGIN
    DECLARE @Count INT;
    SELECT @Count = COUNT(*)
    FROM Applications
    WHERE JobOpeningID = @JobID;
    RETURN @Count;
END;

SELECT dbo.fn_CountApplicationsPerJob(3001) AS ApplicationCount;
```

The screenshot shows the SSMS interface with the following details:

- Left pane (Object Explorer):** Shows the database structure under "Recruitment_Hospital". It includes SERVERS, DATABASES, and TABLES. The TABLES node is expanded, showing various tables like Applications, Candidates, Documents, etc.
- Center pane (Query Editor):** Displays the T-SQL code for creating the function. The code is as follows:

```
CREATE FUNCTION fn_CountApplicationsPerJob
(
    @JobID INT
)
RETURNS INT
AS
BEGIN
    DECLARE @Count INT;
    SELECT @Count = COUNT(*)
    FROM Applications
    WHERE JobOpeningID = @JobID;
    RETURN @Count;
END;
```

- Bottom pane (Results):** Shows the output of the SELECT statement within the function. The results table has one row with ApplicationCount as 0.

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Function4:

Function fn_GetLatestJobOpening that retrieves the most recent job ID for a specified position from the Jobs table, ordered by start date, and executes it to find the latest job ID for the position "Database Administrator".

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```
CREATE FUNCTION fn_GetLatestJobOpening
(
    @Position NVARCHAR(255)
)
RETURNS INT
AS
BEGIN
    DECLARE @JobID INT;
    SELECT TOP 1 @JobID = JobID
    FROM Jobs
    WHERE Position = @Position
    ORDER BY StartDate DESC;
    RETURN @JobID;
END;
```

```
SELECT dbo.fn_GetLatestJobOpening('Database Administrator') AS LatestJobID;
```

The screenshot shows the SSMS interface with the following details:

- Object Explorer:** Shows the database structure, including servers, databases, tables, and other objects.
- Script pane:** Displays the T-SQL code for creating the function and a select statement to test it.
- Status bar:** Shows the current session information: Ln 542, Col 76, Spaces: 4, UTF-8, LF, SQL, 1 rows, MSSQL, 00:00:00, 127.0.0.1:Recruitment_Hospital.

```
518     FROM Applications
519     WHERE JobOpeningID = @JobID;
520
521     RETURN @Count;
522
523     SELECT dbo.fn_CountApplicationsPerJob(3801) AS ApplicationCount;
524
525     --FUNCTION 4 --
526
527     CREATE FUNCTION fn_GetLatestJobOpening
528     (
529         @Position NVARCHAR(255)
530     )
531     RETURNS INT
532     AS
533     BEGIN
534         DECLARE @JobID INT;
535         SELECT TOP 1 @JobID = JobID
536         FROM Jobs
537         WHERE Position = @Position
538         ORDER BY StartDate DESC;
539         RETURN @JobID;
540     END;
541
542     SELECT dbo.fn_GetLatestJobOpening('Database Administrator') AS LatestJobID;
```

Triggers

Trigger1:

```

CREATE TABLE Audit_Candidates (
    AuditID INT PRIMARY KEY,
    CandidateID INT,
    OldEmail NVARCHAR(255),
    NewEmail NVARCHAR(255),
    OldPhone NVARCHAR(20),
    NewPhone NVARCHAR(20),
    UpdateDate DATETIME
);

CREATE TRIGGER trg_AuditCandidateChanges
ON Candidates
AFTER UPDATE
AS
BEGIN
    IF (UPDATE>Email) OR UPDATE(Phone))
    BEGIN
        DECLARE @AuditID INT;

        -- Generate a unique value for AuditID
        SELECT @AuditID = ISNULL(MAX(AuditID), 0) + 1 FROM Audit_Candidates;

        INSERT INTO Audit_Candidates (AuditID, CandidateID, OldEmail, NewEmail,
        OldPhone, NewPhone, UpdateDate)
        SELECT
            @AuditID,
            i.CandidateID,
            d.Email, i.Email,
            d.Phone, i.Phone,
            GETDATE()
        FROM
            inserted i
        JOIN
            deleted d ON i.CandidateID = d.CandidateID;
    END
END;

```

UPDATE Candidates SET Email = 'newemail@example.com' WHERE CandidateID = 1012;
SELECT * FROM Audit_Candidates;
Trigger to Audit Candidate Updates

PROJECT-2 DBMS

This trigger will record changes to candidate information, specifically tracking updates to the Email and Phone fields. It logs old and new values into an Audit_Candidates table.

```

CREATE TRIGGER trg_AuditCandidateChanges
ON Candidates
AFTER UPDATE
AS
BEGIN
    IF (UPDATE(Email) OR UPDATE(Phone))
    BEGIN
        DECLARE @AuditID INT;
        -- Generate a unique value for AuditID
        SELECT @AuditID = ISNULL(MAX(AuditID), 0) + 1 FROM Audit_Candidates;
        INSERT INTO Audit_Candidates (AuditID, CandidateID, OldEmail, NewEmail, OldPhone, NewPhone, UpdateDate)
        SELECT
            @AuditID,
            i.CandidateID,
            d.Email, i.Email,
            d.Phone, i.Phone,
            GETDATE()
        FROM
            inserted i
        JOIN
            deleted d ON i.CandidateID = d.CandidateID;
    END;
    UPDATE Candidates SET Email = 'newemail@example.com' WHERE CandidateID = 1012;
    SELECT * FROM Audit_Candidates;
END;

```

	AuditID	CandidateID	OldEmail	NewEmail	OldPhone	NewPhone	UpdateDate
1	1	1012	nolan.case@healthnet.com	newemail@example.com	716-555-4521	716-555-4521	2024-05-01 22:54:24.027

Trigger 2 :

```

CREATE TRIGGER trg_PreventDeletionIfApplicationsExist
ON Candidates
INSTEAD OF DELETE
AS
BEGIN
    IF EXISTS (SELECT 1 FROM Applications a JOIN deleted d ON a.CandidateID = d.CandidateID)
    BEGIN
        RAISERROR ('Cannot delete candidates with existing applications.', 16, 1);
    END
    ELSE
    BEGIN
        DELETE FROM Candidates WHERE CandidateID IN (SELECT CandidateID FROM deleted);
    END
END;

DELETE FROM Candidates WHERE CandidateID = 1012;

```

PROJECT-2 DBMS

Trigger to Prevent Deletion of Candidates with Applications

This trigger prevents the deletion of candidate records if they have any associated applications, ensuring data integrity across related tables.

```
CREATE TRIGGER trg_PreventDeletionIfApplicationsExist
ON Candidates
INSTEAD OF DELETE
AS
BEGIN
    IF EXISTS (SELECT 1 FROM Applications a JOIN deleted d ON a.CandidateID = d.CandidateID)
    BEGIN
        RAISERROR ('Cannot delete candidates with existing applications.', 16, 1);
    END
    ELSE
    BEGIN
        DELETE FROM Candidates WHERE CandidateID IN (SELECT CandidateID FROM deleted);
    END
END;
DELETE FROM Candidates WHERE CandidateID = 1012;
```

Trigger3:

Trigger to Automatically Update Job Opening Counts

This trigger adjusts the number of positions available in the JobOpenings table whenever a new application is inserted and marked as Accepted.

```
CREATE TRIGGER trg_UpdateJobOpeningCounts
ON Applications
AFTER INSERT
AS
BEGIN
    UPDATE JobOpenings
    SET NumberOfPositions = NumberOfPositions - 1
    FROM JobOpenings jo
    JOIN inserted i ON jo.JobID = i.JobOpeningID
    WHERE i.Status = 'Accepted'
END;
SELECT JobID, NumberOfPositions FROM JobOpenings;
```

PROJECT-2 DBMS

```

600      END;
601  ;
602
603  DELETE FROM Candidates WHERE CandidateID = 1012;
604
605  --TRIGGER_3--
606  --
607
608  CREATE_TRIGGER trg_UpdateJobOpeningCounts
609  ON Applications
610  AFTER INSERT
611  AS
612  BEGIN
613      UPDATE JobOpenings
614      SET NumberOfPositions = NumberOfPositions - 1
615      FROM JobOpenings jo
616      JOIN inserted i ON jo.JobID = i.JobOpeningID
617      WHERE i.Status = 'Accepted'
618  END;
619  SELECT JobID, NumberOfPositions FROM JobOpenings;
620

```

JobID	NumberOfPositions	
1	2011	1
2	2012	1
3	2013	1
4	2014	1
5	2015	2
6	2016	2
7	2017	2
8	2018	1
9	2019	2
10	2020	1
11	2021	3

Trigger 4 :

Trigger to Log Interview Scheduling

This trigger logs every new interview scheduled into an Interview_Log table, capturing the datetime and details of the interview.

```

CREATE TABLE Interview_Log (
    LogID INT IDENTITY(1,1) PRIMARY KEY,
    InterviewID INT,
    ApplicationID INT,
    InterviewType VARCHAR(100),
    ScheduledTime DATETIME
);

```

```

CREATE TRIGGER trg_LogNewInterviews
ON Interviews
AFTER INSERT
AS
BEGIN

```

PROJECT-2 DBMS

```
INSERT INTO Interview_Log (InterviewID, ApplicationID, InterviewType,  
ScheduledTime)
```

```
    SELECT InterviewID, ApplicationID, InterviewType, StartTime  
    FROM inserted;
```

```
END;
```

```
INSERT INTO Interviews (InterviewID, ApplicationID, InterviewType, StartTime)  
VALUES (5011, 4021, 'Phone Interview', '2024-05-01 10:00:00');
```

```
SELECT * FROM Interview_Log;
```

The screenshot shows the SSMS interface with the following details:

- Left pane (Object Explorer):** Shows the database structure under 'Recruitment_Hospital'. It includes 'Tables' (Interview_Log, Interviews), 'Views', 'Synonyms', 'Programmability', 'External Resources', 'Service Broker', 'Storage', 'Security', and 'AZURE'.
- Center pane (Script Editor):** Displays the SQL script for creating a trigger and inserting data into the 'Interview_Log' and 'Interviews' tables. The code is numbered from 626 to 646.
- Bottom pane (Results):** Shows the results of the 'SELECT * FROM Interview_Log;' query, which is currently empty.
- Status bar:** Provides information about the session: Ln 644, Col 31, Spaces: 4, UTF-8, LF, SQL, 0 rows, MSSQL, 00:00:00, 127.0.0.1:Recruitment_Hospital.

Scripts

Script1:Automated Data Cleanup Script

This script is designed to remove outdated job applications from the database that are older than a certain threshold (e.g., one year) and have been marked as either "Rejected" or "Withdrawn". This helps in keeping the database size manageable and ensures data relevancy.

```

CREATE PROCEDURE sp_CleanupOldApplications
AS
BEGIN
    DELETE FROM Applications
    WHERE ApplicationDate < DATEADD(year, -1, GETDATE())
        AND Status IN ('Rejected', 'Withdrawn');
END;

EXEC sp_CleanupOldApplications;

```

```

-- Script1_Cleanup_Old_Applications --
CREATE PROCEDURE sp_CleanupOldApplications
AS
BEGIN
    DELETE FROM Applications
    WHERE ApplicationDate < DATEADD(year, -1, GETDATE())
        AND Status IN ('Rejected', 'Withdrawn');
END;

EXEC sp_CleanupOldApplications;

```

Messages

7:48:15 PM Started executing query at Line 743
Commands completed successfully.
Total execution time: 00:00:00.028

Script2:Data Integrity Script

This script ensures that the number of positions available in job openings is never negative, which could occur due to data entry errors or system glitches.

```
-- Ensure Job Openings Count Integrity
```

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```

CREATE TRIGGER trg_EnsurePositiveOpenings
ON JobOpenings
AFTER INSERT, UPDATE
AS
BEGIN
    IF EXISTS (SELECT 1 FROM JobOpenings WHERE NumberOfPositions < 0)
    BEGIN
        RAISERROR ('Number of positions cannot be negative.', 16, 1);
        ROLLBACK TRANSACTION;
    END
END;

```

The screenshot shows the SSMS interface. The Object Explorer on the left lists servers, databases, tables, and other objects. The central pane contains the T-SQL script for the trigger. The bottom pane shows the execution message: "Started executing query at Line 754 Commands completed successfully. Total execution time: 00:00:00.010".

```

746     DELETE FROM Applications
747     WHERE ApplicationDate < DATEADD(year, -1, GETDATE())
748     AND Status IN ('Rejected', 'Withdrawn');
749 END;
750
751 EXEC sp_CleanupOldApplications;
752
753 -- Ensure Job Openings Count Integrity
754 CREATE TRIGGER trg_EnsurePositiveOpenings
755 ON JobOpenings
756 AFTER INSERT, UPDATE
757 AS
758 BEGIN
759     IF EXISTS (SELECT 1 FROM JobOpenings WHERE NumberOfPositions < 0)
760     BEGIN
761         RAISERROR ('Number of positions cannot be negative.', 16, 1);
762         ROLLBACK TRANSACTION;
763     END
764 END;

```

Script3: Reporting Script

This stored procedure generates a report showing the number of applications per job position, which can help in understanding which positions are most or least popular among candidates.

-- Report on Applications Per Job --

```

CREATE PROCEDURE sp_ReportApplicationsPerJob
AS
BEGIN
    SELECT j.Position, COUNT(a.ApplicationID) AS TotalApplications
    FROM Jobs j
    JOIN Applications a ON j.JobID = a.JobOpeningID
    GROUP BY j.Position;

```

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```

END;

EXEC sp_ReportApplicationsPerJob;

```

```

759 IF EXISTS (SELECT 1 FROM JobOpenings WHERE NumberOfPositions < 0)
760 BEGIN
761 RAISERROR ('Number of positions cannot be negative.', 16, 1);
762 ROLLBACK TRANSACTION;
763 END;
764
765 -- Report on Applications Per Job
766 CREATE PROCEDURE sp_ReportApplicationsPerJob
767 AS
768 BEGIN
769
770 SELECT j.Position, COUNT(a.ApplicationID) AS TotalApplications
771 FROM Jobs j
772 JOIN Applications a ON j.JobID = a.JobOpeningID
773 GROUP BY j.Position;
774
775 EXEC sp_ReportApplicationsPerJob;
776
777

```

Messages

7:51:44 PM Started executing query at Line 767
Commands completed successfully.
Total execution time: 00:00:00.011

Script4: Security Script (User Access Management)

This script is used to manage user roles and permissions, ensuring that only authorized users can view, insert, or update data in sensitive tables like Candidates and Applications.

```

IF NOT EXISTS (SELECT * FROM sys.database_principals WHERE name = N'hr_assistant')
    CREATE ROLE hr_assistant;
IF NOT EXISTS (SELECT * FROM sys.database_principals WHERE name = N'hr_manager')
    CREATE ROLE hr_manager;

-- Grant read-only access to HR assistants
GRANT SELECT ON dbo.Candidates TO hr_assistant;
GRANT SELECT ON dbo.Applications TO hr_assistant;

-- Grant full access to HR managers
GRANT SELECT, INSERT, UPDATE, DELETE ON dbo.Candidates TO hr_manager;
GRANT SELECT, INSERT, UPDATE, DELETE ON dbo.Applications TO hr_manager;

-- Create user linked to an existing login for HR assistant

```

PROJECT-2 DBMS

```

IF NOT EXISTS (SELECT * FROM sys.database_principals WHERE name = N'user_hr_assistant')
    CREATE USER user_hr_assistant FOR LOGIN login_hr_assistant;
ALTER ROLE hr_assistant ADD MEMBER user_hr_assistant;

-- Create user linked to an existing login for HR manager
IF NOT EXISTS (SELECT * FROM sys.database_principals WHERE name = N'user_hr_manager')
    CREATE USER user_hr_manager FOR LOGIN login_hr_manager;
ALTER ROLE hr_manager ADD MEMBER user_hr_manager;

```

The screenshot shows the SSMS interface with the following details:

- Left pane (Object Explorer):** Shows the server 'ATHARVAA' and its databases, including 'Recruitment_Hospital'. Under 'Tables' in 'Recruitment_Hospital', there are several tables like 'dbo.Applications', 'dbo.BackgroundChecks', etc.
- Center pane (Query Editor):** Displays the SQL script with line numbers 775 to 793. The script creates database roles 'hr_assistant' and 'hr_manager' and adds users 'user_hr_assistant' and 'user_hr_manager' to them. It also grants permissions on tables 'dbo.Candidates' and 'dbo.Applications' to these roles.
- Bottom pane (Messages):** Shows the execution log:
 - Started executing query at Line 778
 - Commands completed successfully.
 - Total execution time: 00:00:00.027
- Bottom status bar:** Shows the following information: Ln 789, Col 74, Spaces: 4, UTF-8, LF, SQL, 0 rows, MSSQL, 00:00:00, 127.0.0.1:Recruitment_Hospital.

Transactions

Transaction1:

Transaction to Add a New Job and Corresponding Opening

This transaction ensures that when a new job is added, its corresponding job opening is also created correctly.

```
BEGIN TRANSACTION;
BEGIN TRY
    -- Insert a new job
    INSERT INTO Jobs (JobID, Position, Title, Type, Medium, StartDate,
JobDescription)
        VALUES (2021, 'Lab Technician', 'Senior Lab Technician', 'Full-time',
'Onsite', '2024-01-15', 'Responsible for managing laboratory tests.');

    -- Insert a job opening for the new job
    INSERT INTO JobOpenings (OpeningID, JobID, NumberOfPositions)
    VALUES (3021, 2021, 3);

    COMMIT TRANSACTION;
END TRY
BEGIN CATCH
    ROLLBACK TRANSACTION;
    PRINT 'Error occurred: ' + ERROR_MESSAGE();
END CATCH
```

PROJECT-2 DBMS

```

-- Transaction to Add a New Job and Corresponding Opening --
BEGIN TRANSACTION;
BEGIN TRY
    -- Insert a new job
    INSERT INTO Jobs (JobID, Position, Title, Type, Medium, StartDate, JobDescription)
    VALUES (2021, 'Lab Technician', 'Senior Lab Technician', 'Full-time', 'Onsite', '2024-01-15', 'Responsible for managing laboratory tests.');
    -- Insert a job opening for the new job
    INSERT INTO JobOpenings (OpeningID, JobID, NumberOfPositions)
    VALUES (3021, 2021, 3);
    -- Commit transaction
    COMMIT TRANSACTION;
END TRY
BEGIN CATCH
    ROLLBACK TRANSACTION;
    PRINT 'Error occurred: ' + ERROR_MESSAGE();
END CATCH
-- 2. Transaction to Update Candidate Status and Log the Change --
BEGIN TRANSACTION;
BEGIN TRY
    -- Update the application status
    UPDATE Applications
    SET Status = 'Under Review'
    WHERE ApplicationID = 4011;

    -- Log the status change
    INSERT INTO dbo.ApplicationStatusLog (ApplicationID, Status, ChangeDate)
    VALUES (4011, 'Under Review', GETDATE());
END TRY

```

Messages

7:23:14 PM Started executing query at Line 648
(1 row affected)
(1 row affected)
Total execution time: 00:00:00.006

Transaction2:

Transaction to Update Candidate Status and Log the Change

This transaction updates a candidate's application status and logs the update for auditing purposes.

```

LogID INT PRIMARY KEY IDENTITY(1,1),
ApplicationID INT,
Status VARCHAR(50),
ChangeDate DATETIME
);

BEGIN TRANSACTION;
BEGIN TRY
    -- Update the application status
    UPDATE Applications
    SET Status = 'Under Review'
    WHERE ApplicationID = 4011;

    -- Log the status change
    INSERT INTO dbo.ApplicationStatusLog (ApplicationID, Status, ChangeDate)
    VALUES (4011, 'Under Review', GETDATE());

    COMMIT TRANSACTION;

```

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```

END TRY
BEGIN CATCH
    ROLLBACK TRANSACTION;
    PRINT 'Error occurred: ' + ERROR_MESSAGE();
END CATCH

```

The screenshot shows the SSMS interface with the following details:

- Connections:** Shows various servers and databases, including 'ATHARVA' and 'Recruitment_Hospital'.
- Project_2.sql - ATHARVA 9+:** The current database context.
- Code Editor:** Displays the T-SQL script for updating candidate status and logging changes. The script includes a table creation, transaction handling, and error printing logic.
- Messages:** The log shows the execution started at 7:27:09 PM, inserted one row into the log table, and took 0:00:00.009.
- Status Bar:** Shows the line number (Ln 689), column (Col 14), spaces (Spaces: 4), encoding (UTF-8), and other metadata.

Transaction3:

Transaction to Process a Candidate's Onboarding and Update Job Opening
This transaction processes a candidate's onboarding and updates the job opening count to reflect the filled position.

```

BEGIN TRANSACTION;
BEGIN TRY
    DECLARE @NewOnboardingID INT;

    -- Determine a new unique OnboardingID by finding the maximum current ID and
    adding 1
    SELECT @NewOnboardingID = ISNULL(MAX(OnboardingID), 0) + 1 FROM Onboarding;

    -- Insert onboarding details with a specific OnboardingID
    INSERT INTO Onboarding (OnboardingID, CandidateID, JobID, StartDate, Status)
    VALUES (@NewOnboardingID, 1020, 2021, '2024-02-21', 'Active');

```

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```

-- Update the job opening to decrease the number of positions
UPDATE JobOpenings
SET NumberOfPositions = NumberOfPositions - 1
WHERE JobID = 2021 AND NumberOfPositions > 0;

COMMIT TRANSACTION;
END TRY
BEGIN CATCH
    ROLLBACK TRANSACTION;
    PRINT 'Error occurred: ' + ERROR_MESSAGE();
END CATCH

```

The screenshot shows the SSMS environment with the following details:

- Object Explorer (Left):** Shows the database structure under 'RECRUITMENT_HOSPITAL'. It includes SERVERS, Databases (System Databases, AP, Examples, Lab6, MyBookDB, MyCollege, MySchool, ProductOrders), and Tables (Applications, BackgroundChecks, Candidates, Documents, DrugTests, FinancialRecords, Interviewers, Interviews, Jobs, JobOpenings, Onboarding, Reimbursements, Tests, Views, Synonyms, Programmability, External Resources, Service Broker, Storage, Security, Logins, Server Roles).
- Script Pane (Center):** Displays the SQL script for Transaction 4. The code is color-coded by syntax (e.g., blue for keywords, green for comments, red for errors).
- Status Bar (Bottom):** Shows the execution status: Ln 716, Col 14, Spaces: 4, UTF-8, LF, SQL, 0 rows, MSSQL, 00:00:00, 127.0.0.1:RECRUITMENT_HOSPITAL.

Transaction4:

Transaction to Handle Reimbursements and Update Financial Records

This transaction processes a reimbursement and updates financial records to reflect the payout.

```

BEGIN TRANSACTION;
BEGIN TRY
    -- Update reimbursement status to 'Processed'
    UPDATE Reimbursements
    SET ProcessedAmount = 150.00, Status = 'Processed'

```

PROJECT-2 DBMS

```

WHERE ReimbursementID = 11001;

-- Insert financial record for the reimbursement
INSERT INTO FinancialRecords (TransactionID, Amount, TransactionDate,
Description)
VALUES (NEWID(), 150.00, GETDATE(), 'Reimbursement for candidate travel
expenses');

COMMIT TRANSACTION;
END TRY
BEGIN CATCH
ROLLBACK TRANSACTION;
PRINT 'Error occurred: ' + ERROR_MESSAGE();
END CATCH

```

The screenshot shows the SSMS interface with the following details:

- Object Explorer (Left):** Shows the database structure under 'Recruitment_Hospital'. It includes 'Tables' (dbo.Applications, dbo.BackgroundChecks, dbo.Candidates, etc.), 'Views', 'Synonyms', 'Programmability', 'External Resources', 'Service Broker', 'Storage', 'Security', 'Logins', and 'Server Roles'.
- Query Editor (Right):** Displays the SQL script for handling reimbursements. The code is color-coded by syntax. Red highlights are present around the '4. Transaction to Handle Reimbursements and Update Financial Records' section, the 'BEGIN TRY' block, and the 'BEGIN CATCH' block. The script includes:
 - Comments: -- Insert financial record for the reimbursement
 - Data Insertion: INSERT INTO FinancialRecords (TransactionID, Amount, TransactionDate, Description)
 - Values: VALUES (NEWID(), 150.00, GETDATE(), 'Reimbursement for candidate travel expenses');
 - Transactions: COMMIT TRANSACTION; (inside BEGIN TRY), ROLLBACK TRANSACTION; (inside BEGIN CATCH), and PRINT 'Error occurred: ' + ERROR_MESSAGE(); (inside BEGIN CATCH).
- Status Bar:** At the bottom, it shows 'Ln 739, Col 14 Spaces: 4 UTF-8 LF SQL 0 rows MSSQL 00:00:00 127.0.0.1:Recruitment_Hospital'.

Common Table Expressions

CTE1:

The SQL script uses named CandidateStatus to retrieve the most recent application details for each candidate from the Candidates and Applications tables, ranked by the latest application date, and selects the details of the candidates with the most recent application.

```
WITH CandidateStatus AS (
    SELECT
        c.CandidateID,
        c.Name,
        c.Email,
        a.ApplicationDate,
        a.Status,
        DENSE_RANK() OVER (PARTITION BY a.CandidateID ORDER BY a.ApplicationDate DESC)
    AS Rank
    FROM
        Candidates c
    JOIN
        Applications a ON c.CandidateID = a.CandidateID
)
SELECT
    CandidateID,
    Name,
    Email,
    ApplicationDate,
    Status
FROM
    CandidateStatus
WHERE
    Rank = 1;
```

PROJECT-2 DBMS

```

    WITH CandidateStatus AS (
        SELECT
            c.CandidateID,
            c.Name,
            c.Email,
            a.ApplicationDate,
            a.Status,
            DENSE_RANK() OVER (PARTITION BY a.CandidateID ORDER BY a.ApplicationDate DESC) AS Rank
        FROM
            Candidates c
        JOIN
            Applications a ON c.CandidateID = a.CandidateID
    )
    SELECT
        CandidateID,
        Name,
        Email,
        ApplicationDate,
        Status
    FROM
        CandidateStatus
    WHERE
        Rank = 1;
    
```

CTE 2, Report on Interview Scheduling Efficiency --

	CandidateID	Name	Email	ApplicationDate	Status
1	1011	Atharvaa Rane	atharvaa.rane@syr.edu	2023-10-04	Under Review
2	1012	Nolan Case	newemail@example.com	2023-09-20	Submitted
3	1013	Lydia Bennett	lydia.bennett@clinic.org	2023-09-18	Under Review
4	1014	Reed Morales	reed.morales@pioneerhealth.com	2023-09-15	Submitted
5	1015	Eva Summers	eva.summers@welllife.com	2023-10-07	Under Review
6	1016	Hugo Ross	hugo.ross@medicalcore.com	2023-09-22	Submitted
7	1017	Vivian Lacroix	vivian.lacroix@integrahealth.com	2023-09-30	Under Review
8	1018	Miles Archer	miles.archer@lifeline.com	2023-09-21	Submitted
9	1019	Tara Flynn	tara.flynn@careplus.org	2023-10-01	Submitted
10	1020	Leo Carver	leo.carver@pharmtech.com	2023-09-19	Under Review

CTE2:

Calculates the days between each candidate's application date and their first interview, displaying the candidate ID, name, earliest interview date, application date, and days to the first interview. It filters to include only those records where the first interview date is not null.

SELECT

```

    a.CandidateID,
    c.Name,
    MIN(i.StartTime) AS FirstInterviewDate,
    a.ApplicationDate,
    DATEDIFF(DAY, a.ApplicationDate, MIN(i.StartTime)) AS DaysToFirstInterview
FROM
    Applications a
JOIN
    Candidates c ON a.CandidateID = c.CandidateID
JOIN
    Interviews i ON a.ApplicationID = i.ApplicationID
GROUP BY
    a.CandidateID,
    c.Name,
    a.ApplicationDate
HAVING
    DATEDIFF(DAY, a.ApplicationDate, MIN(i.StartTime)) IS NOT NULL;
    
```

PROJECT-2 DBMS

```

--CTE 2. Report on Interview Scheduling Efficiency --
SELECT
    a.CandidateID,
    c.Name,
    MIN(i.StartTime) AS FirstInterviewDate,
    a.ApplicationDate,
    DATEDIFF(DAY, a.ApplicationDate, MIN(i.StartTime)) AS DaysToFirstInterview
FROM
    Applications a
JOIN
    Candidates c ON a.CandidateID = c.CandidateID
JOIN
    Interviews i ON a.ApplicationID = i.ApplicationID
GROUP BY
    a.CandidateID,
    c.Name,
    a.ApplicationDate
HAVING
    DATEDIFF(DAY, a.ApplicationDate, MIN(i.StartTime)) IS NOT NULL;

--CTE 3. Report on Job Openings and Fill Rate --

```

	CandidateID	Name	FirstInterviewDate	ApplicationDate	DaysToFirstInterview
1	1014	Reed Morales	2023-09-16 10:00:00.000	2023-09-15	1
2	1013	Lydia Bennett	2023-09-19 14:00:00.000	2023-09-18	1
3	1020	Leo Carver	2023-09-20 09:00:00.000	2023-09-19	1
4	1012	Nolan Case	2023-09-21 11:00:00.000	2023-09-20	1
5	1018	Miles Archer	2023-09-22 13:00:00.000	2023-09-21	1
6	1016	Hugo Ross	2023-09-23 10:00:00.000	2023-09-22	1
7	1017	Vivian Lacroix	2023-09-01 09:00:00.000	2023-09-30	-29
8	1019	Tara Flynn	2023-10-02 10:00:00.000	2023-10-01	1
9	1011	Atharvaa Rane	2023-10-05 09:00:00.000	2023-10-04	1
10	1015	Eva Summers	2023-10-08 13:00:00.000	2023-10-07	1

CTE3:

The SQL query aggregates job opening data by calculating initial openings, current openings, positions filled, and the fill percentage for each job. It joins the `JobOpenings`, `Jobs`, and `Applications` tables, filtering by applications with an 'Accepted' status, and groups the results by job-specific attributes to provide insights into the hiring progress for each position.

`SELECT`

```

j.JobID,
j.Position,
j.Title,
jo.NumberOfPositions AS InitialOpenings,
(jo.NumberOfPositions - COUNT(a.ApplicationID)) AS CurrentOpenings,
COUNT(a.ApplicationID) AS PositionsFilled,
CAST(COUNT(a.ApplicationID) AS FLOAT) / jo.NumberOfPositions * 100 AS
FillPercentage
FROM
    JobOpenings jo
JOIN
    Jobs j ON jo.JobID = j.JobID
LEFT JOIN
    Applications a ON jo.JobID = a.JobOpeningID AND a.Status = 'Accepted'
GROUP BY
    j.JobID, j.Position, j.Title, jo.NumberOfPositions;

```

PROJECT-2 DBMS

```

786 HAVING
787     DATEDIFF(DAY, a.ApplicationDate, MIN(i.StartTime)) IS NOT NULL;
788
789 --CTE 3, Report on Job Openings and Fill Rate --
790
791 SELECT
792     j.JobID,
793     j.Position,
794     j.Title,
795     jo.NumberOfPositions AS InitialOpenings,
796     (jo.NumberOfPositions - COUNT(a.ApplicationID)) AS CurrentOpenings,
797     COUNT(a.ApplicationID) AS PositionsFilled,
798     CAST(COUNT(a.ApplicationID) AS FLOAT) / jo.NumberOfPositions * 100 AS FillPercentage
799
800 FROM
801     JobOpenings jo
802     JOIN
803         Jobs j ON jo.JobID = j.JobID
804     LEFT JOIN
805         Applications a ON jo.JobID = a.JobOpeningID AND a.Status = 'Accepted'
806     GROUP BY
807         j.JobID, j.Position, j.Title, jo.NumberOfPositions;
808

```

	JobID	Position	Title	InitialOpenings	CurrentOpenings	PositionsFilled	FillPercentage
1	2011	Cardiologist	Consultant Cardiologist	1	1	0	0
2	2012	Medical Illustrator	Lead Medical Illustrator	1	1	0	0
3	2013	Genetic Counselor	Senior Genetic Counselor	1	1	0	0
4	2014	Neurologist	Chief of Neurology	1	1	0	0
5	2018	Health Data Analyst	Senior Data Analyst	1	1	0	0
6	2020	Clinical Psychologist	Behavioral Health Specialist	1	1	0	0
7	2015	Medical Coder	Medical Coding Specialist	2	2	0	0
8	2016	Pediatric Oncologist	Pediatric Cancer Specialist	2	2	0	0
9	2017	Speech Therapist	Speech-Language Pathologist	2	2	0	0
10	2019	Occupational Therapist	Lead Occupational Therapist	2	2	0	0
11	2021	Lab Technician	Senior Lab Technician	2	2	0	0

CTE4:

The SQL query aggregates total reimbursement expenses for each candidate by joining the 'Reimbursements', 'Applications', and 'Candidates' tables, grouping the results by candidate ID, name, and application status to display expenses associated with each application status.

```

SELECT
    c.CandidateID,
    c.Name,
    SUM(r.ProcessedAmount) AS TotalExpenses,
    a.Status
FROM
    Reimbursements r
JOIN
    Applications a ON r.ApplicationID = a.ApplicationID
JOIN
    Candidates c ON a.CandidateID = c.CandidateID
GROUP BY
    c.CandidateID, c.Name, a.Status;

```

PROJECT-2 DBMS

```

801    JOIN
802        Jobs j ON jo.JobID = j.JobID
803    LEFT JOIN
804        Applications a ON jo.JobID = a.JobOpeningID AND a.Status = 'Accepted'
805    GROUP BY
806        j.JobID, j.Position, j.Title, jo.NumberOfPositions;
807
808    -- CTE 4. Report on Recruitment Expenses --
809
810    SELECT
811        c.CandidateID,
812        c.Name,
813        SUM(r.ProcessedAmount) AS TotalExpenses,
814        a.Status
815    FROM
816        Reimbursements_r
817    JOIN
818        Applications a ON r.ApplicationID = a.ApplicationID
819    JOIN
820        Candidates c ON a.CandidateID = c.CandidateID
821    GROUP BY
822        c.CandidateID, c.Name, a.Status;
823
824

```

	CandidateID	Name	TotalExpenses	Status
1	1012	Nolan Case	150.00	Submitted
2	1014	Reed Morales	290.00	Submitted
3	1016	Hugo Ross	180.00	Submitted
4	1018	Miles Archer	100.00	Submitted
5	1019	Tara Flynn	190.00	Submitted
6	1011	Atharvaa Rane	150.00	Under Review
7	1013	Lydia Bennett	180.00	Under Review
8	1015	Eva Summers	250.00	Under Review
9	1017	Vivian Lacroix	200.00	Under Review
10	1020	Leo Carver	250.00	Under Review

LN 823, Col 37 Spaces: 4 UTF-8 LF SQL 10 rows MSSQL 00:00:00 127.0.0.1 : Recruitment_Hospital

BUSINESS REPORTS

Business Report 1:

Job Opening Fulfillment Rate Report

This report shows the number of openings versus how many positions have been filled, providing insights into how well different job positions are being filled.

```

SELECT
    j.JobID,
    j.Position,
    jo.NumberOfPositions AS TotalOpenings,
    COUNT(a.ApplicationID) AS ApplicationsReceived,
    SUM(CASE WHEN a.Status = 'Accepted' THEN 1 ELSE 0 END) AS PositionsFilled
FROM
    Jobs j
JOIN
    JobOpenings jo ON j.JobID = jo.JobID
LEFT JOIN
    Applications a ON jo.OpeningID = a.JobOpeningID
GROUP BY
    j.JobID, j.Position, jo.NumberOfPositions;
  
```

Description:

- **JobID** and **Position**: Identify the job and its title.
- **TotalOpenings**: Total number of job openings available.
- **ApplicationsReceived**: Total applications received for each job.
- **PositionsFilled**: Number of positions filled (where application status is 'Accepted').

PROJECT-2 DBMS

The screenshot shows the SSMS interface with a query editor containing the following SQL code:

```

735
736
737 SELECT
738     j.JobID,
739     j.Position,
740     jo.NumberOfPositions AS TotalOpenings,
741     COUNT(a.ApplicationID) AS ApplicationsReceived,
742     SUM(CASE WHEN a.Status = 'Accepted' THEN 1 ELSE 0 END) AS PositionsFilled
743
744 FROM
745     Jobs j
746     JOIN
747         JobOpenings jo ON j.JobID = jo.JobID
748     LEFT JOIN
749         Applications a ON jo.OpeningID = a.JobOpeningID
750     GROUP BY
751         j.JobID, j.Position, jo.NumberOfPositions;
    
```

The Results pane displays the following data:

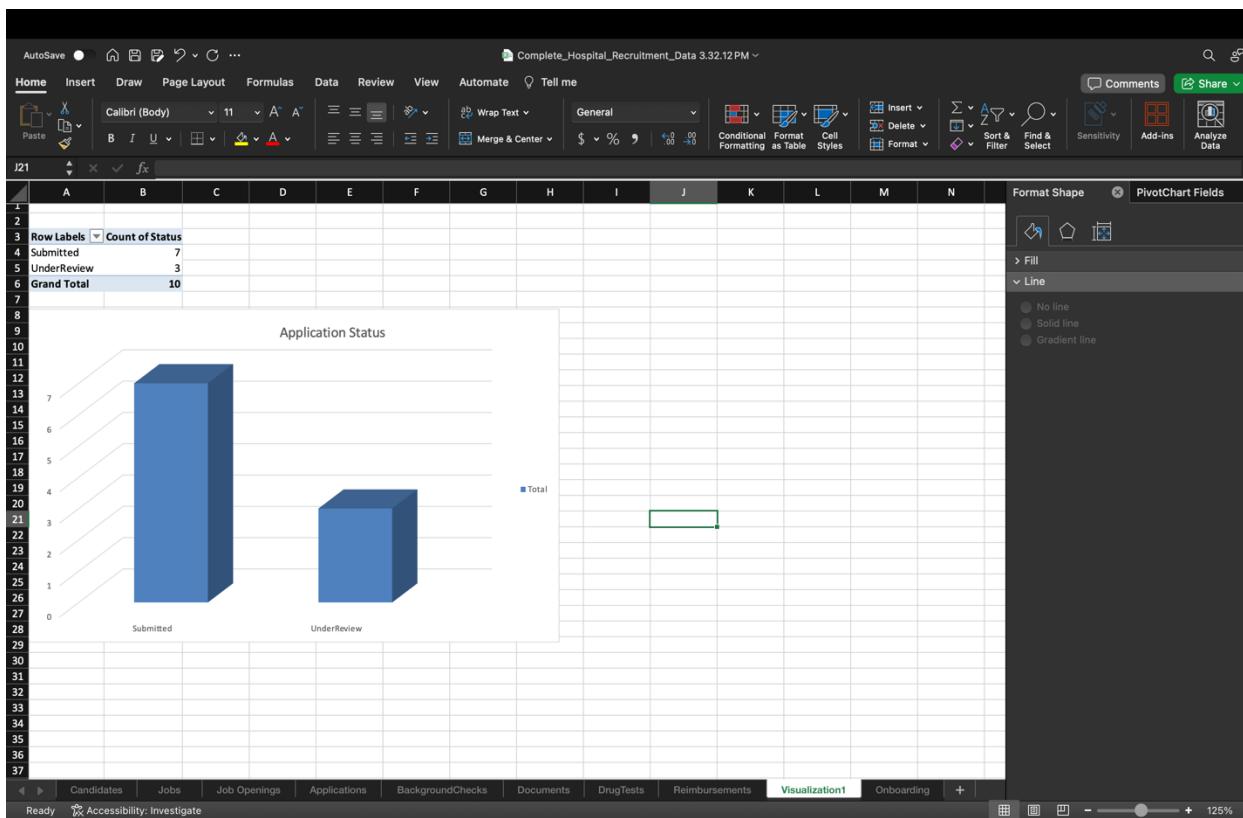
	JobID	Position	TotalOpenings	ApplicationsReceived	PositionsFilled
1	2011	Cardiologist	1	1	0
2	2012	Medical Illustrator	1	1	0
3	2013	Genetic Counselor	1	1	0
4	2014	Neurologist	1	1	0
5	2018	Health Data Analyst	1	1	0
6	2020	Clinical Psychologist	1	1	0
7	2015	Medical Coder	2	1	0
8	2016	Pediatric Oncologist	2	1	0
9	2017	Speech Therapist	2	1	0
10	2019	Occupational Therapi...	2	1	0
11	2021	Lab Technician	3	0	0

At the bottom of the SSMS window, the status bar shows: Ln 751, Col 1 Spaces: 4 UTF-8 LF SQL 11 rows MSSQL 00:00:00 127.0.0.1 :Recruitment_Hospital

Business Report2:

The graph displayed provides a visual representation of the status of job applications within the recruitment database. It shows that there are a total of 10 applications, with 7 of them in the 'Submitted' stage and 3 in the 'Under Review' stage. This suggests that the majority of applications are still awaiting initial review, indicating either a backlog or a recent influx of applications. The substantial difference between the two statuses might necessitate a review of staffing levels or process efficiency to ensure timely processing of applications. This data can be critical for HR to optimize their workflow and reduce time-to-hire, thereby improving the overall recruitment process efficiency. The graph, included as part of a dashboard in Excel, serves as a practical tool for real-time monitoring and management of application statuses.

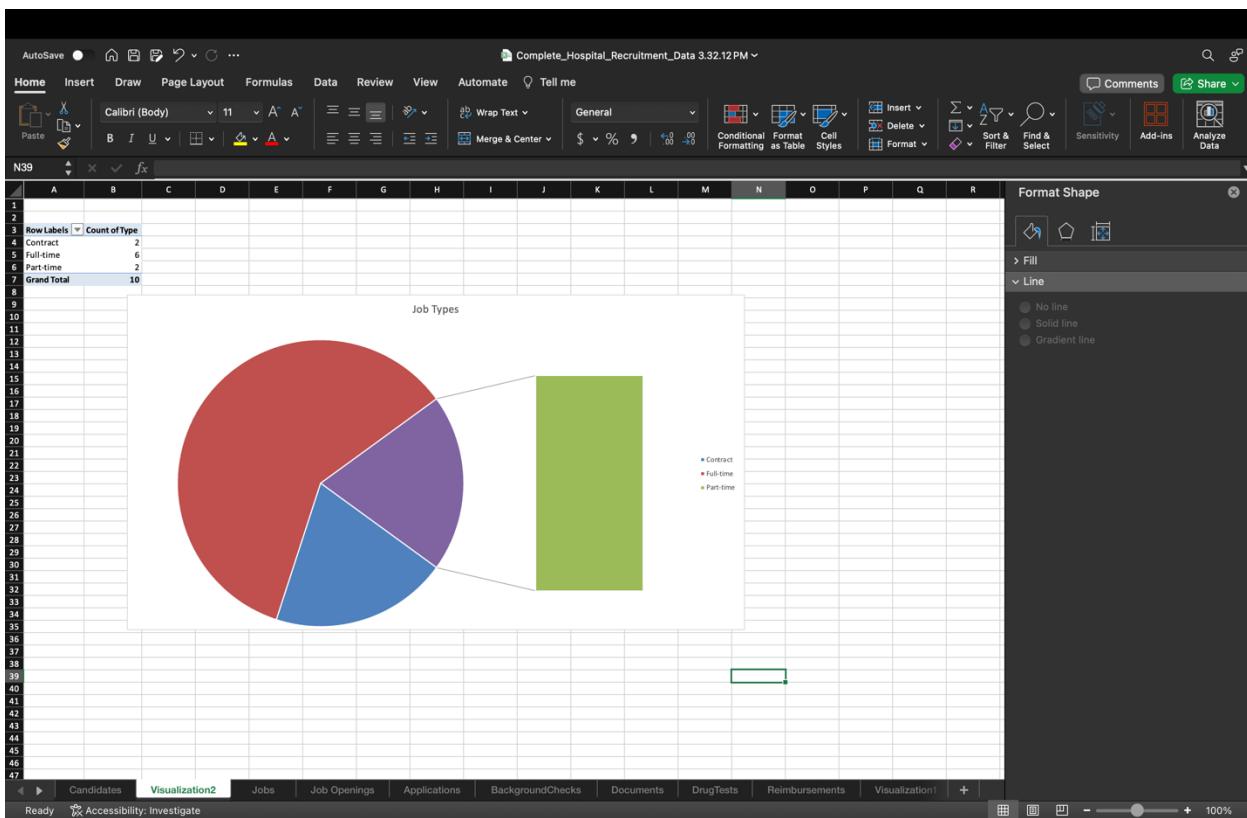
PROJECT-2 DBMS



Business Report3:

The pie chart provides a distribution of job types within the healthcare recruitment system. It reveals that full-time positions are the most prevalent, constituting 6 out of 10 total job openings, indicating a strong demand for permanent staff. Contract roles account for 2 positions, reflecting a moderate reliance on temporary staffing solutions, which might be used to address seasonal fluctuations or project-specific needs. Part-time roles make up the remaining 2 positions, suggesting limited opportunities for flexible working arrangements. This data could help HR to understand current hiring trends and possibly reevaluate job offerings to align with organizational needs and market conditions. The visualization assists in quickly identifying which job types dominate the recruitment efforts, enabling strategic planning and resource allocation.

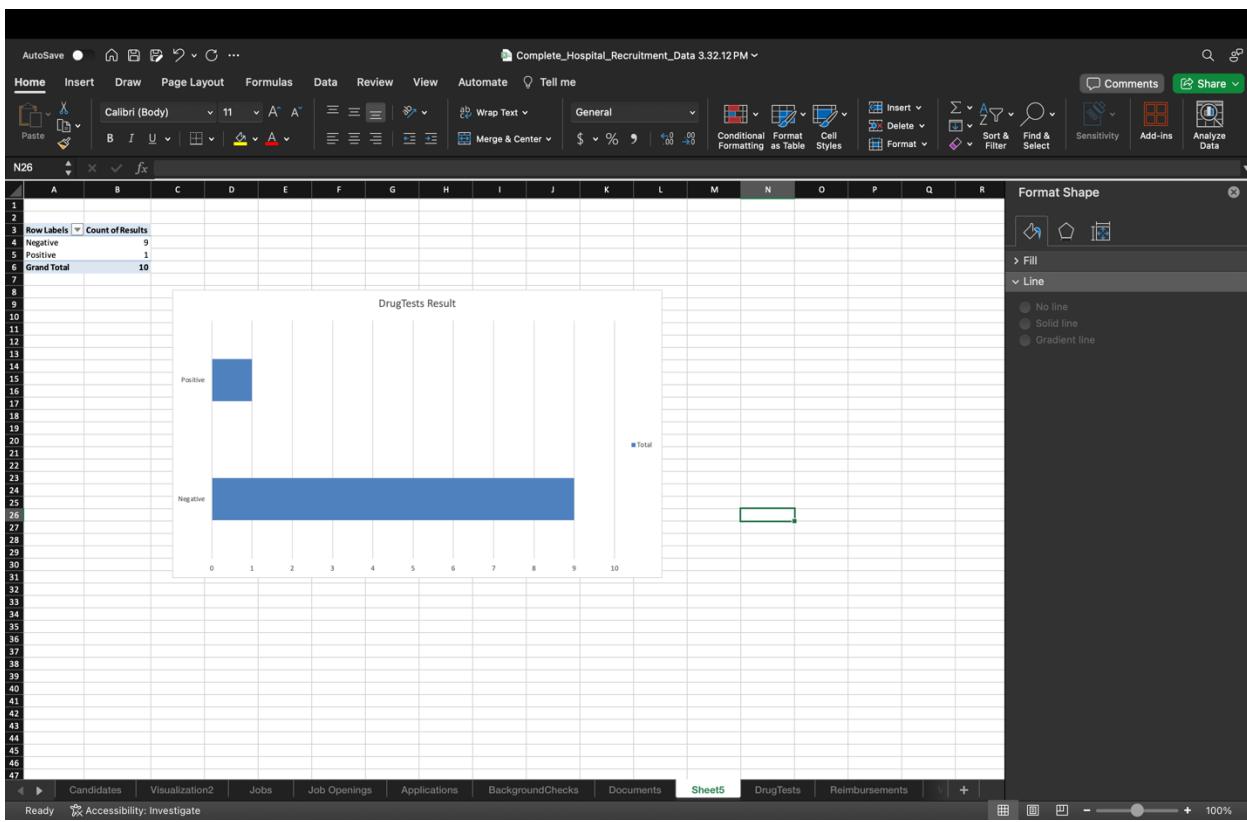
PROJECT-2 DBMS



Business Report4:

The bar chart depicts the results of drug tests conducted during the recruitment process, displaying a significant disparity between negative and positive results. Out of 10 recorded tests, 9 results are negative, underscoring a predominantly drug-free candidate pool, which is reassuring for maintaining workplace safety and compliance standards. Only 1 result returned positive, indicating a potential concern that may require further investigation or immediate attention to ensure adherence to the organization's health and safety policies. This low incidence of positive results may reflect effective pre-screening or deterrence measures but suggests that continuous monitoring and a stringent drug policy are essential. The graph is a valuable tool for HR to monitor the efficacy of current drug testing protocols and maintain high standards of employee health and safety within the organization.

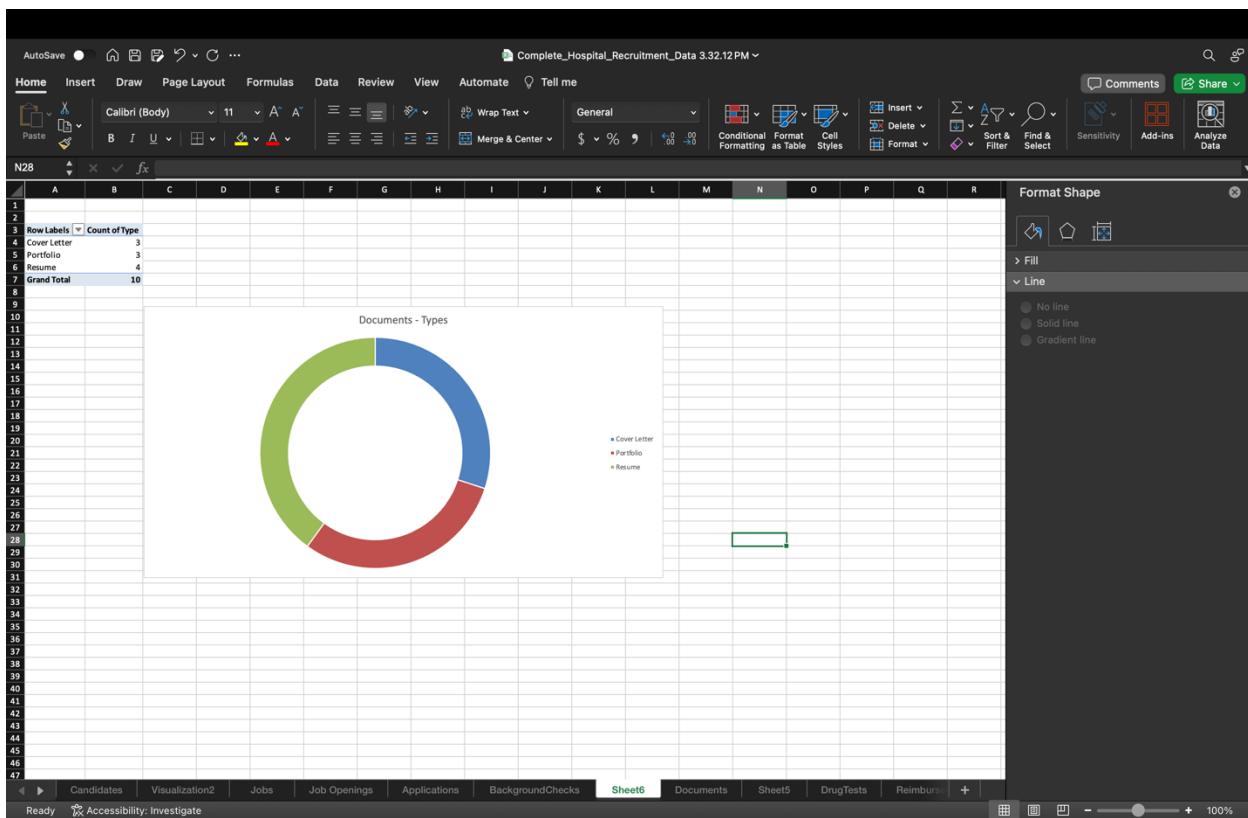
PROJECT-2 DBMS



Business Report 5:

The donut chart illustrates the types of documents submitted by candidates during the recruitment process. It highlights that resumes constitute half of all documents, emphasizing their importance in initial candidate assessments. Cover letters account for 30% of submissions, supporting the comprehensive evaluation of candidates by providing additional context to their applications. The remaining 20% consists of portfolios, likely specific to roles requiring demonstrable work, such as in design or project management. This distribution underscores the importance of a varied document submission strategy that allows HR to gain a holistic view of applicants' qualifications and experiences. Such insights are crucial for effective screening and selecting the right candidates for interviews, ensuring the recruitment process aligns with organizational needs and job specifications.

PROJECT-2 DBMS



CONCLUSION

This project successfully developed a tailored recruitment database for a University Medical Center, significantly enhancing the efficiency and transparency of the recruitment process. By automating key tasks and centralizing data management, the system not only streamlines operations but also empowers HR professionals to focus more on strategic engagement and less on administrative burdens. The implementation of robust security measures ensures that sensitive information remains protected, supporting the organization's commitment to privacy and compliance. Overall, the new database system is poised to significantly improve the recruitment lifecycle, contributing to better hiring decisions and fostering a skilled healthcare workforce.