

# SQL statements:

## Database Schema Creation Script for DataStax Internship System:

```
CREATE DATABASE DataStax;
```

```
USE DataStax;
```

```
-- ===== -- Organization Table -- =====
```

```
CREATE TABLE Organization ( org_id INT PRIMARY KEY, name VARCHAR(100) NOT NULL, approval_status  
VARCHAR(20) CHECK (approval_status IN ('approved' , 'rejected' , 'pending'))
```

```
, address VARCHAR(200),
```

```
approved BOOLEAN,
```

```
rejected BOOLEAN);
```

```
-- ===== -- Monitor Table -- =====
```

```
CREATE TABLE Monitor ( monitor_id INT PRIMARY KEY, name VARCHAR(100) NOT NULL,  
contact_details VARCHAR(100));
```

```
-- ===== -- Internship Table -- =====
```

```
CREATE TABLE Internship ( internship_id INT PRIMARY KEY, org_id INT NOT NULL,  
monitor_id INT NOT NULL, start_date DATE NOT NULL, end_date DATE NOT NULL,  
FOREIGN KEY (org_id) REFERENCES Organization(org_id), FOREIGN KEY (monitor_id)  
REFERENCES Monitor(monitor_id), CONSTRAINT valid_dates CHECK (end_date >  
start_date));
```

```
-- ===== -- Students Table -- =====
```

```
CREATE TABLE Students ( student_id INT PRIMARY KEY, name VARCHAR(100) NOT NULL,  
field_of_study VARCHAR(100), registration_status VARCHAR(20)
```

```
CHECK (registration_status IN ('approved' , 'rejected' , 'pending')), internship_id INT,  
FOREIGN KEY (internship_id) REFERENCES Internship(internship_id));
```

-- ===== -- Course Table -- =====

```
CREATE TABLE Course ( course_code VARCHAR(20) PRIMARY KEY, name VARCHAR(100)
NOT NULL, room_no VARCHAR(20));
```

-- ===== -- Enrollment Table -- =====

```
CREATE TABLE Enrollment ( student_id INT NOT NULL, course_code VARCHAR(20) NOT
NULL, since DATE NOT NULL, PRIMARY KEY (student_id, course_code), FOREIGN KEY
(student_id) REFERENCES Students(student_id), FOREIGN KEY (course_code)
REFERENCES Course(course_code));
```

-- ===== -- Evaluation Table (Combined for Professors and TAs) -- =====

```
CREATE TABLE Evaluation ( evaluation_id INT PRIMARY KEY, grade VARCHAR(100),
feedback TEXT, prof_id INT, assistant_id INT, student_id INT NOT NULL, FOREIGN KEY
(prof_id) REFERENCES Professor(prof_id), FOREIGN KEY (assistant_id) REFERENCES
Teaching_Assistant(assistant_id), FOREIGN KEY (student_id) REFERENCES
Students(student_id), CONSTRAINT evaluator_check CHECK ( (prof_id IS NOT NULL AND
assistant_id IS NULL) OR (prof_id IS NULL AND assistant_id IS NOT NULL));
```

-- ===== -- Report Table -- =====

```
CREATE TABLE Report ( report_id INT PRIMARY KEY, type VARCHAR(50) NOT NULL,
submission_date DATE NOT NULL, evaluation_id INT NOT NULL, feedback TEXT, FOREIGN
KEY (evaluation_id) REFERENCES Evaluation(evaluation_id));
```

```
CREATE TABLE Teach ( ssn INT PRIMARY KEY, course_code VARCHAR(20) NOT NULL, date
DATE NOT NULL, FOREIGN KEY (course_code) REFERENCES Course(course_code) );
DROP TABLE Teach;
```

```
CREATE TABLE Professor ( professor_id INT PRIMARY KEY, ssn INT UNIQUE, name
VARCHAR(100) NOT NULL, department VARCHAR(100), FOREIGN KEY (ssn) REFERENCES
Teach(ssn));
```

```
CREATE TABLE Teaching_Assistant ( teachasist_id INT PRIMARY KEY, ssn INT UNIQUE,
name VARCHAR(100) NOT NULL, FOREIGN KEY (ssn) REFERENCES Teach(ssn));
```

## -- Sample Data Insertion Script --

### -- Insert Organizations

INSERT INTO Organization VALUES

(1, 'Tech Solutions Inc.', 'approved', '123 Tech Blvd, San Francisco', TRUE, FALSE),  
(2, 'Data Analytics Co.', 'approved', '456 Data Street, Boston', TRUE, FALSE),  
(3, 'Software Innovators', 'pending', '789 Innovation Ave, Austin', FALSE, FALSE),  
(4, 'Cyber Security Partners', 'approved', '321 Secure Lane, Washington', TRUE, FALSE),  
(5, 'AI Research Labs', 'rejected', '654 AI Road, Seattle', FALSE, TRUE),  
(6, 'Cloud Services Ltd.', 'approved', '987 Cloud Way, New York', TRUE, FALSE);

### -- Insert Monitors

INSERT INTO Monitor VALUES (101, 'John Smith', 'john.smith@example.com'), (102, 'Sarah Johnson', 'sarah.j@example.com'), (103, 'Michael Brown', 'michael.b@example.com'), (104, 'Emily Davis', 'emily.d@example.com'), (105, 'Robert Wilson', 'robert.w@example.com'), (106, 'Jennifer Lee', 'jennifer.l@example.com');

### -- Insert Internships

INSERT INTO Internship VALUES (1001, 1, 101, '2023-06-01', '2023-08-31'), (1002, 2, 102, '2023-06-15', '2023-09-15'), (1003, 4, 103, '2023-07-01', '2023-09-30'), (1004, 1, 104, '2023-06-01', '2023-08-31'), (1005, 6, 105, '2023-07-15', '2023-10-15'), (1006, 2, 106, '2023-08-01', '2023-11-30');

### -- Insert Students

INSERT INTO Students VALUES (5001, 'Alice Johnson', 'Computer Science', 'approved', 1001), (5002, 'Bob Smith', 'Data Science', 'approved', 1002), (5003, 'Charlie Brown', 'Cybersecurity', 'approved', 1003), (5004, 'Diana Miller', 'Computer Science', 'pending', NULL), (5005, 'Ethan Wilson', 'Artificial Intelligence', 'approved', 1005), (5006, 'Fiona Davis', 'Software Engineering', 'rejected', NULL);

### -- Insert Courses

INSERT INTO Course VALUES ('CS101', 'Introduction to Programming', 'A100'), ('DS201', 'Data Structures', 'B205'), ('AI301', 'Artificial Intelligence', 'C310'), ('CS202', 'Database Systems', 'A210'), ('SE401', 'Software Engineering', 'D415'), ('CY501', 'Cybersecurity Fundamentals', 'E510');

#### -- Insert Enrollments

```
INSERT INTO Enrollment VALUES (5001, 'CS101', '2023-01-15'), (5001, 'DS201', '2023-01-15'), (5002, 'DS201', '2023-01-20'), (5002, 'AI301', '2023-01-20'), (5003, 'CY501', '2023-02-01'), (5004, 'CS101', '2023-02-10'), (5005, 'AI301', '2023-02-15'), (5005, 'SE401', '2023-02-15'), (5006, 'CS202', '2023-03-01');
```

#### -- Insert Evaluations

```
INSERT INTO Evaluation VALUES (7001, 'A', 'Excellent work on all assignments', 2001, NULL, 5001), (7002, 'B+', 'Good performance with room for improvement', NULL, 3001, 5001), (7003, 'A-', 'Strong technical skills', 2002, NULL, 5002), (7004, 'B', 'Consistent performance', NULL, 3002, 5003), (7005, 'A+', 'Outstanding research work', 2003, NULL, 5005), (7006, 'C+', 'Needs to participate more', NULL, 3003, 5004);
```

#### -- Insert Reports

```
INSERT INTO Report VALUES (8001, 'Midterm', '2023-04-15', 7001, 'Good progress overall'), (8002, 'Final', '2023-06-20', 7001, 'Excellent final project'), (8003, 'Midterm', '2023-04-18', 7003, 'Solid understanding of concepts'), (8004, 'Final', '2023-06-22', 7004, 'Improved significantly'), (8005, 'Midterm', '2023-04-20', 7005, 'Exceptional work'), (8006, 'Final', '2023-06-25', 7006, 'Met minimum requirements');
```

```
INSERT INTO Professor VALUES (2001, 123456789, 'Dr. James Wilson', 'Computer Science'), (2002, 234567890, 'Dr. Lisa Thompson', 'Data Science'), (2003, 345678901, 'Dr. Mark Roberts', 'AI'), (2004, 456789012, 'Dr. Susan Chen', 'Software Eng.'), (2005, 567890123, 'Dr. David Kim', 'Cybersecurity'), (2006, 678901234, 'Dr. Patricia Moore', 'Computer Science');
```

```
INSERT INTO Teaching_Assistant VALUES (3001, 123456789, 'Ryan Adams'), (3002, 234567890, 'Olivia Martinez'), (3003, 345678901, 'Daniel White'), (3004, 456789012, 'Sophia Garcia'), (3005, 567890123, 'Matthew Taylor'), (3006, 678901234, 'Emma Anderson'); INSERT INTO Teach VALUES (107777777, 'CS101', '2023-02-01'), (108888888, 'DS201', '2023-02-05'), (109999999, 'AI301', '2023-02-10'), (110000000, 'CS101', '2023-02-15'), (111111111, 'DS201', '2023-02-20');
```

-- -- Verification Queries (SELECT \* FROM each table) --

SELECT \* FROM Organization;

SELECT \* FROM Monitor;

SELECT \* FROM Internship;

SELECT \* FROM Students;

SELECT \* FROM Course;

SELECT \* FROM Enrollment;

SELECT \* FROM Professor;

SELECT \* FROM Teaching\_Assistant;

SELECT \* FROM Evaluation;

SELECT \* FROM Report;

SELECT \* FROM Teach;

SQL Workbench Screen Shot :

	monitor_id	name	contact_details
▶	101	John Smith	john.smith@example.com
	102	Sarah Johnson	sarah.j@example.com
	103	Michael Brown	michael.b@example.com
	104	Emily Davis	emily.d@example.com
	105	Robert Wilson	robert.w@example.com
	106	Jennifer Lee	jennifer.l@example.com
●	NULL	NULL	NULL

	prof_id	ssn	name	department
▶	2001	123456789	Dr. James Wilson	Computer Science
	2002	234567890	Dr. Lisa Thompson	Data Science
	2003	345678901	Dr. Mark Roberts	Artificial Intelligence
	2004	456789012	Dr. Susan Chen	Software Engineering
	2005	567890123	Dr. David Kim	Cybersecurity
	2006	678901234	Dr. Patricia Moore	Computer Science
●	NULL	NULL	NULL	NULL

	ssn	course_code	date
▶	107777777	CS101	2023-02-01
	108888888	DS201	2023-02-05
	109999999	AI301	2023-02-10
	110000000	CS101	2023-02-15
	111111111	DS201	2023-02-20
●	NULL	NULL	NULL

	student_id	course_code	since
	5002	AI301	2023-01-20
	5002	DS201	2023-01-20
	5003	CY501	2023-02-01
	5004	CS101	2023-02-10
	5005	AI301	2023-02-15
	5005	SE401	2023-02-15
	5006	CS202	2023-03-01
●	NULL	NULL	NULL

	evaluation_id	grade	feedback	prof_id	assistant_id	student_id
▶	7001	A	Excellent work on all assignments	2001	NULL	5001
	7002	B+	Good performance with room for improvement	NULL	3001	5001
	7003	A-	Strong technical skills	2002	NULL	5002
	7004	B	Consistent performance	NULL	3002	5003
	7005	A+	Outstanding research work	2003	NULL	5005
	7006	C+	Needs to participate more	NULL	3003	5004
●	NULL	NULL	NULL	NULL	NULL	NULL



	course_code	name	room_no
▶	AI301	Artificial Intelligence	C310
	CS101	Introduction to Programming	A100
	CS202	Database Systems	A210
	CY501	Cybersecurity Fundamentals	E510
	DS201	Data Structures	B205
	SE401	Software Engineering	D415
•	NULL	NULL	NULL

Result Grid     Filter Rows: <input type="text"/>   Edit:      Export/Import:					
	report_id	type	submission_date	evaluation_id	feedback
▶	8001	Midterm	2023-04-15	7001	Good progress overall
	8002	Final	2023-06-20	7001	Excellent final project
	8003	Midterm	2023-04-18	7003	Solid understanding of concepts
	8004	Final	2023-06-22	7004	Improved significantly
	8005	Midterm	2023-04-20	7005	Exceptional work
	8006	Final	2023-06-25	7006	Met minimum requirements
•	NULL	NULL	NULL	NULL	NULL

	assistant_id	ssn	name
▶	3001	987654321	Ryan Adams
	3002	876543219	Olivia Martinez
	3003	765432198	Daniel White
	3004	654321987	Sophia Garcia
	3005	543219876	Matthew Taylor
	3006	432198765	Emma Anderson
•	NULL	NULL	NULL



	org_id	name	approval_status	address	approved	rejected
▶	1	Tech Solutions Inc.	approved	123 Tech Blvd, San Francisco	1	0
	2	Data Analytics Co.	approved	456 Data Street, Boston	1	0
	3	Software Innovators	pending	789 Innovation Ave, Austin	0	0
	4	Cyber Security Partners	approved	321 Secure Lane, Washington	1	0
	5	AI Research Labs	rejected	654 AI Road, Seattle	0	1
	6	Cloud Services Ltd.	approved	987 Cloud Way, New York	1	0
•	NULL	NULL	NULL	NULL	NULL	NULL

	student_id	name	field_of_study	registration_status	internship_id
▶	5001	Alice Johnson	Computer Science	approved	1001
	5002	Bob Smith	Data Science	approved	1002
	5003	Charlie Brown	Cybersecurity	approved	1003
	5004	Diana Miller	Computer Science	pending	NULL
	5005	Ethan Wilson	Artificial Intelligence	approved	1005
	5006	Fiona Davis	Software Engineering	rejected	NULL
•	NULL	NULL	NULL	NULL	NULL

	internship_id	org_id	monitor_id	start_date	end_date
▶	1001	1	101	2023-06-01	2023-08-31
	1002	2	102	2023-06-15	2023-09-15
	1003	4	103	2023-07-01	2023-09-30
	1004	1	104	2023-06-01	2023-08-31
	1005	6	105	2023-07-15	2023-10-15
	1006	2	106	2023-08-01	2023-11-30
•	NULL	NULL	NULL	NULL	NULL