

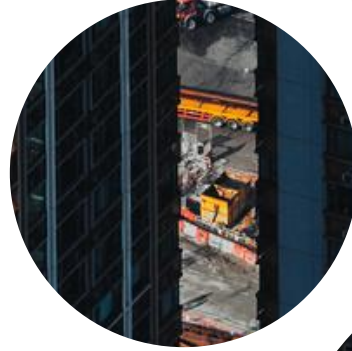


EMPLOYEE DATA ANALYSIS

SQL

Agenda

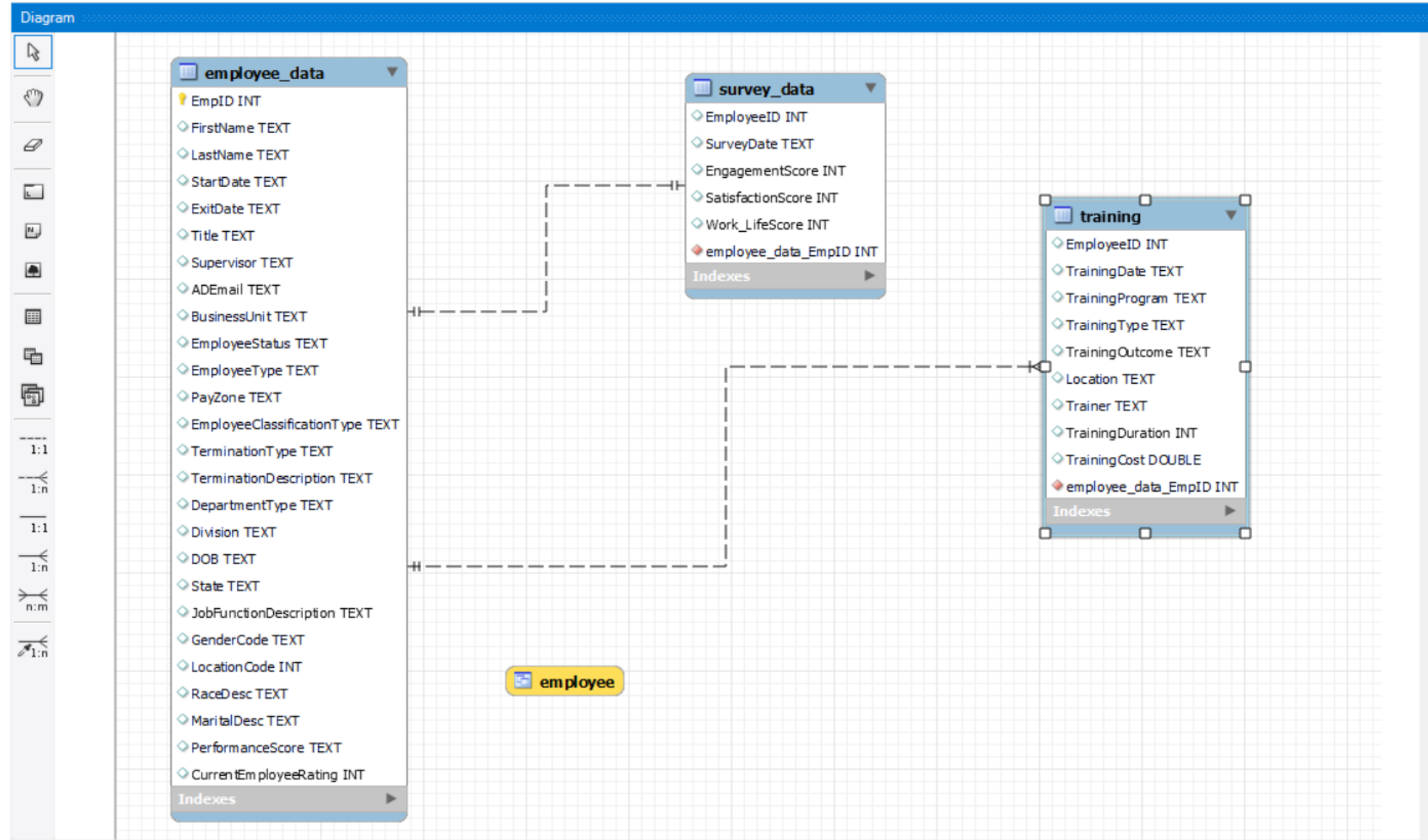
- Introduction
- ER diagram
- Analysis Reports



Introduction

- Understanding workforce dynamics, performance, and engagement is crucial for optimizing operations and fostering a productive work environment.
- Key Components:
 - Employee Data Table: Contains essential information about employees, including personal details, employment history, and performance metrics.
 - Survey Data Table: Captures feedback from employee surveys, helping assess engagement levels, satisfaction, and work-life balance.
 - Training Data Table: Records details of employee training sessions, including dates, program names, and outcomes

ER Diagram



DATA ANALYSIS



What is the Gender Distribution among Employees in the Company?

- The distribution presents a higher representation of female employees compared to male employees.
- Female Employees distribution 56.06667% and Male Employee Distribution 43.93333%

```
10  #What is the gender distribution among employees in the company?
11
12  #To get count
13  • select GenderCode,count(GenderCode) as Gender_count from employee_data group by GenderCode;
14
15  #To get percentage
16  • select GenderCode,count(*) * 100.0/ (select count(*) from employee_data) as percentage from employee_data group by GenderCode;
```

Result Grid | | Filter Rows: | Export: | Wrap Cell Content:

	GenderCode	percentage
▶	Female	56.06667
	Male	43.93333

Which Training Program has been attended by most of the employees?




- The Communication Skills training program has been attended by the highest number of employees, with a total count of 673.

```
21
22 #Question3
23 #Training Program Popularity:
24 #Which training program has been attended by the most employees?
25 • select count(EmployeeID),TrainingProgram from training group by TrainingProgram
```

Result Grid		Filter Rows:	Export:	Wrap Cell Content:	Fetch rows:
	count(EmployeeID)	TrainingProgram			
▶	673	Communication Skills			

Top rated employees along with the training Program they attended

```
34 #Question4
35 #Top Rated Employees and their JD and Training Program they attended
36 • select e.EmpID,e.JobFunctionDescription,e.CurrentEmployeeRating,t.TrainingProgram from employee_data e
37 left join training t on e.EmpID=t.EmployeeID
38 where CurrentEmployeeRating=5;
39
40
```

Result Grid  Filter Rows: | Export:  | Wrap Cell Content: 

	EmpID	JobFunctionDescription	CurrentEmployeeRating	TrainingProgram
▶	3436	Engineer	5	Leadership Development
	3437	Technician	5	Technical Skills
	3449	Technician	5	Communication Skills
	3464	Mechanic	5	Customer Service
	3485	Laborer	5	Customer Service
	3491	Driver	5	Project Management
	3493	Project Manager	5	Project Management
	3496	Administrator	5	Project Management
	3499	Technician	5	Technical Skills
	3508	Laborer	5	Communication Skills
	3513	Laborer	5	Communication Skills

Result 29 x

Result Grid

Form Editor

Field Types

! Read Only

Distribution of Employees by Training Outcome

- The combined percentage of completed and passed outcomes (49%) highlights the overall success rate of training initiatives.

```
39
40 #Question5
41 #Distribution of Employees by TrainingOutcome
42 • select TrainingOutcome,count(EmployeeID) as count,count(*) * 100.0/(select count(*) from training) as percentage
```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
TrainingOutcome	count	percentage	
Failed	716	23.86667	
Incomplete	775	25.83333	
Completed	770	25.66667	
Passed	739	24.63333	

Average Training Cost of each Training Program

```
44
45 #Question6
46 #Which training program costs the most on average?
47 • select TrainingProgram,avg(TrainingCost) as Average_TrainingCost from training
48    group by TrainingProgram
49    order by avg(TrainingCost) desc ;
50
```


Result Grid	Filter Rows:	Export:	Wrap Cell Content:
TrainingProgram	Average_TrainingCost		
Customer Service	567.3894513274334		
Leadership Development	564.2892508710803		
Project Management	563.7326272577994		
Technical Skills	557.98378238342		
Communication Skills	542.3822288261518		


Employee Training and Performance view


- The view provides a comprehensive overview of employees' training participation, outcomes, and Employee ratings.

```
62 #empid,concat name,jobtype,currentrating,trainingprogram,trainingoutcome
63 • create view Employee as
64 select e.EmpID,concat(e.FirstName,' ',e.LastName) as FullName,e.DepartmentType,e.CurrentEmployeeRating,
65 t.TrainingProgram,t.TrainingOutcome,t.TrainingCost from employee_data e
66 right join training t on e.EmpID=t.EmployeeID;
67
68 • select * from Employee;
```

Result Grid

 Filter Rows:

Export: 

Wrap Cell Content: 

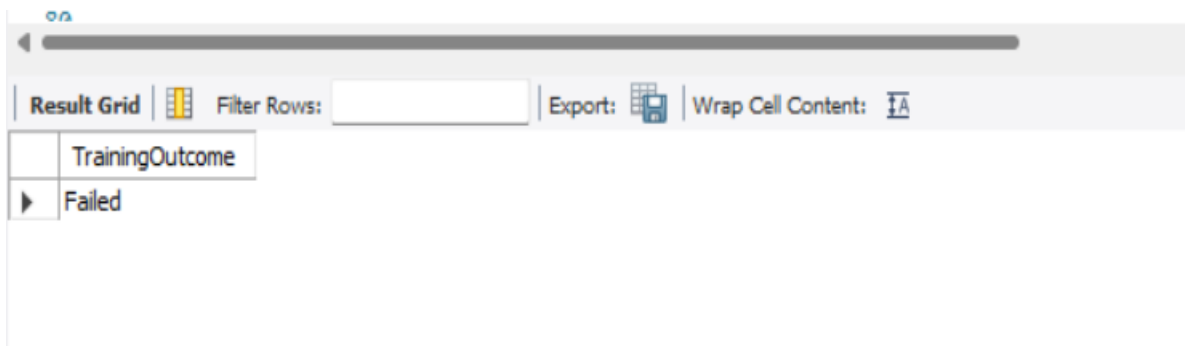
	EmpID	FullName	DepartmentType	CurrentEmployeeRating	TrainingProgram	TrainingOutcome	TrainingCost
▶	1001	Susan Exantus	Software Engineering	3	Customer Service	Failed	510.83
	1002	Sandra Martin	Software Engineering	3	Leadership Development	Failed	582.37
	1003	Keyla Del Bosque	Software Engineering	3	Technical Skills	Incomplete	777.06
	1004	Andrew Szabo	Software Engineering	3	Customer Service	Completed	824.3
	1005	Luke Patronick	Software Engineering	3	Communication Skills	Passed	145.99
	1006	Colby Andreola	Software Engineering	3	Project Management	Failed	838.07
	1007	Edward TRUE	Software Engineering	3	Leadership Development	Failed	667.32
	1008	Judith Carabbio	Software Engineering	3	Technical Skills	Incomplete	758.18
	1009	Adell Saada	Software Engineering	3	Customer Service	Incomplete	101.21
	1010	Kamari Hunter	Software Engineering	3	Communication Skills	Incomplete	332.25
	1011	Sarah Malone	Software Engineering	3	Communication Skills	Completed	803.98
	1012	Skyler Blackwell	Software Engineering	3	Technical Skills	Failed	887.08

Stored Procedure: Get Training Outcome by EmpID

- Provides a convenient and reusable method to retrieve training outcomes for individual employees.

```
#Stored Procedure
#To get the Training Outcome from EmpID
delimiter //
• create procedure GetTrainingOutcome(IN ID int)
  begin
    select TrainingOutcome from training where EmployeeID=ID;
  end //
delimiter ;

• call GetTrainingOutcome(1001);
```



Windows

- Identify the top-performing employees in each department based on Employee Rating

```
83 • WITH cte AS
84 (
85     SELECT concat(FirstName, ' ', LastName) as FullName , DepartmentType, CurrentEmployeeRating,
86           dense_rank() OVER (PARTITION BY DepartmentType ORDER BY CurrentEmployeeRating DESC) AS TopEmp
87     FROM employee_data
88 )
89 SELECT *
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

	FullName	DepartmentType	CurrentEmployeeRating	TopEmp
▶	Tucker Haas	Admin Offices	5	1
	Lena Sandoval	Executive Office	3	1
	Nathanial Booth	Executive Office	3	1
	Brady Yoder	Executive Office	3	1
	Jayden Mckee	Executive Office	3	1
	Hadassah Moran	Executive Office	3	1
	Jaiden Underwood	Executive Office	3	1
	Kaeden Vargas	Executive Office	3	1
	Edgar Underwood	Executive Office	3	1
	Monique Pierce	Executive Office	3	1
	Oscar Lopez	Executive Office	3	1
	Elise Vazquez	Executive Office	3	1

Result 8 x

Case

- Utilize a case statement to mark training outcomes as "Trained" if they are completed or passed, and "Not Trained" otherwise.

```
104 • with cte as
105 ( select *, case
106     when TrainingOutcome = 'Completed' then "Trained"
107     else "Not Trained"
108 end as TrainingStatus
109 from training) select * from cte;
110
```

	EmployeeID	TrainingDate	TrainingProgram	TrainingType	TrainingOutcome	Location	Trainer	TrainingDuration	TrainingCost	TrainingStatus
▶	1001	21-Sep-22	Customer Service	Internal	Failed	Port Greg	Amanda Daniels	4	510.83	Not Trained
	1002	19-Jul-23	Leadership Development	Internal	Failed	Brandonview	Brittany Chambers	2	582.37	Not Trained
	1003	24-Feb-23	Technical Skills	Internal	Incomplete	Port Briannahaven	Mark Roberson	4	777.06	Not Trained
	1004	12-Jan-23	Customer Service	Internal	Completed	Knightborough	Richard Fisher	2	824.3	Trained
	1005	12-May-23	Communication Skills	External	Passed	Bruceshire	Heather Shaffer	4	145.99	Not Trained
	1006	08-May-23	Project Management	Internal	Failed	Erinfort	Michael Duke	2	838.07	Not Trained
	1007	14-May-23	Leadership Development	External	Failed	New Christopher	Virginia Clayton DVM	2	667.32	Not Trained
	1008	02-Aug-23	Technical Skills	External	Incomplete	Lowemouth	Erica Maxwell	2	758.18	Not Trained
	1009	21-Aug-22	Customer Service	Internal	Incomplete	Johnland	Katelyn Hartman	2	101.21	Not Trained
	1010	19-Aug-22	Communication Skills	External	Incomplete	Lake Kimfurt	Rhonda Clark	5	332.25	Not Trained
	1011	06-Nov-22	Communication Skills	Internal	Completed	Smithshire	Natalie Fields	1	803.98	Trained
	1012	28-Mar-23	Technical Skills	External	Failed	Howardburgh	Theresa Martinez	3	887.08	Not Trained

Identifying Low-Performance Employees and Training Status

- Provides insight into the training status of low-performance employees.

#get all the employees whose performance score is low and check whether they completed training program and their job type

```
WITH low_employee AS (  
    SELECT e.EmpID, CONCAT(e.FirstName, ' ', e.LastName) AS FullName, e.PerformanceScore, e.JobFunctionDescription, t.TrainingOutcome,  
           CASE  
               WHEN t.TrainingOutcome = 'Completed' THEN 'Trained'  
               WHEN t.TrainingOutcome = 'Passed' THEN 'Trained'  
               ELSE 'Not Trained'  
           END AS TrainingStatus  
    FROM employee_data e  
    RIGHT JOIN training t ON e.EmpID = t.EmployeeID  
    WHERE e.PerformanceScore = 'Needs Improvement') SELECT * FROM low_employee;
```

Result Grid						
Filter Rows:		Export:		Wrap Cell Content: IA		
EmpID	FullName	PerformanceScore	JobFunctionDescription	TrainingOutcome	TrainingStatus	
1391	Taylor Sparks	Needs Improvement	Supervisor	Completed	Trained	
1398	Debbie Mangal	Needs Improvement	Runner	Passed	Trained	
1399	Helen Billis	Needs Improvement	Foreman	Incomplete	Not Trained	
1413	Ann Montgomery	Needs Improvement	Accounting	Completed	Trained	
1418	Kaiden Leblanc	Needs Improvement	Project Manager	Failed	Not Trained	
1422	Gianna Lopez	Needs Improvement	Technician	Failed	Not Trained	
1423	Azaria Young	Needs Improvement	Laborer	Passed	Trained	
1424	Aydin Bautista	Needs Improvement	Laborer	Incomplete	Not Trained	
1425	Antoine Schaefer	Needs Improvement	Technician	Failed	Not Trained	
1427	Jean Duffy	Needs Improvement	Project Manager	Passed	Trained	
1430	Evangeline Downs	Needs Improvement	Shop	Passed	Trained	



THANK YOU