

## Practice Exercise: Create Logical Model, Relational Model, and Generate DDL code:

This is a practice exercise for creating logical model, relational model, and generating schema DDL from relational model using Oracle Data Modeler

Please create tables with your initial as suffix, e.g. instead of AP (replace AP with your initial)

### Data Dictionary:

Table Name	AP_EMP	EMPLOYEE TABLE		
Column Name	Datatype	Size	Optional/Mandatory	Comment
EMPNO	NUMERIC	4	Mandatory	Employee ID Number
EFNAME	VARCHAR	30	Mandatory	Employee Frist Name
ELNAME	VARCHAR	30	Mandatory	Employee Last Name
JOB	VARCHAR	30	Mandatory	Employee Functional Role
MGR	NUMERIC	4	Optional	Employee Manager ID
HIREDATE	DATE		Mandatory	Employee Join Date
SAL	NUMERIC	(7,2)	Mandatory	Employee Monthly Salary in USD
COMM	NUMERIC	(7,2)	Optional	Employee commission

Table Name	AP_DEPT	DEPARTMENT TABLE		
Column Name	Datatype	Size	Optional/Mandatory	Comment
DEPTNO	NUMERIC	2	Mandatory	Department ID Number
DNAME	VARCHAR	30	Mandatory	Department Name
LOC	VARCHAR	30	Mandatory	Location City of the Department

Table Name	AP_PROJECT	ORGANIZATION PROJECTS		
Column Name	Datatype	Size	Optional/Mandatory	Comment

PROJID	NUMERIC	3	Mandatory	Project ID Number
PNAME	VARCHAR	30	Mandatory	Name of the Project
STARTDATE	DATE		Mandatory	Start Date of the Project
ENDDATE	DATE		Mandatory	End Date of the Project

**Table Name**    **AP\_SALGRADE**    **SALARY GRADE TABLE**

Column Name	Datatype	Size	Optional/Mandatory	Comment
GRADE	VARCHAR	2	Mandatory	Salary Grade of Employee
HISAL	NUMERIC	(7,2)	Mandatory	High Salary Value
LOSAL	NUMERIC	(7,2)	Mandatory	Low Salary Value

Highlighted in BLUE is Primary Key of the corresponding table.

## STEPS FOR CREATING LOGICAL MODEL

Create each Entity (table) with all Attributes (columns) with proper datatype, size, optional/mandatory, primary key, and comments for each attributes

Create relationship among entities. If there is any Many to Many relationship, create associate (intersect) table in between with at least one attribute. With associate entity in middle, it will have two one to many relationships, with many side towards associate entity.

For each relationship, select source key as primary key of the source side table (table which has one side of one-to-many relationship)

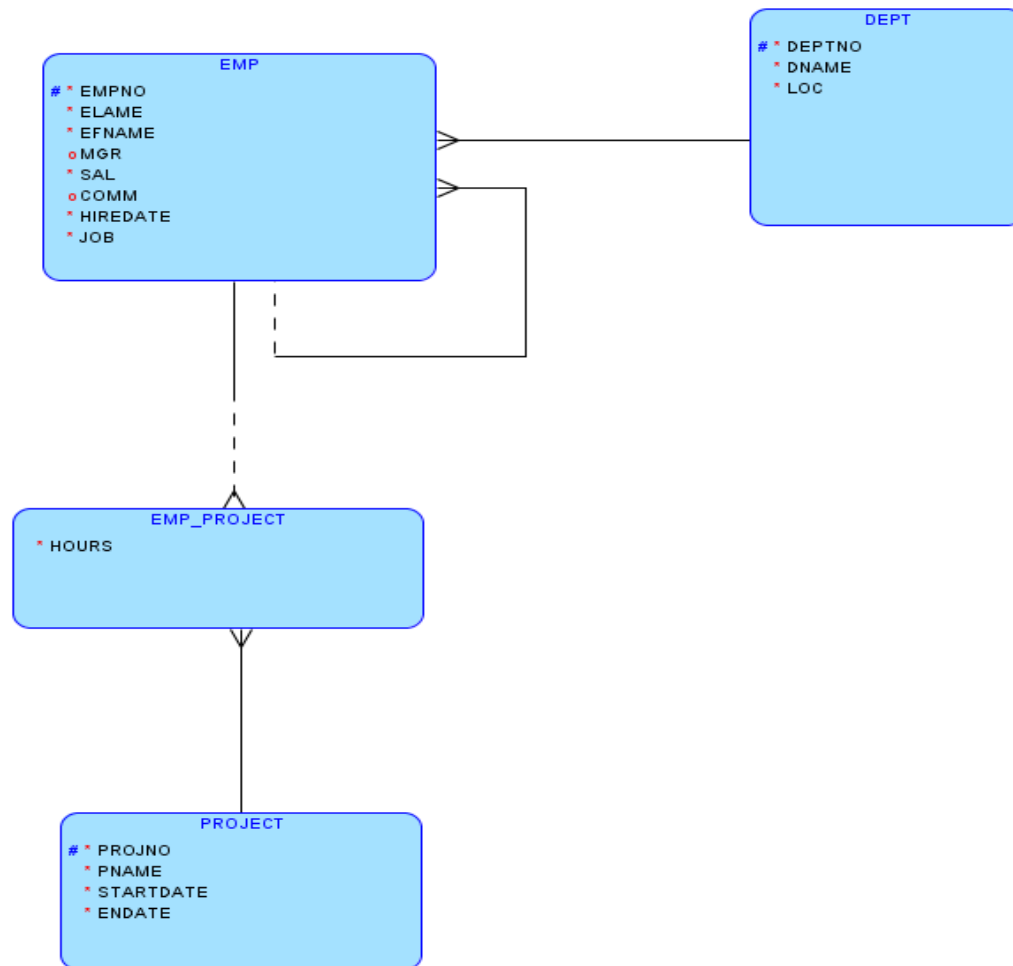
Convert Logical model to Relational Model

Rename Foreign Key column to same column name of primary key of referenced table.

Expand Relational Model as necessary so that all details are clearly visible.

General DDL script from the relational model and save it as PRACTICE\_SCHEMA\_DDL.sql on your laptop/desktop.

LOGICAL MODEL:



## RELATIONAL MODEL

