SANTA CLARA UNIVERISTY

Querying DB with SQL – MSIS 2603

FINAL PROJECT – Employee Schema

[Team – 1]

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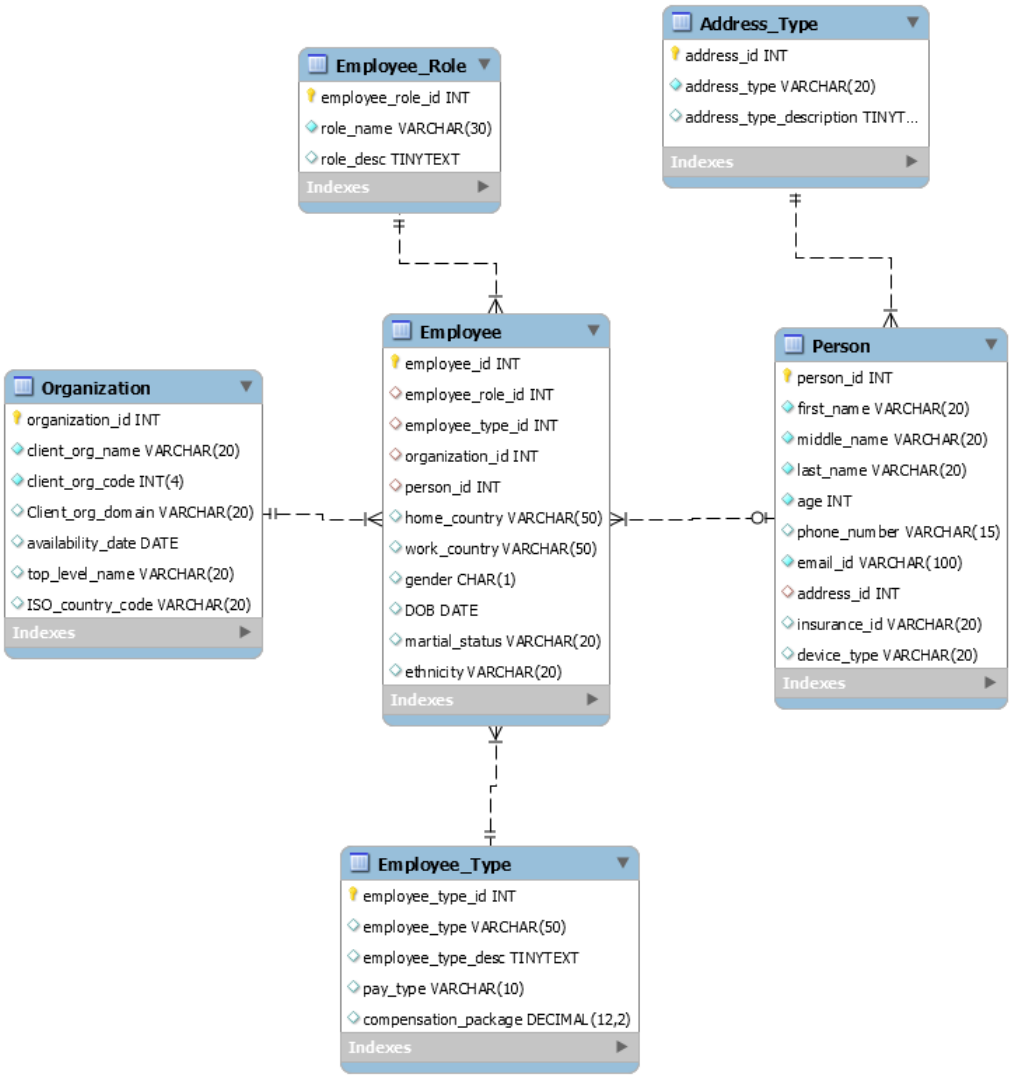
Employee Schema ER Diagram



The above-mentioned Schema defines the Employee entity and its relationships to other entities. Each employee is of a Person Type and each address of a person has an address_type. The employee belongs to an organization and is of one employee Type.

Table Description

1. Organization Table:

Fields	Type	Can_Be_Null?	Key	Extra
organization_id	INT(11)	NO	PRI	AUTO_INCREMENT
client_org_name	VARCHAR(20)	NO		
client_org_code	INT(4)	NO		
client_org_domain	VARCHAR(20)	YES		
availability_date	DATE	YES		
top_level_name	VARCHAR(20)	YES		
ISO_country_code	VARCHAR(20)	YES		

2. Employee Table:

Fields	Type	Can_Be_Null??	Key	Extra
employee_id	INT(11)	NO	PRI	AUTO_INCREMENT
employee_role_id	INT(11)	YES	MUL	
employee_type_id	INT(11)	YES	MUL	
organization_id	INT(11)	YES	MUL	
person_id	INT(11)	NO	MUL	
home_country	VARCHAR(50)	YES		
work_country	VARCHAR(50)	YES		
gender	CHAR(1)	YES		
DOB	DATE	YES		
marital_status	VARCHAR(20)	YES		
ethnicity	VARCHAR(20)			

3. Address_Type Table:

Fields	Type	Can_Be_Null?	Key	Extra
address_id	INT(11)	NO	PRIMARY	AUTO_INCREMENT
address_type	VARCHAR(20)	NO		
address_type_description	VARCHAR(20)	YES		

4. Employee_Type Table:

Fields	Type	CanBeNull?	Key	Extra
employee_type_id	INT(11)	NO	PRI	AUTO_INCREMENT
employee_type	VARCHAR(50)	YES		
employee_type_desc	TINYTEXT	YES		
pay_type	VARCHAR(10)	YES		
Compensation_package	DECIMAL(12,2)	YES		

5. Person Table:

Fields	Type	CanBeNull?	Key	Extra
person_id	INT(11)	NO	PRI	AUTO_INCREMENT
first_name	VARCHAR(20)	NO		
middle_name	VARCHAR(20)	NO		
last_name	VARCHAR(20)	NO		
age	INT(11)	NO		
phone_number	VARCHAR(15)	YES		
email_id	VARCHAR(20)	NO		
address_id	INT(11)	YES	MUL	
insurance_id	VARCHAR(20)	YES		
device_type	VARCHAR(20)	YES		

6. Employee_Role Table:

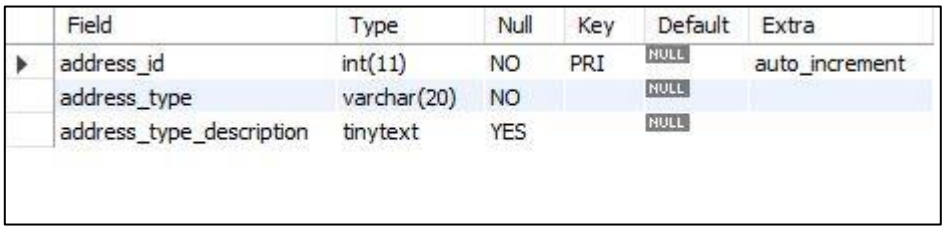
Fields	Type	CanBeNull?	Key	Extra
employee_role_id	INT(11)	NO	PRI	AUTO_INCREMENT
role_name	VARCHAR(30)	NO		
Role_desc	TINYTEXT	YES		

Explaining Queries

1. Query to create table

Executing the following query will create a Table named "Address_Type" and add 3 columns to it namely address_id, address_type, address_type.

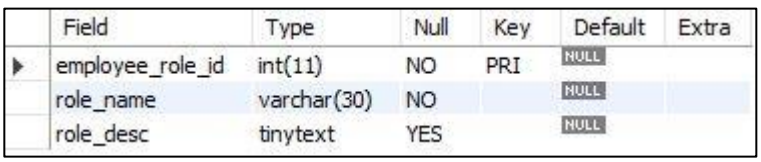
```
1. -- Create table Address_Type --
2. CREATE TABLE IF NOT EXISTS Address_Type(
3.   address_id INT AUTO_INCREMENT PRIMARY KEY,
4.   address_type VARCHAR(20) NOT NULL,
5.   address_type_description TINYTEXT
6. );
```



Field	Type	Null	Key	Default	Extra
address_id	int(11)	NO	PRI	NULL	auto_increment
address_type	varchar(20)	NO		NULL	
address_type_description	tinytext	YES		NULL	

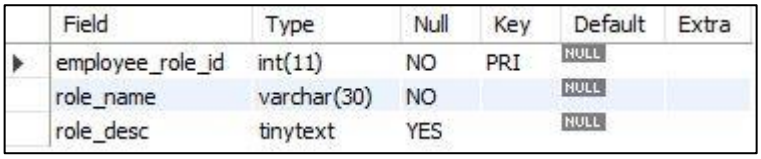
Similarly, other tables were also created, they are as follows:

```
1. - Create table Employee_Type --
2. CREATE TABLE IF NOT EXISTS Employee_Type (
3.     employee_type_id INT AUTO_INCREMENT PRIMARY KEY,
4.     employee_type VARCHAR(50),
5.     employee_type_desc TINYTEXT,
6.     pay_type VARCHAR(10),
7.     compensation_package decimal(12,2)
8. );
```



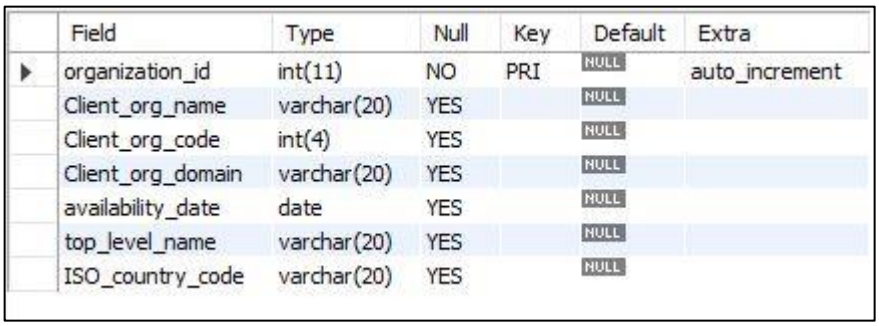
Field	Type	Null	Key	Default	Extra
employee_role_id	int(11)	NO	PRI	NULL	
role_name	varchar(30)	NO		NULL	
role_desc	tinytext	YES		NULL	

```
1. -- Create table Employee_Role --
2. CREATE TABLE IF NOT EXISTS Employee_Role (
3.     employee_role_id INT PRIMARY KEY,
4.     role_name VARCHAR(30) NOT NULL,
5.     role_desc TINYTEXT
6. );
```



	Field	Type	Null	Key	Default	Extra
▶	employee_role_id	int(11)	NO	PRI	NULL	
	role_name	varchar(30)	NO		NULL	
	role_desc	tinytext	YES		NULL	

```
1. -- Create table Organization --
2. CREATE TABLE IF NOT EXISTS Organization(
3.   organization_id INT AUTO_INCREMENT PRIMARY KEY,
4.     client_org_name VARCHAR(20) NOT NULL,
5.     client_org_code INT(4) NOT NULL,
6.     Client_org_domain VARCHAR(20) ,
7.     availability_date DATE,
8.     top_level_name VARCHAR(20) ,
9.     ISO_country_code VARCHAR(20)
10.      );
```



	Field	Type	Null	Key	Default	Extra
▶	organization_id	int(11)	NO	PRI	NULL	auto_increment
	Client_org_name	varchar(20)	YES		NULL	
	Client_org_code	int(4)	YES		NULL	
	Client_org_domain	varchar(20)	YES		NULL	
	availability_date	date	YES		NULL	
	top_level_name	varchar(20)	YES		NULL	
	ISO_country_code	varchar(20)	YES		NULL	

```
1. -- Create table Person --
2. CREATE TABLE IF NOT EXISTS Person(
3.   person_id INT AUTO_INCREMENT PRIMARY KEY,
4.   first_name VARCHAR(20) NOT NULL,
5.   middle_name VARCHAR(20) NOT NULL,
6.   last_name VARCHAR(20) NOT NULL,
7.   age INT NOT NULL,
8.   phone_number VARCHAR(15) ,
9.     email_id VARCHAR(100) NOT NULL,
10.      address_id INT ,
11.      insurance_id VARCHAR(20) ,
12.      device_type VARCHAR(20) ,
13.          FOREIGN KEY (address_id) REFERENCES Address_Type (address_id)
14.      );
```

Field	Type	Null	Key	Default	Extra
person_id	int(11)	NO	PRI	NULL	auto_increment
first_name	varchar(20)	NO		NULL	
middle_name	varchar(20)	NO		NULL	
last_name	varchar(20)	NO		NULL	
age	int(11)	NO		NULL	
phone_number	varchar(15)	YES		NULL	
email_id	varchar(50)	YES		NULL	
address_id	int(11)	YES	MUL	NULL	
insurance_id	varchar(20)	YES		NULL	
device_type	varchar(20)	YES		NULL	

```
1. -- Create table Employee --
2. CREATE TABLE IF NOT EXISTS Employee (
3.     employee_id INT AUTO_INCREMENT PRIMARY KEY,
4.   employee_role_id INT ,
5.   employee_type_id INT ,
6.   organization_id INT ,
7.   person_id INT NOT NULL,
8.     home_country VARCHAR(50),
9.     work_country VARCHAR(50),
10.      gender CHAR(1), -- make a select list maybe
11.      DOB DATE, -- format type
12.      martial_status VARCHAR(20), -- letter based
13.      ethnicity VARCHAR(20),
14.      FOREIGN KEY(organization_id)
15.          REFERENCES Organization(organization_id),
16.      FOREIGN KEY(employee_role_id)
17.                  REFERENCES Employee_Role(employee_role_id),
18.      FOREIGN KEY(person_id)
19.                  REFERENCES Person(person_id),
20.      FOREIGN KEY(employee_type_id)
21.                  REFERENCES Employee_Type(employee_type_id)
22.  );
```

Field	Type	Null	Key	Default	Extra
employee_id	int(11)	NO	PRI	NULL	auto_increment
employee_role_id	int(11)	YES	MUL	NULL	
employee_type_id	int(11)	YES	MUL	NULL	
organization_id	int(11)	YES	MUL	NULL	
person_id	int(11)	NO	MUL	NULL	
home_country	varchar(50)	YES		NULL	
work_country	varchar(50)	YES		NULL	
gender	char(1)	YES		NULL	
DOB	date	YES		NULL	
martial_status	varchar(20)	YES		NULL	
ethnicity	varchar(20)	YES		NULL	

2. Query to create view

The following view consists of 2 attributes from all the tables.

Select statement to view the data of employeeView

```
1. CREATE VIEW employeeview
2. AS
3. SELECT employee.employee_role_id as "Emp role id", person.first_name as "First
   name", person.middle_name as "Middle name",
4. employee_role.role_name "Emp Role name",employee_role.role_desc as "Emp Role
   description" ,
5. organization.Client_org_name as "Client Org name",
   employee_type.compensation_package as "Compensation Package",
   organization.top_level_name as "Top level name",
6. employee_type.employee_type as "Employee Type",  person.age as "age",  employee.DOB
   as "DOB" , address_type.address_type as "Address Type",
7. address_type.address_type_description as "Address" , employee.home_country as "Home
   country"
8. FROM address_type, employee_type, employee_role, organization, person, employee
9. WHERE address_type.address_id  = Person.address_id and
   employee_type.employee_type_id = employee.employee_type_id and
10.  employee_role.employee_role_id = employee.employee_role_id and
   organization.organization_id = employee.organization_id and
11.  person.person_id = employee.person_id order  by employee.employee_role_id;
```

```
1. SELECT * FROM employeeView;
```

Screenshot of the view output:

Emp role id	First name	Middle name	Emp Role name	Emp Role description	Client Org name	Compensation Package	Top level name	Employee Type	age	DOB	Address Type	Address
3	Kerby	Pietro	Product Manager	Visionary zero defect migration	McD	0.05	level2	Engineering	34	1980-10-26	Home2	Integrat
4	Briana	Jeff	Product Manager	Robust hybrid frame	McD	0.03	level2	Training	43	1994-08-31	Home2	Integrat
4	Wadsworth	Wilbert	Product Manager	Robust hybrid frame	Boeing	0.00	level3	Business Development	33	1987-08-30	Commercial	Balanced
7	Torry	Raphael	Marketing Head	Fundamental system-worthy neural-net	McD	0.05	level2	Research and Development	46	1988-06-05	Emergency	Assimilat Interfac
8	Paulina	Pace	DBA specialist	Intuitive global help-desk	Boeing	0.03	level3	Product Management	32	1967-11-17	Commercial	Balanced
10	Elissa	Curry	Marketing Head	Programmable encompassing capacity	Chase	0.05	level4	Legal	53	1967-09-06	Commercial	Balanced
11	Marrissa	Raynard	QA Tester	Universal transitional frame	Chase	0.01	level1	Business Development	53	1976-01-17	Commercial	Balanced
13	Stormi	Chaddie	Marketing Head	Focused client-driven contingency	Chase	0.05	level2	Engineering	43	1987-10-02	Home2	Integrat
14	Paulina	Pace	QA Tester	Devolved holistic leverage	Boeing	0.01	level3	Support	32	1968-06-21	Commercial	Balanced
14	Jesse	Silvio	QA Tester	Devolved holistic leverage	McD	0.03	level2	Support	39	1977-09-11	Home2	Integrat
15	Kerby	Pietro	DevOps	Multi-tiered non-volatile policy	Boeing	0.01	level3	Marketing	34	1988-04-22	Home2	Integrat

Alternative method to create a view with Joins is given below:

```
1. CREATE VIEW employeeview_alternate
2. as
3. select  e.employee_id as "Emp ID",p.first_name as "First name", p.last_name as
   "Last name",e.DOB as "DOB",
```

```
4. o.client_org_name as "Client org name", o.top_level_name as "Top Level name",
5. er.employee_role_id as "Emp Role id",er.role_name as "Role name",et.pay_type as
   "Pay type", et.compensation_package as "Compensation package",
6. a.address_id as "Address ID",a.address_type as "Address Type"
7. from address_type a
8. INNER join person p ON a.address_id=p.address_id
9. INNER join employee e ON e.person_id=p.person_id
10.  inner join employee_role er ON e.employee_role_id=er.employee_role_id
11.  inner join employee_type et ON e.employee_type_id=et.employee_type_id
12.  inner join organization o on o.organization_id=e.organization_id order by
   e.employee_id;
13.   Select statement to view the data of employeeView_alternate
```

```
1. SELECT * FROM employeeView_alternate;
```

Emp ID	First name	Last name	DOB	Client org name	Top Level name	Emp Role id	Role name	Pay type	Compensation package	Address ID	Address Type
1	Dyann	Windress	1998-07-05	Chase	level2	28	Sales	Monthly	0.30	2	Commercial
2	Maurice	Kilmurray	1979-05-01	Chase	level1	22	DevOps	Bi-Weekly	0.05	2	Commercial
3	Noel	Gooden	1983-12-05	McD	level2	46	DBA specialist	Bi-Weekly	0.02	2	Commercial
4	Kinnie	Domsalla	1979-10-18	Chase	level1	20	Manager	Bi-Weekly	0.05	2	Commercial
5	Marrissa	Tremblett	1976-01-17	Chase	level1	11	QA Tester	Hourly	0.01	2	Commercial
6	Jesse	Woollcott	1977-09-11	McD	level2	14	QA Tester	Hourly	0.03	4	Home2

3. Query to create and call stored procedure

The following Stored Procedures can be called upon to insert data into the tables by passing values as parameters.

- Address_Type

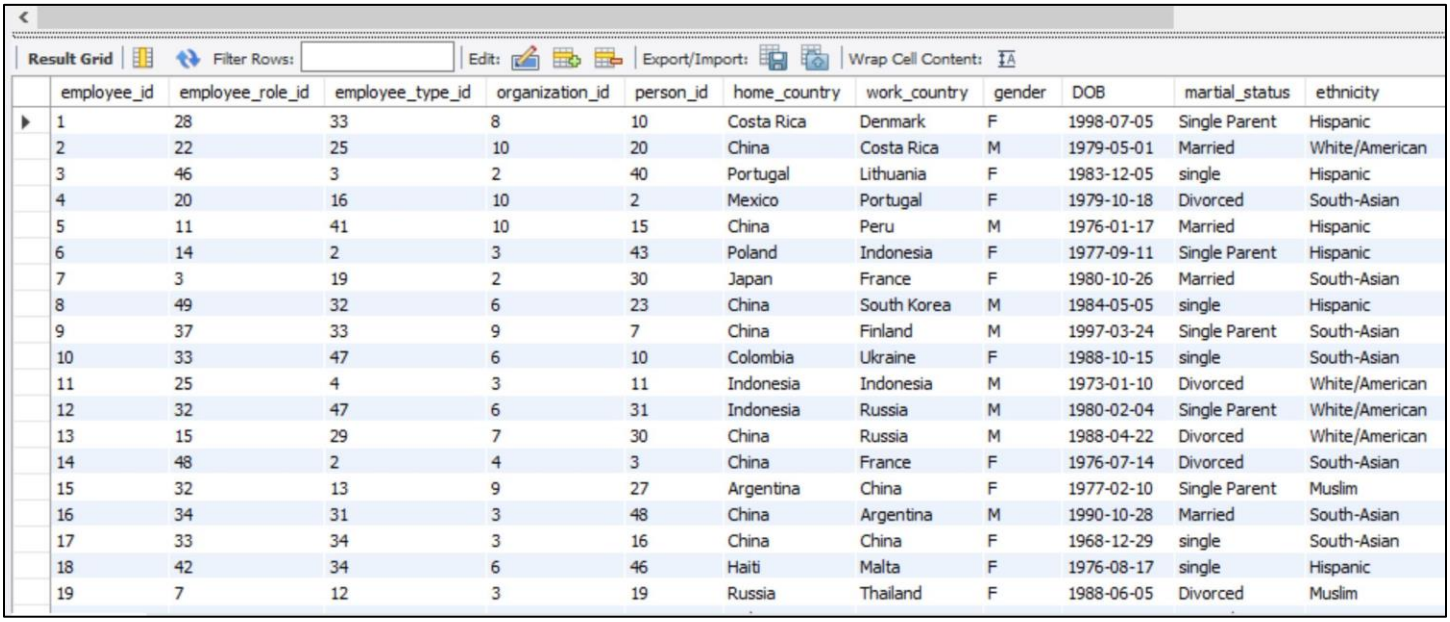
```
1. -- Stored procedure for inserting data into table Address_Type --
2. DELIMITER $$
3. CREATE PROCEDURE insert_address_type(
4. IN address_id INT ,
5. IN address_type VARCHAR(20) ,
6. IN address_type_description VARCHAR(20)
7.      )
8. BEGIN
9.      INSERT INTO Address_Type VALUES (address_id, address_type,
   address_type_description);
10.  END $$
11.  DELIMITER ;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

address_id	address_type	address_type_description
1	Home2	Decentralized static approach
2	Commercial	Balanced user-facing flexibility
3	Emergency	Assimilated next generation Graphical User Inte...
4	Home2	Integrated content-based parallelism
NULL	NULL	NULL

- Employee

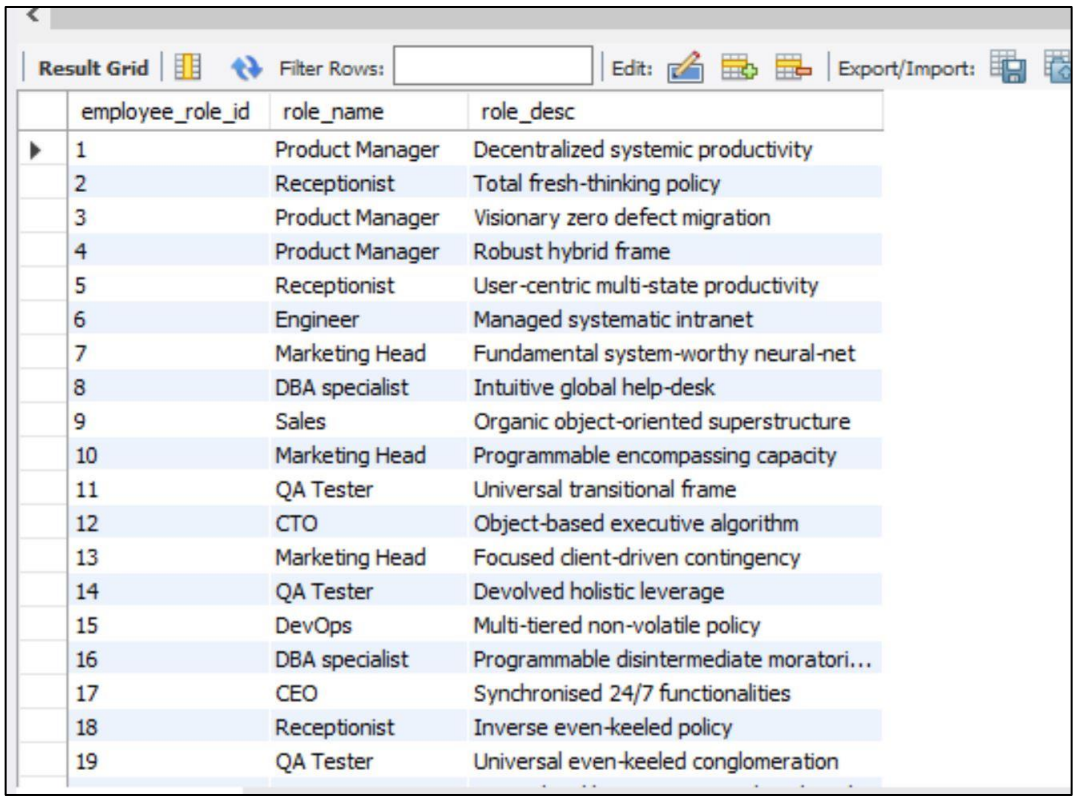
```
1. -- Stored procedure for inserting data into table Employee --
2. DELIMITER $$
3. CREATE PROCEDURE insert_employee(
4. IN employee_id INT   ,
5. IN employee_role_id INT ,
6. IN employee_type_id INT ,
7. IN organization_id INT ,
8. IN person_id INT,
9. IN home_country VARCHAR(50),
10.  IN work_country VARCHAR(50),
11.  IN gender CHAR(1),
12.  IN DOB DATE,
13.  IN martial_status VARCHAR(20),
14.  IN ethnicity VARCHAR(20)
15.  )
16.  BEGIN
17.      INSERT INTO Employee VALUES (employee_id, employee_role_id, employee_type_id,
   organization_id, person_id, home_country, work_country, gender, DOB,
   martial_status, ethnicity);
18.  END $$
19.  DELIMITER ;
```



Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

employee_id	employee_role_id	employee_type_id	organization_id	person_id	home_country	work_country	gender	DOB	martial_status	ethnicity
1	28	33	8	10	Costa Rica	Denmark	F	1998-07-05	Single Parent	Hispanic
2	22	25	10	20	China	Costa Rica	M	1979-05-01	Married	White/American
3	46	3	2	40	Portugal	Lithuania	F	1983-12-05	single	Hispanic
4	20	16	10	2	Mexico	Portugal	F	1979-10-18	Divorced	South-Asian
5	11	41	10	15	China	Peru	M	1976-01-17	Married	Hispanic
6	14	2	3	43	Poland	Indonesia	F	1977-09-11	Single Parent	Hispanic
7	3	19	2	30	Japan	France	F	1980-10-26	Married	South-Asian
8	49	32	6	23	China	South Korea	M	1984-05-05	single	Hispanic
9	37	33	9	7	China	Finland	M	1997-03-24	Single Parent	South-Asian
10	33	47	6	10	Colombia	Ukraine	F	1988-10-15	single	South-Asian
11	25	4	3	11	Indonesia	Indonesia	M	1973-01-10	Divorced	White/American
12	32	47	6	31	Indonesia	Russia	M	1980-02-04	Single Parent	White/American
13	15	29	7	30	China	Russia	M	1988-04-22	Divorced	White/American
14	48	2	4	3	China	France	F	1976-07-14	Divorced	South-Asian
15	32	13	9	27	Argentina	China	F	1977-02-10	Single Parent	Muslim
16	34	31	3	48	China	Argentina	M	1990-10-28	Married	South-Asian
17	33	34	3	16	China	China	F	1968-12-29	single	South-Asian
18	42	34	6	46	Haiti	Malta	F	1976-08-17	single	Hispanic
19	7	12	3	19	Russia	Thailand	F	1988-06-05	Divorced	Muslim

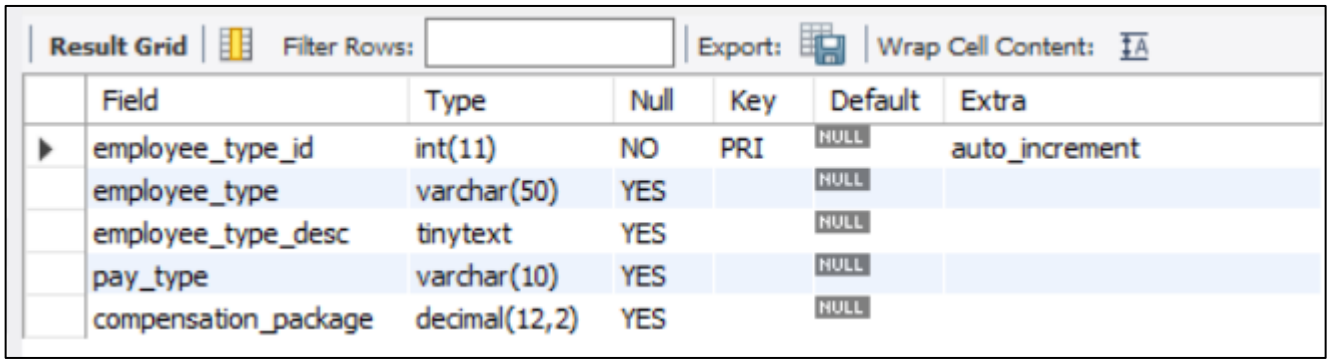
```
1. -- Stored procedure for inserting data into table Employee_Role --
2. DELIMITER $$
3. CREATE PROCEDURE insert_employee_role(
4. IN employee_role_id INT,
5. IN role_name VARCHAR(30),
6. IN role_desc TINYTEXT
7. )
8. BEGIN
9.      INSERT INTO Employee_Role VALUES (employee_role_id, role_name,role_desc);
10.  END $$
11.  DELIMITER ;
```



Result Grid | Filter Rows: | Edit: | Export/Import:

employee_role_id	role_name	role_desc
1	Product Manager	Decentralized systemic productivity
2	Receptionist	Total fresh-thinking policy
3	Product Manager	Visionary zero defect migration
4	Product Manager	Robust hybrid frame
5	Receptionist	User-centric multi-state productivity
6	Engineer	Managed systematic intranet
7	Marketing Head	Fundamental system-worthy neural-net
8	DBA specialist	Intuitive global help-desk
9	Sales	Organic object-oriented superstructure
10	Marketing Head	Programmable encompassing capacity
11	QA Tester	Universal transitional frame
12	CTO	Object-based executive algorithm
13	Marketing Head	Focused client-driven contingency
14	QA Tester	Devolved holistic leverage
15	DevOps	Multi-tiered non-volatile policy
16	DBA specialist	Programmable disintermediate moratori...
17	CEO	Synchronised 24/7 functionalities
18	Receptionist	Inverse even-keeled policy
19	QA Tester	Universal even-keeled conglomeration

```
1. -- Stored procedure for inserting data into table Employee_Type --
2. DELIMITER $$
3. CREATE PROCEDURE insert_employee_type(
4. IN employee_type_id INT,
5. IN employee_type VARCHAR(50),
6. IN employee_type_desc TINYTEXT,
7. IN pay_type VARCHAR(10),
8. IN compensation_package decimal(12,2)
9. )
10.  BEGIN
11.      INSERT INTO Employee_Type VALUES (employee_type_id, employee_type,
   employee_type_desc, pay_type, compensation_package);
12.  END $$
13.  DELIMITER ;
```



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

Field	Type	Null	Key	Default	Extra
employee_type_id	int(11)	NO	PRI	NULL	auto_increment
employee_type	varchar(50)	YES		NULL	
employee_type_desc	tinytext	YES		NULL	
pay_type	varchar(10)	YES		NULL	
compensation_package	decimal(12,2)	YES		NULL	

```
1. -- Stored procedure for inserting data into table Organisation --
2. DELIMITER $$
3. CREATE PROCEDURE insert_organization(
4. IN organization_id INT,
5. IN client_org_name VARCHAR(20),
6. IN client_org_code INT,
7. IN client_org_domain VARCHAR(20),
8. IN availability_date DATE,
9. IN top_level_name VARCHAR(20),
10.  IN ISO_country_code VARCHAR(20)
11.  )
12.  BEGIN
13.      INSERT INTO organization VALUES (organization_id, client_org_name,
   client_org_code, client_org_domain, availability_date, top_level_name,
   ISO_country_code);
14.  END $$
15.  DELIMITER ;
16.
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

organization_id	client_org_name	client_org_code	Client_org_domain	availability_date	top_level_name	ISO_country_code
1	Boeing	3	Food	2020-07-12	level4	CN
2	McD	4	Manufacturing	2021-02-15	level2	UA
3	McD	3	Retail	2021-05-22	level2	BR
4	Macy's	3	Banking	2019-06-13	level1	PT
5	Boeing	2	Banking	2017-10-21	level3	FR
6	Chase	4	Retail	2021-03-26	level4	DO
7	Boeing	2	Banking	2017-08-28	level3	BR
8	Chase	2	Retail	2021-12-21	level2	PH
9	McD	2	Manufacturing	2020-03-01	level2	CN
10	Chase	3	Banking	2021-08-05	level1	CN
NULL	NULL	NULL	NULL	NULL	NULL	NULL

```
1. -- Stored procedure for inserting data into table Person --
2. DELIMITER $$
3. CREATE PROCEDURE insert_person(
4. IN person_id INT,
5. IN first_name VARCHAR(20),
6. IN middle_name VARCHAR(20),
7. IN last_name VARCHAR(20),
8. IN age INT,
9. IN phone_number VARCHAR(15),
10.  IN email_id VARCHAR(100),
11.  IN address_id INT,
12.  IN insurance_id VARCHAR(20),
13.  IN device_type VARCHAR(20)
14.  )
15.  BEGIN
16.      INSERT INTO Person VALUES (person_id, first_name, middle_name, last_name, age,
   phone_number, email_id, address_id, insurance_id, device_type);
17.  END $$
18.  DELIMITER ;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

person_id	first_name	middle_name	last_name	age	phone_number	email_id	address_id	insurance_id	device_type
1	Bessy	Stillman	Maxfield	53	110 205 3647	smaxfield0@sohu.com	4	U845AU475	iPad
2	Kinnie	Clemmie	Domsalla	21	447 716 7270	cdomsalla1@google.com	2	Q417IU671	Laptop
3	Idalina	Simone	Kopke	36	960 203 5645	skopke2@nifty.com	4	D100SP630	iPad
4	Serene	Bryanty	Vowels	42	604 978 8061	bvowels3@clickbank.net	3	G636IZ552	Laptop
5	Keene	Barde	Careswell	30	639 532 9345	bcareswell4@pagesperso-orange.fr	2	Z529GH958	Phone
6	Darcee	Rocky	Scown	33	688 717 3188	rscown5@scribd.com	2	T740ZQ676	Laptop
7	Vaughn	Eb	Manwaring	29	938 818 4917	emanwaring6@macromedia.com	4	A100PV898	iPad
8	Stormi	Chaddie	Snead	43	170 481 4756	csnead7@state.gov	4	H012RA495	Phone
9	Briana	Jeff	Jizhaki	43	488 973 4214	jjizhaki8@cafepress.com	4	Y419NX164	Phone
10	Dyann	Rudie	Windress	40	730 266 0008	rwindress9@taobao.com	2	L939VI421	Laptop
11	Tuck	Hendrik	Forbear	45	224 546 7984	hforbeara@printfriendly.com	3	Z455GZ824	Phone
12	Elissa	Curry	Attridge	53	924 582 8679	cattridgeb@cbsnews.com	2	S313RK833	Laptop
13	Arie	Regan	Wase	42	982 501 8321	rwasec@phpbb.com	4	O020UE805	Desktop
14	Freddy	Townsend	Duffell	37	835 953 5548	tduffelld@yellowpages.com	2	Y899CY225	Phone
15	Marrissa	Raynard	Tremblett	53	524 640 7332	rtremblette@lulu.com	2	R174EZ691	iPad
16	Katya	Brian	McMurraya	43	351 524 3668	bmcmurrayaf@seesaa.net	4	B140KW007	Phone
17	Jody	Hubie	Chave	48	299 534 4095	hchaveg@macromedia.com	4	J290YH065	Laptop
18	Kathie	Harp	Worwood	40	261 873 1813	hworwoodh@unc.edu	3	F823ZG395	Desktop
19	Torry	Raphael	Kaming	46	525 890 3683	rkamingi@lulu.com	3	J934CY885	Phone

4. Query to insert data into tables

The data has to be inserted in the tables such that the constraints are all satisfied. INFORMATION_SCHEMA TABLE_CONSTRAINTS Table explains all the constraints and **helps to organize the sequence in which data is inserted into the tables**.

Info | Columns | Indexes | Triggers | Foreign keys | Partitions | Grants | DDL

Name	Schema	Table	Column	Referenced Sch...	Referenced Table	Referenced Col...
employee_ibfk_2	project_employee	employee	employee_role_id	project_employee	employee_role	employee_role_id
employee_ibfk_4	project_employee	employee	employee_type_id	project_employee	employee_type	employee_type_id
employee_ibfk_1	project_employee	employee	organization_id	project_employee	organization	organization_id
employee_ibfk_3	project_employee	employee	person_id	project_employee	person	person_id

Info | Columns | Indexes | Triggers | Foreign keys | Partitions | Grants | DDL

Name	Schema	Table	Column	Referenced Sch...	Referenced Table	Referenced Col...
person_ibfk_1	project_employee	person	address_id	project_employee	address_type	address_id

Info | Columns | Indexes | Triggers | Foreign keys | Partitions | Grants | DDL

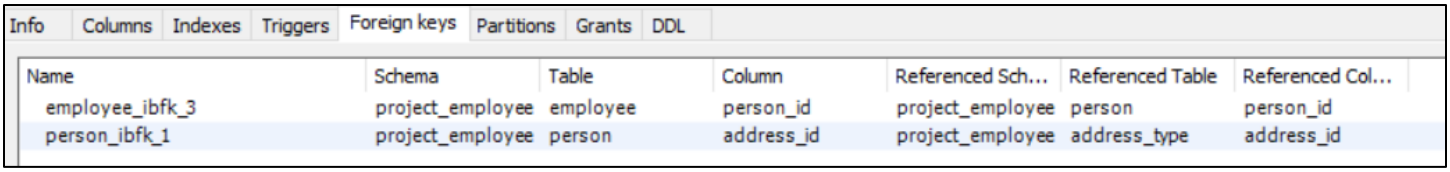
Name	Schema	Table	Column	Referenced Sch...	Referenced Table	Referenced Col...
employee_ibfk_2	project_employee	employee	employee_role_id	project_employee	employee_role	employee_role_id

Info | Columns | Indexes | Triggers | Foreign keys | Partitions | Grants | DDL

Name	Schema	Table	Column	Referenced Sch...	Referenced Table	Referenced Col...
employee_ibfk_4	project_employee	employee	employee_type_id	project_employee	employee_type	employee_type_id

Info | Columns | Indexes | Triggers | Foreign keys | Partitions | Grants | DDL

Name	Schema	Table	Column	Referenced Sch...	Referenced Table	Referenced Col...
employee_ibfk_1	project_employee	employee	organization_id	project_employee	organization	organization_id



Info	Columns	Indexes	Triggers	Foreign keys	Partitions	Grants	DDL

Name	Schema	Table	Column	Referenced Sch...	Referenced Table	Referenced Col...
employee_ibfk_3	project_employee	employee	person_id	project_employee	person	person_id
person_ibfk_1	project_employee	person	address_id	project_employee	address_type	address_id

```
1.   call insert_employee_role (1,'IT','Support Maintanance');
2.   call insert_address_type (1,'Home','3234 Lacos Street');
3.   call insert_person
   ('1','Jack','Taylor','Albert',34,'878756778','taylor1@gmail.com',1,1,'Desktop');
4.   call insert_Employee_Type ('1','Part-time','Emp Desc','Hourly', 25.5);
5.   call insert_organization (1,'Developer','PM',1,'DIR1','2012-01-
   01','Jameson','Manager','3166-2');
6.   call insert_employee(1,1,1,1,1,'USA','USA','M','1997-01-01','Single','American');
```

Example of Insertion of data using a stored procedure

```
1.  --- Stored Procedure ---
2. DELIMITER $$
3. CREATE PROCEDURE load_data()
4. BEGIN
5.   call insert_employee_role (1,'IT','Support Maintanance');
6.   call insert_address_type (1,'Home','3234 Lacos Street');
7.   call insert_person
   ('1','Jack','Taylor','Albert',34,'878756778','taylor1@gmail.com',1,1,'Desktop');
8.   call insert_Employee_Type ('1','Part-time','Emp Desc','Hourly', 25.5);
9.   call insert_organization (1,'Developer','PM',1,'DIR1','2012-01-
   01','Jameson','Manager','3166-2');
10.          call insert_employee(1,1,1,1,1,'USA','USA','M','1997-01-
   01','Single','American');
11.  END $$
12.  DELIMITER ;
```

```
1.  - Call statement to insert Data --
2. call load_data();
```

Tip:

Error: Cannot delete or update a parent row: a foreign key constraint fails (Data integrity is done manually)
Data integrity can be disabled:
1) Delete foreign key
2) Use delete operation in SQL
3) Add the foreign key back to schema

Best practices

1. Used table aliases where SQL statement involve more than one table, which eased code maintainability and readability.
2. Identification of database table structure before implementation helps to find the constraint issues.
3. Using specific column names to pull data is better that using star in Select queries, it improves performance when requesting large number of rows.
4. Assigning names to SQL objects and variables are done is such a way that they are short and meaningful.
5. Use of passing parameters to stored procedure to increase reusability.

Alternative methods

Following are the alternative methods in which the View can be implemented:

1. Using 'where' clause instead of using 'joins' on multiple tables
2. Denormalizing the table and using that table for creating the view. It is best for performance as it reduces the overhead produced while joining multiple tables.

References:

[1]https://dev.mysql.com/doc/refman/8.0/en/table-constraints-table.html
[2]http://www.mysqltutorial.org/
[3] https://dev.mysql.com/doc/connector-net/en/connector-net-tutorials-stored-procedures.html