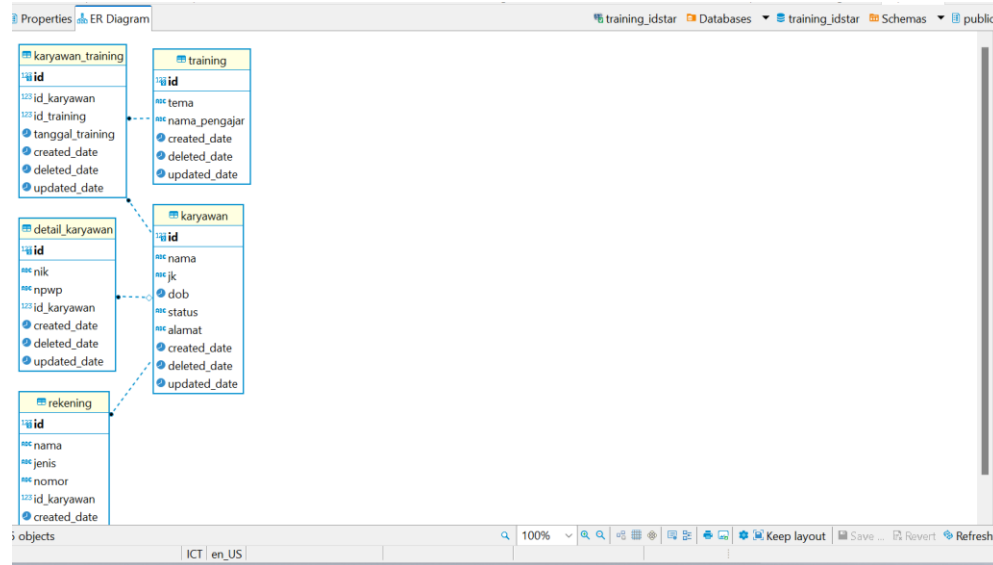


Nama: Kanzul Faisal Alam Mina

Posisi: Java Developer

ER Diagram:



Jawaban soal 1

Buat Procedure saveKaryawan:

```
CREATE OR REPLACE PROCEDURE savekaryawan (  
    INOUT resnama character varying,  
    INOUT resjk character varying,  
    INOUT resdob DATE,  
    INOUT resstatus character varying,  
    INOUT resalamat text,  
    INOUT resnik character varying,  
    INOUT resnpwp character varying,  
    INOUT resid BIGINT,  
    INOUT error_code INT,  
    INOUT error_desc character varying  
)  
LANGUAGE plpgsql  
AS $procedure$  
begin  
    if resnama is null Then  
        raise notice 'nama kosong';  
        error_desc = 'nama wajib diisi';  
        error_code = 404;  
        return;  
    elseif resjk is null then  
        raise notice 'jenis kelamin kosong';  
        error_desc = 'jenis kelamin wajib diisi';  
        error_code = 404;  
    end if;  
end;
```

```

return;
elseif resdob is null then
raise notice 'dob kosong';
error_desc = 'dob wajib diisi';
error_code = 404;
return;
elseif resstatus is null then
raise notice 'status kosong';
error_desc = 'status wajib diisi';
error_code = 404;
return;
else
raise notice 'data lengkap';
end if;

INSERT into public.karyawan
(id, nama, jk, dob, status, alamat,created_date,updated_date)
SELECT nextval('karyawan_id_seq'),
resnama,
resjk,
resdob,
resstatus,
resalamat,
NOW(),NOW()
RETURNING id INTO resid;

INSERT INTO public.detail_karyawan (id, nik, npwp, id_karyawan,
created_date, updated_date)
SELECT nextval('detail_karyawan_id_seq'),
resnik,
resnpwp,
resid,
NOW(),
NOW();

error_desc = 'sukses';
error_code = 200;
commit;

END;
$procedure$
;

```

Output sukses:

id	resnama	resjk	resdob	resstatus	resalamat	resnik	resnpwp	resid	error_code	error_desc
1	afif	laki-laki	1999-11-14	kontrak	depok	[NULL]	[NULL]	3	200	sukses

Output jika nama kosong:

Results 1 x										
call savekaryawan(null, 'laki-laki', DATE '1999-11-14', 'kontrak', 'tegah', null, null, null, null, null)										
Grid	resnama	resjk	resdob	resstatus	resalamat	resnik	resnpwp	resid	error_code	error_desc
1	[NULL]	laki-laki	1999-11-14	kontrak	tegah	[NULL]	[NULL]	[NULL]	404	nama wajib diisi

Output jika jenis kelamin kosong:

Results 1 x										
call savekaryawan('rifqi', null, DATE '1999-11-14', 'kontrak', 'tegah', null, null, null, null, null)										
Grid	resnama	resjk	resdob	resstatus	resalamat	resnik	resnpwp	resid	error_code	error_desc
1	rifqi	[NULL]	1999-11-14	kontrak	tegah	[NULL]	[NULL]	[NULL]	404	jenis kelamin wajib diisi

Output jika dob kosong:

Results 1 x										
call savekaryawan('rifqi', 'Laki-Laki', null, 'kontrak', 'tegah', null, null, null, null, null)										
Grid	resnama	resjk	resdob	resstatus	resalamat	resnik	resnpwp	resid	error_code	error_desc
1	rifqi	Laki-Laki	[NULL]	kontrak	tegah	[NULL]	[NULL]	[NULL]	404	dob wajib diisi

Output jika status kosong:

Results 1 x										
call savekaryawan('rifqi', 'Laki-Laki', DATE '1999-11-14', null, 'tegah', null, null, null, null, null)										
Grid	resnama	resjk	resdob	resstatus	resalamat	resnik	resnpwp	resid	error_code	error_desc
1	rifqi	Laki-Laki	1999-11-14	[NULL]	tegah	[NULL]	[NULL]	[NULL]	404	status wajib diisi

Jawaban Soal 2:

Buat procedure updateKaryawan:

```
CREATE OR REPLACE PROCEDURE updatekaryawan (
    INOUT resnama character varying,
    INOUT resjk character varying,
    INOUT resdob DATE,
    INOUT resstatus character varying,
    INOUT resalamat text,
    INOUT resnik character varying,
    INOUT resnpwp character varying,
    INOUT resid BIGINT,
    INOUT error_code INT,
    INOUT error_desc character varying
)
LANGUAGE plpgsql
AS $procedure$
begin
    If not Exists(select id from karyawan where id = resid) then raise notice
    'id tidak ada';
    error_desc = 'id tidak ditemukan';
    error_code = '404';
    return;
    else raise notice 'id ada';
    end if;

    update public.karyawan
```

```

set nama = resnama, jk = resjk, dob = resdob, status = resstatus, alamat =
resalamat, updated_date = NOW()
where id = resid
RETURNING id INTO resid;

update public.detail_karyawan
set nik = resnik, npwp = resnpwp, updated_date = NOW()
where id_karyawan = resid;

error_desc = 'sukses';
error_code = 200;
commit;

END;
$procedure$
;

```

Output sukses:

Results 1 x											
call updatekaryawan('afif rana', 'laki-laki', DAT											
Enter a SQL expression to filter results (use Ctrl+Space)											
Grid	resnama	resjk	resdob	resstatus	resalamat	resnik	resnpwp	resid	error_code	error_desc	
1	afif rana	laki-laki	1999-11-14	kontrak	jakarta	137221	[NULL]	1	200	sukses	

Output jika id tidak ada:

Results 1 x											
call updatekaryawan('kanzul faisal', 'laki-laki',											
Enter a SQL expression to filter results (use Ctrl+Space)											
Grid	resnama	resjk	resdob	resstatus	resalamat	resnik	resnpwp	resid	error_code	error_desc	
1	kanzul faisal	laki-laki	2000-08-02	kontrak	depok	137221	[NULL]	8	404	id tidak ditemuka	

Jawaban Soal 3:

```

--soal3

CREATE OR REPLACE FUNCTION public.getListKaryawan(rqnama character varying)
RETURNS TABLE(resid integer, resnama character varying, resjk
character varying, resdob date, resstatus character varying, resalamat text, resnik
character varying, resnpwp character varying)
LANGUAGE plpgsql
AS $function$
DECLARE
var_r record;
BEGIN
FOR var_r in
select karyawan.id, nama, jk, dob, status, alamat, nik, npwp
FROM karyawan
join detail_karyawan
on karyawan.id = detail_karyawan.id_karyawan
WHERE nama LIKE rqnama
LOOP
resid := var_r.id ;

```

```

        resnama := var_r.nama ;
        resjk := var_r.jk ;
        resdob := var_r.dob;
        resstatus := var_r.status ;
        resalamat := var_r.alamat ;
        resnik := var_r.nik ;
        resnpwp := var_r.npwp;
        RETURN NEXT;
    END LOOP;
END;
$function$;

```

Output:

Results 1 ×									
select * from getListKaryawan('%al%') Enter a SQL expression to filter results (use Ctrl+Space)									
	resid	resnama	resjk	resdob	resstatus	resalamat	resnik	resnpwp	
1	2	alam mina	laki-laki	2000-11-14	kontrak	depok	[NULL]	[NULL]	

Jawaban Soal 4:

```

CREATE OR REPLACE FUNCTION public.getKaryawan(rqid integer)
RETURNS TABLE(resid bigint, resnama character varying, resjk
character varying, resdob date, resstatus character varying, resalamat text, resnik
character varying, resnpwp character varying)
LANGUAGE plpgsql
AS $function$
BEGIN
    RETURN QUERY
    select k.id, k.nama, k.jk,k.dob,k.status,k.alamat, dk.nik, dk.npwp
    FROM karyawan AS k
    join detail_karyawan as dk
    on k.id = dk.id_karyawan
    WHERE k.id = rqId;
END;
$function$
;

```

Output:

Results 1 ×									
select * from getkaryawan (1) Enter a SQL expression to filter results (use Ctrl+Space)									
	resid	resnama	resjk	resdob	resstatus	resalamat	resnik	resnpwp	
1	1	afif rana	laki-laki	1999-11-14	kontrak	jakarta	137221	[NULL]	

Jawaban Soal 5:

```
CREATE OR REPLACE PROCEDURE savetraining (  
    INOUT restema character varying,  
    inout resnama_pengajar character varying,  
    INOUT resid BIGINT,  
    INOUT error_code INT,  
    INOUT error_desc character varying  
)  
LANGUAGE plpgsql  
AS $procedure$  
begin  
    if restema is null Then  
        raise notice 'tema kosong';  
        error_desc = 'tema wajib diisi';  
        error_code = 404;  
        return;  
    elseif resnama_pengajar is null Then  
        raise notice 'nama pengajar kosong';  
        error_desc = 'nama pengajar wajib diisi';  
        error_code = 404;  
        return;  
    else  
        raise notice 'data lengkap';  
    end if;  
  
    INSERT into public.training  
    (id, tema, nama_pengajar, created_date, updated_date)  
    SELECT nextval('training_id_seq'),  
    restema,  
    resnama_pengajar,  
    NOW(),NOW();  
  
    error_desc = 'sukses';  
    error_code = 200;  
    commit;  
END;  
$procedure$  
;
```

Output sukses:

Results 1 ×					
call savetraining('qa automation','gio',null,null) Enter a SQL expression to filter results (use Ctrl+Space)					
	restema	resnama_pengajar	resid	error_code	error_desc
1	qa automation	gio	[NULL]	200	sukses

Output jika tema kosong:

Results 1 ×					
call savetraining(null,'gio',null,null,null) Enter a SQL expression to filter results (use Ctrl+Space)					
	restema	resnama_pengajar	resid	error_code	error_desc
1	[NULL]	gio	[NULL]	404	tema wajib diisi

Output jika nama pengajar kosong:

Results 1 ×					
call savetraining('qa automation',null,null,null, Enter a SQL expression to filter results (use Ctrl+Space)					
	restema	resnama_pengajar	resid	error_code	error_desc
1	qa automation	[NULL]	[NULL]	404	nama pengajar wajib diisi

Jawaban Soal 6:

```
CREATE OR REPLACE PROCEDURE updatetraining (
    INOUT restema character varying,
    INOUT resnama_pengajar character varying,
    INOUT resid BIGINT,
    INOUT error_code INT,
    INOUT error_desc character varying
)
LANGUAGE plpgsql
AS $procedure$
begin
    If not Exists(select id from training where id = resid) then raise notice
        'id tidak ada';
    error_desc = 'id tidak ditemukan';
    error_code = '404';
    return;
    else raise notice 'id ada';
    end if;

    update public.training
    set tema = restema, nama_pengajar = resnama_pengajar, updated_date = NOW()
    where id =resid;

    error_desc = 'sukses';
    error_code = 200;
    commit;
END;
$procedure$
;
```

Output sukses:

Results 1 ×					
call updatetraining('etl developer', 'cahyo', 3, Enter a SQL expression to filter results (use Ctrl+Spa					
Grid	restema	resnama_pengajar	resid	eror_code	eror_desc
1	etl developer	cahyo	3	200	sukses

Output jika id tidak ada:

Results 1 ×					
call updatetraining('etl developer', 'cahyo', 8, Enter a SQL expression to filter results (use Ctrl+Space)					
Grid	restema	resnama_pengajar	resid	eror_code	eror_desc
1	etl developer	cahyo	8	404	id tidak ditemukan

Jawaban soal no 7:

```
CREATE OR REPLACE FUNCTION public.getListTraining(rqtema character varying)
RETURNS TABLE(resid integer, restema character varying, resnama_pengajar character
varying)
LANGUAGE plpgsql
AS $function$
DECLARE
var_r record;
BEGIN
    FOR var_r in
        select id, tema, nama_pengajar
        FROM training
        WHERE tema LIKE rqtema
    LOOP
        resid := var_r.id ;
        restema := var_r.tema ;
        resnama_pengajar := var_r.nama_pengajar;
        RETURN NEXT;
    END LOOP;
END;
$function$;
```

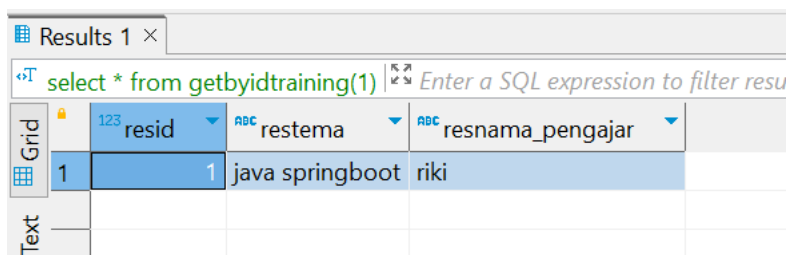
Output:

Results 1 ×			
select * from getlisttraining('%an%') Enter a SQL expression to			
Grid	resid	restema	resnama_pengajar
1	2	qa manual	iqbal

Jawaban soal no 8:

```
CREATE OR REPLACE FUNCTION public.getByIdTraining(rqid bigint)
RETURNS TABLE(resid bigint, restema character varying, resnama_pengajar character
varying)
LANGUAGE plpgsql
AS $function$
BEGIN
    RETURN QUERY
    select id, tema, nama_pengajar
    FROM training
    WHERE id = rqId;
END;
$function$
;
```

Output:



The screenshot shows a database query results window titled "Results 1 x". The query entered is "select * from getbyidtraining(1)". The results are displayed in a table with columns: resid, restema, and resnama_pengajar. The first row of data shows resid = 1, restema = java springboot, and resnama_pengajar = riki.

	123	ABC	ABC
	resid	restema	resnama_pengajar
1	1	java springboot	riki

Jawaban soal no 9:

```
CREATE OR REPLACE PROCEDURE saveTrainingKaryawan (
    INOUT id_karyawan bigint,
    INOUT id_training bigint,
    INOUT tanggal_training DATE,
    INOUT resid bigint,
    INOUT error_code INT,
    INOUT error_desc character varying
)
LANGUAGE plpgsql
AS $procedure$
begin
    if not Exists(select id from karyawan where id = id_karyawan)
    then raise notice 'id karyawan tidak ada';
    error_desc = 'id karyawan tidak ditemukan';
    error_code = 404;
    return;
    elseif not exists(select id from training where id = id_training)
    then raise notice 'id training tidak ada';
    error_desc = 'id training tidak ditemukan';
    error_code = 404;
    return;
end;
```

```

elseif tanggal_training is null
then raise notice 'tanggal training kosong';
error_desc = 'tanggal training tidak boleh kosong';
error_code = 404;
return;
else
raise notice 'data lengkap';
end if;

INSERT into public.karyawan_training
(id, id_karyawan, id_training, tanggal_training, created_date,updated_date)
SELECT nextval('karyawan_training_id_seq'),
id_karyawan,
id_training ,
tanggal_training,
NOW(),NOW();

error_desc = 'sukses';
error_code = 200;
commit;

END;
$procedure$
;

```

Output sukses:

Results 1 ×							
call savetrainingkaryawan(2,1,DATE '2023-03-15', Enter a SQL expression to filter results (use Ctrl+Space))							
Grid	id_karyawan	id_training	tanggal_training	resid	error_code	error_desc	
1	2	1	2023-03-15	[NULL]	200	sukses	

Output jika id karyawan tidak ada:

Results 1 ×							
call savetrainingkaryawan(8,1,DATE '2023-03-15', Enter a SQL expression to filter results (use Ctrl+Space))							
Grid	id_karyawan	id_training	tanggal_training	resid	error_code	error_desc	
1	8	1	2023-03-15	[NULL]	404	id karyawan tidak ditemukan	

Output jika id training tidak ada:

Results 1 ×							
call savetrainingkaryawan(2,8,DATE '2023-03-15', Enter a SQL expression to filter results (use Ctrl+Space))							
Grid	id_karyawan	id_training	tanggal_training	resid	error_code	error_desc	
1	2	8	2023-03-15	[NULL]	404	id training tidak ditemukan	

Output jika tanggal training kosong:

Table training setelah delete:

karyawan_training 1 ×							
select * from karyawan_training Enter a SQL expression to filter results (use Ctrl+Space)							
Grid	id	id_karyawan	id_training	tanggal_training	created_date	deleted_date	updated_date
1	1	1	1	2023-03-10	2023-03-31 20:46:03.492	[NULL]	2023-03-31 20:46:03.492

Jawaban 11:

```
CREATE OR REPLACE PROCEDURE saveRekening (  
    INOUT id_karyawan bigint,  
    INOUT resnama character varying,  
    INOUT resjenis character varying,  
    INOUT resnomor character varying,  
    INOUT resid bigint,  
    INOUT error_code INT,  
    INOUT error_desc character varying  
)  
LANGUAGE plpgsql  
AS $procedure$  
begin  
    if not Exists(select id from karyawan where id = id_karyawan)  
    then raise notice 'id karyawan tidak ada';  
    error_desc = 'id karyawan tidak ditemukan';  
    error_code = 404;  
    return;  
    else  
    raise notice 'id karyawan ada';  
    end if;  
  
    INSERT into public.rekening  
    (id, id_karyawan, nama, jenis, nomor, created_date, updated_date)  
    SELECT nextval('rekening_id_seq'),  
    id_karyawan,  
    resnama,  
    resjenis,  
    resnomor,  
    NOW(), NOW();  
  
    error_desc = 'sukses';  
    error_code = 200;  
    commit;  
END;  
$procedure$  
;
```

Outputs sukses:

Results 1 ×								
call saverekening(3,'afif', 'uob','2341565',null, Enter a SQL expression to filter results (use Ctrl+Space))								
Grid	123 id_karyawan	ABC resnama	ABC resjenis	ABC resnomor	123 resid	123 error_code	ABC error_desc	
1	3	afif	uob	2341565	[NULL]	200	sukses	

Output jika id karyawan tidak ada:

Results 1 ×								
call saverekening(8,'afif', 'uob','2341565',null, Enter a SQL expression to filter results (use Ctrl+Space))								
Grid	123 id_karyawan	ABC resnama	ABC resjenis	ABC resnomor	123 resid	123 error_code	ABC error_desc	
1	8	afif	uob	2341565	[NULL]	404	id karyawan tidak ditemukan	

Jawaban soal no 12:

```

CREATE OR REPLACE PROCEDURE updaterekening (
    INOUT id_karyawan bigint,
    INOUT resnama character varying,
    INOUT resjenis character varying,
    INOUT resnomor character varying,
    INOUT resid BIGINT,
    INOUT error_code INT,
    INOUT error_desc character varying
)
LANGUAGE plpgsql
AS $procedure$
begin
    If not Exists(select id from rekening where id = resid) then raise notice
        'id tidak ada';
    error_desc = 'id tidak ditemukan';
    error_code = '404';
    return;
    else raise notice 'id ada';
    end if;

    update public.rekening
    set nama = resnama, jenis = resjenis, nomor = resnomor, updated_date = NOW()
    where id =resid;

    error_desc = 'sukses';
    error_code = 200;
    commit;

END;
$procedure$

```

;

Output sukses:

Results 1 x								
call updaterekening(3, 'afif', 'mandiri', '133456' Enter a SQL expression to filter results (use Ctrl+Space)								
Grid	id_karyawan	resnama	resjenis	resnomor	resid	eror_code	eror_desc	
1	3	afif	mandiri	133456	3	200	sukses	

Output jika id karyawan tidak ada:

Results 1 x								
call updaterekening(3, 'afif', 'mandiri', '133456' Enter a SQL expression to filter results (use Ctrl+Space)								
Grid	id_karyawan	resnama	resjenis	resnomor	resid	eror_code	eror_desc	
1	3	afif	mandiri	133456	9	404	id tidak ditemukan	

Jawaban soal no 13:

```
CREATE OR REPLACE PROCEDURE public.deleteRekening(  
    INOUT resid bigint,  
    INOUT eror_code INT,  
    INOUT eror_desc character varying  
)  
LANGUAGE plpgsql  
AS $procedure$  
begin  
    If not Exists(select id from rekening where id = resid) then raise notice  
        'id tidak ada';  
    eror_desc = 'id tidak ditemukan';  
    eror_code = '404';  
    return;  
    else raise notice 'id ada';  
    end if;  
  
    update rekening set deleted_date = NOW() where id =resid;  
  
    eror_desc = 'sukses';  
    eror_code = 200;  
    commit;  
  
END;  
$procedure$  
;
```

Output sukses:

Results 1 ×			
call deleterekening(3,null,null) Enter a SQL expression to filter results (use Ctrl+Space)			
Grid	123 resid	123 error_code	asc error_desc
1	3	200	sukses
txt	resnomor: varchar(10485760) (Read-only: No corresponding table column)		

Table rekening sebelum delete:

rekening 1 ×								
select * from rekening Enter a SQL expression to filter results (use Ctrl+Space)								
Grid	123 id	asc nama	asc jenis	asc nomor	123 id_karyawan	created_date	deleted_date	updated_date
1	1	kanzul faisal alam mina	bri	123456	1	2023-03-31 20:48:50.278	[NULL]	2023-03-31 20:49:43.064
2	2	alam mina	mandiri	234156	2	2023-03-31 20:50:12.378	2023-03-31 20:50:54.261	2023-03-31 20:50:12.378
3	3	afif	uob	2341565	3	2023-03-31 22:42:18.995	[NULL]	2023-03-31 22:42:18.995

Tabel rekening setelah delete:

rekening 1 ×								
select * from rekening r Enter a SQL expression to filter results (use Ctrl+Space)								
Grid	123 id	asc nama	asc jenis	asc nomor	123 id_karyawan	created_date	deleted_date	updated_date
1	1	kanzul faisal alam mina	bri	123456	1	2023-03-31 20:48:50.278	[NULL]	2023-03-31 20:49:43.064
2	2	alam mina	mandiri	234156	2	2023-03-31 20:50:12.378	2023-03-31 20:50:54.261	2023-03-31 20:50:12.378
3	3	afif	mandiri	133456	3	2023-03-31 22:42:18.995	2023-03-31 22:45:08.514	2023-03-31 22:44:29.140