

BAB IV

RANCANGAN SISTEM DAN PROGRAM USULAN

4.1 Analisis Kebutuhan Software

Proses analisis kebutuhan *software* dilakukan secara intensif untuk mengetahui perangkat lunak seperti apa yang dibutuhkan oleh *user*. Dari hasil analisis kebutuhan pengelolaan pekerjaan teknisi pada PT Samafitro, ada tiga hak akses yang digunakan yaitu Teknisi (*engineer*), *administrator* dan *supervisor* yang memiliki *rule* yang berbeda-beda dan diharapkan bisa memenuhi proses bisnis yang berjalan.

A. Tahapan Analisis

Halaman Teknisi :

A1. Teknisi melihat daftar tiket yang dialokasikan dengan masuk ke menu

view ticket

A2. Teknisi memulai pekerjaan dengan mengklik tombol *dispatch* (berangkat menuju *customer*)

A3. Teknisi menekan tombol *arrive* ketika sampai di *customer*.

A4. Teknisi melakukan *close* tiket dengan mengisi informasi detail pengerjaan mesin, baik pemeliharaan maupun perbaikan.

A5. Teknisi melakukan *search customer* untuk mencari customer yang akan dibuatkan tiket pemeliharaan (*preventive maintenance*).

A6. Teknisi bisa membuat tiket dengan *problem type* pemeliharaan rutin (*preventive maintenance*).

A7. Teknisi bisa merubah password loginnya.

Halaman *Administrator* :

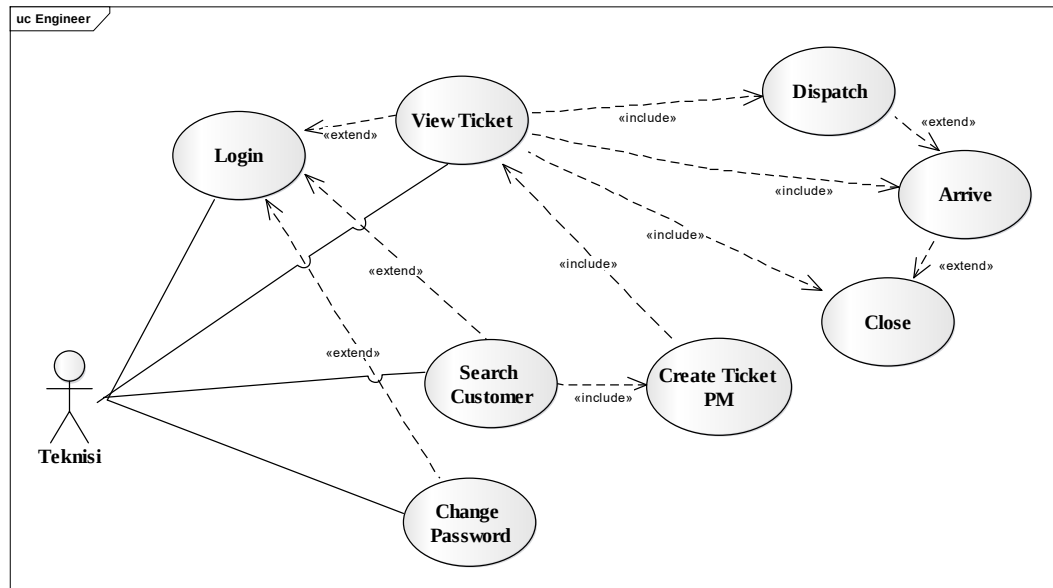
- B1. *Administrator* dapat mengelola data *customer*
- B2. *Administrator* dapat mengelola data kontak.
- B3. *Administrator* dapat mengelola data kontrak.
- B4. *Administrator* dapat mengelola data mesin (*machine*)
- B5. *Administrator* dapat mengelola *supervisor*.
- B6. *Administrator* dapat mengelola data teknisi (*engineer*).
- B7. *Administrator* dapat mengelola data *users*
- B8. *Administrator* dapat mengelola data tiket.
- B9. *Administrator* dapat mengelola data kota (*city*)
- B10. *Administrator* dapat mengelola data provinsi (*province*)

Halaman *Supervisor*:

- C1. *Supervisor* dapat memantau (*monitoring*) status tiket teknisi
- C2. *Supervisor* dapat mengelola data laporan
- C3. *Supervisor* dapat merubah password loginnya.

B. Use Case Diagram

1. Use Case diagram Halaman Teknisi :



Gambar IV.1

Use Case Diagram Halaman Teknisi

a. Deskripsi Use Case Diagram Teknisi View Ticket :

Tabel IV.1

Deskripsi Use Case Diagram Halaman Teknisi View Ticket

Use Case Name	View Ticket
Requirements	A1
Goal	Teknisi dapat melihat daftar tiket pekerjaan yang dialokasikan
Pre-conditions	Teknisi harus login
Post-conditions	Teknisi bisa mengubah status tiket
Failed end condition	Daftar tiket tidak muncul
Primary Actors	Teknisi

Main Flow / Basic Path	1. Teknisi menerima tiket pekerjaan yang dialokasikan <i>administrator</i> atau tiket pekerjaan yang dia buat. 2. Teknisi melihat detail tiket pekerjaan. 3. Teknisi memilih tiket yang harus didahulukan berdasarkan <i>problem type</i>
Alternate Flow / Invariant 1	-

b. Deskripsi Use Case Diagram Teknisi Dispatch:

Tabel IV.2

Deskripsi Use Case Diagram Halaman Teknisi Dispatch

Use Case Name	Dispatch
Requirements	A2
Goal	Teknisi dapat mengubah status tiket yang dialokasikan
Pre-conditions	Teknisi harus masuk kehalaman view tiket
Post-conditions	Status tiket berubah dan muncul tombol <i>arrive</i>
Failed end condition	Status tiket gagal diubah
Primary Actors	Teknisi
Main Flow / Basic Path	Teknisi menekan tombol dispatch yang menandakan bahwa teknisi tersebut telah berangkat menuju <i>customer</i> untuk memperbaiki atau melakukan pemeliharaan mesin.
Alternate Flow / Invariant 1	-

c. Deskripsi Use Case Diagram Teknisi Arrive:

Tabel IV.3

Deskripsi Use Case Diagram Halaman Teknisi Arrive

Use Case Name	Arrive
Requirements	A3
Goal	Teknisi dapat mengubah status tiket dari <i>dispatch</i> menjadi <i>arrive</i>
Pre-conditions	Tiket pekerjaan yang dipilih harus berstatus <i>dispatch</i>
Post-conditions	Status tiket berubah dan muncul tombol <i>close</i>
Failed end condition	Status tiket gagal diubah
Primary Actors	Teknisi
Main Flow / Basic Path	Teknisi menekan tombol <i>arrive</i> yang menandakan bahwa teknisi tersebut telah sampai ditempat customer.
Alternate Flow / Invariant 1	-

d. Deskripsi Use Case Diagram Teknisi Close:

Tabel IV.4

Deskripsi Use Case Diagram Halaman Teknisi Close

Use Case Name	Close
Requirements	A4
Goal	Teknisi dapat memasukan detail kerusakan, dan deskripsi pekerjaan yang telah dilakukan.
Pre-conditions	Tiket pekerjaan yang dipilih harus berstatus <i>arrive</i>

Post-conditions	Tiket berhasil diubah dan tidak muncul pada halaman <i>view</i> tiket
Failed end condition	Status tiket gagal diubah
Primary Actors	Teknisi
Main Flow / Basic Path	1. Teknisi menekan tombol <i>close</i> 2. Teknisi mengisi deskripsi dan keterangan perbaikan 3. Teknisi mengkategorikan kerusakan 4. Teknisi memasukkan nama petugas yang bekerja di <i>customer</i> 5. Teknisi menyimpan data dengan mengklik tombol <i>save</i>
Alternate Flow / Invariant 1	-

e. Deskripsi *Use Case Diagram* Teknisi *Search Customer*:

Tabel IV.5

Deskripsi *Use Case Diagram* Halaman Teknisi *Search Customer*

Use Case Name	<i>Search Customer</i>
Requirements	A5
Goal	Teknisi mengecek <i>customer</i> yang menyewa mesin
Pre-conditions	Teknisi harus login
Post-conditions	Muncul data <i>customer</i>
Failed end condition	Muncul keterangan error “ <i>No record found</i> ”
Primary Actors	Teknisi
Main Flow / Basic Path	1. Teknisi memasukkan <i>serial number</i> mesin dan menekan tombol <i>search</i> 2. Akan muncul data <i>customer</i> yang dicari

	3. Teknisi menekan tombol <i>serial number</i> untuk membuat tiket dan akan muncul halaman <i>create ticket</i>
<i>Alternate Flow / Invariant 1</i>	-

f. Deskripsi Use Case Diagram Teknisi Create Ticket :

Tabel IV.6

Deskripsi Use Case Diagram Halaman Teknisi Create Ticket

<i>Use Case Name</i>	<i>Create Ticket</i>
<i>Requirements</i>	A6
<i>Goal</i>	Teknisi membuat tiket <i>Preventive Maintenance</i> (pemeliharaan)
<i>Pre-conditions</i>	Teknisi harus login
<i>Post-conditions</i>	<i>List Ticket</i> akan muncul
<i>Failed end condition</i>	Tiket pekerjaan gagal dibuat
<i>Primary Actors</i>	Teknisi
<i>Main Flow / Basic Path</i>	1. Teknisi memasukan detail tiket pemeliharaan yang dibuat 2. Teknisi memilih prioritas tiket 3. Teknisi mengklik tombol <i>Create Ticket</i>
<i>Alternate Flow / Invariant 1</i>	-

g. Deskripsi Use Case Diagram Teknisi Change Password :

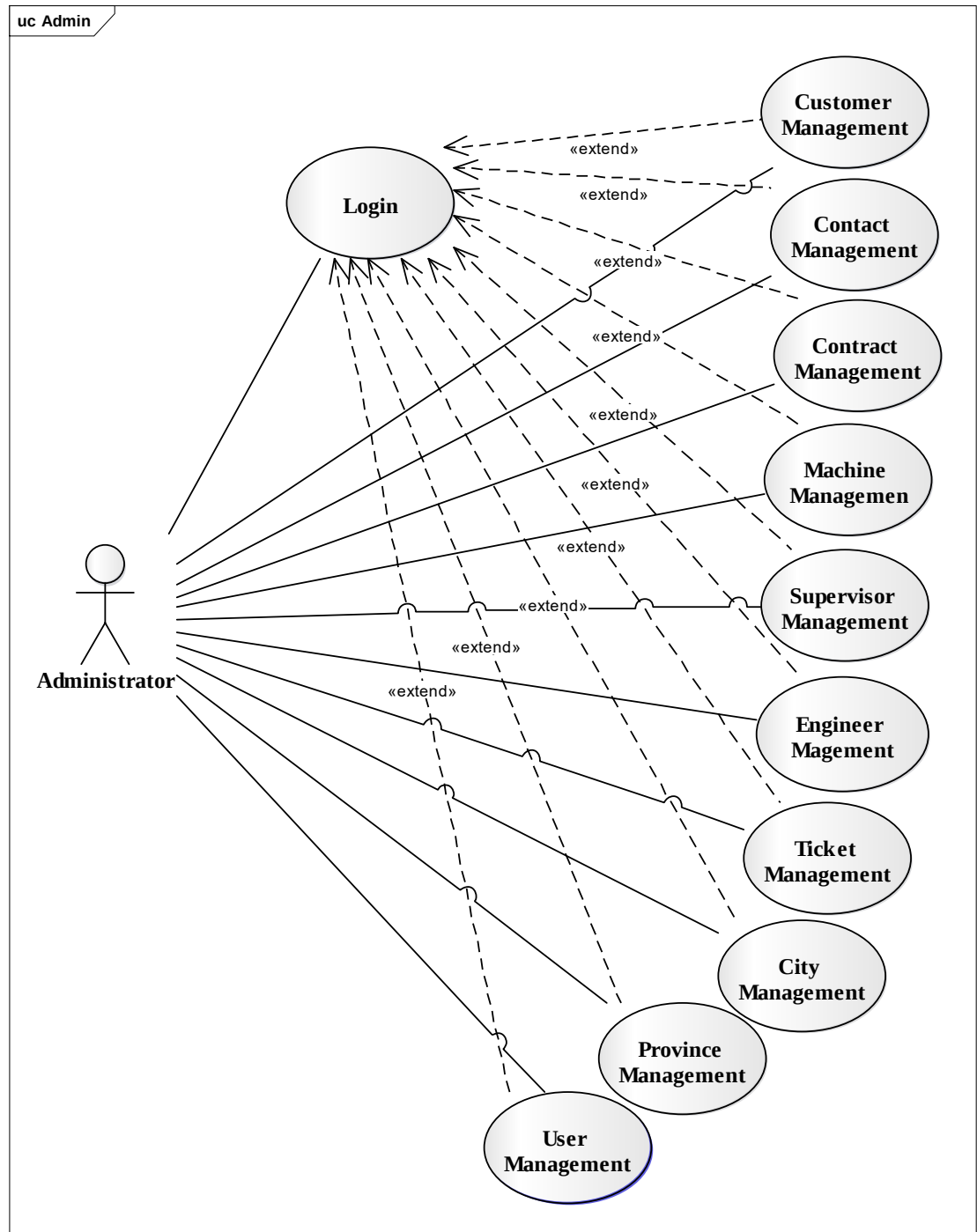
Tabel IV.7

Deskripsi Use Case Diagram Halaman Teknisi Change Password

<i>Use Case Name</i>	<i>Change Password</i>
<i>Requirements</i>	A7

Goal	Teknisi merubah password login
Pre-conditions	Teknisi harus login
Post-conditions	Password login berhasil diubah
Failed end condition	Password gagal diubah
Primary Actors	Teknisi
Main Flow / Basic Path	1. Teknisi memasukan password lama 2. Teknisi memasukan password baru 3. Teknisi memasukan konfirmasi password baru
Alternate Flow / Invariant 1	-

2. Use Case diagram Halaman Administrator :



Gambar IV.2

Use Case Diagram Halaman Administrator

a. Deskripsi Use Case Diagram Administrator Customer Management :

Tabel IV.8

Deskripsi Use Case Diagram Administrator Customer Management

Use Case Name	Customer Management
Requirements	B1
Goal	Administrator dapat menambah, mengubah dan menghapus data <i>customer</i>
Pre-conditions	Administrator telah login
Post-conditions	Muncul form registrasi kontak
Failed end condition	Customer gagal tersimpan
Primary Actors	Administrator
Main Flow / Basic Path	1. Administrator menambah data <i>customer</i> 2. Administrator menyimpan data <i>customer</i> 3. Administrator menghapus data <i>customer</i> 4. Administrator mengubah data <i>customer</i> 5. Administrator membatalkan proses <i>customer</i> 6. Administrator keluar dari <i>form</i> data <i>customer</i> .
Alternate Flow / Invariant 1	-

b. Deskripsi Use Case Diagram Administrator Contact Management :

Tabel IV.9

Deskripsi Use Case Diagram Administrator Contact Management

Use Case Name	Contact Management
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Requirements	B2
Goal	<i>Administrator</i> dapat menambah, menyimpan, mengubah, menghapus data kontak
Pre-conditions	<i>Administrator</i> telah login
Post-conditions	Data kontak tambah, tersimpan, ter-update, terhapus
Failed end condition	Gagal menambah, menyimpan, meng-update, menghapus
Primary Actors	<i>Administrator</i>
Main Flow / Basic Path	1. <i>Administrator</i> menambah data kontak 2. <i>Administrator</i> menyimpan data kontak 3. <i>Administrator</i> menghapus data kontak 4. <i>Administrator</i> mengubah data kontak 5. <i>Administrator</i> membatalkan proses data kontak 6. <i>Administrator</i> keluar dari <i>form</i> data kontak
Alternate Flow / Invariant 1	-

c. Deskripsi *Use Case Diagram Administrator Contract Management* :

Tabel IV.10

Deskripsi *Use Case Diagram Administrator Contract Management*

Use Case Name	Contract Management
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Requirements	B3
Goal	<i>Administrator</i> dapat menambah, menyimpan, mengubah, menghapus data kontrak
Pre-conditions	<i>Administrator</i> telah login
Post-conditions	Data kontrak bertambah, tersimpan, ter-update, terhapus.
Failed end condition	Gagal menambah, menyimpan, meng-update, menghapus
Primary Actors	<i>Administrator</i>
Main Flow / Basic Path	1. <i>Administrator</i> menambah data kontrak 2. <i>Administrator</i> menyimpan data kontrak 3. <i>Administrator</i> menghapus data kontrak 4. <i>Administrator</i> mengubah data kontrak 5. <i>Administrator</i> membatalkan proses data kontrak 6. <i>Administrator</i> keluar dari form data kontrak
Alternate Flow / Invariant 1	-

d. Deskripsi Use Case Diagram Administrator Machine Management :

Tabel IV.11

Use Case Name	<i>Machine Management</i>
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Requirements	B4
Goal	<i>Administrator</i> dapat menambah, menyimpan, mengubah, menghapus data mesin
Pre-conditions	<i>Administrator</i> telah login
Post-conditions	Data mesin bertambah, tersimpan, diubah, terhapus.
Failed end condition	Gagal menambah, menyimpan, mengubah, menghapus
Primary Actors	<i>Administrator</i>
Main Flow / Basic Path	1. <i>Administrator</i> menambah data mesin 2. <i>Administrator</i> menyimpan data mesin 3. <i>Administrator</i> menghapus data mesin 4. <i>Administrator</i> mengubah data mesin 5. <i>Administrator</i> membatalkan proses data mesin 6. <i>Administrator</i> keluar dari <i>form</i> data mesin
Alternate Flow / Invariant 1	-

e. Deskripsi Use Case Diagram Administrator Supervisor Management:

Tabel IV.12

Deskripsi Use Case Diagram Administrator Supervisor Management

Use Case Name	<i>Supervisor Management</i>
Requirements	B5
Goal	<i>Administrator</i> dapat menambah, menyimpan, mengubah, menghapus data <i>supervisor</i>
Pre-conditions	<i>Administrator</i> telah login
Post-conditions	Data <i>supervisor</i> bertambah, tersimpan, diubah, terhapus.
Failed end condition	Gagal menambah, menyimpan, mengubah, menghapus
Primary Actors	<i>Administrator</i>
Main Flow / Basic Path	1. <i>Administrator</i> menambah data <i>supervisor</i> 2. <i>Administrator</i> menyimpan data <i>supervisor</i> 3. <i>Administrator</i> menghapus data <i>supervisor</i> 4. <i>Administrator</i> mengubah data <i>supervisor</i> 5. <i>Administrator</i> membatalkan proses data <i>supervisor</i> 6. <i>Administrator</i> keluar dari form data <i>supervisor</i>
Alternate Flow / Invariant 1	-

f. Deskripsi Use Case Diagram Administrator Engineer Mangement:

Tabel IV.13

Deskripsi Use Case Diagram Administrator Engineer Mangement

Use Case Name	Engineer Mangement
Requirements	B6
Goal	Administrator dapat menambah, menyimpan, mengubah, menghapus data teknisi
Pre-conditions	Administrator telah login
Post-conditions	Data teknisi bertambah, tersimpan, diubah, terhapus.
Failed end condition	Gagal menambah, menyimpan, mengubah, menghapus
Primary Actors	Administrator
Main Flow / Basic Path	1. Administrator membuat data teknisi 2. Administrator menyimpan data teknisi 3. Administrator menghapus data teknisi 4. Administrator mengubah data teknisi 5. Administrator membatalkan proses data teknisi 6. Administrator keluar dari form data teknisi

<i>Alternate Flow / Invariant 1</i>	-
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g. Deskripsi *Use Case Diagram Administrator Ticket Mangement*:

Tabel IV.14

Deskripsi Use Case Diagram Administrator Ticket Mangement

<i>Use Case Name</i>	<i>Ticket Mangement</i>
<i>Requirements</i>	B8
<i>Goal</i>	<i>Administrator</i> dapat menambah, menyimpan, mengubah, menghapus data tiket
<i>Pre-conditions</i>	<i>Administrator</i> telah login
<i>Post-conditions</i>	Data tiket bertambah, tersimpan, diubah, terhapus.
<i>Failed end condition</i>	Gagal menambah, menyimpan, mengubah, menghapus
<i>Primary Actors</i>	<i>Administrator</i>
<i>Main Flow / Basic Path</i>	1. <i>Administrator</i> mebuat data tiket 2. <i>Administrator</i> menyimpan data tiket 3. <i>Administrator</i> menghapus data tiket 4. <i>Administrator</i> mengubah data tiket 5. <i>Administrator</i> membatalkan proses data tiket 6. <i>Administrator</i> keluar dari form data

	tiket
Alternate Flow / Invariant 1	-

h. Deskripsi Use Case Diagram Administrator User Mangement:

Tabel IV.15

Deskripsi Use Case Diagram Administrator User Mangement

Use Case Name	User Mangement
Requirements	B7
Goal	Administrator dapat menambah, menyimpan, mengubah, menghapus data user
Pre-conditions	Administrator telah login
Post-conditions	Data user bertambah, tersimpan, diubah, terhapus.
Failed end condition	Gagal menambah, menyimpan, mengubah, menghapus
Primary Actors	Administrator
Main Flow / Basic Path	1. Administrator menambah data user 2. Administrator menyimpan data user 3. Administrator menghapus data user 4. Administrator mengubah data user 5. Administrator membatalkan proses data user

	6. <i>Administrator</i> keluar dari form data <i>user</i>
<i>Alternate Flow / Invariant 1</i>	-

i. Deskripsi Use Case Diagram Administrator City Management:

Tabel IV.16

Deskripsi Use Case Diagram Administrator City Management

<i>Use Case Name</i>	<i>City Mangement</i>
<i>Requirements</i>	B9
<i>Goal</i>	<i>Administrator</i> dapat menambah, menyimpan, mengubah, menghapus data <i>city</i>
<i>Pre-conditions</i>	<i>Administrator</i> telah login
<i>Post-conditions</i>	Data <i>city</i> bertambah, tersimpan, diubah, terhapus.
<i>Failed end condition</i>	Gagal menambah, menyimpan, mengubah, menghapus
<i>Primary Actors</i>	<i>Administrator</i>
<i>Main Flow / Basic Path</i>	1. <i>Administrator</i> menambah data <i>city</i> 2. <i>Administrator</i> menyimpan data <i>city</i> 3. <i>Administrator</i> menghapus data <i>city</i> 4. <i>Administrator</i> mengubah data <i>city</i> 5. <i>Administrator</i> membatalkan proses

	data city 6. <i>Administrator</i> keluar dari form data city
<i>Alternate Flow / Invariant 1</i>	-

j. Deskripsi *Use Case Diagram Administrator Province Management*:

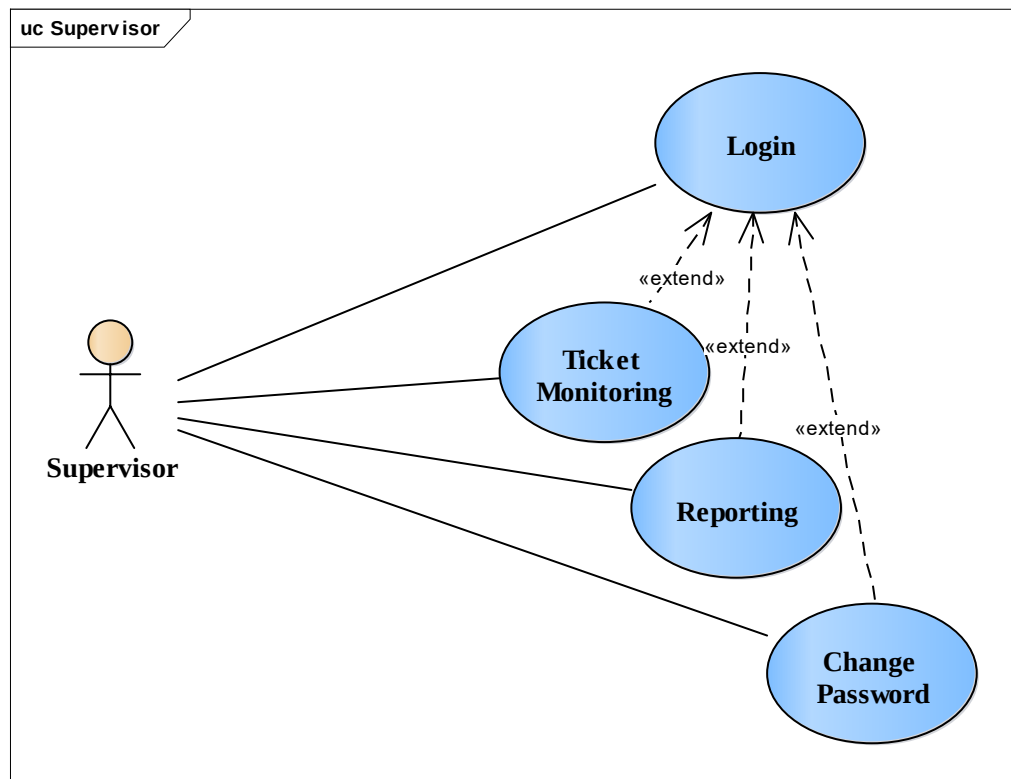
Tabel IV.17

Deskripsi *Use Case Diagram Administrator Province Management*

<i>Use Case Name</i>	<i>Province Mangement</i>
<i>Requirements</i>	B10
<i>Goal</i>	<i>Administrator</i> dapat menambah, menyimpan, mengubah, menghapus data provinsi
<i>Pre-conditions</i>	<i>Administrator</i> telah login
<i>Post-conditions</i>	Data provinsi bertambah, tersimpan, diubah, terhapus.
<i>Failed end condition</i>	Gagal menambah, menyimpan, mengubah, menghapus
<i>Primary Actors</i>	<i>Administrator</i>
<i>Main Flow / Basic Path</i>	1. <i>Administrator</i> menambah data provinsi 2. <i>Administrator</i> menyimpan data provinsi 3. <i>Administrator</i> menghapus data

	provinsi 4. <i>Administrator</i> mengubah data provinsi 5. <i>Administrator</i> membatalkan proses data provinsi 6. <i>Administrator</i> keluar dari form data provinsi
Alternate Flow / Invariant 1	-

3. Use Case diagram Halaman Supervisor



Gambar IV.3

Use Case Diagram Halaman Supervisor

a. Deskripsi Use Case Diagram Supervisor Ticket Monitoring:

Tabel IV.18

Deskripsi Use Case Diagram Supervisor Ticket Monitoring

Use Case Name	<i>Ticket Monitoring</i>
Requirements	C1
Goal	<i>Supervisor</i> dapat memantau pekerjaan teknisi dilapangan
Pre-conditions	<i>Supervisor</i> harus login
Post-conditions	Tampil data tiket pekerjaan teknisi
Failed end condition	Data tiket gagal ditampilkan
Primary Actors	<i>Supervisor</i>
Main Flow / Basic Path	1. <i>Supervisor</i> memilih data <i>monitoring</i> berdasarkan status 2. <i>Supervisor</i> memilih data <i>monitoring</i> berdasarkan teknisi 3. <i>Supervisor</i> keluar dari form data <i>monitoring</i>
Alternate Flow / Invariant 1	-

b. Deskripsi Use Case Diagram Supervisor Reporting:

Tabel IV.19

Deskripsi Use Case Diagram Reporting

Use Case Name	<i>Reporting</i>
Requirements	C2
Goal	<i>Supervisor</i> dapat mengeluarka laporan pekerjaan teknisi, laporann pekerjaan <i>administrator</i> , laporan data mesin, laporan datad <i>customer</i>

Pre-conditions	<i>Supervisor</i> harus login
Post-conditions	Laporan berhasil disimpan
Failed end condition	Data tiket gagal disimpan
Primary Actors	<i>Supervisor</i>
Main Flow / Basic Path	1. <i>Supervisor</i> memilih jenis laporan 2. <i>Supervisor</i> memilih periode laporan 3. <i>Supervisor</i> menyimpan laporan 4. <i>Supervisor</i> keluar dari form data laporan
Alternate Flow / Invariant 1	-

c. Deskripsi Use Case Diagram Supervisor Change Password:

Tabel IV.20

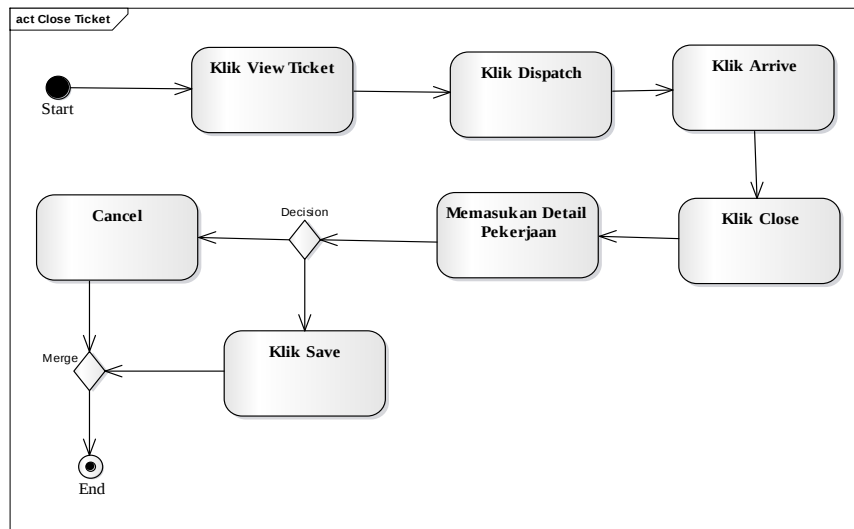
Deskripsi Use Case Diagram Halaman Teknisi Change Password

Use Case Name	<i>Change Password</i>
Requirements	C3
Goal	Teknisi merubah password login
Pre-conditions	Teknisi harus login
Post-conditions	<i>Password</i> login berhasil diubah
Failed end condition	<i>Password</i> gagal diubah
Primary Actors	Teknisi
Main Flow / Basic Path	1. <i>Supervisor</i> memasukan password lama 2. <i>Supervisor</i> memasukan password baru 3. <i>Supervisor</i> memasukan konfirmasi password baru
Alternate Flow / Invariant 1	-

C. Activity Diagram

1. Activity Diagram Halaman Teknisi

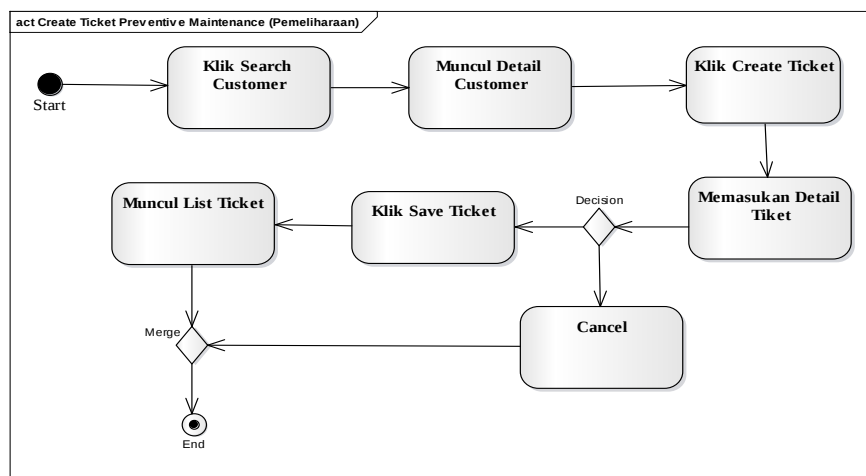
a. Activity Diagram Halaman Teknisi Close Ticket:



Gambar IV.4

Activity Diagram Halaman Teknisi Close Ticket

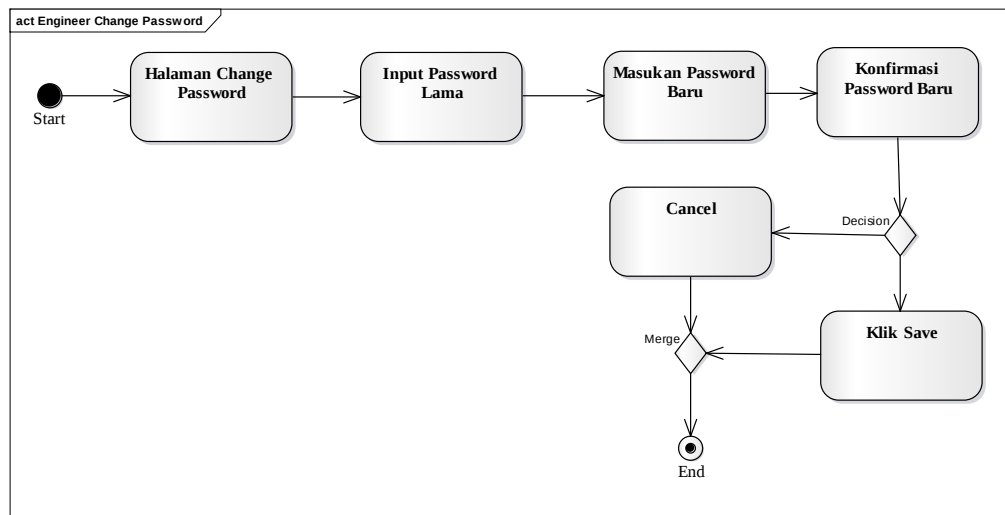
b. Activity Diagram Halaman Teknisi Create Ticket Preventive Maintenance (Pemeliharaan):



Gambar IV.5

Activity Diagram Halaman Teknisi Create Ticket Preventive Maintenance

c. *Activity Diagram Halaman Teknisi Change Password*

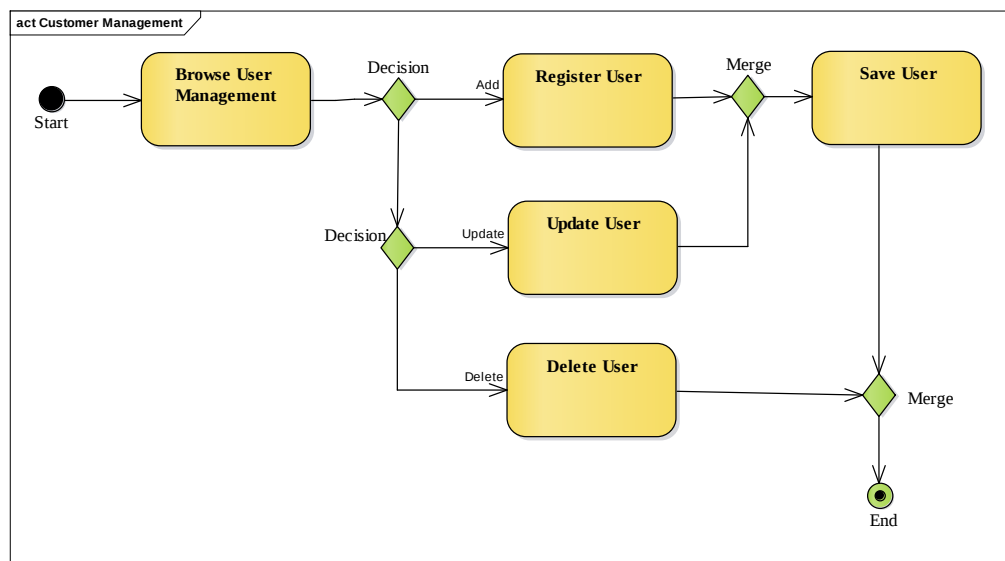


Gambar IV.6

Activity Diagram Halaman Teknisi Change Password

2. **Activity Diagram Halaman Administrator**

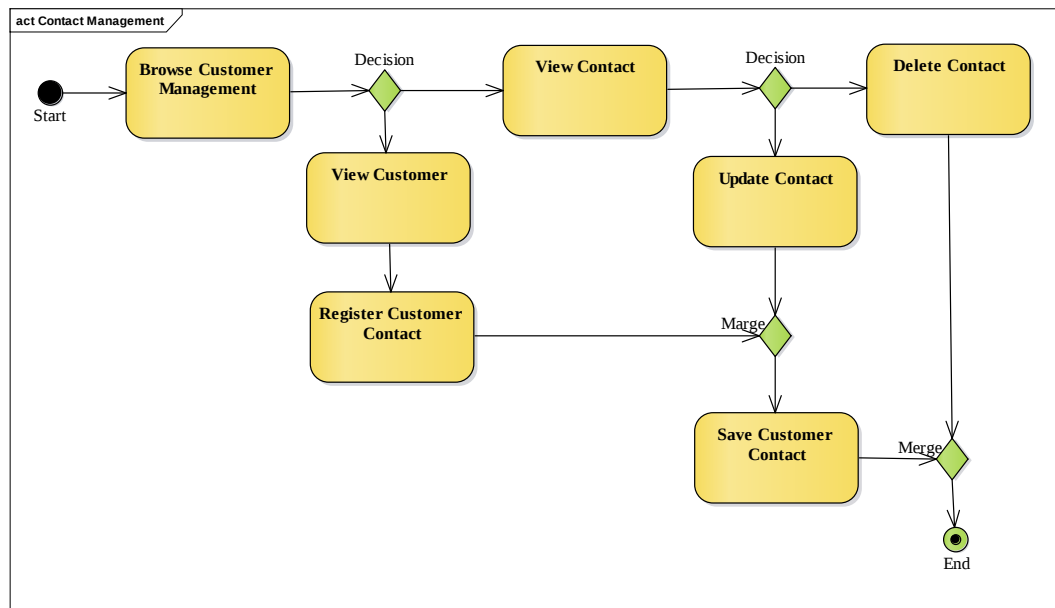
a. *Activity Diagram Halaman Administrator Customer Management*



Gambar IV.7

Activity Diagram Halaman Administrator Customer Management

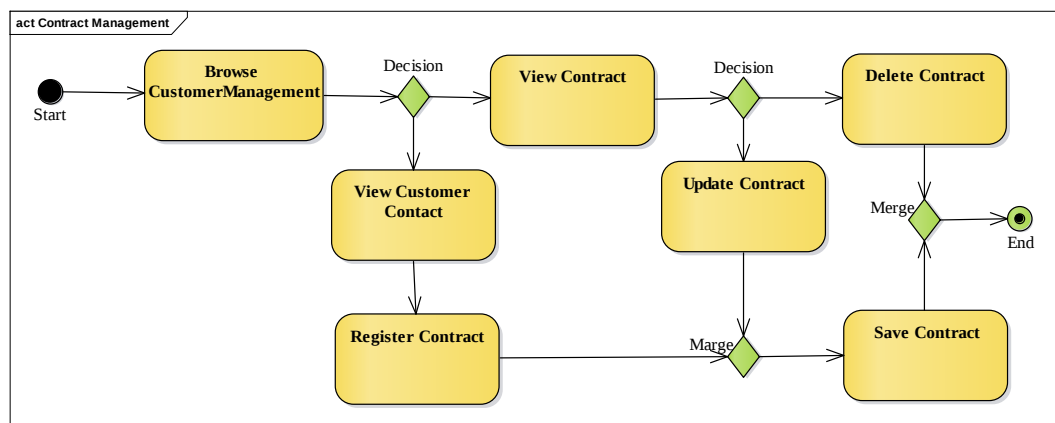
b. Activity Diagram Halaman *Administrator Contact Management*



Gambar IV.8

Activity Diagram Halaman Administrator Contact Management

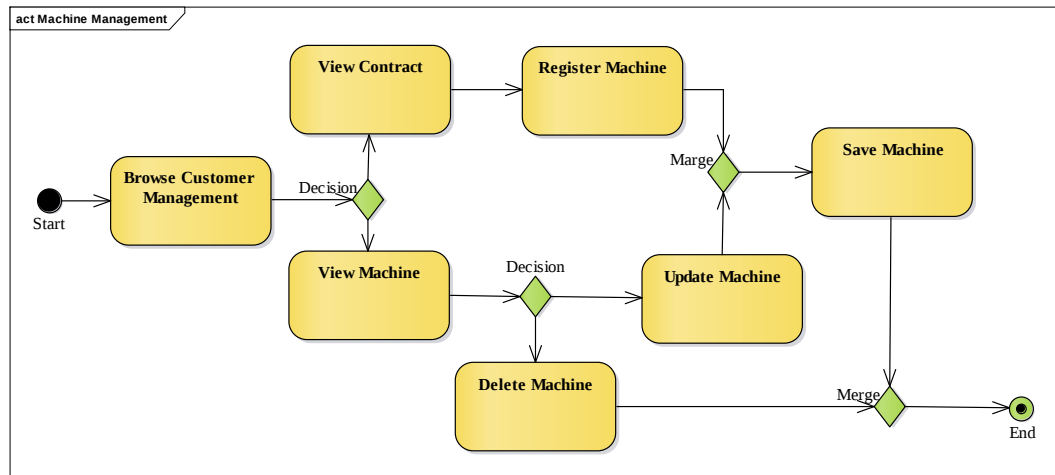
c. Activity Diagram Halaman *Administrator Contract Management*



Gambar IV.9

Activity Diagram Halaman Administrator Mengelola Data Contract Management

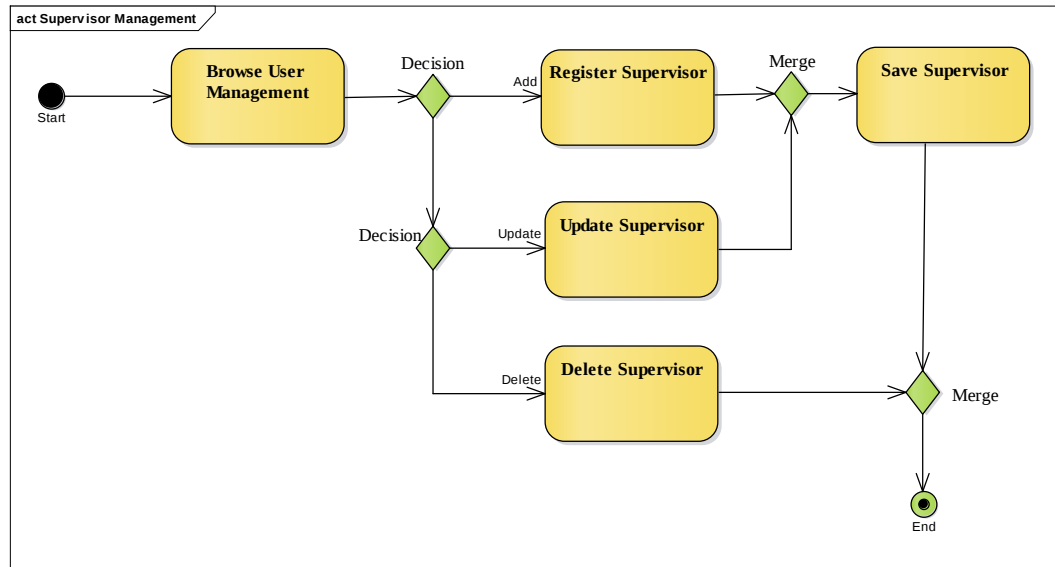
d. *Activity Diagram Halaman Administrator Machine Management*



Gambar IV.10

Activity Diagram Halaman Administrator Machine Management

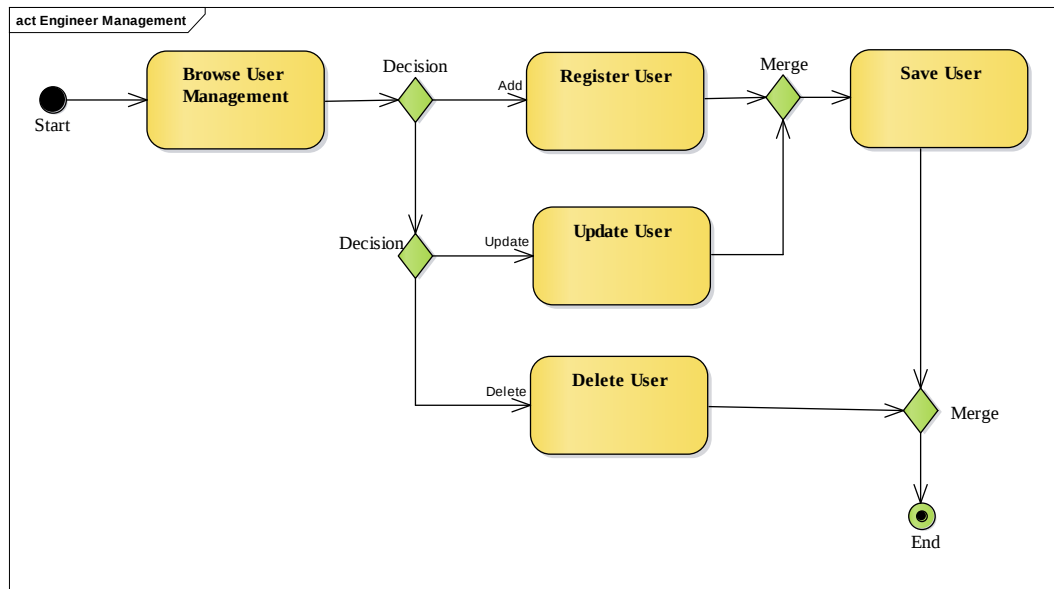
e. *Activity Diagram Halaman Administrator Supervisor Management*



Gambar IV.11

Activity Diagram Halaman Administrator Supervisor Management

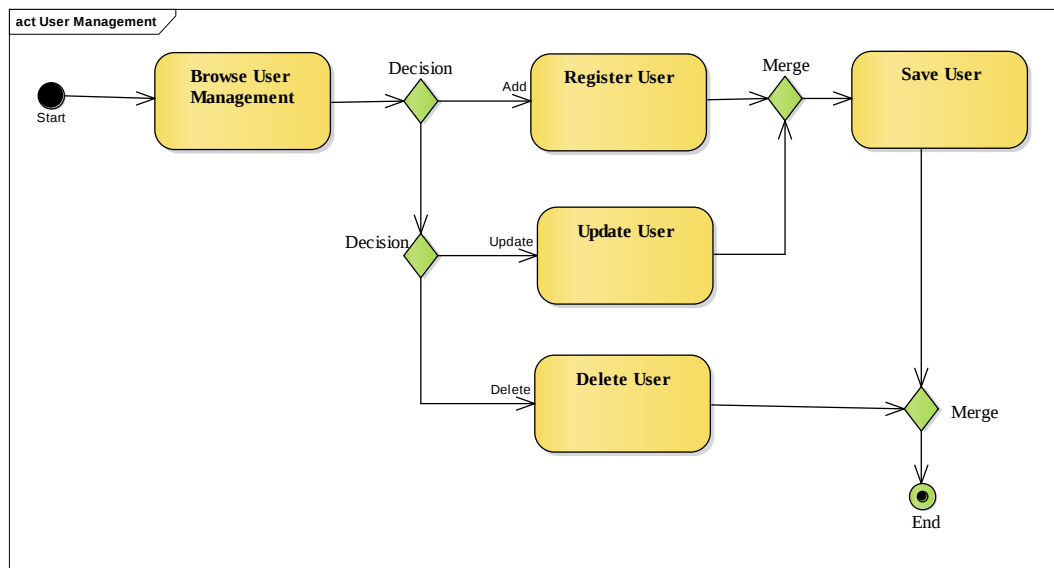
f. *Activity Diagram Halaman Administrator Engineer Management*



Gambar IV.12

Activity Diagram Halaman Administrator Engineer Management

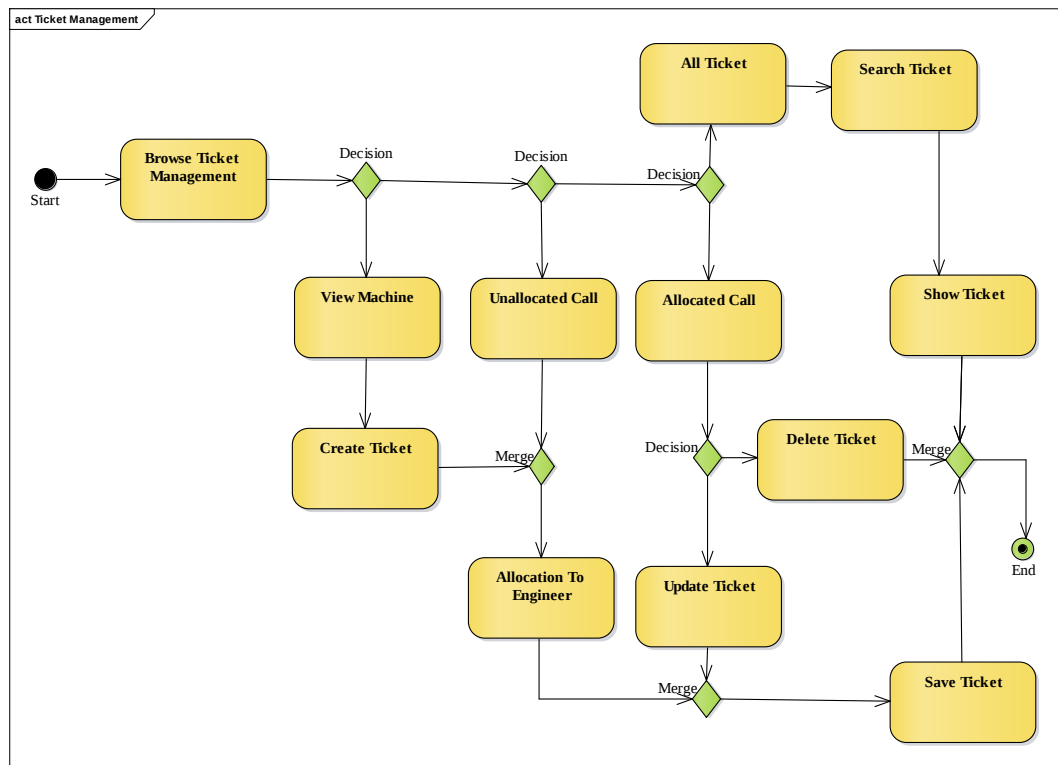
g. *Activity Diagram Halaman Administrator User Management*



Gambar IV.13

Activity Diagram Halaman Administrator User Management

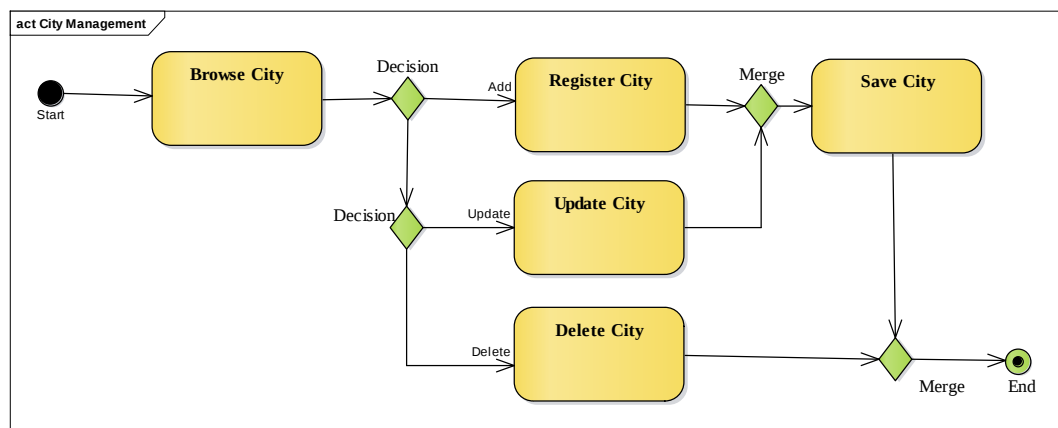
h. Activity Diagram Halaman Administrator Ticket Management



Gambar IV.14

Activity Diagram Halaman Administrator Ticket Management

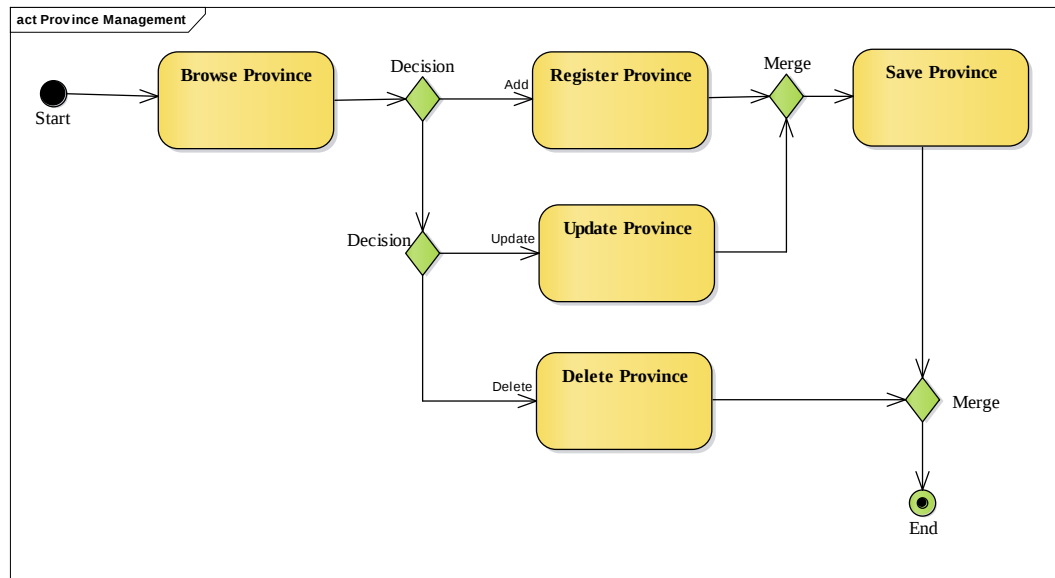
i. Activity Diagram Halaman Administrator City Management



Gambar IV.15

Activity Diagram Halaman Administrator City Management

j. *Activity Diagram Halaman Administrator Province Management*

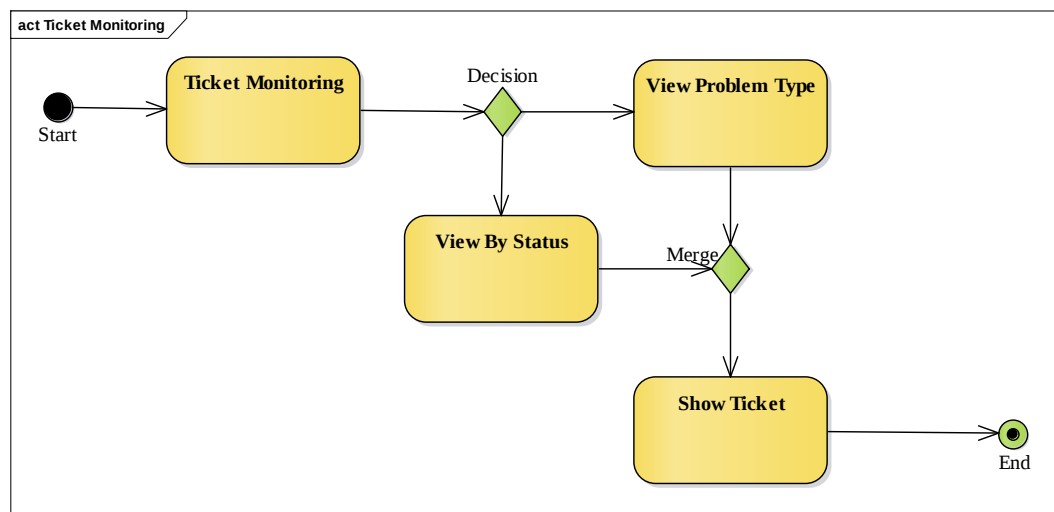


Gambar IV.16

Activity Diagram Halaman Administrator Province Management

3. *Activity Diagram Halaman Supervisor*

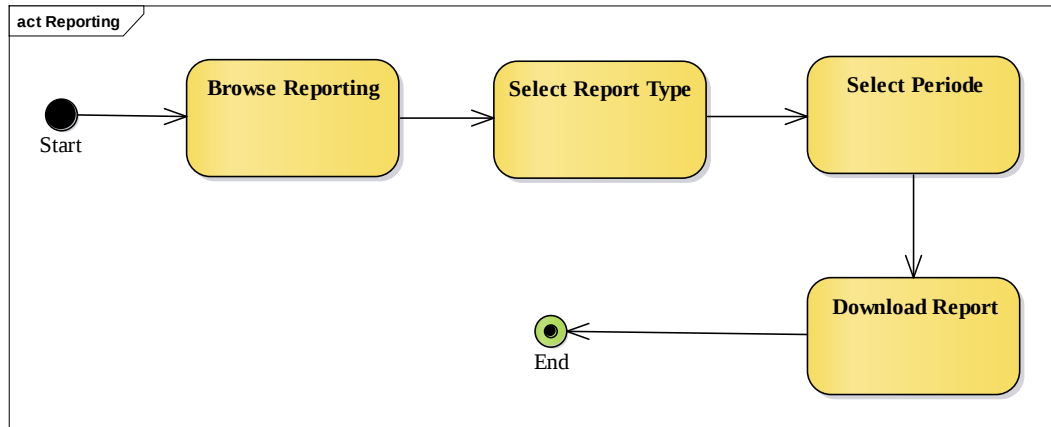
a. *Activity Diagram Halaman Supervisor Ticket Monitoring:*



Gambar IV.17

Activity Diagram Supervisor Mengelola Ticket Monitoring

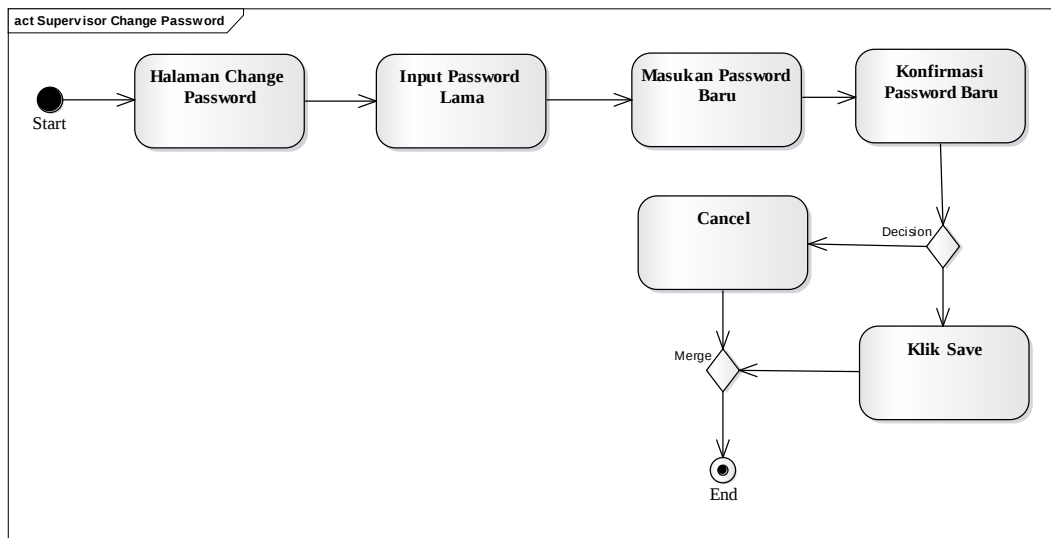
b. *Activity Diagram Halaman Supervisor Reporting*



Gambar IV.18

Activity Diagram Halaman Reporting Supervisor

c. *Activity Diagram Halaman Supervisor Change Password*



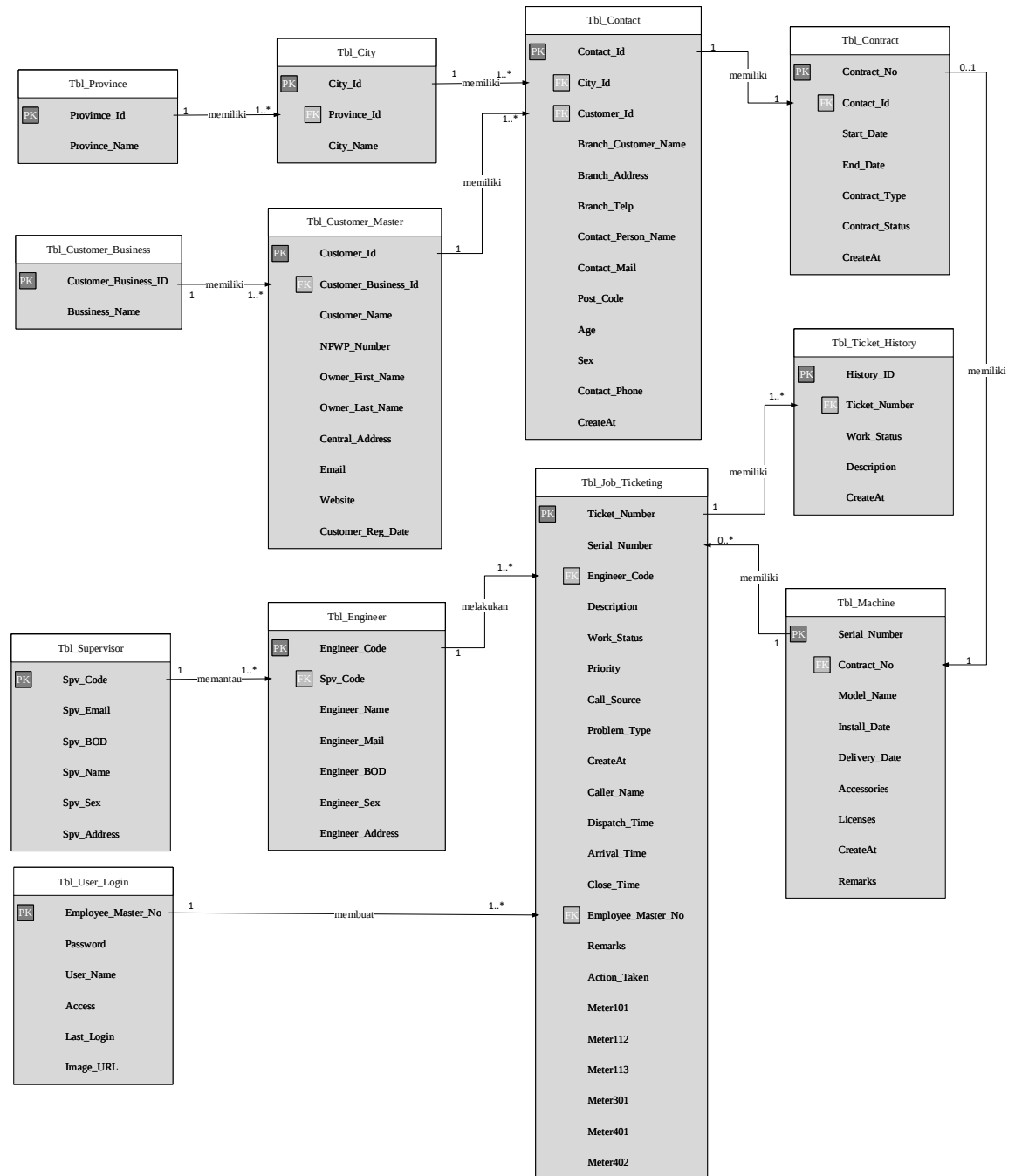
Gambar IV.19

Activity Diagram Administrator Mengelola Data Kategori

4.2. Desain

4.2.1. Database

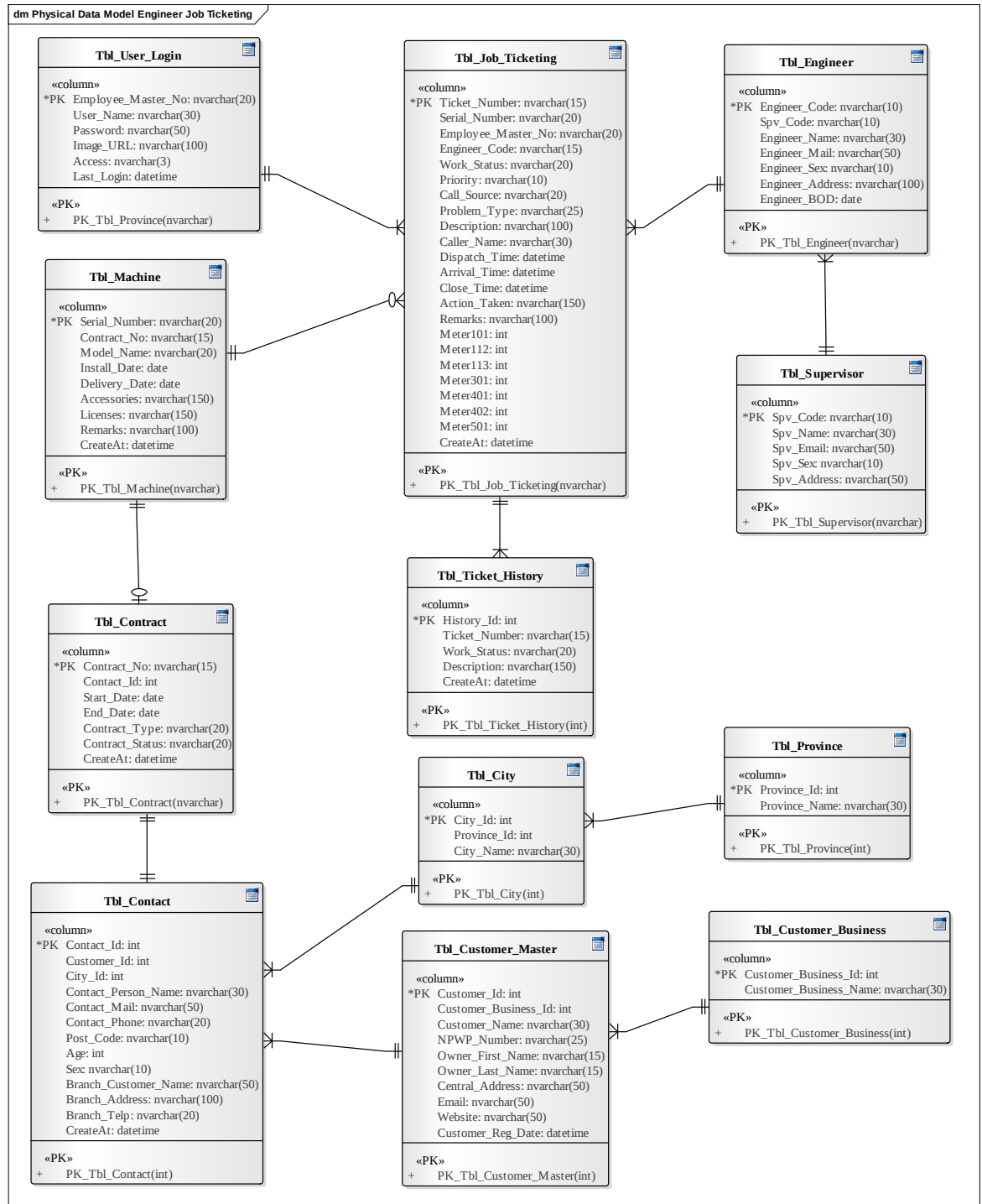
1. Logical Data Model Sistem Pengelolaan Pekerjaan Teknisi



Gambar IV.20

Logical Data Model Sistem Pengelolaan Pekerjaan Teknisi

2. Physical Data Model



Gambar IV.21

Physical Data Model Sistem Informasi Pengelolaan pekerjaan Teknisi

3. Spesifikasi File

Spesifikasi file dalam pengolahan data pada *website* ini adalah sebagai berikut :

1. Spesifikasi File *Tbl_User_Login*

Nama File	: <i>Tbl_User_Login</i>
Akronim	: Tabel <i>User Login</i>
Fungsi	: Untuk menyimpan data <i>User</i>
Tipe File	: <i>File Master</i>
Organisasi File	: <i>Indexed Sequential</i>
Akses File	: <i>Random</i>
Media	: <i>Harddisk</i>
Panjang Record	: 303
Kunci Field	: <i>Employee_Master_No</i>
Software	: <i>SqlServer 2012</i>

Tabel IV.21

Spesifikasi File Administrator

No.	Elemen Data	Nama Field	Tipe	Size	Keterangan
1	Nomor Induk Karyawan	<i>Employee_Master_No</i>	<i>Nvarchar</i>	20	<i>Primary Key</i>
2	Username	<i>User_Name</i>	<i>Nvarchar</i>	30	
3	Password	<i>Password</i>	<i>Nvarchar</i>	50	
4	Image URL	<i>Image_URL</i>	<i>Nvarchar</i>	200	
5	Hak Akses	<i>Access</i>	<i>Nvarchar</i>	3	
6	Terakhir Login	<i>Last_Login</i>	<i>Datetime</i>		

2. Spesifikasi File *Tbl_Engineer*

Nama File	: <i>Tbl_Engineer</i>
Akronim	: Tabel <i>Engineer</i>
Fungsi	: Untuk menyimpan data teknisi

Tipe File : *File Master*
Organisasi File : *Indexed Sequential*
Akses File : *Random*
Media : *Harddisk*
Panjang Record : 210
Kunci Field : *Engineer_Code*
Software : *SqlServer 2012*

Tabel IV.22

Spesifikasi *File Tbl_Engineer*

No.	Elemen Data	Nama Field	Tipe	Size	Keterangan
1	Kode Teknisi	<i>Engineer_Code</i>	<i>Nvarchar</i>	10	<i>Primary Key</i>
2	Kode Supervisor	<i>Spv_Code</i>	<i>Nvarchar</i>	10	<i>Foreign Key</i>
3	Nama Teknisi	<i>Engineer_Name</i>	<i>Nvarchar</i>	30	
4	Email Teknisi	<i>Engineer_Mail</i>	<i>Nvarchar</i>	50	
5	Jenis Kelamin Teknisi	<i>Engineer_Sex</i>	<i>Nvarchar</i>	10	
6	Alamat Teknisi	<i>Engineer_Address</i>	<i>Nvarchar</i>	100	
7	Tanggal Lahir Teknisi	<i>Engineer_BOD</i>	<i>Date</i>		

3. Spesifikasi *File Tbl_Supervisor*

Nama File : *Tbl_Supervisor*
Akronim : *Tabel Supervisor*
Fungsi : *Untuk menyimpan data Supervisor*
Tipe File : *File Master*
Organisasi File : *Indexed Sequential*
Akses File : *Random*
Media : *Harddisk*
Panjang Record : 200

Kunci Field : *Spv_Code*

Software : *SqlServer 2012*

Tabel IV.23

Spesifikasi File Tbl_Supervisor

No.	Elemen Data	Nama Field	Tipe	Size	Keterangan
1	Kode Supervisor	<i>Spv_Code</i>	<i>Nvarchar</i>	10	Primary Key
2	Nama Supervisor	<i>Spv_Name</i>	<i>Nvarchar</i>	30	
3	Email Supervisor	<i>Spv_Email</i>	<i>Nvarchar</i>	50	
4	Jenis Kelamin Supervisor	<i>Spv_Sex</i>	<i>Nvarchar</i>	10	
5	Alamat Supervisor	<i>Spv_Address</i>	<i>Nvarchar</i>	100	

4. Spesifikasi File Tbl_Customer_Master

Nama File : *Tbl_Customer_Master*

Akronim : *Tabel Customer Master*

Fungsi : Untuk menyimpan data Customer Master

Tipe File : *File Master*

Organisasi File : *Indexed Sequential*

Akses File : *Random*

Media : *Harddisk*

Panjang Record : 257

Kunci Field : *Customer_Id*

Software : *SqlServer 2012*

Tabel IV.24

Spesifikasi File Tbl_Customer_Master

No.	Elemen Data	Nama Field	Tipe	Size	Keterangan
1	<i>Id Customer</i>	<i>Customer_Id</i>	<i>Int</i>	11	<i>Primary Key</i>
2	<i>Id Customer Business</i>	<i>Customer_Business_Id</i>	<i>Int</i>	11	<i>Foreign Key</i>

3	Nama Customer	<i>Customer_Name</i>	<i>Nvarchar</i>	30	
4	Nomor NPWP	<i>NPWP_Number</i>	<i>Nvarchar</i>	25	
5	Nama Awal Pemilik	<i>Owner_First_Name</i>	<i>Nvarchar</i>	15	
6	Nama Akhir Pemilik	<i>Owner_Last_Name</i>	<i>Nvarchar</i>	15	
7	Alamat Pusat	<i>Central_Address</i>	<i>Nvarchar</i>	50	
8	Email Customer	<i>Email</i>	<i>Nvarchar</i>	50	
9	Website Customer	<i>Website</i>	<i>Nvarchar</i>	50	
10	Tanggal Registrasi	<i>Customer_Reg_Date</i>	<i>Datetime</i>		

5. Spesifikasi File Tbl_Contact

Nama File	: Tbl_Contact
Akronim	: Tabel Kontak
Fungsi	: Untuk menyimpan data kontak
Tipe File	: File Master
Organisasi File	: Indexed Sequential
Akses File	: Random
Media	: Harddisk
Panjang Record	: 334
Kunci Field	: Contact_Id
Software	: SqlServer 2012

Tabel IV.25

Spesifikasi File Tbl_Contact

No.	Elemen Data	Nama Field	Tipe	Size	Keterangan
1	Id Kontak	<i>Contact_Id</i>	<i>int</i>	11	<i>Primary Key</i>
2	Id Customer	<i>Customer_Id</i>	<i>int</i>	11	<i>Foreign Key</i>
3	Id Kota	<i>City_Id</i>	<i>int</i>	11	<i>Foreign Key</i>
4	Nama Kontak	<i>Contact_Person_Name</i>	<i>Nvarchar</i>	30	
5	Email Kontak	<i>Contact_Mail</i>	<i>Nvarchar</i>	50	
6	Telepon Kontak	<i>Contact_Phone</i>	<i>Nvarchar</i>	20	

7	Kode Pos	<i>Post_Code</i>	<i>Nvarchar</i>	10	
8	Umur Kontak	<i>Age</i>	<i>int</i>	11	
9	Jenis Kelamin Kontak	<i>Sex</i>	<i>Nvarchar</i>	10	
10	Nama Cabang <i>Customer</i>	<i>Branch_Customer _Name</i>	<i>Nvarchar</i>	50	
11	Alamat Cabang	<i>Branch_Address</i>	<i>Nvarchar</i>	100	
12	Telepon Cabang	<i>Branch_Telp</i>	<i>Nvarchar</i>	20	
13	Tanggal Dibuat	<i>Create At</i>	<i>Datetime</i>		

6. Spesifikasi File *Tbl_Contract*

Nama File	: <i>Tbl_Contract</i>
Akronim	: Tabel Kontrak
Fungsi	: Untuk menyimpan data Kontrak
Tipe File	: <i>File Master</i>
Organisasi File	: <i>Indexed Sequential</i>
Akses File	: <i>Random</i>
Media	: <i>Harddisk</i>
Panjang Record	: 66
Kunci Field	: <i>Contract_No</i>
Software	: <i>SqlServer 2012</i>

Tabel IV.26

Spesifikasi File *Tbl_Contract*

No.	Elemen Data	Nama Field	Tipe	Size	Keterangan
1	Nomor Kontrak	<i>Contract_No</i>	<i>Nvarchar</i>	15	<i>Primary Key</i>
2	Kontak Id	<i>Contact_Id</i>	<i>Int</i>	11	<i>Foreign Key</i>
3	Tanggal Mulai Kontrak	<i>Start_Date</i>	<i>Date</i>		
4	Tanggal Akhir Kontrak	<i>End_Date</i>	<i>Date</i>		
5	Tipe Kontrak	<i>Contract_Type</i>	<i>Nvarchar</i>	20	
6	Status Kontrak	<i>Contract_Status</i>	<i>Nvarchar</i>	20	
7	Tanggal Dibuat	<i>CreateAt</i>	<i>Datetime</i>		

7. Spesifikasi File *Tbl_Machine*

Nama File	: <i>Tbl_Machine</i>
Akronim	: <i>Tabel Machine</i>
Fungsi	: Untuk menyimpan data mesin
Tipe File	: <i>File Master</i>
Organisasi File	: <i>Indexed Sequential</i>
Akses File	: <i>Random</i>
Media	: <i>Harddisk</i>
Panjang Record	: 445
Kunci Field	: <i>Serial_Number</i>
Software	: <i>SqlServer 2012</i>

Tabel IV.26

Spesifikasi File *Tbl_Machine*

No.	Elemen Data	Nama Field	Tipe	Size	Keterangan
1	Nomor Seri Mesin	<i>Serial_Number</i>	<i>Nvarchar</i>	20	<i>Primary Key</i>
2	Nomor Kontrak	<i>Contract_No</i>	<i>Nvarchar</i>	15	<i>Foreign Key</i>
3	Jenis Model Mesin	<i>Model_Name</i>	<i>Nvarchar</i>	20	
4	Tanggal Instalasi	<i>Install_Date</i>	<i>Date</i>		
5	Tanggal Pengiriman	<i>Delivery_Date</i>	<i>Date</i>		
6	<i>Accessories</i>	<i>Accessories</i>	<i>Nvarchar</i>	150	
7	Lisensi	<i>Licenses</i>	<i>Nvarchar</i>	150	
8	Keterangan	<i>Remarks</i>	<i>Nvarchar</i>	100	
9	Tanggal Dibuat	<i>CreateAt</i>	<i>Datetime</i>		

8. Spesifikasi File *Tbl_Job_Ticketing*

Nama File	: <i>Tbl_Job_Ticketing</i>
Akronim	: <i>Tabel Job Ticketing</i>
Fungsi	: Untuk menyimpan data tiket pekerjaan teknisi

Tipe File	: File Transaction
Organisasi File	: Indexed Sequential
Akses File	: Random
Media	: Harddisk
Panjang Record	: 587
Kunci Field	: Ticket_Number
Software	: SqlServer 2012

Tabel IV.27

Spesifikasi File Tbl_Job_Ticketing

No.	Elemen Data	Nama Field	Tipe	Size	Keterangan
1	Nomor Tiket	<i>Ticket_Number</i>	<i>Nvarchar</i>	15	<i>Primary Key</i>
2	Nomor Seri Mesin	<i>Serial_Number</i>	<i>Nvarchar</i>	20	<i>Foreign Key</i>
3	Nomor Induk Karyawan (User)	<i>Employee_Master_No</i>	<i>Nvarchar</i>	20	<i>Foreign Key</i>
4	Kode Teknisi	<i>Engineer_Code</i>	<i>Nvarchar</i>	15	<i>Foreign Key</i>
5	Status Pekerjaan	<i>Work_Status</i>	<i>Nvarchar</i>	20	
6	Prioritas Pekerjaan	<i>Priority</i>	<i>Nvarchar</i>	10	
7	Sumber Penggilaan	<i>Call_Source</i>	<i>Nvarchar</i>	20	
8	Jenis Pekerjaan	<i>Problem_Type</i>	<i>Nvarchar</i>	25	
9	Deskripsi Kerusakan	<i>Description</i>	<i>Nvarchar</i>	100	
10	Nama Pemanggil	<i>Caller_Name</i>	<i>Nvarchar</i>	30	
11	Waktu Keberangkatan	<i>Dispatch_Time</i>	<i>Datetime</i>		
12	Waktu Sampai	<i>Arrival_Time</i>	<i>Datetime</i>		
13	Waktu Selesai	<i>Close_Time</i>	<i>Datetime</i>		
14	Deskripsi Pekerjaan	<i>Action_Taken</i>	<i>Nvarchar</i>	150	
15	Keterangan	<i>Remarks</i>	<i>Nvarchar</i>	100	
16	Total Cetak	<i>Meter101</i>	<i>Integer</i>	11	
17	Total Cetak Black/Large	<i>Meter112</i>	<i>Integer</i>	11	
18	Total Cetak	<i>Meter113</i>	<i>Integer</i>	11	

	Black/Small				
19	Total Cetak Warna	<i>Meter301</i>	<i>Integer</i>	11	
20	Total Cetak Color/Large	<i>Meter401</i>	<i>Integer</i>	11	
21	Total Cetak Color/Small	<i>Meter402</i>	<i>Integer</i>	11	
22	Total Scan	<i>Meter501</i>	<i>Integer</i>	11	
23	Tanggal Dibuat	<i>CreateAt</i>	<i>Datetime</i>		

9. Spesifikasi File *Tbl_Ticket_History*

Nama File	: <i>Tbl_Ticket_History</i>
Akronim	: <i>Tabel History</i>
Fungsi	: Untuk menyimpan riwayat tiket
Tipe File	: <i>File Transaction</i>
Organisasi File	: <i>Indexed Sequential</i>
Akses File	: <i>Random</i>
Media	: <i>Harddisk</i>
Panjang Record	: 196
Kunci Field	: <i>History_Id</i>
Software	: <i>SqlServer 2012</i>

Tabel IV.28

Spesifikasi File *Tbl_Ticket_History*

No.	Elemen Data	Nama Field	Tipe	Size	Keterangan
1	Id History	History_ID	<i>Int</i>	11	<i>Primary Key</i>
2	Nomor Tiket	Ticket_Number	<i>Nvarchar</i>	15	<i>Foreign Key</i>
3	Status Pekerjaan	Work_Status	<i>Nvarchar</i>	20	
4	Deskripsi Status	Description	<i>Nvarchar</i>	150	
5	Tanggal Dibuat	CreateAt	<i>Datetime</i>		

10. Spesifikasi *File Tbl_Province*

Nama <i>File</i>	: <i>Tbl_Province</i>
Akronim	: <i>Tabel Provinsi</i>
Fungsi	: Untuk menyimpan data provinsi
Tipe <i>File</i>	: <i>File Master</i>
Organisasi <i>File</i>	: <i>Indexed Sequential</i>
Akses <i>File</i>	: <i>Random</i>
Media	: <i>Harddisk</i>
Panjang <i>Record</i>	: 41
Kunci <i>Field</i>	: <i>Province_Id</i>
<i>Software</i>	: <i>SqlServer 2012</i>

Tabel IV.29

Spesifikasi *File Tbl_Province*

No.	Elemen Data	Nama <i>Field</i>	Tipe	Size	Keterangan
1	Id Provinsi	<i>Province_ID</i>	<i>Int</i>	11	<i>Primary Key</i>
2	Nama Provinsi	<i>Province_Name</i>	<i>Nvarchar</i>	30	

11. Spesifikasi *File Tbl_City*

Nama <i>File</i>	: <i>Tbl_City</i>
Akronim	: <i>Tabel City</i>
Fungsi	: Untuk menyimpan data kota
Tipe <i>File</i>	: <i>File Master</i>
Organisasi <i>File</i>	: <i>Indexed Sequential</i>
Akses <i>File</i>	: <i>Random</i>
Media	: <i>Harddisk</i>

Panjang *Record* : 57
 Kunci *Field* : *City_Id*
 Software : *SqlServer 2012*

Tabel IV.30

Spesifikasi *File* Tbl_City

No.	Elemen Data	Nama <i>Field</i>	Tipe	Size	Keterangan
1	Id Kota	<i>City_ID</i>	<i>int</i>	11	<i>Primary Key</i>
2	Id Provinsi	<i>Province_ID</i>	<i>int</i>	11	<i>Foreign Key</i>
3	Nama Kota	<i>City_Name</i>	<i>Nvarchar</i>	30	

12. Spesifikasi *File* Tbl_Customer_Business

Nama *File* : Tbl_Customer_Business
 Akronim : Tabel *Customer_Business*
 Fungsi : Untuk menyimpan data *Customer_Business*
 Tipe *File* : *File Master*
 Organisasi *File* : *Indexed Sequential*
 Akses *File* : Random
 Media : *Harddisk*
 Panjang *Record* : 41
 Kunci *Field* : *Customer_Business_Id*
 Software : *SqlServer 2012*

Tabel IV.31

Spesifikasi *File* Tbl_Contact

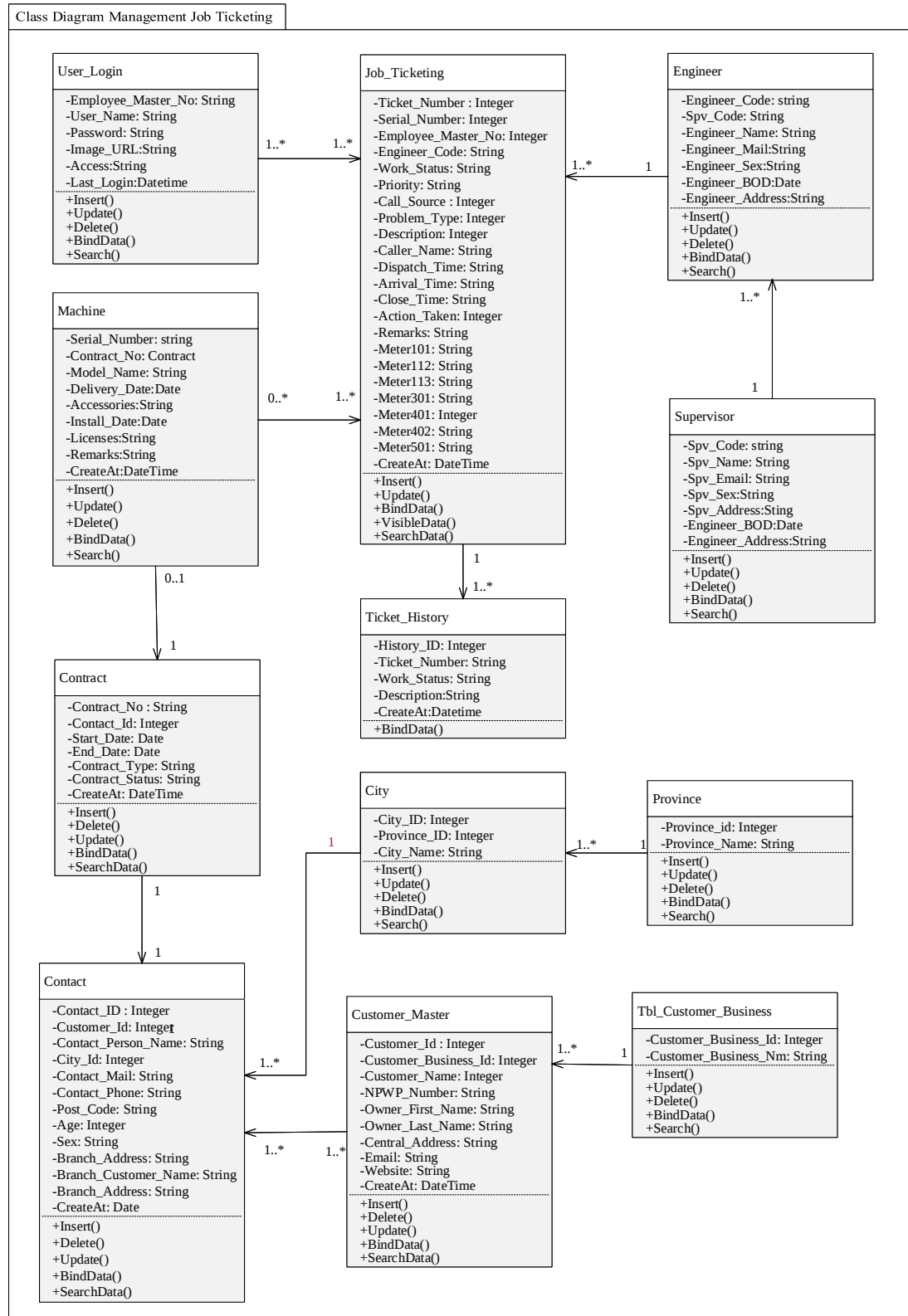
No.	Elemen Data	Nama <i>Field</i>	Tipe	Size	Keterangan
1	Id Bisnis Customer	<i>Customer_Business_Id</i>	<i>int</i>	11	<i>Primary Key</i>
2	Nama Bisnis Customer	<i>Customer_Business_Name</i>	<i>Nvarchar</i>	30	

4.2.2. Software Architecture

A. *Class Diagram*

Class Diagram adalah sebuah spesifikasi yang jika diinstansiasi akan menghasilkan sebuah objek dan merupakan inti dari pengembangan dan desain berorientasi objek. Class menggambarkan keadaan (atribut/properti) suatu sistem, sekaligus menawarkan layanan untuk memanipulasi keadaan tersebut (metoda/fungsi). Class diagram menggambarkan struktur dan deskripsi class, package dan objek beserta hubungan satu sama lain seperti containment, pewarisan, asosiasi, dan lain-lain.

Pada aplikasi perancangan sistem informasi pengelolaan pekerjaan teknis class diagram digambarkan sebagai berikut :



Gambar IV.22

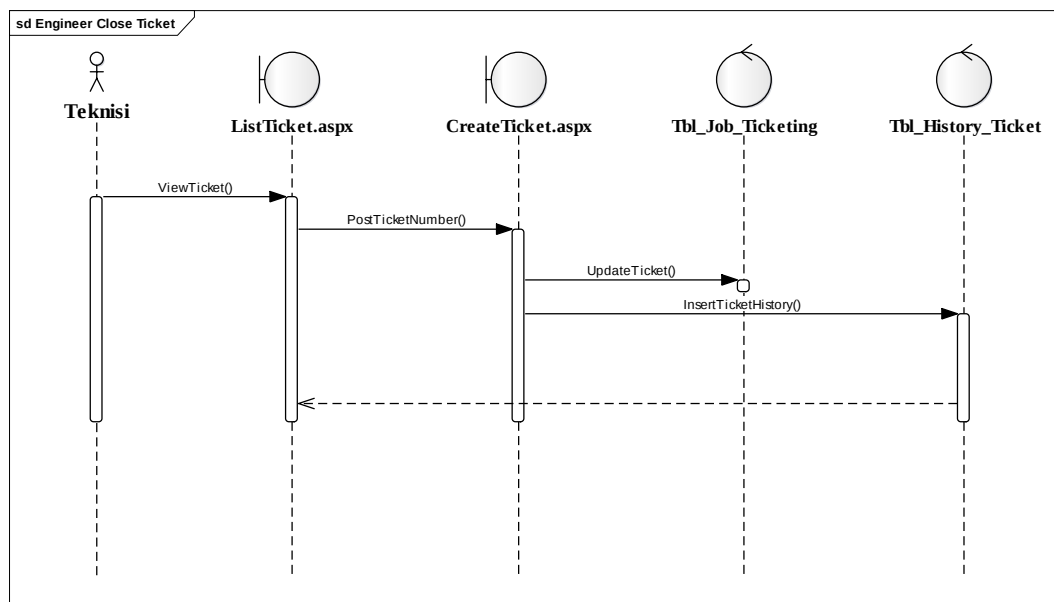
Class Diagram Sistem Pengelolaan Pekerjaan Teknisi

B. Sequence Diagram

Sequence diagram adalah diagram yang biasa digunakan untuk menggambarkan skenario atau rangkaian langkah-langkah yang dilakukan sebagai respon dari sebuah *event* untuk menghasilkan *output* tertentu. Diawali dari apa yang men-*trigger* aktivitas tersebut, proses dan perubahan apa saja yang terjadi secara *internal* dan *output* apa yang dihasilkan. Diagram ini secara khusus berasosiasi dengan use case diagram memperlihatkan tahap demi tahap apa yang seharusnya terjadi untuk menghasilkan sesuatu didalam *use case*

1. Sequence Diagram diagram Halaman Teknisi

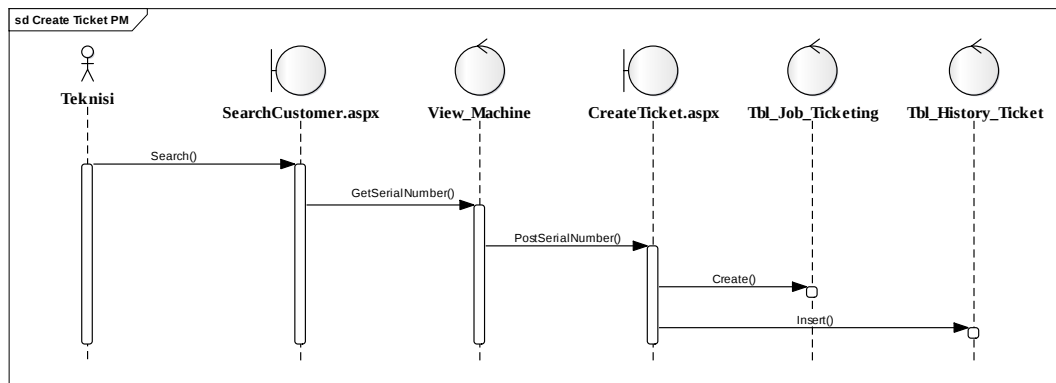
a. Sequence Diagram Halaman Teknisi Close Ticket



Gambar IV.23

Sequence Diagram Close Ticket

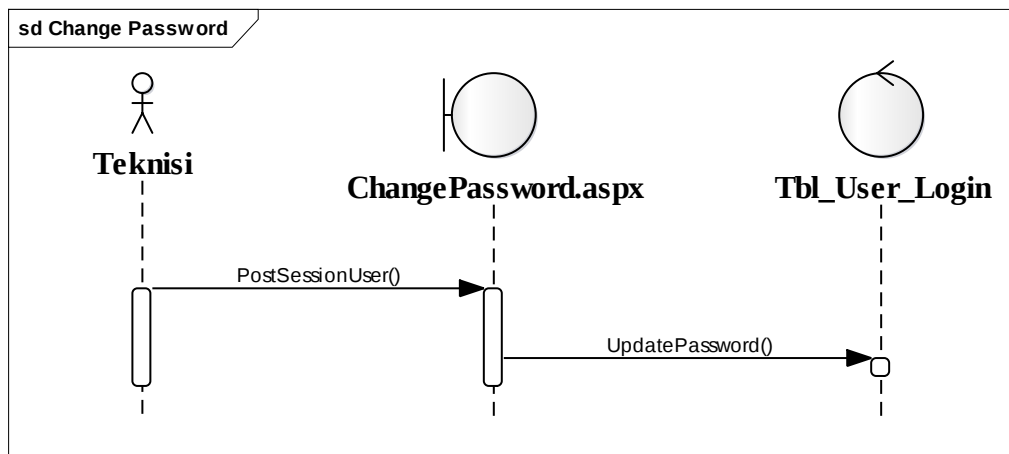
- b. *Sequence Diagram* Halaman Teknisi Create Ticket Preventive Maintenance (Pemeliharaan)



Gambar IV.24

Sequence Diagram Create Ticket

- c. *Sequence Diagram* Halaman Teknisi Change Password

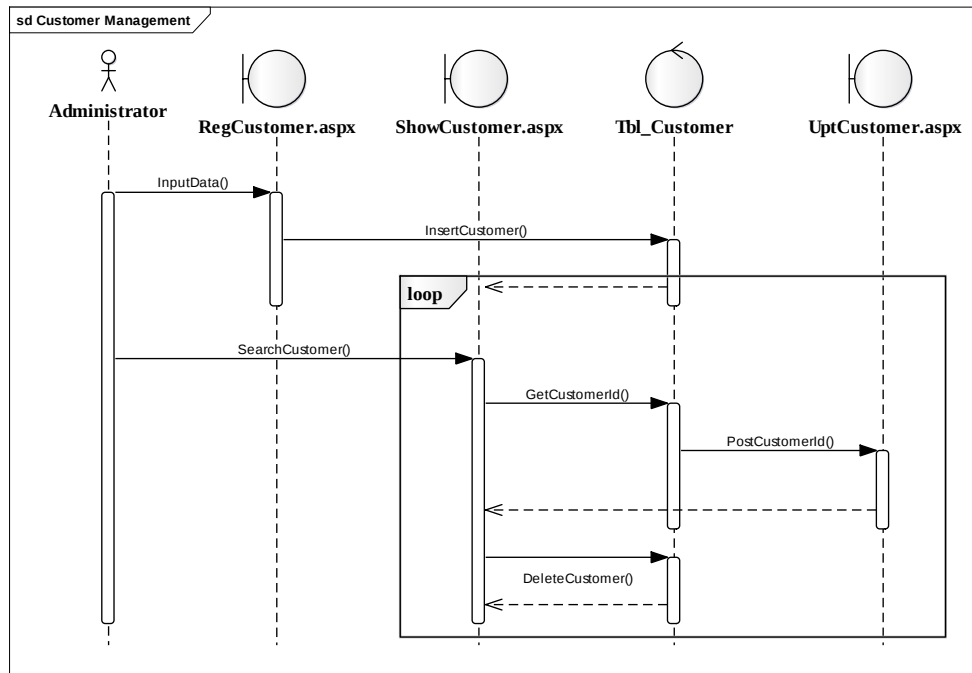


Gambar IV.25

Sequence Diagram Change Password

2. Sequence Diagram diagram Halaman Administrator

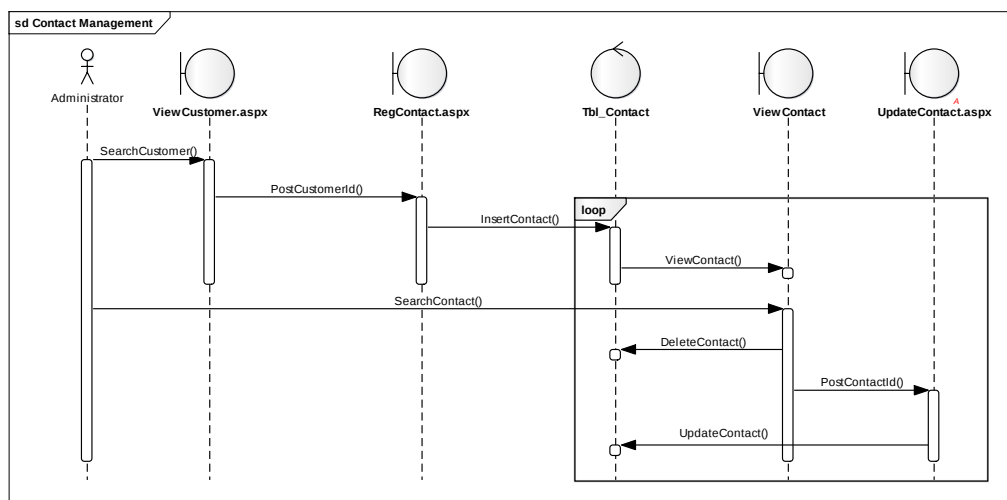
a. Sequence Diagram Halaman Administrator Customer Management



Gambar IV.26

Sequence Diagram Administrator Customer Management

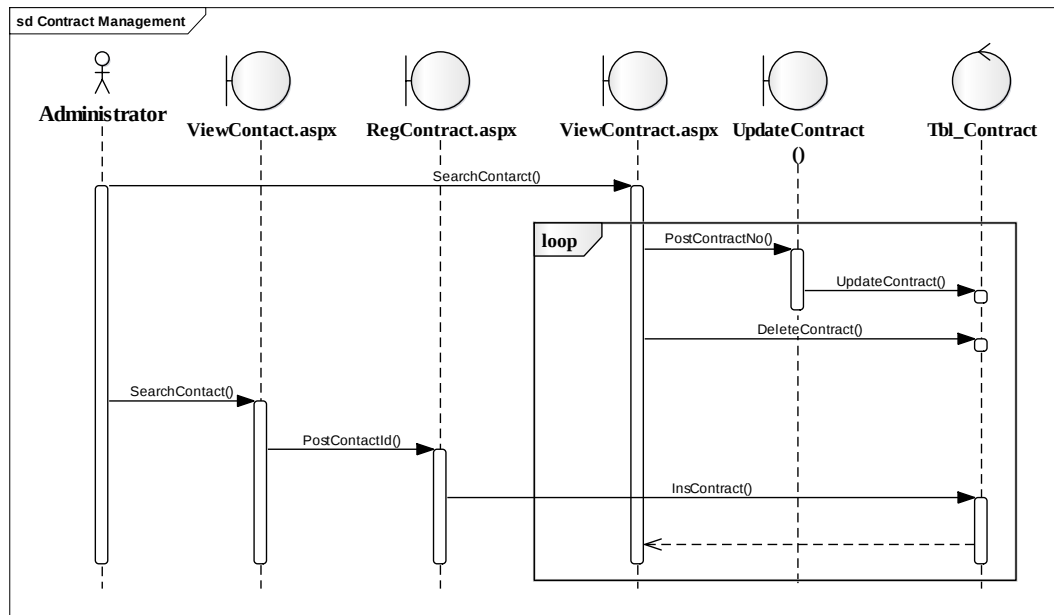
b. Sequence Diagram Halaman Administrator Contact Management



Gambar IV.27

Sequence Diagram Administrator Contact Management

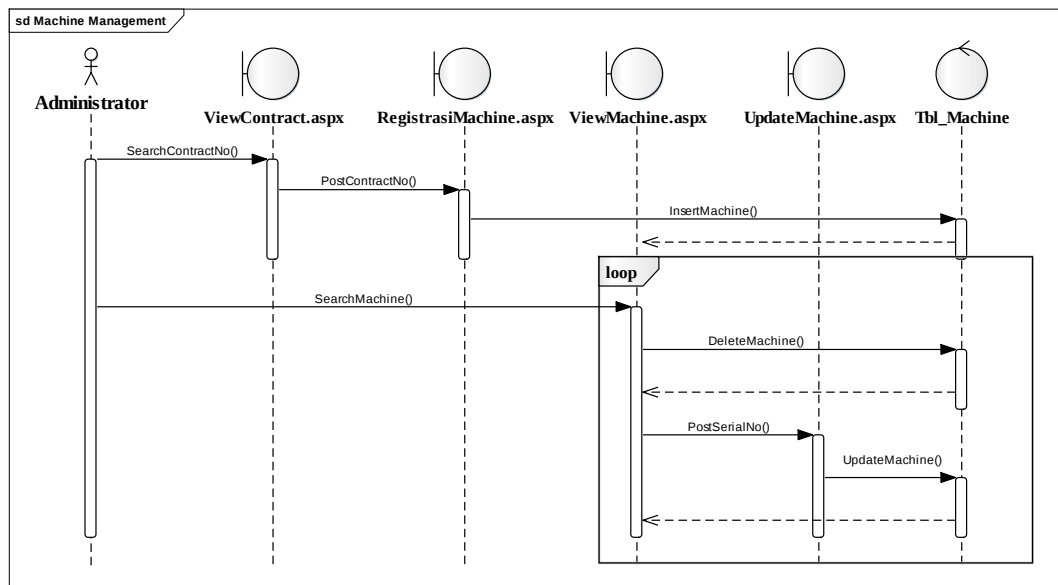
c. *Sequence Diagram Halaman Administrator Contract Management*



Gambar IV.28

Sequence Diagram Administrator Contract Management

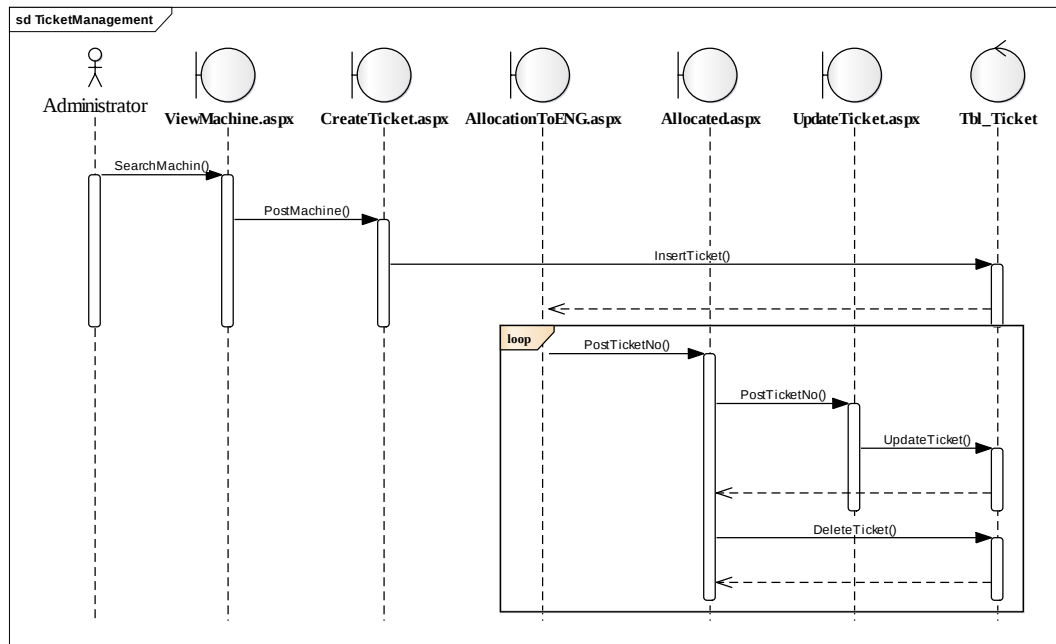
d. *Sequence Diagram Halaman Administrator Machine Management*



Gambar IV.29

Sequence Diagram Administrator Contact Management

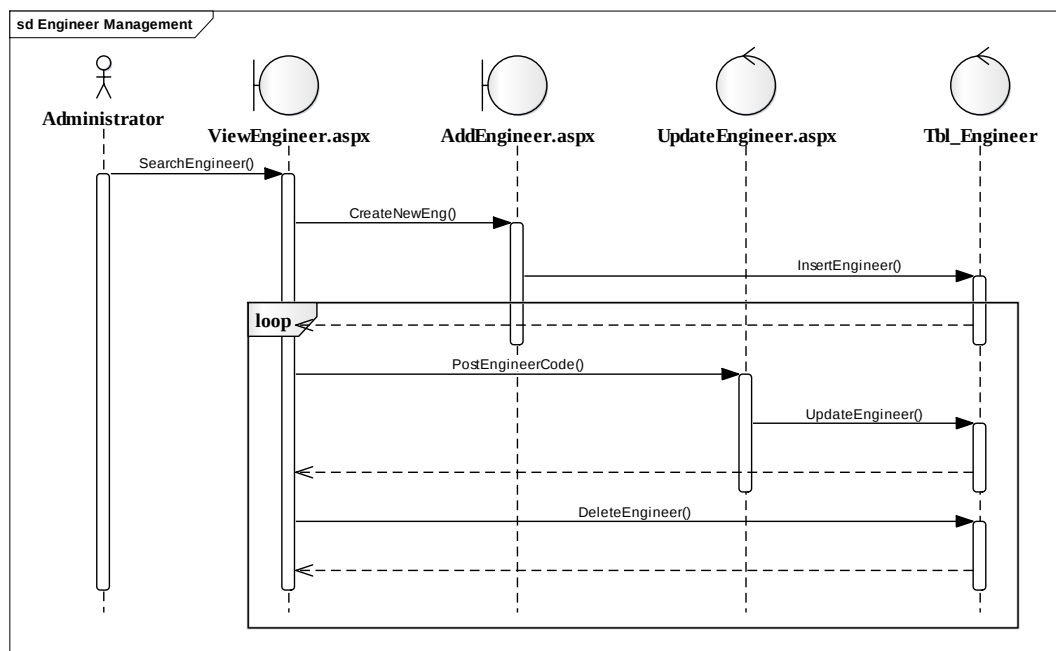
e. *Sequence Diagram Halaman Administrator Ticket Management*



Gambar IV.30

Sequence Diagram Administrator Ticket Management

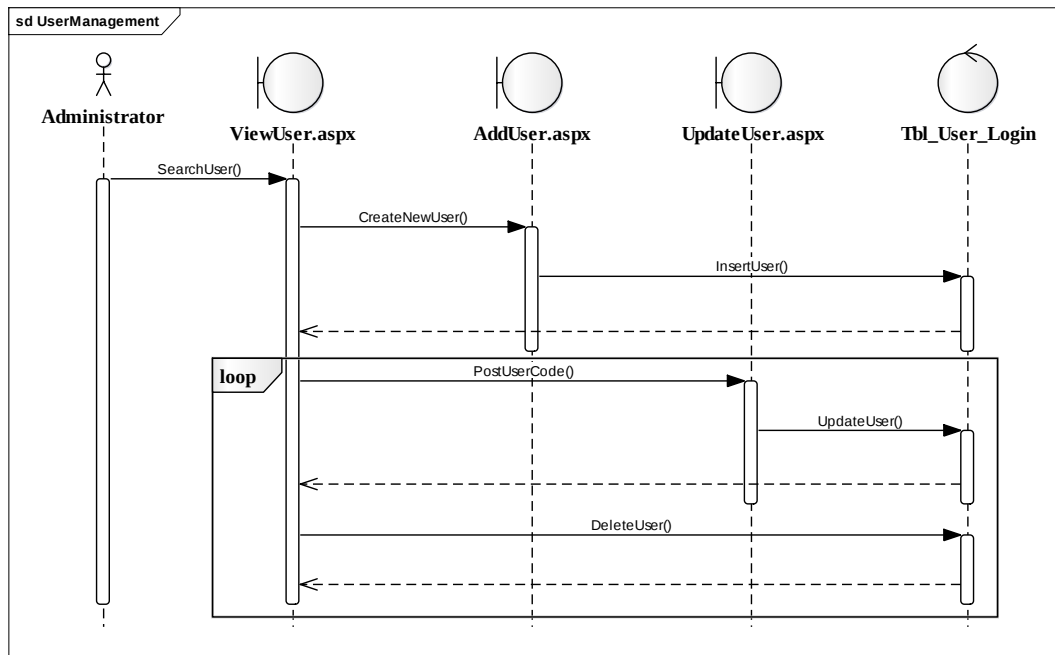
f. *Sequence Diagram Halaman Administrator Engineer Management*



Gambar IV.31

Sequence Diagram Administrator Engineer Management

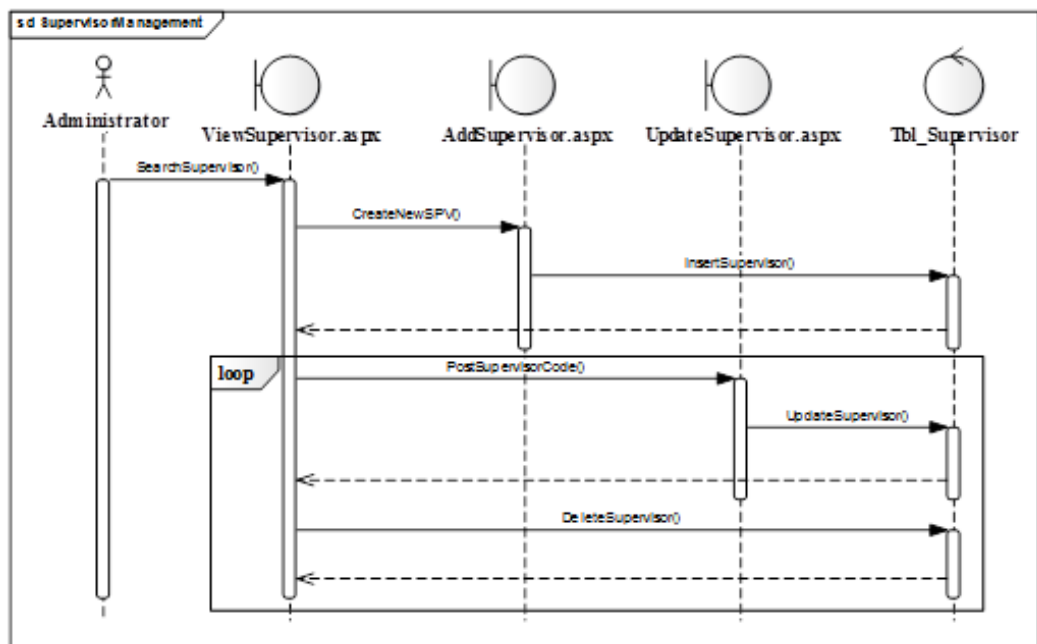
g. Sequence Diagram Halaman Administrator User Management



Gambar IV.32

Sequence Diagram Administrator User Management

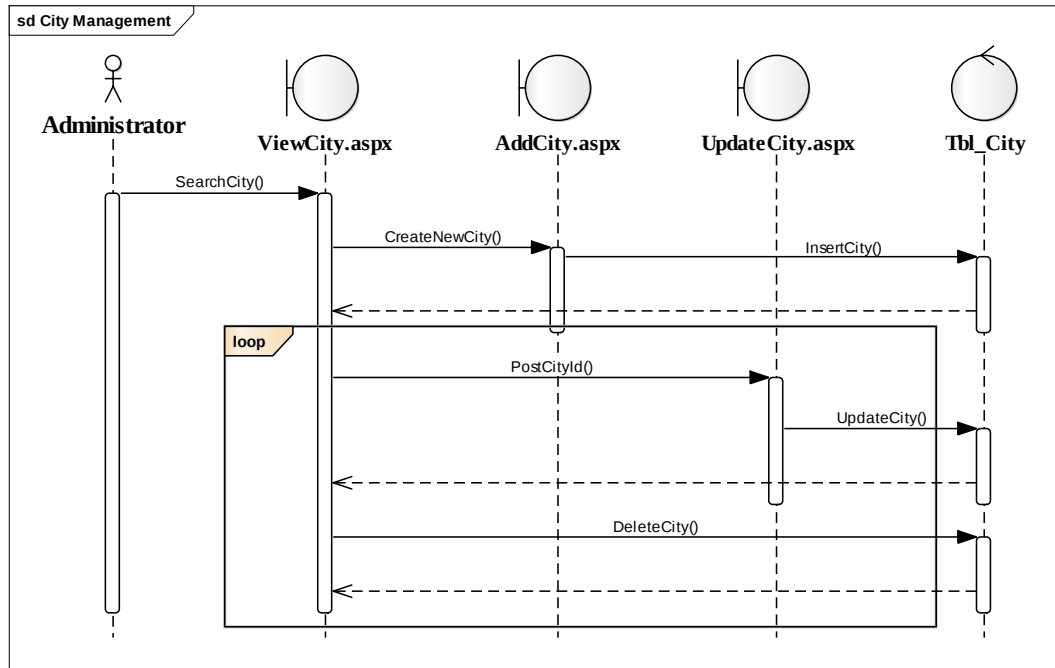
h. Sequence Diagram Halaman Administrator Supervisor Management



Gambar IV.33

Sequence Diagram Administrator Supervisor Management

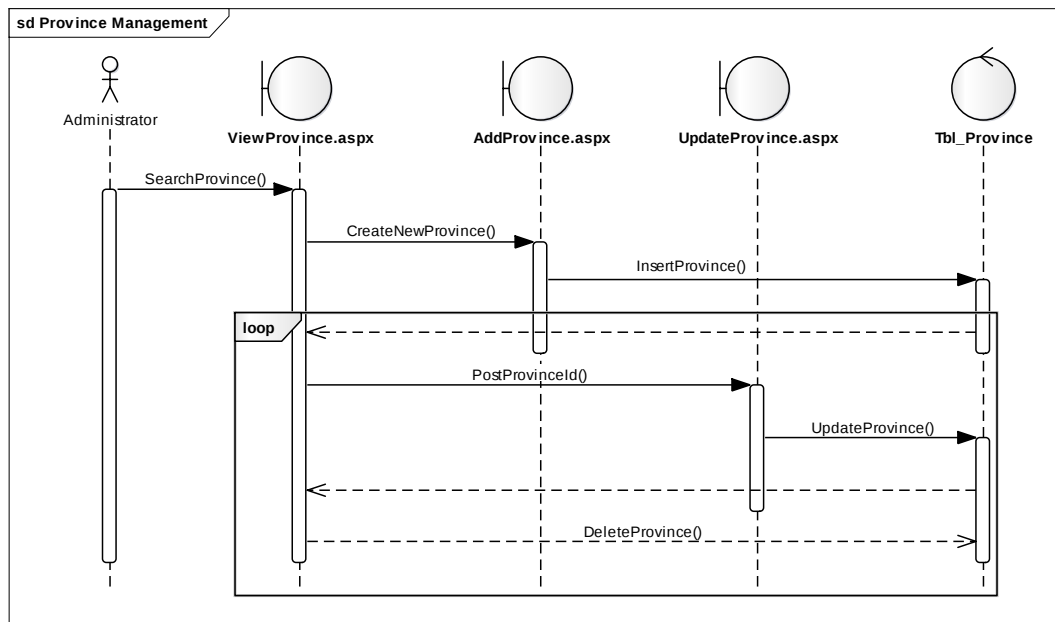
i. *Sequence Diagram Halaman Administrator City Management*



Gambar IV.34

Sequence Diagram Administrator City Management

j. *Sequence Diagram Halaman Administrator Province Management*

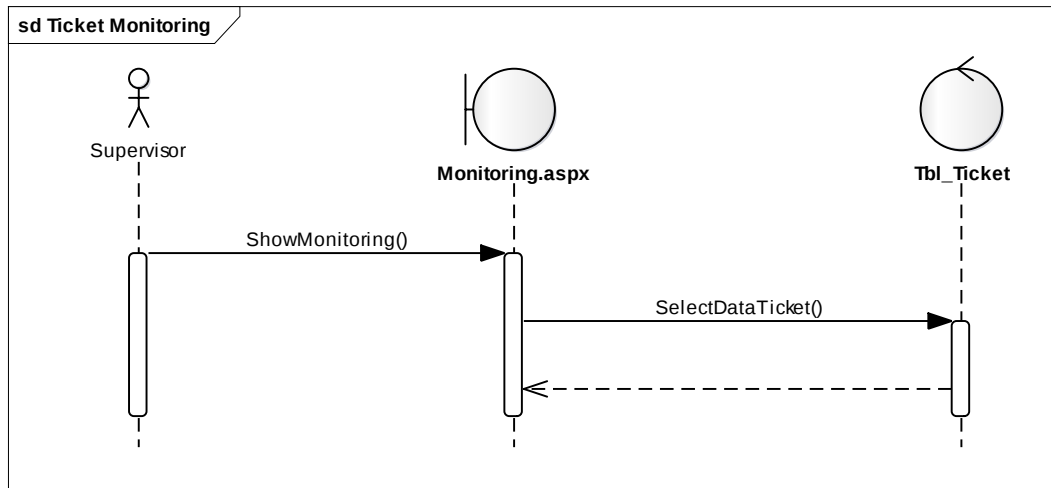


Gambar IV.35

Sequence Diagram Administrator Province Management

3. Sequence Diagram diagram Halaman Supervisor

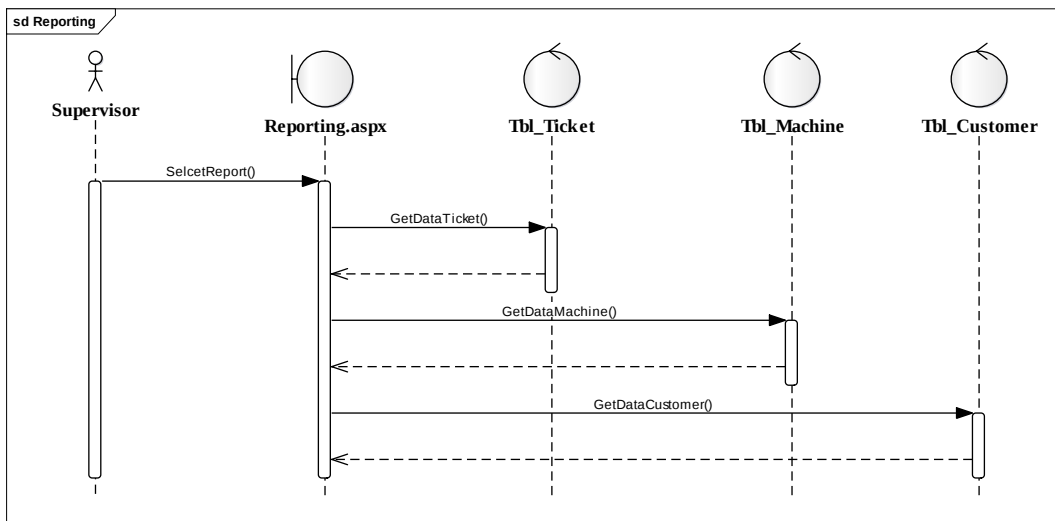
a. Sequence Diagram Halaman Supervisor Ticket Monitoring



Gambar IV.36

Sequence Diagram Supervisor Ticket Monitoring

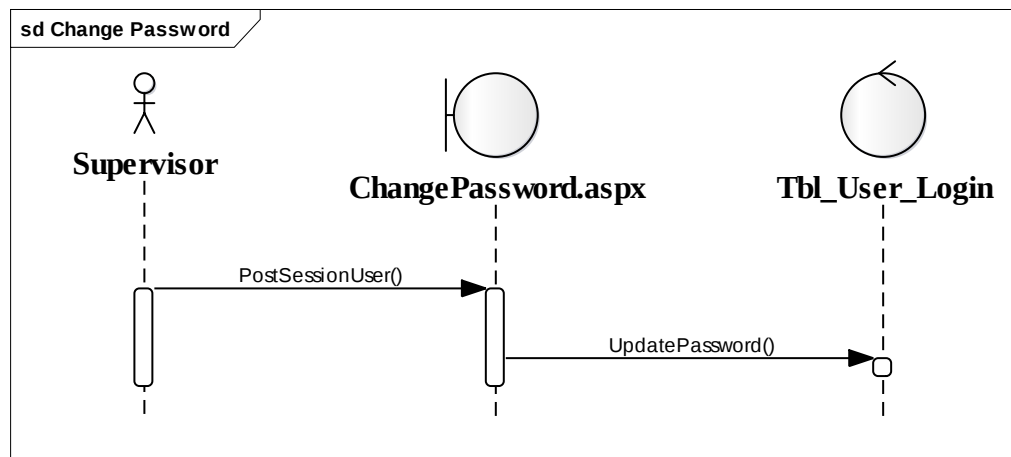
b. Sequence Diagram Halaman Supervisor Reporting



Gambar IV.37

Sequence Diagram Supervisor Reporting

c. *Sequence Diagram Halaman Supervisor Change Password*

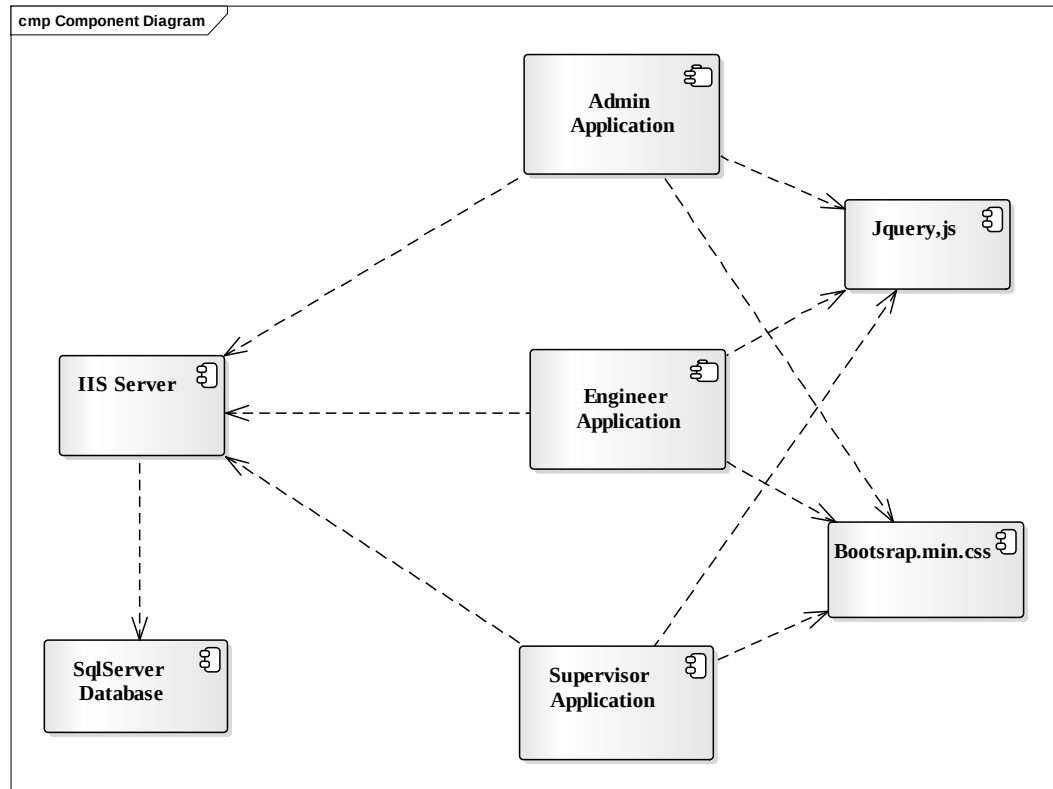


Gambar IV.38

Sequence Diagram Supervisor Change Password

C. *Component Diagram*

Component diagram menggambarkan struktur dan hubungan antar komponen piranti lunak, termasuk ketergantungan diantaranya. *Component Diagram* juga dapat berupa *interface* yang berupa kumpulan layanan yang disediakan oleh komponen untuk komponen lainnya.

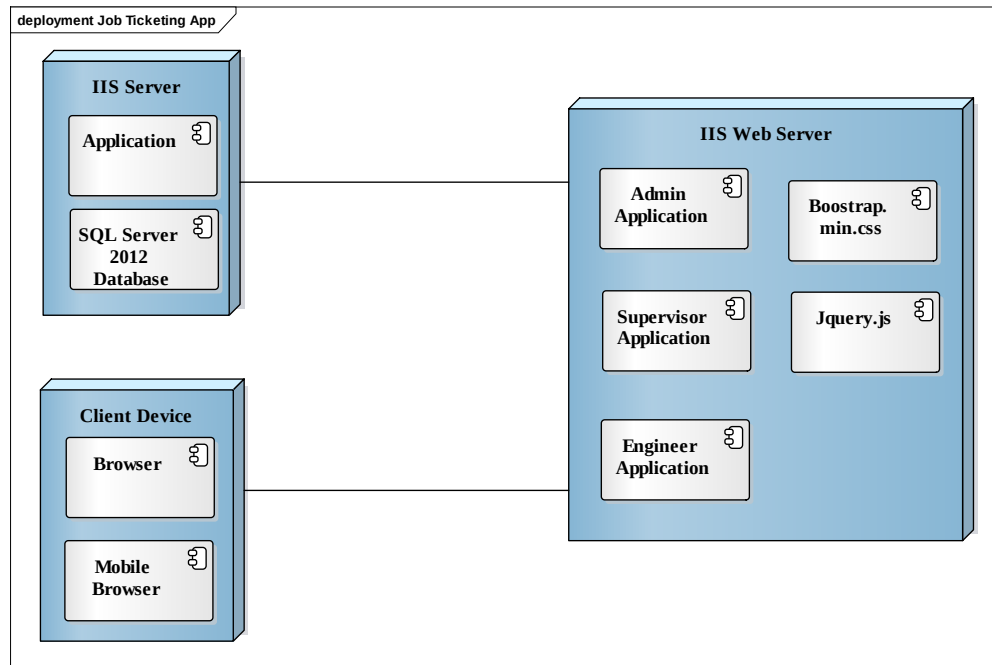


Gambar IV.39

Component Diagram Sistem Pengelolaan Pekerjaan Teknisi

D. Deployment Diagram

Asumsi yang digunakan pada perangkat lunak ini memakai sistem yang *stand alone*, artinya tidak ada satu komponenpun yang akan dibagi pakai (*sharing*) dengan aplikasi web yang lain, oleh karena itu tidak perlu *application server* terpisah.



Gambar IV.40

Deployment Diagram

4.2.3. User Interface

A. Halaman Login Teknisi

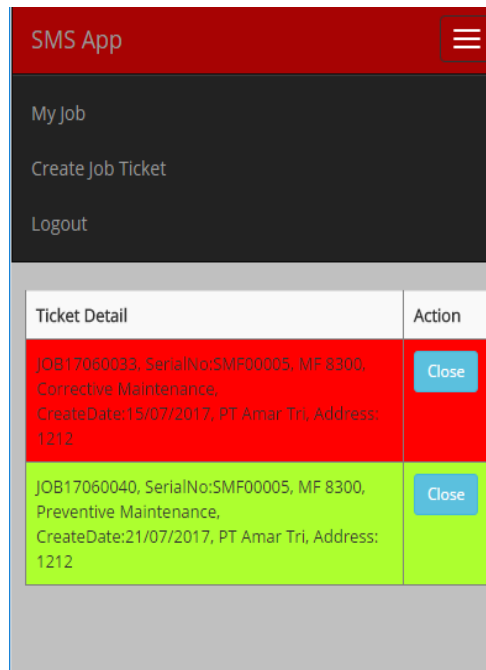
The screenshot shows a "Login" form with the following elements:

- Form title: "Login"
- Input field: "Employee Number..."
- Input field: "Password..."
- Checkbox: "Remember me on this computer"
- Submit button: "Login" (highlighted in blue)

Gambar IV.41

Tampilan Login Teknisi

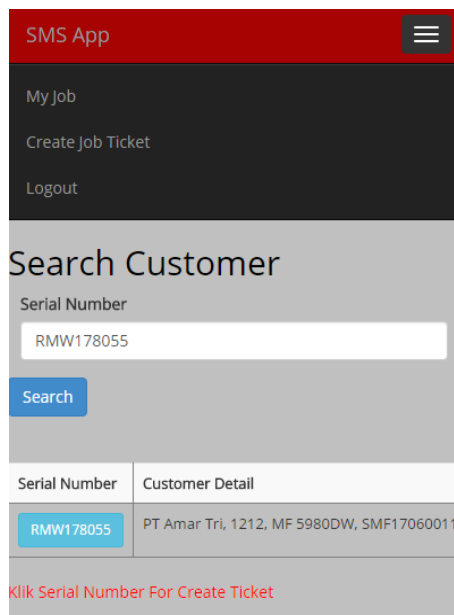
B. Halaman Teknisi *View Ticket*



Gambar IV.42

Tamplilan Teknisi *View Ticket*

C. Halaman Teknisi *Create Ticket Preventive Maintenance*



Gambar IV.43

Tamplilan Teknisi Create Ticket Preventive Maintenance

D. Halaman *Administrator Customer Management*

Administrator Last access :10 Aug 2017 18:38 Logout

Engineer Job Ticketing
Welcome Taufan Atzali .

View Customers

Customer Name: Search

Customer Name	Business	Owner	Address	Email	Website	Create Date		
PT AMERTA INDAH OTSUKA	Agribusiness	DEDI	Jln raya kemang	pocari@EMAIL.COM	WEBminer.site.com	24-06-2017		
Bank Tabungan Negara	Banking	Marlina	Jl pajajaran no 21 Ciraos Bogor	marlina@btbnbank.co.id	btbnbank.co.id	26-06-2017		
Belahan Jiwa	Cosmetics	Jo	Jl. Jambu H. Ambar No.45, Buaran Indah, Kec. Tangerang, Kota Tangerang, Banten 15119	sss@email.com	www.ttt.co.id	26-06-2017		
PT Ambar Tri	Energy	Omar	Jln haji nilam	d	www.ttt.co.id	26-06-2017		
PT Aksara	Financing Banking	fendi	Jl. Suryopranoto No.67 Jakarta pusat	email	www.ttt.co.id	26-06-2017		

More Information

Phone : 021156555645 Ext : 5010 (Business Support)
Whatsapp/SMS : 085777556600

Gambar IV.44

Tampilan Halaman *Administrator Customer Management*

E. Halaman *Administrator Create Ticket*

Administrator Last access :10 Aug 2017 18:38 Logout

Engineer Job Ticketing
Welcome Taufan Atzali .

Create Ticket

Ticket Number* JOB17060057

Serial Number * DFG897666

Caller Name *

Priority * --select--

Call Source * --select--

Problem Type * --select--

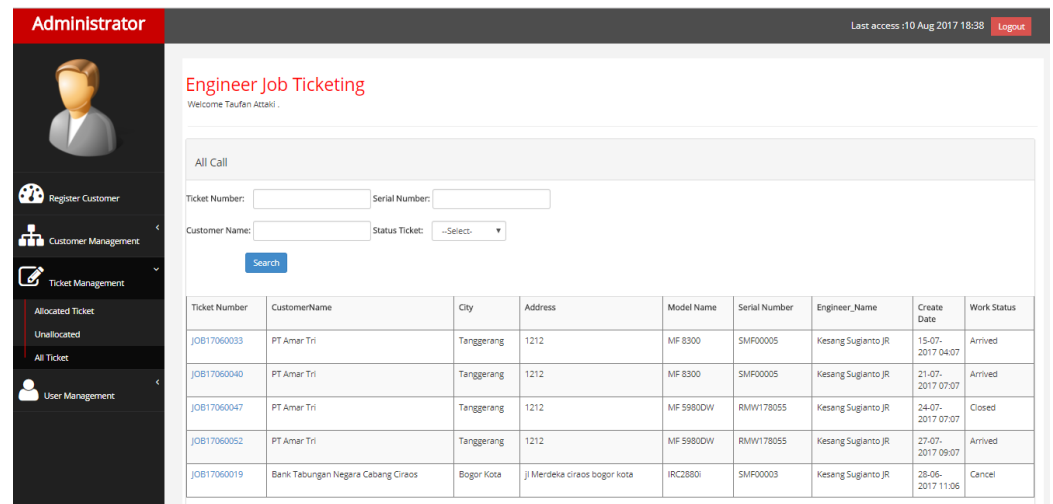
Description *

Cancel Save Label

Gambar IV.45

Tampilan Halaman *Administrator Create Ticket*

F. Halaman *Administrator View All Ticket*



Administrator Last access :10 Aug 2017 18:38 [Logout](#)

Engineer Job Ticketing
Welcome Taufan Ataki .

All Call

Ticket Number: Serial Number:

Customer Name: Status Ticket:

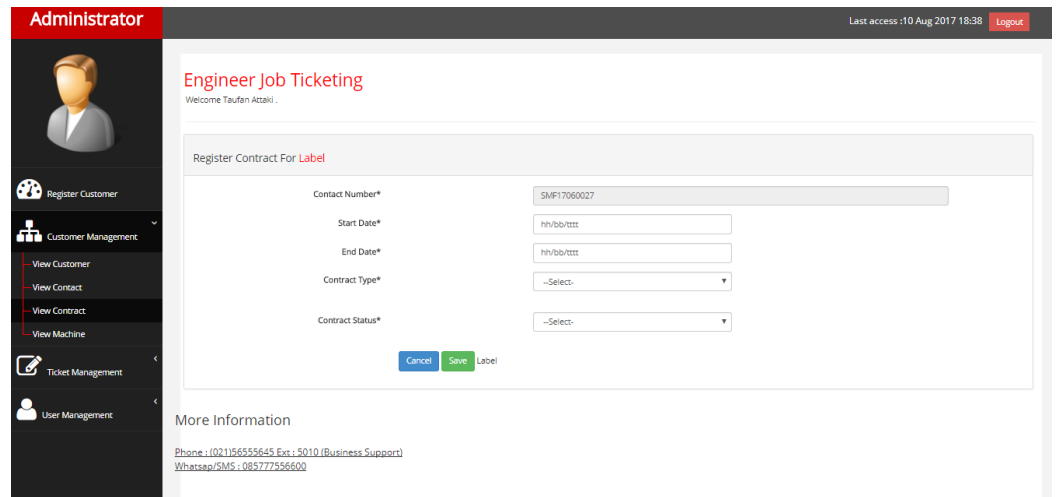
[Search](#)

Ticket Number	CustomerName	City	Address	Model Name	Serial Number	Engineer_Name	Create Date	Work Status
JOB17060033	PT Amar Tri	Tangerang	1212	MF 8300	SMF00005	Kesang Sugianto JR	15-07-2017 04:07	Arrived
JOB17060040	PT Amar Tri	Tangerang	1212	MF 8300	SMF00005	Kesang Sugianto JR	21-07-2017 07:07	Arrived
JOB17060047	PT Amar Tri	Tangerang	1212	MF 5980DW	RMW178055	Kesang Sugianto JR	24-07-2017 07:07	Closed
JOB17060052	PT Amar Tri	Tangerang	1212	MF 5980DW	RMW178055	Kesang Sugianto JR	27-07-2017 09:07	Arrived
JOB17060019	Bank Tabungan Negara Cabang Ciraos	Bogor Kota	Jl Merdeka ciraos bogor kota	IRC28801	SMF00003	Kesang Sugianto JR	28-06-2017 11:06	Cancel

Gambar IV.46

Tampilan Halaman *Administrator Customer View All Ticket*

G. Halaman *Administrator Registrasi Kontrak*



Administrator Last access :10 Aug 2017 18:38 [Logout](#)

Engineer Job Ticketing
Welcome Taufan Ataki .

Register Contract For **Label**

Contact Number*

Start Date*

End Date*

Contract Type*

Contract Status*

[Cancel](#) [Save](#) [Label](#)

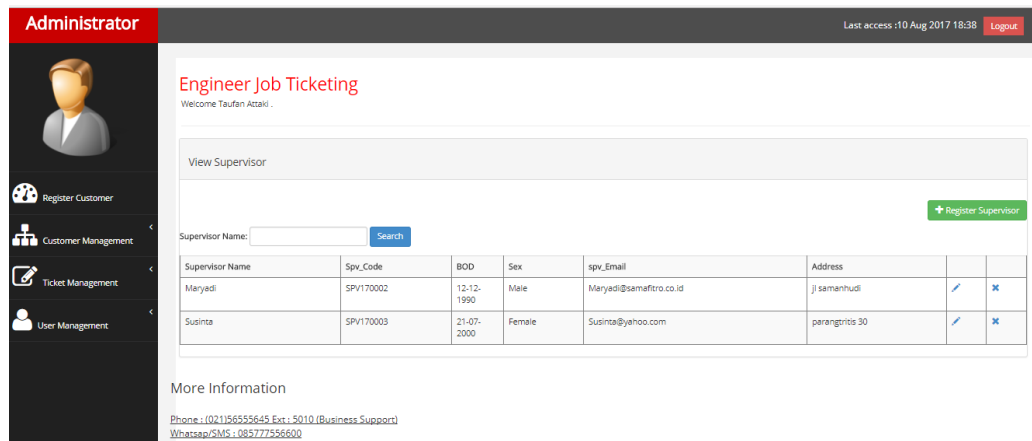
More Information

Phone : (021)56555645 Ext : 5010 (Business Support)
Whatsapp/SMF : 085777556600

Gambar IV.47

Tampilan Halaman *Administrator Registrasi Kontrak*

H. Halaman *Administrator Supervisor Management*



Administrator Last access :10 Aug 2017 18:38 Logout

Engineer Job Ticketing
Welcome Taufan Atzaki.

View Supervisor

Supervisor Name: Search

+ Register Supervisor

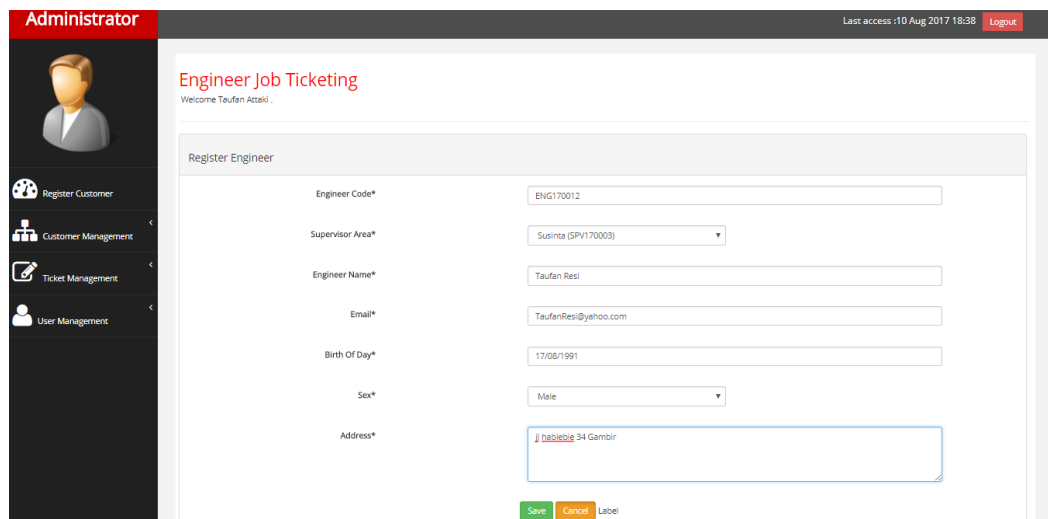
Supervisor Name	Spv_Code	BOD	Sex	spv_Email	Address		
Maryadi	SPV170002	12-12-1990	Male	Maryadi@samaftiro.co.id	ji samanuhudi		
Susinta	SPV170003	21-07-2000	Female	Susinta@yahoo.com	parangtritis 30		

More Information
Phone : (021)56555645 Ext : 5010 (Business Support)
Whatsapp/SMS : 085777556600

Gambar IV.48

Tampililan Halaman *Administrator Supervisor Management*

I. Halaman *Administrator Create New Engineer*



Administrator Last access :10 Aug 2017 18:38 Logout

Engineer Job Ticketing
Welcome Taufan Atzaki.

Register Engineer

Engineer Code* ENG170012

Supervisor Area* Susinta (SPV170003)

Engineer Name* Taufan Resi

Email* TaufanResi@yahoo.com

Birth Of Day* 17/08/1991

Sex* Male

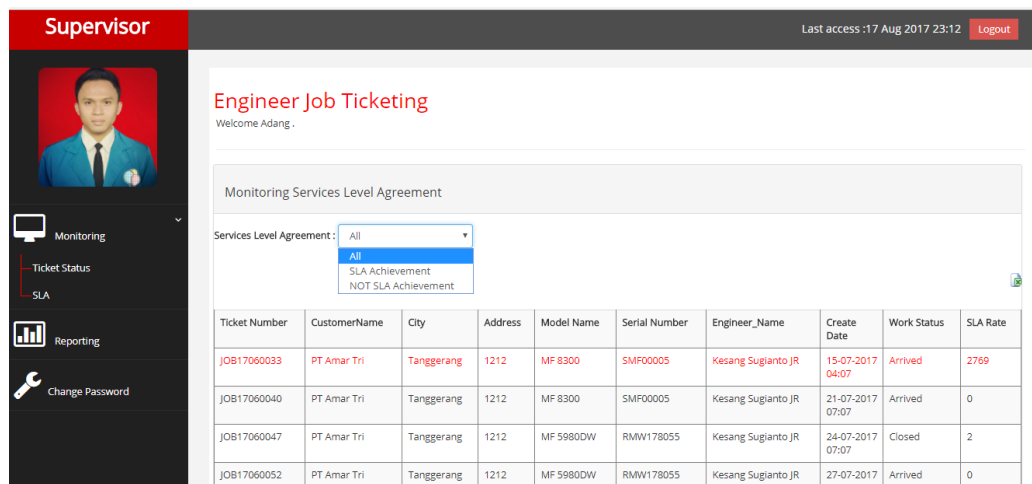
Address* j. habibie 34 Gambir

Save Cancel Label

Gambar IV.49

Tampililan Halaman *Administrator Create New Engineer*

J. Halaman Supervisor Monitoring



Supervisor Last access :17 Aug 2017 23:12 Logout

Engineer Job Ticketing
Welcome Adang .

Monitoring Services Level Agreement

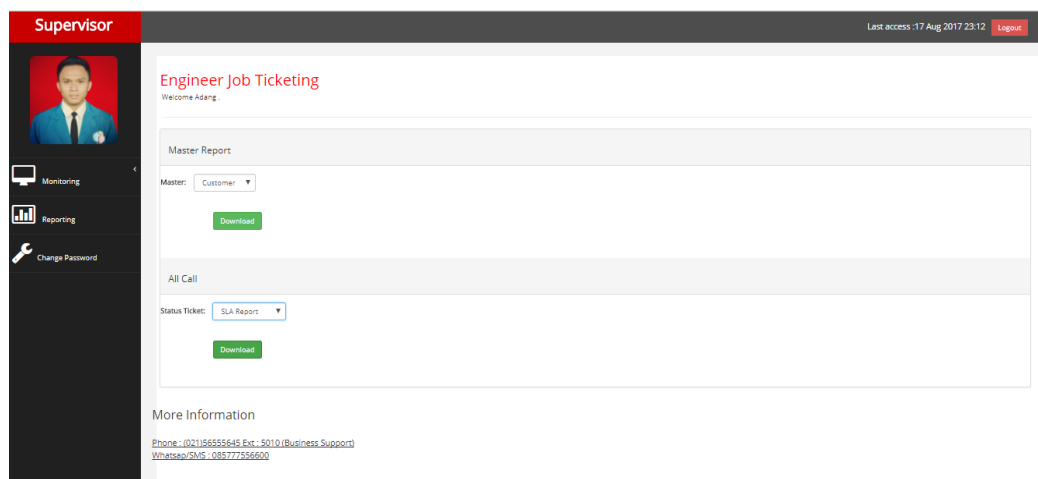
Services Level Agreement : All

Ticket Number	CustomerName	City	Address	Model Name	Serial Number	Engineer_Name	Create Date	Work Status	SLA Rate
JOB17060033	PT Amar Tri	Tangerang	1212	MF 8300	SMF00005	Kesang Sugianto JR	15-07-2017 04:07	Arrived	2769
JOB17060040	PT Amar Tri	Tangerang	1212	MF 8300	SMF00005	Kesang Sugianto JR	21-07-2017 07:07	Arrived	0
JOB17060047	PT Amar Tri	Tangerang	1212	MF 5980DW	RMW178055	Kesang Sugianto JR	24-07-2017 07:07	Closed	2
JOB17060052	PT Amar Tri	Tangerang	1212	MF 5980DW	RMW178055	Kesang Sugianto JR	27-07-2017 07:07	Arrived	0

Gambar IV.50

Tampililan Halaman *Supervisor Monitoring*

K. Halaman Supervisor Reporting



Supervisor Last access :17 Aug 2017 23:12 Logout

Engineer Job Ticketing
Welcome Adang .

Master Report

Master: Customer

Download

All Call

Status Ticket: SLA Report

Download

More Information

Phone : 021-56555645 Ext : 5010 (Business Support)
WhatsApp: 085777956600

Gambar IV.51

Tampililan Halaman *Supervisor Reporting*

4.3. Code Generation

A. Halaman Configuration

```
<?xml version="1.0" encoding="utf-8"?><!--
  For more information on how to configure your ASP.NET application, please
  visit
  http://go.microsoft.com/fwlink/?LinkId=169433
-->
<configuration>
  <system.web>
    <compilation debug="true" strict="false" explicit="true"
targetFramework="4.5.2"/>
    <httpRuntime targetFramework="4.5.2"/>
    <httpModules>
      <add name="ApplicationInsightsWebTracking"
type="Microsoft.ApplicationInsights.Web.ApplicationInsightsHttpModule,
Microsoft.AI.Web"/>
    </httpModules>
  </system.web>
  <appSettings>
    <add key="ValidationSettings:UnobtrusiveValidationMode" value="None" />
    <add key="ChartImageHandler" value="storage=file;timeout=20;" />
  </appSettings>
  <connectionStrings>
    <!--<add name="DBConnectioString" connectionString="Data
Source=.;Initial Catalog=Job_Ticketing_DB;Integrated Security=True"
providerName="System.Data.SqlClient" />-->
    <add name="DBConnectioString" connectionString="Data Source=.;Initial
Catalog=Samafitro;Integrated Security=True"
providerName="System.Data.SqlClient" />
  </connectionStrings>
  <system.codedom>
    <compilers>
      <compiler language="c#;cs;csharp" extension=".cs"

type="Microsoft.CodeDom.Providers.DotNetCompilerPlatform.CSharpCodeProvider,
Microsoft.CodeDom.Providers.DotNetCompilerPlatform, Version=1.0.0.0,
Culture=neutral, PublicKeyToken=31bf3856ad364e35"
warningLevel="4" compilerOptions="/langversion:6
/nowarn:1659;1699;1701"/>
      <compiler language="vb;vbs;visualbasic;vbscript" extension=".vb"

type="Microsoft.CodeDom.Providers.DotNetCompilerPlatform.VBCodeProvider,
Microsoft.CodeDom.Providers.DotNetCompilerPlatform, Version=1.0.0.0,
Culture=neutral, PublicKeyToken=31bf3856ad364e35"
warningLevel="4" compilerOptions="/langversion:14 /nowarn:41008
/define:_MYTYPE=\&quot;Web\&quot; /optionInfer+"/>
    </compilers>
  </system.codedom>
  <system.webServer>
    <validation validateIntegratedModeConfiguration="false"/>
    <modules>
      <remove name="ApplicationInsightsWebTracking"/>
      <add name="ApplicationInsightsWebTracking"
type="Microsoft.ApplicationInsights.Web.ApplicationInsightsHttpModule,
Microsoft.AI.Web"
preCondition="managedHandler"/>
    </modules>
```

```
</system.webServer>
</configuration>
```

B. Halaman Teknisi View Ticket

ListTicket.aspx

```
<%@ Page Title="" Language="vb" AutoEventWireup="false"
MasterPageFile="~/Engineer/EngTmp.Master"
CodeBehind="ListTicket.aspx.vb" Inherits="JobTicketing.WebForm3"
%>
<asp:Content ID="Content1" ContentPlaceHolderID="head"
runat="server">
    <style type="text/css">
        .hidden-field
        {
            display:none;
        }
    </style>
</asp:Content>
<asp:Content ID="Content2"
ContentPlaceHolderID="ContentPlaceHolder1" runat="server">
    <div class="container" runat="server" >
        <div class="row">
            <div class="col-sm-8" style="background-color:#C0C0C0;">
                <div class="text-left" align="left">
                    <asp:GridView ID="GridView1" runat="server"
AutoGenerateColumns="False" CssClass="table table-hover table-
striped" style="font-size: small">
                        <Columns>
                            <asp:BoundField DataField="Detail"
HeaderText="Ticket Detail"> </asp:BoundField>
                            <asp:BoundField DataField="Problem_Type"
HeaderText="Call Type" ItemStyle-CssClass="hidden-field"
HeaderStyle-CssClass="hidden-field" > </asp:BoundField>
                            <asp:BoundField DataField="Work_Status"
HeaderText="Status" ItemStyle-CssClass="hidden-field"
HeaderStyle-CssClass="hidden-field" > </asp:BoundField>
                            <asp:TemplateField HeaderText="Action">
                                <ItemTemplate>
                                    <asp:Button ID="BtnAction"
runat="server" ControlStyle-CssClass="btn btn-info btn-sm"
CommandArgument='<%# Eval("Ticket_Number") %>' CommandName="Save"
/>
                                </ItemTemplate>
                            </asp:TemplateField>
                        </Columns>
                        <EmptyDataRowStyle ForeColor="Red" />
                        <EmptyDataTemplate>
                            <br></br>
                            <br></br>
                            <br></br>Anda tidak memiliki
tiket saat ini ! </EmptyDataTemplate>
                    </asp:GridView>
                </div>
            </div>
        </div>
    </asp:Content>
```

ListTicket.aspx.vb

```

Imports System.Data.SqlClient
Imports System.Drawing

Public Class WebForm3
    Inherits System.Web.UI.Page

    Dim con As New
    SqlConnection(ConfigurationManager.ConnectionStrings("DBConnectio
String").ToString())
    Private Sub Services_ViewTicket_Load(sender As Object, e As
EventArgs) Handles Me.Load

        If Not IsPostBack Then
            bind()
        End If

    End Sub

    Private Sub bind()
        Dim NIK As String = Session("NIK")
        Dim constr As String =
ConfigurationManager.ConnectionStrings("DBConnectioString").Conne
ctionString
        Using sqlCon As New SqlConnection(constr)
            Using cmd As New SqlCommand()
                cmd.CommandText = "SELECT Ticket_Number+',
SerialNo:'+ Serial_Number +', '+Model_Name+ ', ' +
Problem_Type+', '+
                                'CreateDate: '+
CONVERT(VARCHAR(10),CreateAt,103)+', ' + Branch_Customer_Name +
', Address: ' + Branch_Address
                                as Detail
, [Work_Status], Problem_Type, Ticket_Number FROM [View_Detail]
where work_status not in ('Closed', 'Cancel')"
                cmd.Connection = sqlCon
                sqlCon.Open()
                Dim da As New SqlDataAdapter(cmd)
                Dim dt As New DataTable()
                da.Fill(dt)
                GridView1.DataSource = dt
                GridView1.DataBind()
                sqlCon.Close()
            End Using
        End Using
    End Sub

    Protected Sub GridView1_RowDataBound(sender As Object, e As
GridViewRowEventArgs) Handles GridView1.RowDataBound

        If e.Row.RowType = DataControlRowType.DataRow Then

            Dim status As String = e.Row.Cells(2).Text
            Dim btn = TryCast(e.Row.FindControl("BtnAction"),
Button)

```

```

        If status = "Allocated" Then
            btn.Text = "Dispatch"
        ElseIf status = "Dispatched" Then
            btn.Text = "Arrive"
        Else
            btn.Text = "Close"
        End If
        'btn = lbl.Text.Replace("0:00:00", "") Then
    End If

    If e.Row.RowType = DataControlRowType.DataRow Then
        Dim calltype As String = e.Row.Cells(1).Text

        For Each cell As TableCell In e.Row.Cells
            If calltype = "Corrective Maintenance" Then
                cell.BackColor = Color.Red
            ElseIf calltype = "Preventive Maintenance" Then
                cell.BackColor = Color.GreenYellow
            ElseIf calltype = "New Installation" Then
                cell.BackColor = Color.Blue
            ElseIf calltype = "Follow Up" Or calltype = "FU
After CM" Then
                cell.BackColor = Color.Yellow
            End If
        Next
    End If

End Sub

Protected Sub GridView1_RowCommand(sender As Object, e As
GridViewCommandEventArgs) Handles GridView1.RowCommand

    Dim ctl As Control = TryCast(e.CommandSource, Control)
    Dim CurrentRow As GridViewRow =
TryCast(ctl.NamingContainer, GridViewRow)
    Dim ticketid As String = e.CommandArgument.ToString

    con.Open()
    Dim cmd As New SqlCommand("ActionTicket", con)
    cmd.CommandType = CommandType.StoredProcedure
    cmd.Parameters.Add("@TicketNo", SqlDbType.VarChar).Value
= ticketid

    cmd.Parameters.Add("@Arrive", SqlDbType.Int, 50)
    cmd.Parameters("@Arrive").Direction =
ParameterDirection.Output

    cmd.ExecuteNonQuery()
    con.Close()
    Dim output As String =
cmd.Parameters("@Arrive").Value.ToString()

    If output = "1" Then
        Response.Redirect("CloseTicket.aspx?Tno=" + ticketid)
    End If

    bind()

```

```

End Sub

End Class Imports System.Data.SqlClient
Imports System.Drawing

Public Class WebForm3
    Inherits System.Web.UI.Page

    Dim con As New
    SqlConnection(ConfigurationManager.ConnectionStrings("DBConnectio
String").ToString())
    Private Sub Services_ViewTicket_Load(sender As Object, e As
EventArgs) Handles Me.Load

        If Not IsPostBack Then
            bind()
        End If

    End Sub

    Private Sub bind()
        Dim NIK As String = Session("NIK")
        Dim constr As String =
ConfigurationManager.ConnectionStrings("DBConnectioString").Conne
ctionString
        Using sqlCon As New SqlConnection(constr)
            Using cmd As New SqlCommand()
                cmd.CommandText = "SELECT Ticket_Number+',
SerialNo:'+ Serial_Number +', '+Model_Name+ ', ' +
Problem_Type+', '+
                                'CreateDate: '+
CONVERT(VARCHAR(10),CreateAt,103)+', '+ Branch_Customer_Name +
', Address: ' + Branch_Address
                                as Detail
, [Work_Status], Problem_Type, Ticket_Number FROM [View_Detail]
where work_status not in ('Closed', 'Cancel')"
                cmd.Connection = sqlCon
                sqlCon.Open()
                Dim da As New SqlDataAdapter(cmd)
                Dim dt As New DataTable()
                da.Fill(dt)
                GridView1.DataSource = dt
                GridView1.DataBind()
                sqlCon.Close()
            End Using
        End Using
    End Sub

    Protected Sub GridView1_RowDataBound(sender As Object, e As
GridViewRowEventArgs) Handles GridView1.RowDataBound

```

```

        If e.Row.RowType = DataControlRowType.DataRow Then

            Dim status As String = e.Row.Cells(2).Text
            Dim btn = TryCast(e.Row.FindControl("BtnAction"),
Button)
            If status = "Allocated" Then
                btn.Text = "Dispatch"
            ElseIf status = "Dispatched" Then
                btn.Text = "Arrive"
            Else
                btn.Text = "Close"
            End If
            'btn = lbl.Text.Replace("0:00:00", "") Then
        End If

        If e.Row.RowType = DataControlRowType.DataRow Then
            Dim calltype As String = e.Row.Cells(1).Text

            For Each cell As TableCell In e.Row.Cells
                If calltype = "Corrective Maintenance" Then
                    cell.BackColor = Color.Red
                ElseIf calltype = "Preventive Maintenance" Then
                    cell.BackColor = Color.GreenYellow
                ElseIf calltype = "New Installation" Then
                    cell.BackColor = Color.Blue
                ElseIf calltype = "Follow Up" Or calltype = "FU
After CM" Then
                    cell.BackColor = Color.Yellow
                End If
            Next
        End If

    End Sub

    Protected Sub GridView1_RowCommand(sender As Object, e As
GridViewCommandEventArgs) Handles GridView1.RowCommand

        Dim ctl As Control = TryCast(e.CommandSource, Control)
        Dim CurrentRow As GridViewRow =
TryCast(ctl.NamingContainer, GridViewRow)
        Dim ticketid As String = e.CommandArgument.ToString

        con.Open()
        Dim cmd As New SqlCommand("ActionTicket", con)
        cmd.CommandType = CommandType.StoredProcedure
        cmd.Parameters.Add("@TicketNo", SqlDbType.VarChar).Value
= ticketid

        cmd.Parameters.Add("@Arrive", SqlDbType.Int, 50)
        cmd.Parameters("@Arrive").Direction =
ParameterDirection.Output

        cmd.ExecuteNonQuery()
        con.Close()
        Dim output As String =
cmd.Parameters("@Arrive").Value.ToString()

```



```

    </div>
</div>

    <div class="form-group" id="div1" runat="server">
    <label class="control-label col-sm-2" for="email">Serial
Number</label>
    <div class="col-sm-10">
    <asp:TextBox ID="SerialNumb" runat="server"
class="form-control" ></asp:TextBox>
    </div>
    </div>

    <div class="form-group">
    <label class="control-label col-sm-2" for="email">Action
Taken
    <asp:RequiredFieldValidator ID="RequiredFieldValidator9"
runat="server" ControlToValidate="ActionTaken" CssClass="text-
danger" ErrorMessage="Fill in Action Taken"
ValidationGroup="Save" />
    </label>
    &nbsp;<div class="col-sm-10">
    <asp:TextBox ID="ActionTaken" runat="server"
class="form-control" TextMode="Multiline"
Rows="4"></asp:TextBox>
    </div>
    </div>

    <div class="form-group">
    <label class="control-label col-sm-2" for="email">Remarks
    <asp:RequiredFieldValidator ID="RequiredFieldValidator8"
runat="server" ControlToValidate="Remarks" CssClass="text-danger"
ErrorMessage="Fill in Remarks" ValidationGroup="Save" />
    </label>
    &nbsp;<div class="col-sm-10">
    <asp:TextBox ID="Remarks" runat="server" class="form-
control" Rows="4" TextMode="MultiLine" ></asp:TextBox>
    </div>
    </div>

    <div class="form-group">
    <label class="control-label col-sm-2" for="email">Meter
101</label>
    <asp:RequiredFieldValidator ID="RequiredFieldValidator1"
runat="server" ControlToValidate="Meter101" CssClass="text-
danger" ErrorMessage="Fill in 101" ValidationGroup="Save" />
    <div class="col-sm-10">
    <asp:TextBox ID="Meter101" runat="server" class="form-
control" TextMode="Number" ></asp:TextBox>
    </div>
    </div>

    <div class="form-group">
    <label class="control-label col-sm-2" for="email">Meter
112</label>
    <asp:RequiredFieldValidator ID="RequiredFieldValidator2"
runat="server" ControlToValidate="Meter112" CssClass="text-
danger" ErrorMessage="Fill in 112" ValidationGroup="Save" />
    <div class="col-sm-10">

```

```

        <asp:TextBox ID="Meter112" runat="server" class="form-
control" TextMode="Number"   ></asp:TextBox>
    </div>
</div>

    <div class="form-group">
        <label class="control-label col-sm-2" for="email">Meter
113</label>
        <asp:RequiredFieldValidator ID="RequiredFieldValidator3"
runat="server" ControlToValidate="Meter113" CssClass="text-
danger" ErrorMessage="Fill in 113" ValidationGroup="Save" />
        <div class="col-sm-10">
            <asp:TextBox ID="Meter113" runat="server" class="form-
control" TextMode="Number"   ></asp:TextBox>
        </div>
    </div>

    <div class="form-group">
        <label class="control-label col-sm-2" for="email">Meter
301</label>
        <asp:RequiredFieldValidator ID="RequiredFieldValidator4"
runat="server" ControlToValidate="Meter301" CssClass="text-
danger" ErrorMessage="Fill in 301" ValidationGroup="Save" />
        <div class="col-sm-10">
            <asp:TextBox ID="Meter301" runat="server" class="form-
control" TextMode="Number"   ></asp:TextBox>
        </div>
    </div>

    <div class="form-group">
        <label class="control-label col-sm-2" for="email">Meter
401</label>
        <asp:RequiredFieldValidator ID="RequiredFieldValidator5"
runat="server" ControlToValidate="Meter401" CssClass="text-
danger" ErrorMessage="Fill in 401" ValidationGroup="Save" />
        <div class="col-sm-10">
            <asp:TextBox ID="Meter401" runat="server" class="form-
control" TextMode="Number"   ></asp:TextBox>
        </div>
    </div>

    <div class="form-group">
        <label class="control-label col-sm-2" for="email">Meter
402</label>
        <asp:RequiredFieldValidator ID="RequiredFieldValidator6"
runat="server" ControlToValidate="Meter402" CssClass="text-
danger" ErrorMessage="Fill in 402" ValidationGroup="Save" />
        <div class="col-sm-10">
            <asp:TextBox ID="Meter402" runat="server" class="form-
control" TextMode="Number"   ></asp:TextBox>
        </div>
    </div>

    <div class="form-group">
        <label class="control-label col-sm-2" for="email">Meter
501</label>

```

```

        <asp:RequiredFieldValidator ID="RequiredFieldValidator7"
runat="server" ControlToValidate="Meter501" CssClass="text-
danger" ErrorMessage="Fill in 501" ValidationGroup="Save" />
        <div class="col-sm-10">
            <asp:TextBox ID="Meter501" runat="server" class="form-
control" TextMode="Number" ></asp:TextBox>
        </div>
    </div>

    <br/> <br/>
    <div class="form-group">
        <asp:Button ID="Update" runat="server" CssClass="btn btn-
primary" Text="Update" ValidationGroup="Save" /> <asp:Button
ID="Back" runat="server" CssClass="btn btn-success" Text="Back"
/>
        <asp:Label ID="SN" runat="server"
Visible="False"></asp:Label>
        <asp:Label ID="ProbType" runat="server"
Visible="False"></asp:Label>
        <br />
        <br />
    </div>

    <br/> <br/> <br/>
</asp:Content>

```

CloseTicket.aspx.vb

```

Imports System.Data.SqlClient

Public Class WebForm4

    Inherits System.Web.UI.Page

    Protected Sub Page_Load(ByVal sender As Object, ByVal e As
System.EventArgs) Handles Me.Load

        If Not IsPostBack Then

            GETVALUE()

            GETVALUE2()

        End If

    End Sub

    Protected Sub Update_Click(sender As Object, e As EventArgs)
Handles Update.Click

```

```

Dim constr As String =
ConfigurationManager.ConnectionStrings("DBConnectioString").Conne
ctionString

Dim con As New SqlConnection(constr)

con.Open()

Dim cmd As New SqlCommand("CloseTicket", con)

cmd.CommandType = CommandType.StoredProcedure

cmd.Parameters.Add("@TicketNo", SqlDbType.VarChar).Value
= Request.QueryString("Tno")

cmd.Parameters.Add("@ActTaken", SqlDbType.VarChar).Value
= ActionTaken.Text

cmd.Parameters.Add("@Rmk", SqlDbType.VarChar).Value =
Remarks.Text

cmd.Parameters.Add("@Meter101", SqlDbType.Int).Value =
Meter101.Text

cmd.Parameters.Add("@Meter112", SqlDbType.Int).Value =
Meter112.Text

cmd.Parameters.Add("@Meter113", SqlDbType.Int).Value =
Meter113.Text

cmd.Parameters.Add("@Meter301", SqlDbType.Int).Value =
Meter301.Text

cmd.Parameters.Add("@Meter401", SqlDbType.Int).Value =
Meter401.Text

cmd.Parameters.Add("@Meter402", SqlDbType.Int).Value =
Meter402.Text

cmd.Parameters.Add("@Meter501", SqlDbType.Int).Value =
Meter501.Text

cmd.Parameters.Add("@SerialNumb",
SqlDbType.VarChar).Value = SerialNumb.Text

```

```

        cmd.Parameters.Add("@probType", SqlDbType.VarChar).Value
= ProbType.Text

        cmd.Parameters.Add("@SN", SqlDbType.VarChar).Value =
SN.Text

        cmd.ExecuteNonQuery()

        con.Close()

        ScriptManager.RegisterStartupScript(Me, Me.GetType>(),
"redirect", "alert('Thank You, Close Ticket has Succesfull !');
window.location='" + Request.ApplicationPath +
"Engineer/ListTicket.aspx';", True)
    End Sub

    Private Sub GETVALUE()

        Dim constr As String =
ConfigurationManager.ConnectionStrings("DBConnectioString").Conne
ctionString

        Dim TicketNo As String = Request.QueryString("Tno")

        Dim con As New SqlConnection(constr)

        con.Open()

        Dim Str As String = "SELECT Ticket_Number +' / '+
Serial_Number AS ticketNoAndSN ,Branch_Customer_Name +' / '+
Branch_Address AS
CustomerAndAddress,Problem_Type +' / '+ Description AS
ProblemAndDesc,Serial_Number,Problem_Type

FROM [View_Detail] where
Ticket_Number= '" + TicketNo + '"

        Dim com As SqlCommand = New SqlCommand(Str, con)

        Dim reader As SqlDataReader = com.ExecuteReader()

        If reader.Read() Then

            ticketNoAndSN.Text =
reader("ticketNoAndSN").ToString()

```

```

        CustomerAndAddress.Text =
reader("CustomerAndAddress").ToString()

        ProblemAndDesc.Text =
reader("ProblemAndDesc").ToString()

        SN.Text = reader("Serial_Number").ToString()
        SerialNumb.Text = reader("Serial_Number").ToString()
        ProbType.Text = reader("Problem_Type").ToString()

        If ProbType.Text = "New Installation" Then
            div1.Visible = True
        Else
            div1.Visible = False
        End If

        reader.Close()
        con.Close()
    End If
End Sub

Private Sub GETVALUE2()

    Dim constr As String =
ConfigurationManager.ConnectionStrings("DBConnectioString").Conne
ctionString

    Dim TicketNo As String = Request.QueryString("Tno")
    Dim con As New SqlConnection(constr)
    con.Open()

    Dim Str As String = "SELECT TOP 1
[Meter101],[Meter112],[Meter113] ,[Meter301],[Meter401]"

```

```

        ,[Meter402] ,[Meter501] FROM [Tbl_Job_Ticketing] where
Serial_Number= '' + SN.Text + '' AND Ticket_Number <> '' +
TicketNo + '' ORDER BY createat desc"

        Dim com As SqlCommand = New SqlCommand(Str, con)
        Dim reader As SqlDataReader = com.ExecuteReader()
        If reader.Read Then
            Meter101.Text = reader("Meter101").ToString()
            Meter112.Text = reader("Meter112").ToString()
            Meter113.Text = reader("Meter113").ToString()
            Meter301.Text = reader("Meter301").ToString()
            Meter401.Text = reader("Meter401").ToString()
            Meter402.Text = reader("Meter402").ToString()
            Meter501.Text = reader("Meter501").ToString()
            reader.Close()
            con.Close()
        Else
            Meter101.Text = 0
            Meter112.Text = 0
            Meter113.Text = 0
            Meter301.Text = 0
            Meter401.Text = 0
            Meter402.Text = 0
            Meter501.Text = 0
            reader.Close()
            con.Close()
        End If
    End Sub
End Class

```

D. Halaman Administrator *Customer Management*

ViewCustomer.aspx

```

<%@ Page Title="" Language="vb" AutoEventWireup="false"
MasterPageFile="~/Form/Template.Master"
CodeBehind="ViewCustomer.aspx.vb"
Inherits="JobTicketing.ViewCustomer" %>
<asp:Content ID="Content1" ContentPlaceHolderID="head"
runat="server">
    <script type="text/javascript">
        $(".deletelink").click(function () {
            return confirm('Are You Sure?');
        })
    </script>
</asp:Content>
<asp:Content ID="Content2"
ContentPlaceHolderID="ContentPlaceHolder2" runat="server">

    <div class="panel-heading">
        <h4>View Customers </h4>
    </div>

    <div class="panel-body">
        <div class="row">

            <div class="form-inline">
                <div class="form-group">
                    <label for="email">Customer Name:</label>

```

```

        <asp:TextBox          ID="CusName"          runat="server"
        CssClass="form-control" ></asp:TextBox>

        </div>

        <asp:Button  ID="Button1"  runat="server"  Text="Search"
        cssclass=" btn btn-primary"/>

        </div>

    </div>

    <br />

    <asp:GridView      ID="GridView1"      DataKeyNames="Customer_ID"
    runat="server"      AllowPaging="True"      AutoGenerateColumns="False"
    PageSize="15"          OnPageIndexChanging="OnPageIndexChanging"
    CssClass="table table-hover table-striped" >

        <Columns>

            <asp:HyperLinkField
            DataNavigateUrlFields="Customer_ID"
            DataNavigateUrlFormatString="RegContact.aspx?CusID={0}"
            DataTextField="Customer_Name" HeaderText="Customer Name" >
            <ItemStyle Width="150px"></ItemStyle>

            </asp:HyperLinkField>

            <asp:BoundField          DataField="Bussiness_Name"
            HeaderText="Bussiness" />

            <asp:BoundField          DataField="Owner_First_Name"
            HeaderText="Owner" />

            <asp:BoundField          DataField="Central_Address"
            HeaderText="Address" />

            <asp:BoundField  DataField="Email"  HeaderText="Email"

        />

```

```

        <asp:BoundField                                DataField="Website"
HeaderText="Website"  />

        <asp:BoundField                                DataField="Customer_Reg_Date"
DataFormatString="{0:dd-MM-yyyy}"    HeaderText="Create    Date"
ItemStyle-Width="100px"  >

<ItemStyle Width="100px"></ItemStyle>

        </asp:BoundField>

        <asp:HyperLinkField
DataNavigateUrlFields="Customer_ID"
DataNavigateUrlFormatString="UptCustomer.aspx?CusID={0}"
ControlStyle-CssClass="glyphicon glyphicon-pencil"  >

<ControlStyle                                CssClass="glyphicon                                glyphicon-
pencil"></ControlStyle>

        </asp:HyperLinkField>

        <asp:TemplateField  >

        <ItemTemplate>

                <asp:LinkButton    ID="LinkButton1"    OnClientClick="return
confirm('Are You Sure You Want Delete?')">

                        ControlStyle-CssClass="glyphicon glyphicon-remove"
                        CommandArgument='<%# Eval("Customer_ID") %>'
                        CommandName="Del"  runat="server">

                </asp:LinkButton>

        </ItemTemplate>

        </asp:TemplateField>

</Columns>

```

```

        <EmptyDataRowStyle ForeColor="Red" />
        <EmptyDataTemplate>
            No Record Available
        </EmptyDataTemplate>
    </asp:GridView>

    <asp:Label ID="Label1" runat="server"
        Text="Label"></asp:Label>
</asp:Content>

```

ViewCustomer.aspx.vb

```

Imports System.Data.SqlClient

Public Class ViewCustomer
    Inherits System.Web.UI.Page

    Protected Sub Page_Load(ByVal sender As Object, ByVal e As
System.EventArgs) Handles Me.Load
        If Not IsPostBack Then
            BindGrid()
        End If
    End Sub

    Private Sub BindGrid()

        Dim Query As String

        If CusName.Text.Trim <> "" Then
            Query = "SELECT [Bussiness_Name] , [Customer_Name]
, [NPWP_Number], [Owner_First_Name], [Central_Address], [Email], [Website], [C
ustomer_Reg_Date], [Customer_ID] FROM [View_Customer_Master]
            where Customer_Name like '%" & CusName.Text.Trim &
            "%' "

```

```

Else
    Query = "SELECT      [Bussiness_Name]      ,[Customer_Name]
,[NPWP_Number],[Owner_First_Name],[Central_Address],[Email],[Website],[C
ustomer_Reg_Date],[Customer_ID] FROM  [View_Customer_Master]"
    End If

    Dim constr As String =
ConfigurationManager.ConnectionStrings("DBConnectioString").ConnectionSt
ring

    Using con As New SqlConnection(constr)

        Using cmd As New SqlCommand(Query)
            Using sda As New SqlDataAdapter()
                cmd.Connection = con
                sda.SelectCommand = cmd
                Using dt As New DataTable()
                    sda.Fill(dt)
                    GridView1.DataSource = dt
                    GridView1.DataBind()
                End Using
            End Using
        End Using
    End Using

    End Using
End Sub

Protected Sub OnPageIndexChanging(sender As Object, e As
GridViewPageEventArgs)
    GridView1.PageIndex = e.NewPageIndex
    Me.BindGrid()

```

End Sub

```
Protected Sub Button1_Click(sender As Object, e As EventArgs)
Handles Button1.Click
    BindGrid()
End Sub
```

```
Protected Sub GridView1_RowUpdating1(sender As Object, e As
GridViewUpdateEventArgs) Handles GridView1.RowUpdating
```

```
Dim Cusid As Integer =
Integer.Parse(GridView1.DataKeys(e.RowIndex).Value.ToString())
Response.Redirect("UpdateCustomer.aspx?CusId=" + Cusid)
```

End Sub

```
Protected Sub GridView1_RowCommand(sender As Object, e As
GridViewCommandEventArgs) Handles GridView1.RowCommand
```

```
Dim CusID As Integer = Convert.ToInt32(e.CommandArgument)

Dim strConnString As String =
ConfigurationManager.ConnectionStrings("DBConnectioString").ConnectionSt
ring

Dim con As New SqlConnection(strConnString)
Dim cmd As New SqlCommand()
```

```

cmd.CommandType = CommandType.StoredProcedure

cmd.CommandText = "DelCust"

cmd.Parameters.Add("@CusID", SqlDbType.Int).Value = CusID


cmd.Connection = con

Try

    con.Open()

    cmd.ExecuteNonQuery()


Catch ex As Exception

    Throw ex

Finally

    con.Close()

    con.Dispose()

End Try

BindGrid()

End Sub

End Class

```

E. Halaman Administrator *Register Machine*

RegMachine.aspx

```

<%@ Page Title="" Language="vb" AutoEventWireup="false" Culture="en-GB"
MasterPageFile="~/Form/Template.Master" CodeBehind="RegMachine.aspx.vb"
Inherits="JobTicketing.RegMachine" %>

<asp:Content ID="Content1" ContentPlaceHolderID="head" runat="server">

    <script                                type="text/javascript"
src="http://ajax.googleapis.com/ajax/libs/jquery/1.8.3/jquery.min.js"></
script>

```

```

<link                href="http://cdnjs.cloudflare.com/ajax/libs/twitter-
bootstrap/3.0.3/css/bootstrap.min.css"
    rel="stylesheet" type="text/css" />
<script                                type="text/javascript"
src="http://cdnjs.cloudflare.com/ajax/libs/twitter-
bootstrap/3.0.3/js/bootstrap.min.js"></script>
<link                href="http://cdn.rawgit.com/davidstutz/bootstrap-
multiselect/master/dist/css/bootstrap-multiselect.css"    rel="stylesheet"
type="text/css" />
<script                src="http://cdn.rawgit.com/davidstutz/bootstrap-
multiselect/master/dist/js/bootstrap-multiselect.js"
type="text/javascript"></script>
</asp:Content>
<asp:Content ID="Content2" ContentPlaceHolderID="ContentPlaceHolder2"
runat="server">

    <div class="panel-heading">
        <h4>Register Machine Of <asp:Label ID="Label1" runat="server"
Text="Label" ForeColor="Red"></asp:Label></h4>
    </div>

    <div class="panel-body">
        <div class="row">
            <!--        disini aja        -->
            <div id="demo-form2" data-parsley-validate class="form-
horizontal form-label-left">

                <div class="form-group">

```



```

        <asp:TextBox ID="InstallDate" runat="server" class="form-
control col-md-4 col-xs-12" TextMode="date"></asp:TextBox>

```

```

        <asp:RequiredFieldValidator
ID="RequiredFieldValidator1" runat="server"
ControlToValidate="InstallDate" CssClass="text-danger"
ErrorMessage="Fill in Serial Number" ValidationGroup="Save" />

```

```

    </div>
</div>

```

```

        <div class="form-group">
            <label class="control-label col-md-3 col-sm-3 col-xs-12"
for="first-name">
                Delivery Date<span class="required">*</span>
            </label>
            <div class="col-md-3 col-sm-3 col-xs-12">
                <asp:TextBox ID="DeliveryDate" runat="server" class="form-
control col-md-4 col-xs-12" TextMode="date"></asp:TextBox>

```

```

        <asp:RequiredFieldValidator
ID="RequiredFieldValidator2" runat="server"
ControlToValidate="DeliveryDate" CssClass="text-danger"
ErrorMessage="Fill in Serial Number" ValidationGroup="Save" />

```

```

    </div>
</div>

```

```

<div class="form-group">
    <label class="control-label col-md-3 col-sm-3 col-
xs-12" for="first-name">
        Accessories
    </label>
    <div class="col-md-3 col-sm-3 col-xs-3">
        <asp:DropDownList ID="Accessories"
runat="server" class="form-control col-md-3 col-xs-12">
            </asp:DropDownList>
    </div>
</div>

```

```

<div class="form-group">
    <label class="control-label col-md-3 col-sm-3 col-
xs-12" for="first-name">
        Licenses
    </label>
    <div class="col-md-3 col-sm-3 col-xs-3">
        <asp:DropDownList ID="Licenses" runat="server"
class="form-control col-md-3 col-xs-12">
            </asp:DropDownList>
    </div>
</div>

```



```

        <div class="form-group">
            <div class="col-md-6 col-sm-6 col-xs-12 col-md-
offset-3">
                <button class="btn btn-primary"
type="reset">Cancel</button>
                <asp:Button type="submit" ID="Button1"
runat="server" Text="Save" CssClass="btn btn-success"
ValidationGroup="Save" />
                <asp:Label ID="lblMessage" runat="server"
Text="Label"></asp:Label>
            </div>
        </div>
    </div>
</div>
</asp:Content>

```

RegMachine.aspx.vb

```

End Class Imports System.Data.SqlClient

Public Class RegMachine
    Inherits System.Web.UI.Page

    Protected Sub Page_Load(ByVal sender As Object, ByVal e As
System.EventArgs) Handles Me.Load

        If Not Me.IsPostBack Then
            ModelName.Items.Clear()

```

```

        Dim constr As String =
ConfigurationManager.ConnectionStrings("DBConnectioString").Connectio
nString

        Using con As New SqlConnection(constr)

            Using cmd As New SqlCommand("SELECT [Model_Name] from
[Tbl_Model]")

                cmd.CommandType = CommandType.Text
                cmd.Connection = con
                con.Open()

                modelName.DataSource = cmd.ExecuteReader()
                modelName.DataTextField = "Model_Name"
                modelName.DataValueField = "Model_Name"
                modelName.DataBind()
                con.Close()

            End Using

        End Using

        modelName.Items.Insert(0, New ListItem("--select--", ""))
    End If

    If Not Me.IsPostBack Then
        Accessories.Items.Clear()

        Dim constr As String =
ConfigurationManager.ConnectionStrings("DBConnectioString").Connectio
nString

        Using con As New SqlConnection(constr)

            Using cmd As New SqlCommand("select
[Accessoreis_Name] from [Tbl_Accessories]")

                cmd.CommandType = CommandType.Text
                cmd.Connection = con
                con.Open()

```

```

        Accessories.DataSource = cmd.ExecuteReader()
        Accessories.DataTextField = "Accessoreis_Name"
        Accessories.DataValueField = "Accessoreis_Name"
        Accessories.DataBind()
        con.Close()
    End Using
End Using
Accessories.Items.Insert(0, New ListItem("--select--",
""))
End If

If Not Me.IsPostBack Then
    Licenses.Items.Clear()
    Dim constr As String =
ConfigurationManager.ConnectionStrings("DBConnectioString").Connectio
nString
    Using con As New SqlConnection(constr)
        Using cmd As New SqlCommand("select [Licenses_Name]
from [Tbl_Licenses]")
            cmd.CommandType = CommandType.Text
            cmd.Connection = con
            con.Open()
            Licenses.DataSource = cmd.ExecuteReader()
            Licenses.DataTextField = "Licenses_Name"
            Licenses.DataValueField = "Licenses_Name"
            Licenses.DataBind()
            con.Close()
        End Using
    End Using
    Licenses.Items.Insert(0, New ListItem("--select--", ""))

```

```

End If

If Not IsPostBack Then
    Penomoran()

    ContractNo.Text = Request.QueryString("Contract")
End If
End Sub

Private Sub Penomoran()
    Dim cek_no As SqlDataReader

    Dim constr As String =
ConfigurationManager.ConnectionStrings("DBConnectioString").Connectio
nString

    Using con As New SqlConnection(constr)
        Using cmd As New SqlCommand("select Serial_Number from
[dbo].[tbl_Machine] WHERE LEFT([Serial_Number],3)='SMF' ORDER BY
Serial_Number DESC")
            cmd.CommandType = CommandType.Text
            cmd.Connection = con
            con.Open()
            cek_no = cmd.ExecuteReader()
            cek_no.Read()

            If Not cek_no.HasRows Then
                SerialNumber.Text = "SMF" + "00001"
            Else

```

```

        SerialNumber.Text =
Val(Microsoft.VisualBasic.Mid(cek_no.Item("Serial_Number").ToString,
5, 4)) + 1

        If Len(SerialNumber.Text) = 1 Then
            SerialNumber.Text = "SMF0000" &
SerialNumber.Text & ""
        ElseIf Len(SerialNumber.Text) = 2 Then
            SerialNumber.Text = "SMF000" &
SerialNumber.Text & ""
        ElseIf Len(SerialNumber.Text) = 3 Then
            SerialNumber.Text = "SMF00" &
SerialNumber.Text & ""
        ElseIf Len(SerialNumber.Text) = 4 Then
            SerialNumber.Text = "SMF0" &
SerialNumber.Text & ""
        ElseIf Len(SerialNumber.Text) = 5 Then
            SerialNumber.Text = "SMF" & SerialNumber.Text
& ""
        End If
    End If

    End Using
End Using

End Sub

Protected Sub Button1_Click(sender As Object, e As EventArgs)
Handles Button1.Click

```

```

        Dim strConnString As String =
ConfigurationManager.ConnectionStrings("DBConnectioString").Connectio
nString

        Dim con As New SqlConnection(strConnString)

        Dim cmd As New SqlCommand()

        cmd.CommandType = CommandType.StoredProcedure

        cmd.CommandText = "InsMachine"

        cmd.Parameters.Add("@Serial_Number", SqlDbType.VarChar).Value
= SerialNumber.Text.Trim()

        cmd.Parameters.Add("@Contract_No", SqlDbType.VarChar).Value =
Request.QueryString("Contract")

        cmd.Parameters.Add("@Model_Name", SqlDbType.VarChar).Value =
ModelName.Text.Trim()

        cmd.Parameters.Add("@Install_Date", SqlDbType.Date).Value =
Convert.ToDateTime(InstallDate.Text)

        cmd.Parameters.Add("@Delivery_Date", SqlDbType.Date).Value =
Convert.ToDateTime(DeliveryDate.Text)

        cmd.Parameters.Add("@Accessories", SqlDbType.VarChar).Value =
Accessories.Text

        cmd.Parameters.Add("@Licenses", SqlDbType.VarChar).Value =
Licenses.Text.Trim()

        cmd.Parameters.Add("@Total_Meter", SqlDbType.Int).Value = 0

        cmd.Parameters.Add("@Remarks", SqlDbType.VarChar).Value =
Remarks.Text

        cmd.Connection = con

        Try

            con.Open()

            cmd.ExecuteNonQuery()

```

```

        Response.Redirect("CreateTicket.aspx?SN="
        +
        SerialNumber.Text + "")
    s      Catch ex As Exception
        Throw ex
    Finally
        con.Close()
        con.Dispose()
    End Try
End Sub
End Class

```

4.4. Testing

A. Pengujian terhadap login *administrator*

Tabel IV.17

Hasil Pengujian *Black Box Testing* Login Administrator

No.	Skenario pengujian	Test case	Hasil yang diharapkan	Hasil pengujian	Kesimpulan
1.	<i>Username</i> dan <i>password</i> tidak diisi sama sekali atau kosong kemudian klik tombol login	<i>Username</i> : (kosong) <i>Password</i> : (kosong)	Sistem akan menolak akses <i>user administrator</i> untuk login dan menampilkan pesan “ <i>Employee Number is required</i> ” “ <i>Password is required</i> ”	Sesuai harapan	<i>Valid</i>
2.	Mengetikkan salah satu kondisi	<i>Username</i> :	Sistem akan menolak akses <i>user</i>	Sesuai	<i>Valid</i>

	kosong pada <i>username</i> atau <i>password</i> kemudian klik tombol login	<i>administrator</i> <i>Password</i> : (kosong)	<i>administrator</i> untuk login dan menampilkan pesan “ <i>Password is</i> <i>required</i> ”	harapan	
3.	Mengetikkan salah satu kondisi salah pada <i>username</i> atau <i>password</i> kemudian klik tombol login	<i>Username</i> : <i>administrator</i> (benar) <i>Password</i> : ibnu (salah)	Sistem akan menolak akses <i>user</i> <i>administrator</i> untuk login dan menampilkan pesan “ <i>Invalid Username</i> <i>or Password</i> ”	Sesuai harapan	<i>Valid</i>
4.	Mengetikkan <i>username</i> dan <i>password</i> dengan data yang lengkap dan benar kemudian klik tombol login	<i>Username</i> : <i>administrator</i> (benar) <i>Password</i> : <i>administrator</i> (benar)	Sistem akan menerima akses <i>user administrator</i> untuk login dan menampilkan menu utama pada ruang <i>administrator</i>	Sesuai harapan	<i>Valid</i>

B. Pengujian terhadap *Register New Customer*

Tabel IV.18

Hasil Pengujian *Black Box Testing* Tambah *Register New Customer*

No.	Skenario pengujian	<i>Test case</i>	Hasil yang diharapkan	Hasil pengujian	Kesimpulan
1.	Semua <i>field</i> <i>mandatory</i> yang <i>bertanda</i> bintang	<i>Customer</i> <i>Organization</i> <i>Name</i> :	Sistem akan menolak akses <i>user</i> <i>administrator</i>	Sesuai harapan	<i>Valid</i>

	(*) pada <i>Register New Customer</i> tidak diisi sama sekali kemudian klik tombol <i>register</i>	(kosong) NPWP Number: (kosong) <i>Owner First Name:</i> (kosong) <i>Owner Last Name :</i> (kosong) <i>Bussiness Category :</i> (kosong) <i>Central Address :</i> (kosong)	untuk menambah customer baru dan menampilkan pesan “ <i>fill in</i> (diikuti nama <i>fied</i> yang kosong)” misalnya : “ <i>fill in Customer Organization Name</i> ”		
2.	Mengetikkan salah satu kondisi kosong pada <i>field mandatory</i> yang bertanda bintang (*) pada <i>Register New Customer</i> kemudian klik tombol <i>register</i>	<i>Customer Organization Name :</i> (PT Indah Lestari) NPWP Number: (kosong) <i>Owner First Name:</i> (Dedi)	Sistem akan menolak akses <i>user administrator</i> untuk menambah pengguna <i>Customer Baru</i> dan menampilkan pesan “ <i>fill in Customer Organization Name</i> ”	Sesuai harapan	<i>Valid</i>

		<i>Owner Last Name :</i> (Mulyadi) <i>Bussiness Category :</i> (Food Beverages) <i>Central Address :</i> (Jln Mandala 20 Bogor)			
3.	Mengetikan data yang lengkap pada semua <i>field mandatory</i> yang bertanda bintang (*) pada <i>Register New Customer</i> kemudian klik tombol <i>register</i>	<i>Customer Organization Name :</i> (PT Indah Lestari) NPWP Number: (2190 3113 3113 8718) <i>Owner First Name:</i> (Dedi) <i>Owner Last Name :</i> (Mulyadi) <i>Bussiness Category :</i>	Sistem akan menambah <i>Customer</i> baru otomatis dan terdaftar pada data <i>Customer</i>	Sesuai harapan	<i>Valid</i>

		(Food Beverages) <i>Central Address : (Jln Mandala 20 Bogor)</i>			
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C. Pengujian terhadap *Add New Engineer* (teknisi)

Tabel IV.19

Hasil Pengujian *Black Box Testing Add New Engineer*

No.	Skenario pengujian	Test case	Hasil yang diharapkan	Hasil pengujian	Kesimpulan
1.	Semua <i>field mandatory</i> yang bertanda bintang (*) pada <i>Register New Customer</i> tidak diisi sama sekali kemudian klik tombol <i>register</i>	<i>Supervisor Area : (tidak dipilih)</i> <i>Engineer Name: (kosong)</i> <i>Email : (kosong)</i> <i>Birth Of Day : (kosong)</i> <i>Sex : (tidak dipilih)</i> <i>Address :</i>	Sistem akan menolak akses <i>user administrator</i> untuk menambah teknisi baru dan menampilkan pesan “ <i>fill in</i> (diikuti nama <i>fied</i> yang kosong)” misalnya : “ <i>fill in Engineer Name</i> ”	Sesuai harapan	<i>Valid</i>

		(kosong)			
2.	Mengetikkan salah satu kondisi kosong pada <i>field mandatory</i> yang bertanda bintang (*) pada <i>Register New Engineer</i> kemudian klik tombol <i>register</i>	<i>Supervisor Area</i> : (tidak dipilih) <i>Engineer Name</i>: (Mahesa Alif) <i>Email</i> : (mahesa.a@yahoo.com) <i>Birth Of Day</i> : (12-10-1992) <i>Sex</i> : (Male) <i>Address</i> : (Jl Kebon Pala 5)	Sistem akan menolak akses <i>user administrator</i> untuk menambah teknisi dan menampilkan pesan “ <i>Select a Supervisor Area</i> ”	Sesuai harapan	<i>Valid</i>
3.	Mengetikkan semua <i>field</i> dengan lengkap dan benar kemudian klik tombol <i>Register</i>	<i>Supervisor Area</i> : (SPV170012) <i>Engineer Name</i>: (Mahesa Alif) <i>Email</i> : (mahesa.a@yahoo.com)	Sistem akan menambah teknisi dan terdaftar pada data teknisi.	Sesuai harapan	<i>Valid</i>

		ahoo.com) <i>Birth Of Day</i> : (12-10-1992) <i>Sex : (Male)</i> <i>Address : (Jl</i> Kebon Pala 5)			
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D. Pengujian terhadap *Create Ticket Job Ticketing*

Tabel IV.20

Hasil Pengujian *Black Box Testing Create Ticket Job Ticketing*

No.	Skenario pengujian	Test case	Hasil yang diharapkan	Hasil pengujian	Kesimpulan
1.	Semua <i>field mandatory yang bertanda bintang (*) pada Create Ticket</i> tidak diisi sama sekali kemudian klik tombol save	<i>Caller Name</i> : (kosong) <i>Priority</i> : (kosong) <i>Call Source</i> : (tidak dipilih) <i>Problem Type</i> : (tidak dipilih) <i>Description</i> :	Sistem akan menolak akses <i>user administrator</i> untuk membuat tiket dan menampilkan pesan “ <i>fill in</i> (diikuti nama <i>fied</i> yang kosong)” misalnya : “ <i>fill in Caller Name</i> ”	Sesuai harapan	<i>Valid</i>

		(kosong)			
2.	Mengetikkan salah satu kondisi kosong pada <i>field mandatory</i> yang bertanda bintang (*) pada <i>Register New Engineer</i> kemudian klik tombol <i>save</i>	<i>Caller Name :</i> (Ana Rahma) <i>Priority :</i> (High) <i>Call Source :</i> (tidak dipilih) <i>Problem Type :</i> (<i>Corrective Maintenance</i>) <i>Description :</i> (<i>Machine Down</i>)	Sistem akan menolak akses <i>user administrator</i> untuk membuat tiket pekerjaan teknisi dan menampilkan pesan “ <i>Select a call source</i> ”	Sesuai harapan	<i>Valid</i>
3	Mengetikkan semua <i>field</i> dengan lengkap dan benar kemudian klik tombol <i>Register</i>	<i>Caller Name :</i> (Ana Rahma) <i>Priority :</i> (High) <i>Call Source :</i> (<i>Customer Call</i>) <i>Problem Type :</i>	Sistem akan menambah data tiket.	Sesuai harapan	<i>Valid</i>

		(<i>Corrective Maintenance</i>)			
		<i>Description :</i>			
		(<i>Machine Down</i>)			

E. Pengujian terhadap login teknisi

Tabel IV.21

Tabel Hasil Pengujian *Black Box Testing* Login Teknisi

No.	Skenario pengujian	Test case	Hasil yang diharapkan	Hasil pengujian	Kesimpulan
1.	<i>Username</i> dan <i>password</i> tidak diisi sama sekali atau kosong kemudian klik tombol login	<i>Username</i> : (kosong) <i>Password</i> : (kosong)	Sistem akan menolak akses teknisi untuk login dan menampilkan pesan “ <i>Employee Number is required</i> ” “ <i>Password is required</i> ”	Sesuai harapan	<i>Valid</i>
2.	Mengetikkan salah satu kondisi pada <i>username</i> atau <i>password</i> kemudian klik	<i>Username</i> : <i>administrator</i> <i>Password</i> : (kosong)	Sistem akan menolak akses teknisi untuk login dan menampilkan pesan “ <i>Password is</i>	Sesuai harapan	<i>Valid</i>

	tombol login		<i>required</i> ”		
3.	Mengetikkan salah satu kondisi salah pada <i>username</i> atau <i>password</i> kemudian klik tombol login	<i>Username</i> : <i>administrator</i> (benar) <i>Password</i> : <i>ibnu</i> (salah)	Sistem akan menolak akses teknisi untuk login dan menampilkan pesan “ <i>Invalid Login</i> ”	Sesuai harapan	<i>Valid</i>
4.	Mengetikkan <i>username</i> dan <i>password</i> dengan data yang lengkap dan benar kemudian klik tombol login	<i>Username</i> : <i>administrator</i> (benar) <i>Password</i> : <i>administrator</i> (benar)	Sistem akan menerima akses teknisi untuk login dan menampilkan menu utama pada ruang <i>administrator</i>	Sesuai harapan	<i>Valid</i>

F. Pengujian terhadap teknisi *Change Password*

Tabel IV.22

Tabel Hasil Pengujian *Black Box Testing* teknisi *Change Password*

No.	Skenario pengujian	Test case	Hasil yang diharapkan	Hasil pengujian	Kesimpulan
1.	Semua <i>field</i> yang ada pada form <i>Change Password</i>	<i>Password</i> : (kosong) <i>ConfirmPassword</i> : (kosong)	Sistem akan menolak akses teknisi untuk mengganti <i>password</i> dan menampilkan “ <i>password is</i>	Sesuai harapan	<i>Valid</i>

			<i>required”</i> <i>“Confirm password is required”</i>		
2.	Mengetikkan <i>field password</i> dan <i>confirm password</i> yang berbeda kemudian klik <i>save</i>	<i>Password</i> : 12345 <i>Re-Password</i> : abcde	Sistem akan menolak akses teknisi untuk mengganti password dan menampilkan pesan <i>“Password And Confirm Password Not Match”</i>	Sesuai harapan	<i>Valid</i>
3.	Mengetikkan <i>field password</i> dan <i>confirm password</i> yang sama kemudian klik <i>save</i>	<i>Password</i> : 12345 <i>Re-Password</i> : 12345	Sistem akan menerima akses teknisi untuk mengganti password dan menampilkan pesan <i>“Password has been changed succesfully”</i>	Sesuai harapan	<i>Valid</i>

4.5. *Support*

4.5.1 **Publikasi Web**

Proses pembelian domain website <http://samafitrojobticketing.tk> yaitu di <https://my.freenom.com>, Langkah pertama yaitu cek domain apakah tersedia atau tidak, lalu pilih *hosting* langganan untuk per bulan atau per tahun, lalu konfirmasi pembelian dan transfer biaya pembelian domain Rp. 55.000 untuk satu tahun,

kemudian mendaftarkan *ip public server* PT Samafitro yaitu 202.158.44.172/samafitroticketing pada alamat domain website <http://samafitrojobticketing.tk> .

4.5.2 Spesifikasi Hardware dan Software

Dalam pembuatan program ini, tidak terlepas dari peranan hardware dan software. Software yang digunakan dalam pembuatan program ini adalah sebagai berikut :

Tabel IV.23

Spesifikasi *software* yang digunakan dalam pembuatan program

Nama <i>Software</i>	Fungsi
<i>Windows 10</i>	Sistem Operasi untuk menjalankan berbagai program
<i>Microsoft Visual Studio 2012</i>	Aplikasi untuk perancangan program <i>website</i>
<i>Enterpsie Architect</i>	Aplikasi untuk perancangan diagram-diagram UML
<i>SQLServer 2012</i>	Perangkat lunak DBMS yang berfungsi sebagai pengolah <i>database</i>
<i>Internet Information Services</i>	Untuk menjalankan (<i>runing</i>) program pada <i>web browser</i>

Hardware yang digunakan pembuatan program adalah sebagai berikut :

Tabel IV.24

Spesifikasi *hardware* yang digunakan dalam pembuatan program

Nama <i>Hardware</i>	Fungsi
<i>Laptop 14 inch</i>	Alat yang digunakan dalam penulisan dan perancangan program
<i>Processor Intel HD</i>	Pusat dari sebuah laptop
<i>RAM 4GB</i>	Untuk menyimpan data sementara pada laptop
<i>HDD 500GB</i>	Sebagai media penyimpanan
<i>Printer</i>	Sebagai alat keluaran atau untuk mencetak sebuah dokumen
<i>Mouse</i>	Sebagai media input dari suatu gerakan manual

4.6 Spesifikasi Dokumen Sistem Usulan

Spesifikasi dokumen sistem usulan berisi tentang sebuah data atau dokumen sistem berjalan yang digunakan sebagai arsip. Adapun bentuk dokumen sistem usulan pada PT. Samafitro adalah sebagai berikut :

- Nama Dokumen : *Services Level Agreement (SLA) Report*

Fungsi : Untuk mengukur lamanya waktu respon PT. Samafitro dalam melakukan service kepada *customer*

Sumber : *Supervisor*

Tujuan : *Manager*

Media : Kertas

Jumlah : 2 lembar

Frekuensi	: Setiap teknisi menyelesaikan pekerjaan
Bentuk	: Lampiran B.1
2. Nama Dokumen	: <i>Ticket Report</i>
Fungsi	: Untuk mengukur banyaknya tiket yang dikerjakan teknisi sebagai perhitungan gaji
Sumber	: <i>Supervisor</i>
Tujuan	: <i>Manager</i>
Media	: Kertas
Jumlah	: 1 lembar
Frekuensi	: Setiap akhir bulan
Bentuk	: Lampiran B.2