SimpliLearn Capstone Project: ComplaintRedressalSystem
Complaint Management System for ABC Telecom Ltd.

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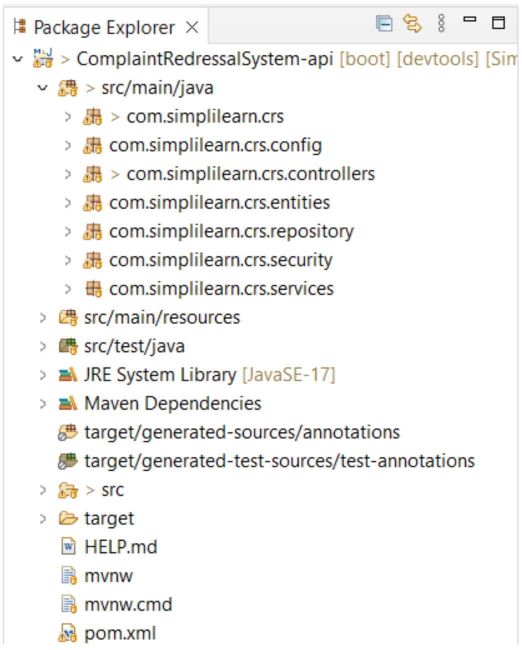
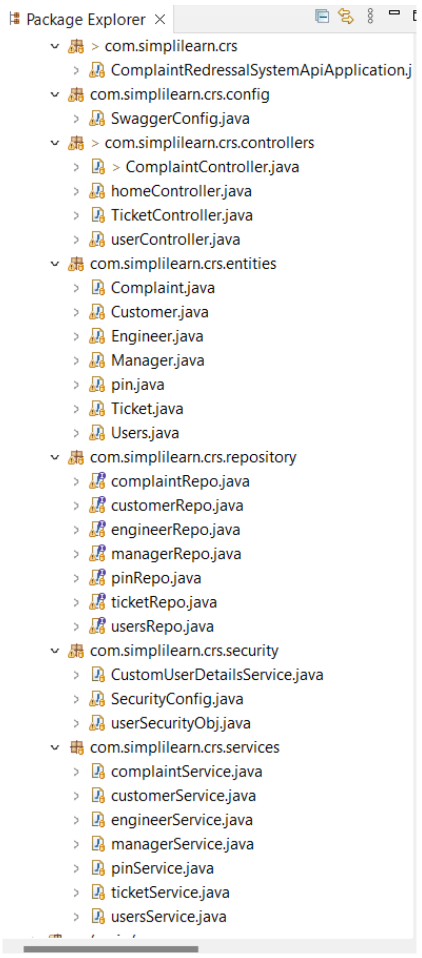
Date of submission	: 16-06-2023
GitHub Project Repository URL	: GitHub Link

Backend Rest API:

Project structure:



```
Package Explorer
v ComplaintRedressalSystem-api [boot] [devtools] [Sim
  v src/main/java
    > > com.simplilearn.crs
    > com.simplilearn.crs.config
    > > com.simplilearn.crs.controllers
    > com.simplilearn.crs.entities
    > com.simplilearn.crs.repository
    > com.simplilearn.crs.security
    > com.simplilearn.crs.services
  > src/main/resources
  > src/test/java
  > JRE System Library [JavaSE-17]
  > Maven Dependencies
    target/generated-sources/annotations
    target/generated-test-sources/test-annotations
  > > src
  > target
    HELP.md
    mvnw
    mvnw.cmd
    pom.xml
```



```
Package Explorer
v > com.simplilearn.crs
  > ComplaintRedressalSystemApiApplication.j
v com.simplilearn.crs.config
  > SwaggerConfig.java
v > com.simplilearn.crs.controllers
  > > ComplaintController.java
  > homeController.java
  > TicketController.java
  > userController.java
v com.simplilearn.crs.entities
  > Complaint.java
  > Customer.java
  > Engineer.java
  > Manager.java
  > pin.java
  > Ticket.java
  > Users.java
v com.simplilearn.crs.repository
  > complaintRepo.java
  > customerRepo.java
  > engineerRepo.java
  > managerRepo.java
  > pinRepo.java
  > ticketRepo.java
  > usersRepo.java
v com.simplilearn.crs.security
  > CustomUserDetailsService.java
  > SecurityConfig.java
  > userSecurityObj.java
v com.simplilearn.crs.services
  > complaintService.java
  > customerService.java
  > engineerService.java
  > managerService.java
  > pinService.java
  > ticketService.java
  > usersService.java
```

ComplaintRedressalSystemApiApplication.java

```java
package com.simplilearn.crs;

import java.util.ArrayList;
import java.util.List;

import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.boot.CommandLineRunner;
import org.springframework.boot.SpringApplication;
import org.springframework.boot.autoconfigure.SpringBootApplication;
import org.springframework.context.annotation.Bean;
import org.springframework.security.crypto.password.PasswordEncoder;

import com.simplilearn.crs.entities.Engineer;
import com.simplilearn.crs.entities.Manager;
import com.simplilearn.crs.entities.Users;
import com.simplilearn.crs.entities.pin;
import com.simplilearn.crs.repository.engineerRepo;
import com.simplilearn.crs.repository.managerRepo;
import com.simplilearn.crs.repository.pinRepo;
import com.simplilearn.crs.repository.usersRepo;
import com.simplilearn.crs.services.usersService;


@SpringBootApplication

public class ComplaintRedressalSystemApiApplication implements CommandLineRunner{

	@Autowired
	engineerRepo repo;
	@Autowired
	pinRepo pRepo;
	@Autowired
	PasswordEncoder encoder;
	@Autowired
	usersService usrservice;

	public static void main(String[] args) {
		SpringApplication.run(ComplaintRedressalSystemApiApplication.class, args);
	}

	@Override
	public void run(String... args) throws Exception {

	}

}
```

ComplaintController.java

```
package com.simplilearn.crs.controllers;

import java.util.HashMap;
import java.util.List;
import java.util.Map;

import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.http.HttpStatus;
import org.springframework.http.ResponseEntity;
import org.springframework.security.access.prepost.PreAuthorize;
import org.springframework.web.bind.annotation.GetMapping;
import org.springframework.web.bind.annotation.PostMapping;
import org.springframework.web.bind.annotation.RequestBody;
import org.springframework.web.bind.annotation.RequestMapping;
import org.springframework.web.bind.annotation.RequestParam;
import org.springframework.web.bind.annotation.RestController;

import com.simplilearn.crs.entities.Complaint;
import com.simplilearn.crs.entities.Manager;
import com.simplilearn.crs.entities.Ticket;
import com.simplilearn.crs.entities.pin;
import com.simplilearn.crs.services.complaintService;
import com.simplilearn.crs.services.managerService;
import com.simplilearn.crs.services.pinService;
import com.simplilearn.crs.services.ticketService;
```

```
@RestController
@RequestMapping("api/complaint")

public class ComplaintController {
	@Autowired
	complaintService complaintservice;

	@Autowired
	ticketService ticketservice;

	@Autowired
	managerService managerservice;

	@Autowired
	pinService pinservice;

	@PreAuthorize("hasAuthority('ADMIN')")
	@GetMapping("/hi")
	public String Handshake() {
		return "HI!!";
	}

	@PreAuthorize("hasAnyAuthority('ADMIN','CUSTOMER')")
	@PostMapping("/raise")
	public ResponseEntity<Map<String,Long>> raiseComplaint(@RequestBody Complaint
cmp){
		Map<String,Long> res = new HashMap<>();

		try{
		Complaint createdcomplaint = complaintservice.createComplaint(cmp);
		Ticket tempticket =new Ticket();
		Manager tempmgr = managerservice.getManagerForPin(cmp.getPin());
		tempticket.setStatus("RAISED");
		tempticket.setManager(tempmgr);
		Ticket createdticket = ticketservice.createTicket(tempticket);
		complaintservice.addTicketToComplaint(createdcomplaint,createdticket);
		ticketservice.setComplaint(createdticket, createdcomplaint);
		res.put("status",1L);
		res.put("complaintId", createdcomplaint.getComplaintId());
		res.put("ticketId",createdticket.getTicketId());
		return new ResponseEntity<Map<String,Long>>(res,HttpStatus.OK);
		}catch(Exception e) {
			res.put("status",0L);
			return new
ResponseEntity<Map<String,Long>>(res,HttpStatus.EXPECTATION_FAILED);
		}
	}
	@PreAuthorize("hasAnyAuthority('ADMIN','MANAGER')")
	@GetMapping("/all")
	public List<Complaint> getAllComplaints(){
		return complaintservice.getAllComplaints();
	}
	@PreAuthorize("hasAnyAuthority('ADMIN','MANAGER','CUSTOMER')")
	@GetMapping("/cuscomplaints")
	public List<Complaint> getAllCustomerComplaints(@RequestParam(name = "cid") Long
cusId){
		return complaintservice.getAllCustomerComplaints(cusId);
	}

	@PreAuthorize("hasAnyAuthority('ADMIN','CUSTOMER')")
	@PostMapping("/ticketreraise")
	public ResponseEntity<Map<String,Long>> reRaiseTicket(@RequestBody Complaint cmp){
		Map<String,Long> res = new HashMap<>();
		try {
			Ticket tempticket = new Ticket();
			Manager tempmgr = managerservice.getManagerForPin(cmp.getPin());
			tempticket.setStatus("RAISED");
			tempticket.setManager(tempmgr);
			Ticket createdticket = ticketservice.createTicket(tempticket);
			complaintservice.addTicketToComplaint(cmp, createdticket);
			ticketservice.setComplaint(createdticket, cmp);
			res.put("status", 1L);
			res.put("complaintId", cmp.getComplaintId());
			res.put("ticketId", createdticket.getTicketId());
			return new ResponseEntity<Map<String,Long>>(res,HttpStatus.OK);
		}catch(Exception e) {
			res.put("status",0L);
			return new
ResponseEntity<Map<String,Long>>(res,HttpStatus.EXPECTATION_FAILED);
		}
	}
	@PreAuthorize("hasAnyAuthority('ADMIN','CUSTOMER')")
	@PostMapping("/addfeedback")
	public  ResponseEntity<Map<String,Long>> addFeedback(@RequestBody Complaint
cmp){
		Map<String,Long> res = new HashMap<>();
		Long status = complaintservice.addFeedback(cmp.getComplaintId(),
cmp.getFeedback());
		res.put("status", status);
		return new ResponseEntity<Map<String,Long>>(res,HttpStatus.OK);
	}
	@GetMapping("/allpin")
	@PreAuthorize("hasAnyAuthority('ADMIN','ENGINEER','MANAGER','CUSTOMER')")
	public List<pin> getAllPins(){
		return pinservice.getAllPin();
	}
	@PostMapping("/addpin")
	@PreAuthorize("hasAuthority('ADMIN')")
	public  ResponseEntity<Map<String,Integer>> addpin(@RequestBody pin p){
		Map<String,Integer> res = new HashMap<>();
		int status = pinservice.addPin(p);
		res.put("status", status);

		return new ResponseEntity<Map<String,Integer>>(res,HttpStatus.OK);
	}
	@GetMapping("/managerforpin")
	@PreAuthorize("hasAuthority('ADMIN')")
	public ResponseEntity<Manager> getManagerForpin(@RequestParam(name="pin") long
pin){
			Manager m = managerservice.getManagerForPin(new pin(pin));
			return new ResponseEntity<Manager>(m,HttpStatus.OK);
	}
	}
```

homeController.java

```
package com.simplilearn.crs.controllers;

import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.http.HttpStatus;
import org.springframework.http.HttpStatusCode;
import org.springframework.http.ResponseEntity;
import org.springframework.security.crypto.password.PasswordEncoder;
import org.springframework.web.bind.annotation.GetMapping;
import org.springframework.web.bind.annotation.PostMapping;
import org.springframework.web.bind.annotation.RequestBody;
import org.springframework.web.bind.annotation.RequestMapping;
import org.springframework.web.bind.annotation.RestController;

import com.simplilearn.crs.entities.Users;
import com.simplilearn.crs.services.usersService;

@RestController
@RequestMapping("api/home")
public class homeController {

		@Autowired
		usersService service;
		@Autowired
		PasswordEncoder encoder;

		@GetMapping("/")
		public String welcome() {
			return "Hi";
		}
		@PostMapping("/add")
		public ResponseEntity<String> adduser(@RequestBody Users usr){
			System.out.println("Method initiated, Receivedobject: "+usr);
			String password = usr.getPassword();
			usr.setPassword(encoder.encode(password));
			service.addUser(usr);
			return new ResponseEntity<String>("Success!",HttpStatus.OK);
		}
		@GetMapping("/user")
		public ResponseEntity<String> user(){
			return new ResponseEntity<>("Welcome User!",HttpStatus.OK);
		}

		@GetMapping("/admin")
		public ResponseEntity<String> admin(){
			return new ResponseEntity<>("Welcome Admin!",HttpStatus.OK);
		}
}
```

TicketController.java

```
package com.simplilearn.crs.controllers;

import java.util.HashMap;
import java.util.List;
import java.util.Map;

import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.http.HttpStatus;
import org.springframework.http.ResponseEntity;
import org.springframework.security.access.prepost.PreAuthorize;
import org.springframework.security.core.Authentication;
import org.springframework.web.bind.annotation.GetMapping;
import org.springframework.web.bind.annotation.PatchMapping;
import org.springframework.web.bind.annotation.RequestBody;
import org.springframework.web.bind.annotation.RequestMapping;
import org.springframework.web.bind.annotation.RequestParam;
import org.springframework.web.bind.annotation.RestController;

import com.simplilearn.crs.entities.Complaint;
import com.simplilearn.crs.entities.Engineer;
import com.simplilearn.crs.entities.Ticket;
import com.simplilearn.crs.entities.Users;
import com.simplilearn.crs.entities.pin;
import com.simplilearn.crs.security.userSecurityObj;
import com.simplilearn.crs.services.engineerService;
import com.simplilearn.crs.services.ticketService;
import com.simplilearn.crs.services.usersService;

@RestController
@RequestMapping("api/ticket")
public class TicketController {
@Autowired
ticketService tktservice;
@Autowired
engineerService engineerservice;
@Autowired
usersService usrService;

@PreAuthorize("hasAnyAuthority('ADMIN','MANAGER')")
@GetMapping("/all")
public List<Ticket> getAllTicket(){
	return tktservice.getAllTickets();
}

@PreAuthorize("hasAnyAuthority('ADMIN','CUSTOMER','ENGINEER','MANAGER')")
@GetMapping("/ticketdata")
public Ticket getTicketData(@RequestParam(name="ticketId")Long ticketID) {
	return tktservice.getTicket(ticketID);
}
@PreAuthorize("hasAnyAuthority('ADMIN','CUSTOMER','ENGINEER','MANAGER')")
@GetMapping("/complaintdata")
public Complaint getComplaintData(@RequestParam(name="ticketId")Long ticketID) {
	return tktservice.getTicket(ticketID).getComplaint();
}
```

```
@PatchMapping("/updatestatus")
@PreAuthorize("hasAnyAuthority('ADMIN','ENGINEER','MANAGER')")
public  ResponseEntity<Map<String,Long>> statusUpdate (@RequestBody Ticket tkt){
        Map<String,Long> res = new HashMap<>();
        Long status = tktservice.updateStatus(tkt.getTicketId(), tkt.getStatus());
        res.put("status", status);
        return new ResponseEntity<Map<String,Long>>(res,HttpStatus.OK);
}
@PatchMapping("/updatecomment")
@PreAuthorize("hasAnyAuthority('ADMIN','ENGINEER','MANAGER')")
public  ResponseEntity<Map<String,Long>> commentUpdate (@RequestBody Ticket tkt){
        Map<String,Long> res = new HashMap<>();
        Long status = tktservice.updateComment(tkt.getTicketId(), tkt.getComment());
        res.put("status", status);
        return new ResponseEntity<Map<String,Long>>(res,HttpStatus.OK);
}
@PatchMapping("/assignEngineer")
@PreAuthorize("hasAnyAuthority('ADMIN','MANAGER')")
public ResponseEntity<Map<String,Long>> assignEngineer(@RequestBody Ticket tkt){
        Map<String,Long> res = new HashMap<>();
        Long status = tktservice.assignEngineer(tkt);
        res.put("status", status);
        return new ResponseEntity<Map<String,Long>>(res,HttpStatus.OK);
}
@GetMapping("/engineeralltickets")
@PreAuthorize("hasAnyAuthority('ADMIN','ENGINEER','MANAGER')")
public ResponseEntity<List<Ticket>> getEngineerTickets(@RequestParam(name="engineerid")
Long engineerId){
        List<Ticket> engrTickets = tktservice.getEngTickets(engineerId);
        return new ResponseEntity<List<Ticket>>(engrTickets,HttpStatus.OK);
}

@GetMapping("/engineeropentickets")
@PreAuthorize("hasAnyAuthority('ADMIN','ENGINEER','MANAGER')")
public ResponseEntity<List<Ticket>>
getEngineerOpenTickets(@RequestParam(name="engineerid") Long engineerId){
        List<Ticket> engrTickets = tktservice.getEngOpenTickets(engineerId);
        return new ResponseEntity<List<Ticket>>(engrTickets,HttpStatus.OK);
}
 @GetMapping("/manageropentickets")
 @PreAuthorize("hasAnyAuthority('ADMIN','MANAGER')")
 public ResponseEntity<List<Ticket>>
getManagerOpenTickets(@RequestParam(name="managerid") Long managerId){
                List<Ticket> mgrTickets = tktservice.getManagerOpenTickets(managerId);
                return new ResponseEntity<List<Ticket>>(mgrTickets,HttpStatus.OK);
        }
 @GetMapping("/manageralltickets")
 @PreAuthorize("hasAnyAuthority('ADMIN','MANAGER')")
 public ResponseEntity<List<Ticket>> getManagerTickets(@RequestParam(name="managerid")
Long managerId){
                List<Ticket> mgrTickets = tktservice.getManagerTickets(managerId);
                return new ResponseEntity<List<Ticket>>(mgrTickets,HttpStatus.OK);
        }
 @GetMapping("/engineerforpin")
 @PreAuthorize("hasAnyAuthority('ADMIN','MANAGER')")
 public ResponseEntity<List<Engineer>> getEngineerForpin(@RequestParam(name="pin") Long
Pin){
                    List<Engineer> location_engineers = engineerservice.getEngineerForPin(new
pin(Pin));
                    return new ResponseEntity<List<Engineer>>(location_engineers,HttpStatus.OK);
 }
 @GetMapping("/getcurrentuser")
 @PreAuthorize("hasAnyAuthority('ADMIN','MANAGER','ENGINEER','CUSTOMER')")
          public Users getCurrentUser(Authentication authentication) {
                    userSecurityObj t = (userSecurityObj) authentication.getPrincipal();
                    Users usr = usrService.findUser(t.getUsername());
                    return usr;
          }
 @PatchMapping("/assignmanager")
 @PreAuthorize("hasAuthority('ADMIN')")
 public ResponseEntity<Map<String,Long>> assignManager(@RequestBody Ticket tkt){
           Map<String,Long> status = new HashMap<>();
           status.put("status", tktservice.assignManager(tkt));
           return new ResponseEntity<>(status,HttpStatus.ACCEPTED);
 }
}
```

userController.java

```
package com.simplilearn.crs.controllers;

import java.util.HashMap;
import java.util.List;
import java.util.Map;

import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.http.HttpStatus;
import org.springframework.http.HttpStatusCode;
import org.springframework.http.ResponseEntity;
import org.springframework.security.access.prepost.PreAuthorize;
import org.springframework.security.core.Authentication;
import org.springframework.security.core.userdetails.UserDetails;
import org.springframework.web.bind.annotation.DeleteMapping;
import org.springframework.web.bind.annotation.GetMapping;
import org.springframework.web.bind.annotation.PostMapping;
import org.springframework.web.bind.annotation.RequestBody;
import org.springframework.web.bind.annotation.RequestMapping;
import org.springframework.web.bind.annotation.RequestParam;
import org.springframework.web.bind.annotation.RestController;

import com.simplilearn.crs.entities.Customer;
import com.simplilearn.crs.entities.Engineer;
import com.simplilearn.crs.entities.Manager;
import com.simplilearn.crs.entities.Users;
import com.simplilearn.crs.repository.customerRepo;
import com.simplilearn.crs.security.userSecurityObj;
import com.simplilearn.crs.services.customerService;
import com.simplilearn.crs.services.engineerService;
import com.simplilearn.crs.services.managerService;
import com.simplilearn.crs.services.usersService;

@RestController
```

```
@RequestMapping("api/user")
@PreAuthorize("hasAuthority('ADMIN')")
public class userController {

	@Autowired
	usersService usrService;
	@Autowired
	managerService mgrService;
	@Autowired
	engineerService engrService;
	@Autowired
	customerService cusService;


	@GetMapping("/")
	public String hanshake() {
		return "Hello!";
	}

	@GetMapping("/all")
	public ResponseEntity<List<Users>> getAllUsers() {
		List<Users> listOfUsers = usrService.findAllUsers();
		ResponseEntity<List<Users>> res = new ResponseEntity<List<Users>>(listOfUsers,
HttpStatus.OK);
		return res;
	}


	@PostMapping("/adduser")
	public ResponseEntity<Map<String, Integer>> addUser(@RequestBody Users user) {
		Map<String, Integer> status = new HashMap<>();
		status.put("status", usrService.addUser(user));
		return new ResponseEntity<Map<String, Integer>>(status, HttpStatus.OK);
	}


	@DeleteMapping("/deleteuser")
	public ResponseEntity<Map<String, Integer>> deleteUser(@RequestParam("userid") long
userid ) {
		Map<String, Integer> status = new HashMap<>();
		status.put("status", usrService.deleteUser(userid));
		return new ResponseEntity<Map<String, Integer>>(status, HttpStatus.OK);
	}


	@PostMapping("/addmanager")
	public ResponseEntity<Map<String, Integer>> addManager(@RequestBody Manager mgr)
{
		Map<String, Integer> status = new HashMap<>();
		status.put("status", mgrService.addManager(mgr));
		return new ResponseEntity<Map<String, Integer>>(status, HttpStatus.OK);
	}


	@PostMapping("/addengineer")
	public ResponseEntity<Map<String, Integer>> addEngineer(@RequestBody Engineer eng)
{
		Map<String, Integer> status = new HashMap<>();
		status.put("status", engrService.addEngineer(eng));
		return new ResponseEntity<Map<String, Integer>>(status, HttpStatus.OK);
	}


	@PostMapping("/addcustomer")
	public ResponseEntity<Map<String, Integer>> addCustomer(@RequestBody Customer
cus) {
		Map<String, Integer> status = new HashMap<>();
		status.put("status", cusService.addCustomer(cus));
		return new ResponseEntity<Map<String, Integer>>(status, HttpStatus.OK);
	}

	@GetMapping("/allmanagers")
	public ResponseEntity<List<Manager>> getAllManagers() {
		List<Manager> mgrs = mgrService.getAllManagers();
		return new ResponseEntity<List<Manager>>(mgrs, HttpStatus.OK);
	}

	@GetMapping("/allengineers")
	public ResponseEntity<List<Engineer>> getAllEngineer(){
		List<Engineer> egrs = engrService.findAllEngineers();
		return new ResponseEntity<List<Engineer>>(egrs,HttpStatus.OK);
	}

	@GetMapping("/allcustomers")
	public ResponseEntity<List<Customer>> getAllCustomers(){
		List<Customer> customers = cusService.getAllCustomers();
		return new ResponseEntity<List<Customer>>(customers,HttpStatus.OK);
	}


}
```

Complaint.java

```
package com.simplilearn.crs.entities;

import java.time.LocalDateTime;
import java.util.List;

import org.hibernate.annotations.CreationTimestamp;
import org.hibernate.annotations.UpdateTimestamp;

import jakarta.persistence.Column;
import jakarta.persistence.Entity;
import jakarta.persistence.GeneratedValue;
import jakarta.persistence.GenerationType;
import jakarta.persistence.Id;
import jakarta.persistence.ManyToOne;
import jakarta.persistence.OneToMany;
import lombok.Data;

@Entity
```

```
@Data
public class Complaint {
	@Id
	@GeneratedValue(strategy = GenerationType.IDENTITY)
	private long complaintId;
	private String name;
	private String address;
	@ManyToOne
	private pin pin;
	private long contactNo;
	@ManyToOne
	private Customer customer;
	private String subject;
	private String details;
	private String feedback;
	@OneToMany(mappedBy = "complaint")
	private List<Ticket> ticket;
	@Column(updatable = false)
	@CreationTimestamp
	private LocalDateTime createdAt;
	@UpdateTimestamp
	private LocalDateTime lastUpdated;

	public void addTicket(Ticket tkt) {
		this.ticket.add(tkt);
	}
}
```

Customer.java

```
package com.simplilearn.crs.entities;

import jakarta.persistence.Entity;
import jakarta.persistence.GeneratedValue;
import jakarta.persistence.GenerationType;
import jakarta.persistence.Id;
import jakarta.persistence.OneToOne;

@Entity
public class Customer extends Users {

	private String address;
	@OneToOne
	private pin pin;
	private long contactNo;



}
```

Engineer.java

```
package com.simplilearn.crs.entities;

import java.io.Serializable;
import java.util.List;

import jakarta.persistence.Column;
import jakarta.persistence.Entity;
import jakarta.persistence.GeneratedValue;
import jakarta.persistence.GenerationType;
import jakarta.persistence.Id;
import jakarta.persistence.ManyToMany;
import lombok.Data;

@Entity
@Data
public class Engineer extends Users {



/**
	 *
	 */
	private static final long serialVersionUID =2899903505215516240L;
@ManyToMany
private List<pin> locations;
private Long contactNo;


public void addPin(pin pin) {
	this.locations.add(pin);
}


@Override
public String toString() {
	return "Engineer [locations=" + locations + ", contactNo=" + contactNo  + super.toString()
			+ ", getClass()=" + getClass() + "]";
}

}
```

Manager.java

```
package com.simplilearn.crs.entities;

import jakarta.persistence.Entity;
import jakarta.persistence.GeneratedValue;
import jakarta.persistence.GenerationType;
import jakarta.persistence.OneToOne;
import lombok.Data;
import lombok.EqualsAndHashCode;

@Entity
@Data

public class Manager extends Users {

	@OneToOne
	private pin pin;
	private long contactNo;


}
```

Pin.java

```
package com.simplilearn.crs.entities;

import java.io.Serializable;

import jakarta.persistence.Entity;
import jakarta.persistence.Id;
import lombok.Data;

@Entity
@Data
public class pin implements Serializable{

	@Id

	private long pin;
	public pin(long pin) {
		this.pin=pin;
	}
	public pin() {
		// TODO Auto-generated constructor stub
	}
	public pin(Long pin) {
		this.pin=pin;
	}

}
```

Ticket.java

```
package com.simplilearn.crs.entities;

import java.time.LocalDateTime;

import org.hibernate.annotations.CreationTimestamp;
import org.hibernate.annotations.UpdateTimestamp;

import com.fasterxml.jackson.annotation.JsonIgnore;

import jakarta.persistence.Column;
import jakarta.persistence.Entity;
import jakarta.persistence.GeneratedValue;
import jakarta.persistence.GenerationType;
import jakarta.persistence.Id;
import jakarta.persistence.ManyToOne;
import jakarta.persistence.OneToMany;
import jakarta.persistence.OneToOne;
import lombok.Data;

@Entity
@Data
public class Ticket {
	@Id
	@GeneratedValue(strategy = GenerationType.IDENTITY)
	private long ticketId;
	private String status;
	@JsonIgnore
```

```
        @ManyToOne
        private Complaint complaint;
        @ManyToOne
        private Manager manager;
        @ManyToOne
        private Engineer engineer;
        private String comment;
        @Column(updatable = false)
        @CreationTimestamp
        private LocalDateTime createdAt;
        @UpdateTimestamp
        private LocalDateTime updatedAt;
}
```

Users.java

```
package com.simplilearn.crs.entities;

import java.io.Serializable;

import jakarta.persistence.Column;
import jakarta.persistence.Entity;
import jakarta.persistence.GeneratedValue;
import jakarta.persistence.GenerationType;
import jakarta.persistence.Id;
import jakarta.persistence.Inheritance;
import jakarta.persistence.InheritanceType;
import lombok.Data;

@Entity
@Data
@Inheritance(strategy = InheritanceType.JOINED)
public class Users implements Serializable{
        @Id
        @GeneratedValue(strategy = GenerationType.SEQUENCE)
        private long userid;
        private String firstName;
        private String lastName;
        @Column(unique = true)
        private String username;
        private String Password;
        private String email;
        private String roles;
        private boolean accountStatus;

}
```

complaintRepo.java

```
package com.simplilearn.crs.repository;

import java.util.List;

import org.springframework.data.jpa.repository.JpaRepository;
import org.springframework.stereotype.Repository;

import com.simplilearn.crs.entities.Complaint;
import com.simplilearn.crs.entities.Customer;
```

```
@Repository
public interface complaintRepo extends JpaRepository<Complaint, Long> {

	public List<Complaint> findByCustomer(Customer customer);
}
```

customerRepo.java

```
package com.simplilearn.crs.repository;

import org.springframework.data.jpa.repository.JpaRepository;
import org.springframework.stereotype.Repository;

import com.simplilearn.crs.entities.Customer;

@Repository
public interface customerRepo extends JpaRepository<Customer, Long> {

}
```

engineerRepo.java

```
package com.simplilearn.crs.repository;

import java.util.List;

import org.springframework.data.jpa.repository.JpaRepository;
import org.springframework.stereotype.Repository;

import com.simplilearn.crs.entities.Engineer;
import com.simplilearn.crs.entities.pin;

@Repository
public interface engineerRepo extends JpaRepository<Engineer, Long> {

	public List<Engineer> findByLocations(pin locations);
}
```

managerRepo.java

```
package com.simplilearn.crs.repository;

import java.util.List;

import org.springframework.data.jpa.repository.JpaRepository;
import org.springframework.stereotype.Repository;

import com.simplilearn.crs.entities.Manager;
import com.simplilearn.crs.entities.pin;

@Repository
public interface managerRepo extends JpaRepository<Manager, Long> {

	public Manager findByPin(pin pin);

}
```

pinRepo.java

```
package com.simplilearn.crs.repository;

import org.springframework.data.jpa.repository.JpaRepository;
import org.springframework.stereotype.Repository;

import com.simplilearn.crs.entities.pin;

@Repository
public interface pinRepo extends JpaRepository<pin, Long> {

}
```

ticketRepo.java

```
package com.simplilearn.crs.repository;

import java.util.List;

import org.springframework.data.jpa.repository.JpaRepository;
import org.springframework.data.jpa.repository.Query;
import org.springframework.stereotype.Repository;

import com.simplilearn.crs.entities.Engineer;
import com.simplilearn.crs.entities.Manager;
import com.simplilearn.crs.entities.Ticket;

@Repository
public interface ticketRepo extends JpaRepository<Ticket, Long> {

	public List<Ticket> findByEngineer(Engineer engineer);
	@Query("Select t from com.simplilearn.crs.entities.Ticket t where t.engineer=:engineer
and not t.status ='CLOSED'")
	public List<Ticket> findByEngineerOpen(Engineer engineer);
	public List<Ticket> findByManager(Manager manager);
	@Query("Select t from com.simplilearn.crs.entities.Ticket t where t.manager=:manager
and not t.status ='CLOSED'")
	public List<Ticket> findByManagerOpen(Manager manager);
}
```

usersRepo.java

```
package com.simplilearn.crs.repository;

import org.springframework.data.jpa.repository.JpaRepository;
import org.springframework.stereotype.Repository;

import com.simplilearn.crs.entities.Users;

@Repository
public interface usersRepo extends JpaRepository<Users, Long> {
	public Users findByUsername(String Username);
}
```

CustomUserDetailsService.java

```
package com.simplilearn.crs.security;

import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.security.core.userdetails.UserDetails;
import org.springframework.security.core.userdetails.UserDetailsService;
import org.springframework.security.core.userdetails.UsernameNotFoundException;
import org.springframework.stereotype.Component;

import com.simplilearn.crs.entities.Users;
import com.simplilearn.crs.repository.usersRepo;
@Component
public class CustomUserDetailsService implements UserDetailsService{

	@Autowired
	usersRepo repo;

	@Override
	public UserDetails loadUserByUsername(String username) throws
UsernameNotFoundException {
		System.out.println("Finding by username ----->"+username);
		if(username!=null && username!="") {
		Users usr = repo.findByUsername(username);

		if(usr!=null) {
		userSecurityObj securityUser = new userSecurityObj(usr);
		System.out.println("Created user----------->"+securityUser);
		return securityUser;
		}else {
			System.out.println("User not Found!!");
			throw new UsernameNotFoundException("User not present!");
		}
		}else {
			System.out.println("Username not Found!!");
			throw new UsernameNotFoundException("Username not present!");
		}
	}

}
```

SecurityConfig.java

```
package com.simplilearn.crs.security;
import static org.springframework.security.config.Customizer.withDefaults;

import java.io.IOException;
import java.util.Arrays;
import java.util.Collections;
import java.util.List;


import org.springframework.context.annotation.Bean;
import org.springframework.context.annotation.Configuration;
import org.springframework.http.HttpMethod;
import org.springframework.security.authentication.AuthenticationManager;
import org.springframework.security.authentication.AuthenticationProvider;
import org.springframework.security.authentication.dao.DaoAuthenticationProvider;
import
org.springframework.security.config.annotation.authentication.configuration.AuthenticationConfi
guration;
import
org.springframework.security.config.annotation.method.configuration.EnableMethodSecurity;
import org.springframework.security.config.annotation.web.builders.HttpSecurity;
import org.springframework.security.config.annotation.web.configuration.EnableWebSecurity;
import org.springframework.security.config.http.SessionCreationPolicy;
import org.springframework.security.core.Authentication;
import org.springframework.security.core.AuthenticationException;
import org.springframework.security.core.userdetails.UserDetailsService;
import org.springframework.security.crypto.bcrypt.BCryptPasswordEncoder;
import org.springframework.security.crypto.password.PasswordEncoder;
import org.springframework.security.web.SecurityFilterChain;
import org.springframework.security.web.authentication.AuthenticationFailureHandler;
import org.springframework.security.web.authentication.AuthenticationSuccessHandler;
import org.springframework.web.cors.CorsConfiguration;
import org.springframework.web.cors.CorsConfigurationSource;
import org.springframework.web.cors.UrlBasedCorsConfigurationSource;

import jakarta.servlet.ServletException;
import jakarta.servlet.http.Cookie;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpServletResponse;



@Configuration
@EnableWebSecurity
@EnableMethodSecurity(prePostEnabled = true)
public class SecurityConfig  {

        @Bean
        public SecurityFilterChain filterchain(HttpSecurity http) throws Exception {
                http
                .csrf((csrf)->csrf.disable())
                .cors(cors -> {
                  cors.configurationSource(request -> {
                    CorsConfiguration corsConfiguration = new CorsConfiguration();

corsConfiguration.setAllowedOrigins(Collections.singletonList("http://localhost:4200"));
                    corsConfiguration.setAllowedMethods(Arrays.asList("GET", "POST",
"PUT","PATCH", "DELETE"));
                    corsConfiguration.setAllowedHeaders(Collections.singletonList("*"));
                    corsConfiguration.setAllowCredentials(true);
                    return corsConfiguration;
                  });
                 })
                .authorizeHttpRequests((authorize) -> authorize
                            .anyRequest().authenticated()
                          )
     .authenticationProvider(authProvider())
     .sessionManagement((sessmgmt)->
                sessmgmt
                        .sessionCreationPolicy(SessionCreationPolicy.ALWAYS)
                        .maximumSessions(1)
                )

     .logout((logout) ->
                        logout.deleteCookies("JSESSIONID")
                                .invalidateHttpSession(true)
```

```
                                        .logoutUrl("/logout")
                                        )
    .formLogin((login)->{
        login.loginProcessingUrl("/auth")
        .usernameParameter("username")
        .passwordParameter("password")
        .successHandler(successHandler())
        .failureHandler(failureHandler());
    });
    return http.build();
        }
        private AuthenticationSuccessHandler successHandler() {
           return new AuthenticationSuccessHandler() {


                @Override
                public void onAuthenticationSuccess(HttpServletRequest request,
HttpServletResponse response,
                                        Authentication authentication) throws IOException,
ServletException {
                        userSecurityObj usr = (userSecurityObj) authentication.getPrincipal();

                        // Serialize the roles as a string
                        String roles = authentication.getAuthorities().toString();

        response.getWriter().append("{\"authentication\":\""+usr.getUsername()+ "\","
                                                +"\"roles\":\""+roles+"\""
                                                + "}");
                        response.setStatus(HttpServletResponse.SC_OK);

                }
           };
        }

        private AuthenticationFailureHandler failureHandler() {
           return new AuthenticationFailureHandler() {

                        @Override
                        public void onAuthenticationFailure(HttpServletRequest request,
HttpServletResponse response,
                                                AuthenticationException exception) throws IOException,
ServletException {

                                response.getWriter().append("Authentication failure");
               response.setStatus(401);
                        }
                        };

        }

        @Bean
        public UserDetailsService userDetailsService() {
                return new CustomUserDetailsService();
        }
```

```
	@Bean
	public AuthenticationProvider authProvider() {
		DaoAuthenticationProvider provider = new DaoAuthenticationProvider();
		provider.setUserDetailsService(userDetailsService());
		provider.setPasswordEncoder(encoder());
		return provider;
	}

	@Bean
	public PasswordEncoder encoder () {
		return new BCryptPasswordEncoder();
	}

	@Bean
	public AuthenticationManager authManager(AuthenticationConfiguration config) throws
Exception {
		return config.getAuthenticationManager();
	}
}
```

userSecurityObj.java

```
package com.simplilearn.crs.security;

import java.util.Arrays;
import java.util.Collection;
import java.util.List;
import java.util.stream.Collectors;

import org.springframework.security.core.GrantedAuthority;
import org.springframework.security.core.authority.SimpleGrantedAuthority;
import org.springframework.security.core.userdetails.UserDetails;

import com.simplilearn.crs.entities.Users;

public class userSecurityObj implements UserDetails{
	private Users usr;
	userSecurityObj(Users usr){
		this.usr =usr;
	}
	@Override
	public Collection<? extends GrantedAuthority> getAuthorities() {
		String[] role = usr.getRoles().split(",");
		List<GrantedAuthority> authorities =
Arrays.stream(role).map(SimpleGrantedAuthority::new).collect(Collectors.toList());
		System.out.println(authorities);
		return authorities;
	}

	@Override
	public String getPassword() {
		return usr.getPassword();
	}

	@Override
	public String getUsername() {
		return usr.getUsername();
	}

	@Override
	public boolean isAccountNonExpired() {
		return usr.isAccountStatus();
	}

	@Override
	public boolean isAccountNonLocked() {
		return usr.isAccountStatus();
	}

	@Override
	public boolean isCredentialsNonExpired() {
		return usr.isAccountStatus();
	}

	@Override
	public boolean isEnabled() {
		return usr.isAccountStatus();
	}


}
```

complaintService.java

```
package com.simplilearn.crs.services;

import java.util.List;

import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.stereotype.Service;

import com.simplilearn.crs.entities.Complaint;
import com.simplilearn.crs.entities.Customer;
import com.simplilearn.crs.entities.Ticket;
import com.simplilearn.crs.repository.complaintRepo;
import com.simplilearn.crs.repository.customerRepo;

@Service
public class complaintService {

	@Autowired
	complaintRepo repo;

	@Autowired
	customerRepo crepo;

	public List<Complaint> getAllComplaints(){
		return repo.findAll();
	}

	public Complaint createComplaint(Complaint cmp) {
		try {
			return repo.save(cmp);
			}catch(Exception e) {
				return null;
			}
		}

		public int addTicketToComplaint(Complaint cmp, Ticket tkt) {
			try {
				cmp.addTicket(tkt);
				repo.save(cmp);
				return 1;
			}catch(Exception e) {
				return 0;
			}
		}
		public List<Complaint> getAllCustomerComplaints(Long CustomerId){
			Customer cus = crepo.findById(CustomerId).get();
			return repo.findByCustomer(cus);
		}
		public Long addFeedback(Long cId, String feedback) {
			try {
				System.out.println("complaintid-->"+cId);
				System.out.println("Feedback--------->"+feedback);
			Complaint cmp =repo.findById(cId).get();
			cmp.setFeedback(feedback);
			repo.save(cmp);
			return 1L;
			}catch(Exception e) {
				System.out.println(e);
				return 0L;
			}
		}
}
```

customerService.java

```
package com.simplilearn.crs.services;

import java.util.List;

import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.security.crypto.password.PasswordEncoder;
import org.springframework.stereotype.Service;

import com.simplilearn.crs.entities.Customer;
import com.simplilearn.crs.repository.customerRepo;

@Service
public class customerService {
		@Autowired
		customerRepo repo;
		@Autowired
		PasswordEncoder encoder;
		public List<Customer> getAllCustomers() {
			return repo.findAll();
		}

		public int addCustomer(Customer cus) {
```

```
		try {
			cus.setPassword(encoder.encode(cus.getPassword()));;
			repo.save(cus);
			return 1;
		} catch (Exception e) {
			return 0;
		}
	}

	public int deleteCustomer(Customer cus) {
		try {
			repo.delete(cus);
			return 1;
		}catch(Exception e) {
			return 0;
		}
	}
}
```

engineerService.java

```
package com.simplilearn.crs.services;

import java.util.List;

import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.security.crypto.password.PasswordEncoder;
import org.springframework.stereotype.Service;

import com.simplilearn.crs.entities.Engineer;
import com.simplilearn.crs.entities.pin;
import com.simplilearn.crs.repository.engineerRepo;
import com.simplilearn.crs.repository.pinRepo;

@Service
public class engineerService {
	@Autowired
	engineerRepo repo;

	@Autowired
	pinRepo prepo;

	@Autowired
	PasswordEncoder encoder;

	public List<Engineer> findAllEngineers() {
		return repo.findAll();
	}

	public int addEngineer(Engineer eng) {
		try {
			System.out.println(eng);
			eng.setPassword(encoder.encode(eng.getPassword()));
			repo.save(eng);
			return 1;
		}catch(Exception e) {
			System.out.println(e);
```

```
				return 0;
			}
		}

		public int deleteEngineer(Engineer eng) {
			try {
				repo.delete(eng);
				return 1;
			}catch(Exception e) {
				return 0;
			}
		}

		public int allocatePin(Long pin, Engineer eng) {
			try {
			pin p = prepo.findById(pin).get();
			eng.addPin(p);
			repo.save(eng);
			return 1;
			}catch(Exception e) {
				return 0;
			}
		}

		public List<Engineer> getEngineerForPin(pin pin){
			try {
				return repo.findByLocations(pin);
			}catch(Exception e) {
				System.out.println(2);
				return null;
			}
		}
}
```

managerService.java

```
package com.simplilearn.crs.services;

import java.util.List;

import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.security.crypto.password.PasswordEncoder;
import org.springframework.stereotype.Service;

import com.simplilearn.crs.entities.Manager;
import com.simplilearn.crs.entities.pin;
import com.simplilearn.crs.repository.managerRepo;

@Service
public class managerService {

		@Autowired
		managerRepo repo;

		@Autowired
		PasswordEncoder encoder;
		public List<Manager>getAllManagers() {
			return repo.findAll();
		}

		public int addManager(Manager mgr) {
			try {
				mgr.setPassword(encoder.encode(mgr.getPassword()));;
				repo.save(mgr);
				return 1;
			}catch(Exception e) {
				System.out.println(e);
				return 0;
			}
		}

		public int deleteManager(Manager mgr) {
			try {
				repo.delete(mgr);
				return 1;
			}catch(Exception e) {
				return 0;
			}
		}

		public int setPin(Long managerId, pin pin) {
			try {
			Manager mgr = repo.findById(managerId).get();
			mgr.setPin(pin);
			return 1;
			}catch(Exception e) {
				return 0;
			}
		}
		public Manager getManagerForPin(pin pin) {
			try {
				return repo.findByPin(pin);
			}catch(Exception e) {
				System.out.println(e);
				return null;
			}
		}
}
```

pinService.java

```
package com.simplilearn.crs.services;

import java.util.List;

import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.stereotype.Service;

import com.simplilearn.crs.entities.pin;
import com.simplilearn.crs.repository.pinRepo;

@Service
public class pinService {
	@Autowired
	private pinRepo repo;

	public int addPin(pin pin) {
		try {
			repo.save(pin);
			return 1;
		} catch (Exception e) {
			return 0;
		}
	}

	public List<pin> getAllPin() {
		return repo.findAll();
	}

	public int deletePin(pin pin) {
		try {
			repo.delete(pin);
			return 1;
		} catch (Exception e) {
			return 0;
		}
	}
}
```

ticketService.java

```
package com.simplilearn.crs.services;

import java.util.List;

import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.stereotype.Service;

import com.simplilearn.crs.entities.Complaint;
import com.simplilearn.crs.entities.Engineer;
import com.simplilearn.crs.entities.Manager;
import com.simplilearn.crs.entities.Ticket;
import com.simplilearn.crs.repository.engineerRepo;
import com.simplilearn.crs.repository.managerRepo;
import com.simplilearn.crs.repository.ticketRepo;

@Service
public class ticketService {
@Autowired
ticketRepo repo;

@Autowired
engineerRepo erepo;

@Autowired
managerRepo mrepo;

public List<Ticket> getAllTickets(){
	return repo.findAll();
}
```

```
public Ticket createTicket(Ticket tkt) {
		return repo.save(tkt);
}

public int setComplaint(Ticket tkt,Complaint cmp) {
		try {
				tkt.setComplaint(cmp);
				repo.save(tkt);
				return 1;
		}catch(Exception e) {
				return 0;
		}
}
public Ticket getTicket(Long Id) {
		return repo.findById(Id).get();
}
public Long updateStatus(Long id, String Status) {
		try {
		Ticket tkt = repo.findById(id).get();
		tkt.setStatus(Status);
		repo.save(tkt);
		return 1L;
		}catch(Exception e) {
				return 0L;
		}

}
public Long updateComment(Long id, String Comment) {
		try {
		Ticket tkt = repo.findById(id).get();
		tkt.setComment(Comment);
		repo.save(tkt);
		return 1L;
		}catch(Exception e) {
				return 0L;
		}

}
public Long assignEngineer(Ticket tkt) {
		try {
				Ticket tk = repo.findById(tkt.getTicketId()).get();
				Engineer eng = erepo.findById(tkt.getEngineer().getUserid()).get();
				tk.setEngineer(eng);
				tk.setStatus("ASSIGNED");
				repo.save(tk);
				return 1L;
		}catch(Exception e) {
				System.out.println(e);
				return 0L;
		}
}
public List<Ticket> getEngTickets(Long engineerId){
		Engineer engineer = erepo.findById(engineerId).get();
		return repo.findByEngineer(engineer);
```

```java
}
public List<Ticket> getEngOpenTickets(Long engineerId){
	Engineer engineer = erepo.findById(engineerId).get();
	return repo.findByEngineerOpen(engineer);
}
public List<Ticket> getManagerTickets(Long managerId){
	Manager manager = mrepo.findById(managerId).get();
	return repo.findByManager(manager);
}
public List<Ticket> getManagerOpenTickets(Long managerId){
	Manager manager = mrepo.findById(managerId).get();
	return repo.findByManagerOpen(manager);
}
public Long assignManager(Ticket tkt) {
	try {
		Manager m = mrepo.findById(tkt.getManager().getUserid()).get();
		Ticket t = repo.findById(tkt.getTicketId()).get();
		t.setManager(m);
		repo.save(t);
		return 1L;
	} catch (Exception e) {
		e.printStackTrace();
		return 0L;
	}
}

}
```

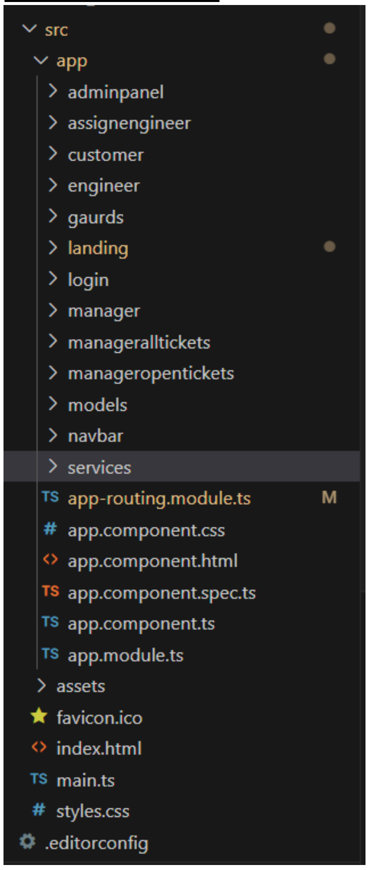
usersService.java

```java
package com.simplilearn.crs.services;

import java.util.List;

import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.stereotype.Service;

import com.simplilearn.crs.entities.Users;
import com.simplilearn.crs.repository.usersRepo;

@Service
public class usersService {

	@Autowired
	private usersRepo repo;

	public int addUser(Users usr) {
		repo.save(usr);
		return 1;
	}

	public int deleteUser(long usrid) {
		Users usr = repo.findById(usrid).get();
		repo.delete(usr);
		return 1;
	}
```

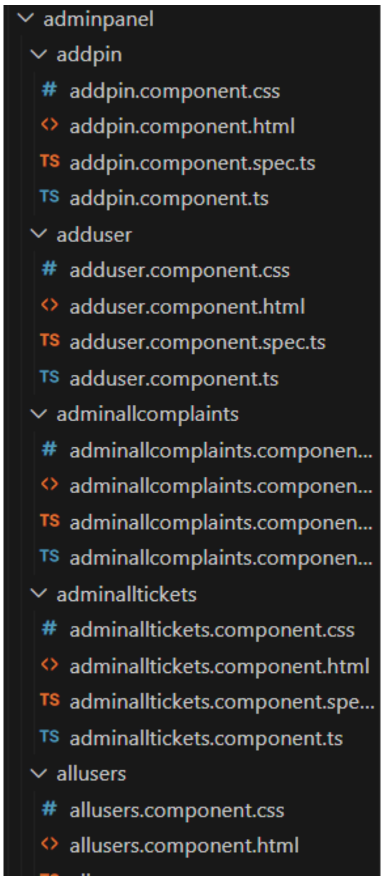
```
        public int changeStatus(String username, boolean status) {
                Users usr = repo.findByUsername(username);
                usr.setAccountStatus(status);
                return 1;

        }
        public Users findUser(String username) {
                return repo.findByUsername(username);
        }
        public List<Users> findAllUsers(){
                return repo.findAll();
        }
}
```

Frontend – Angular – UI

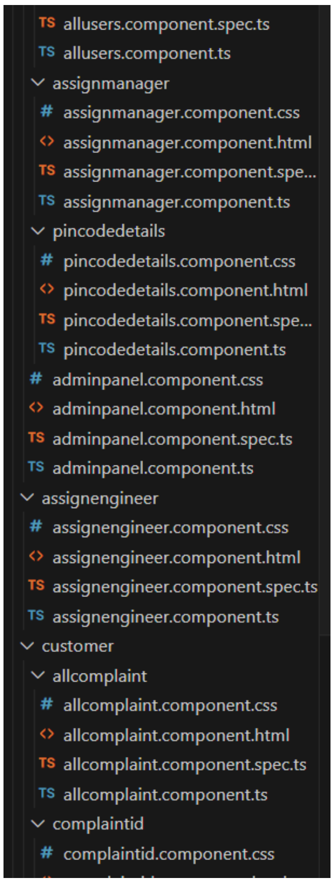
Project Structure:



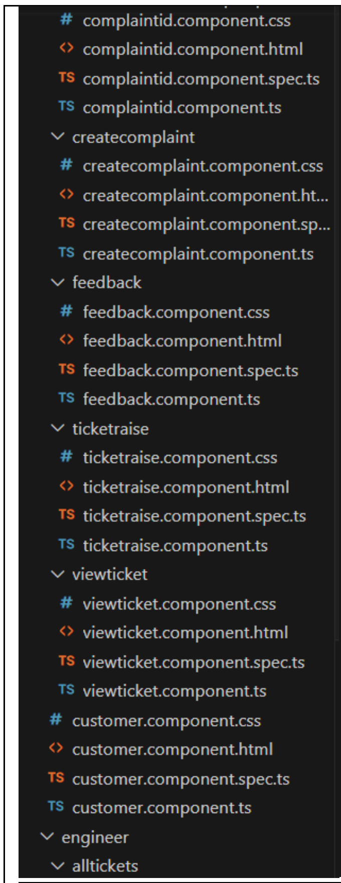
```
src
  app
    adminpanel
    assignengineer
    customer
    engineer
    gaurds
    landing
    login
    manager
    manageralltickets
    manageropentickets
    models
    navbar
    services
    app-routing.module.ts    M
    app.component.css
    app.component.html
    app.component.spec.ts
    app.component.ts
    app.module.ts
  assets
  favicon.ico
  index.html
  main.ts
  styles.css
.editorconfig
```



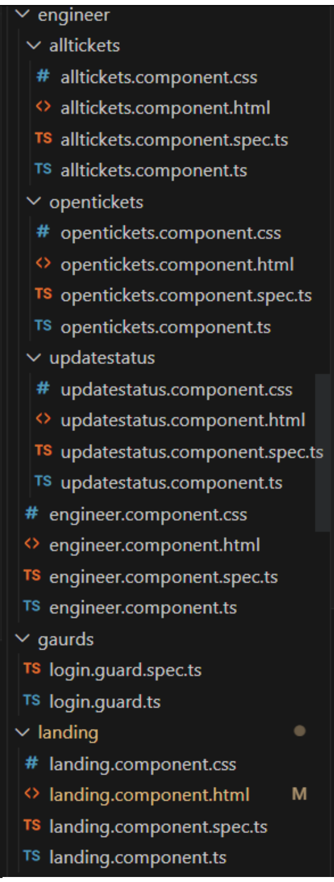
```
adminpanel
  addpin
    addpin.component.css
    addpin.component.html
    addpin.component.spec.ts
    addpin.component.ts
  adduser
    adduser.component.css
    adduser.component.html
    adduser.component.spec.ts
    adduser.component.ts
  adminallcomplaints
    adminallcomplaints.componen...
    adminallcomplaints.componen...
    adminallcomplaints.componen...
    adminallcomplaints.componen...
  adminalltickets
    adminalltickets.component.css
    adminalltickets.component.html
    adminalltickets.component.spe...
    adminalltickets.component.ts
  allusers
    allusers.component.css
    allusers.component.html
```



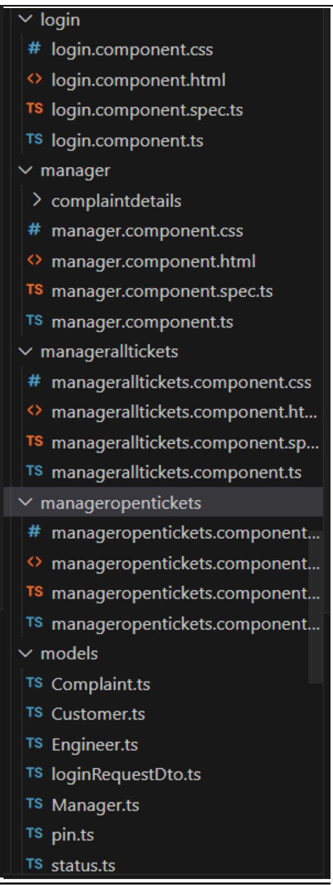
```
    allusers.component.spec.ts
    allusers.component.ts
  assignmanager
    assignmanager.component.css
    assignmanager.component.html
    assignmanager.component.spe...
    assignmanager.component.ts
  pincodedetails
    pincodedetails.component.css
    pincodedetails.component.html
    pincodedetails.component.spe...
    pincodedetails.component.ts
  adminpanel.component.css
  adminpanel.component.html
  adminpanel.component.spec.ts
  adminpanel.component.ts
assignengineer
  assignengineer.component.css
  assignengineer.component.html
  assignengineer.component.spec.ts
  assignengineer.component.ts
customer
  allcomplaint
    allcomplaint.component.css
    allcomplaint.component.html
    allcomplaint.component.spec.ts
    allcomplaint.component.ts
  complaintid
    complaintid.component.css
```



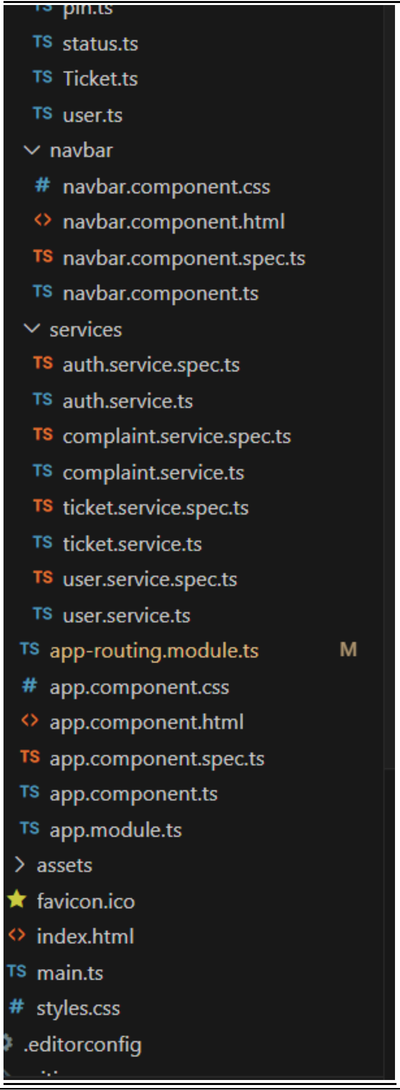
```
      complaintid.component.css
      complaintid.component.html
      complaintid.component.spec.ts
      complaintid.component.ts
    createcomplaint
      createcomplaint.component.css
      createcomplaint.component.ht...
      createcomplaint.component.sp...
      createcomplaint.component.ts
    feedback
      feedback.component.css
      feedback.component.html
      feedback.component.spec.ts
      feedback.component.ts
    ticketraise
      ticketraise.component.css
      ticketraise.component.html
      ticketraise.component.spec.ts
      ticketraise.component.ts
    viewticket
      viewticket.component.css
      viewticket.component.html
      viewticket.component.spec.ts
      viewticket.component.ts
    customer.component.css
    customer.component.html
    customer.component.spec.ts
    customer.component.ts
  engineer
    alltickets
```



```
engineer
  alltickets
    alltickets.component.css
    alltickets.component.html
    alltickets.component.spec.ts
    alltickets.component.ts
  opentickets
    opentickets.component.css
    opentickets.component.html
    opentickets.component.spec.ts
    opentickets.component.ts
  updatestatus
    updatestatus.component.css
    updatestatus.component.html
    updatestatus.component.spec.ts
    updatestatus.component.ts
  engineer.component.css
  engineer.component.html
  engineer.component.spec.ts
  engineer.component.ts
gaurds
  login.guard.spec.ts
  login.guard.ts
landing
  landing.component.css
  landing.component.html        M
  landing.component.spec.ts
  landing.component.ts
```



```
login
  login.component.css
  login.component.html
  login.component.spec.ts
  login.component.ts
manager
  complaintdetails
  manager.component.css
  manager.component.html
  manager.component.spec.ts
  manager.component.ts
manageralltickets
  manageralltickets.component.css
  manageralltickets.component.ht...
  manageralltickets.component.sp...
  manageralltickets.component.ts
manageropentickets
  manageropentickets.component...
  manageropentickets.component...
  manageropentickets.component...
  manageropentickets.component...
models
  Complaint.ts
  Customer.ts
  Engineer.ts
  loginRequestDto.ts
  Manager.ts
  pin.ts
  status.ts
```



```
    pin.ts
    status.ts
    Ticket.ts
    user.ts
  navbar
    navbar.component.css
    navbar.component.html
    navbar.component.spec.ts
    navbar.component.ts
  services
    auth.service.spec.ts
    auth.service.ts
    complaint.service.spec.ts
    complaint.service.ts
    ticket.service.spec.ts
    ticket.service.ts
    user.service.spec.ts
    user.service.ts
  app-routing.module.ts        M
  app.component.css
  app.component.html
  app.component.spec.ts
  app.component.ts
  app.module.ts
assets
favicon.ico
index.html
main.ts
styles.css
.editorconfig
```

Addpin.component.html

```
<div class="card px-3 py-3 mx-3 my-3" >
   <div class="row">
   <div class="col" style="float: left;display: inline;"><h1>Add Pincode</h1></div>
   <div class="col"><button class="btn btn-warning" style="float: right; display: inline;"
(click)="closedialog()">X</button></div>
   </div>
   <label for="pin">Enter the pincode to add</label>
   <input type="number" maxlength="6" id="pin" name="pin" class="form-control"
[(ngModel)]="pin.pin">
   <button class="btn btn-primary my-2" (click)="addpin()">Add pincode</button>
</div>
```

Addpin.component.ts

```
import { Component } from '@angular/core';
import { MatDialogRef } from '@angular/material/dialog';
import { pin } from 'src/app/models/pin';
import { ComplaintService } from 'src/app/services/complaint.service';

@Component({
  selector: 'app-addpin',
  templateUrl: './addpin.component.html',
  styleUrls: ['./addpin.component.css']
})
export class AddpinComponent {
  pin:pin={
    pin:0
  };
  constructor(
    private ref:MatDialogRef<AddpinComponent>,
    private compservice:ComplaintService
  ){}
    closedialog(){
      this.ref.close();
    }
  addpin(){
    this.compservice.addPin(this.pin).subscribe(x=>{
      if(x.status==1){
        alert("Pincode added successfully");
        this.ref.close();
      }
    })
  }
}
```

Adduser.component.html

```
<h1 style="display: inline;" mat-dialog-title>Add user</h1>
<div mat-dialog-actions style="display:inline;margin-left: 80%;">
   <button class="btn btn-danger mx-4 my-4" style="float:right;"
(click)="closeDialog()">X</button>
</div>
<div mat-dialog-content>
   <label id="example-radio-group-label">Select the User category:</label>
   <mat-radio-group aria-labelledby="example-radio-group-label" class="example-radio-group "
[(ngModel)]="usertype">
```

```
      <mat-radio-button class="example-radio-button" *ngFor="let type of usertypes"
[value]="type"
          style="display:inline;">
          {{type}}
      </mat-radio-button>
   </mat-radio-group>

   <div class="card my-4">
      <form class="form-group py-4 px-4" #form="ngForm">
         <div class="row">
            <div class="col">
               <label for="firstname">Enter First Name:</label>
               <input type="text" id="firstname" name="firstname" class="form-control"
[(ngModel)]="usr.firstName"
                  required>
            </div>
            <div class="col">
               <label for="lastname">Enter Last Name:</label>
               <input type="text" id="lastname" name="lastname" class="form-control"
[(ngModel)]="usr.lastName"
                  required>
            </div>
            <div class="col">
               <label for="username">Enter Username:</label>
               <input type="text" id="username" name="username" class="form-control"
[(ngModel)]="usr.username"
                  required>
            </div>
            <div class="row">
               <div class="col">
                  <label for="password">Choose Password:</label>
                  <input type="password" id="password" name="password" class="form-control"
[(ngModel)]="pass"
                     required
                     [ngStyle]="{'border-
color':form.touched?(pass==repass&&repass!=='')?'green':'red':''}">
               </div>
               <div class="col">
                  <label for="repassword">Re-enter Password:</label>
                  <input type="password" id="repassword" name="repassword" class="form-control"
                     [(ngModel)]="repass" required
                     [ngStyle]="{'border-
color':form.touched?(pass==repass&&repass!=='')?'green':'red':''}">
               </div>
               <div class="col">
                  <label for="email">Enter e-mail:</label>
                  <input type="email" id="e-mail" name="email" class="form-control" required
                     [(ngModel)]="usr.email">
               </div>
            </div>
            <div *ngIf="usertype=='CUSTOMER'">
               <div class="row">
                  <div class="col">
                     <label for="address">Enter customer address:</label>
                     <input type="text" id="address" name="address" class="form-control" required
```

```
                    [(ngModel)]="cus.address">
                </div>
            </div>
            <div class="row">
                <div class="col">
                    <label for="pin">Select customer Pin:</label>
                    <select class="form-control" name="pin" id="pin" required [(ngModel)]="cus.pin">
                        <option>Select Pin</option>
                        <option *ngFor="let pin of pins" value="{{pin.pin}}">{{pin.pin}}</option>
                    </select>
                </div>
                <div class="col">
                    <label for="contact">Enter customer contact No:  </label>
                    <input type="number" id="contact" name="contact" class="form-control"
[(ngModel)]="cus.contactNo" required>
                </div>
            </div>
        </div>
        <div *ngIf="usertype=='MANAGER'">

            <div class="row">
                <div class="col">
                    <label for="pin">Select Manager service area Pin:</label>
                    <select class="form-control" name="pin" id="pin" required
[(ngModel)]="mngr.pin">
                        <option>Select Pin</option>
                        <option *ngFor="let pin of pins" value="{{pin.pin}}">{{pin.pin}}</option>
                    </select>
                </div>
                <div class="col">
                    <label for="contact">Enter Manager contact No:</label>
                    <input type="number" id="contact" name="contact" class="form-control"
[(ngModel)]="mngr.contactNo" required>
                </div>
            </div>
        </div>
        <div *ngIf="usertype=='ENGINEER'">

            <div class="row">
                <div class="col">
                    <label for="pin">Add Engineer service area Pin:</label>
                    <select class="form-control" name="pin" id="pin" [(ngModel)]="temppin"
required>
                        <option>Select Pin</option>
                        <option *ngFor="let pin of pins" value="{{pin.pin}}">{{pin.pin}}</option>
                    </select><button class="btn btn-sm btn-primary" *ngIf="temppin"
                        (click)="addpintoengineer(temppin)">Add</button>
                    <br>
                    <ol>
                        Engineer Service Locations:
                        <li *ngFor="let pin of engr.locations">{{pin.pin}}</li>
                    </ol>
                </div>
                <div class="col">
                    <label for="contact">Enter Engineer contact No:</label>
```

```
                        <input type="number" id="contact" name="contact" class="form-control"
[(ngModel)]="engr.contactNo" required>
                    </div>
                </div>
            </div>
        </div>
      </form>
      <br><br><br>
      <button class="btn btn-primary mx-4 my-4" style="width:10%;" [disabled]="!form.valid"
(click)="adduser(usertype)">Add {{usertype}}</button>

    </div>
</div>
```

Adduser.component.ts

```
import { Component } from '@angular/core';
import { MatDialogRef } from '@angular/material/dialog';
import { Router } from '@angular/router';
import { Customer } from 'src/app/models/Customer';
import { Engineer } from 'src/app/models/Engineer';
import { Manager } from 'src/app/models/Manager';
import { pin } from 'src/app/models/pin';
import { user } from 'src/app/models/user';
import { ComplaintService } from 'src/app/services/complaint.service';
import { UserService } from 'src/app/services/user.service';

@Component({
  selector: 'app-adduser',
  templateUrl: './adduser.component.html',
  styleUrls: ['./adduser.component.css']
})
export class AdduserComponent {
  usertype:string;
  usertypes:string[] = ["CUSTOMER","MANAGER","ENGINEER"];
  pins:pin[];
  usr:user={userid:0,firstName:"",lastName:"",username:"",password:"", roles:"", email:"",
accountStatus:true };
  engr:Engineer = new Engineer(this.usr);
  mngr:Manager = new Manager(this.usr);
  cus:Customer =new Customer (this.usr);
  temppin:number;
  pass:string="";
  repass:string=""
  constructor(
      private ref:MatDialogRef<AdduserComponent>,
      private compservice:ComplaintService,
      private usrservice:UserService,
      private router:Router
      ){

  }
  ngOnInit(){
    this.compservice.getAllPin().subscribe(x=>this.pins=x);
    this.engr.locations=[];
  }
  closeDialog(){
```

```
  this.ref.close();
}
addpintoengineer(p:number){
  this.engr.locations.push(new pin(p));
  this.temppin=0;
}
adduser(type:string){
  if(type=="CUSTOMER"){
    let c:Customer = new Customer(this.usr);
    c.address=this.cus.address;
    c.pin=this.cus.pin;
    c.contactNo=this.cus.contactNo;
    if(this.pass==this.repass){
      c.password=this.pass;
      c.roles="CUSTOMER";
      this.usrservice.addCustomer(c).subscribe(x=>{
        if(x.status==1){
          alert("Customer added Successfully!");
          this.closeDialog();
          this.router.navigateByUrl("adminpanel/viewall")
        }
      });
    }else{
      alert("Password does not match!");
      this.pass="";
      this.repass="";
    }
    this.reset();
  }else if(type=="MANAGER"){
   let m:Manager = new Manager(this.usr);
   m.pin=this.mngr.pin;
   m.contactNo=this.mngr.contactNo;
   if(this.pass==this.repass){
    m.password=this.pass;
    m.roles="MANAGER";
    this.usrservice.addManager(m).subscribe(x=>{
      if(x.status==1){
        alert("Manager added Successfully!!");
        this.closeDialog();
        this.router.navigateByUrl("adminpanel/viewall")
      }
    });
   }else{
    alert("Password does not match!")
    this.pass="";
    this.repass="";
   }
   this.reset();
  }else if(type=="ENGINEER"){
    let  e:Engineer = new Engineer(this.usr);
    e.locations=this.engr.locations;
    e.contactNo=this.engr.contactNo;
    if(this.pass==this.repass){
      e.password=this.pass;
      e.roles="ENGINEER";
      this.usrservice.addEngineer(e).subscribe(x=>{

        if(x.status==1){
          alert("Engineer added Successfully!!");
          this.closeDialog();
          this.router.navigateByUrl("adminpanel/viewall")
        }
      });
    }else{
      alert("Password does not match!");
      this.pass='';
      this.repass='';
    }
    this.reset();
  }
 }

 reset(){
   this.usr={userid:0,firstName:"",lastName:"",username:"",password:"", roles:"", email:"",
accountStatus:true };
   this.engr=new Engineer(this.usr);
   this.engr.locations=[];
   this.mngr= new Manager(this.usr);
   this.cus=new Customer (this.usr);
   this.pass="";
   this.repass="";
   this.temppin=0;
 }
}
```

Adminallcomplaints.component.html

```
<div class="px-3 py-3">
  <table class="table table-outlined table-striped">
    <thead class="table table-dark">
      <tr>
        <th>Complaint Id</th>
        <th>Customer Name</th>
        <th>Customer Address</th>
        <th>Pincode</th>
        <th>Customer Contact</th>
        <th>Complaint Subject</th>
        <th>Complaint Details</th>
        <th>Feedback</th>
        <th>Tickets</th>
        <th>Created At</th>
      </tr>
    </thead>
    <tbody>
      <tr *ngFor="let comp of complaints">
        <td>{{comp.complaintId}}</td>
        <td>{{comp.name}}</td>
        <td>{{comp.address}}</td>
        <td>{{comp.pin.pin}}</td>
        <td>{{comp.contactNo}}</td>
        <td>{{comp.subject}}</td>
        <td>{{comp.details}}</td>
```

```
            <td>{{comp.feedback?comp.feedback:"Not given"}}</td>
            <td>
               <ul *ngFor="let tkt of comp.ticket" class="list-group list-group-horizontal-sm">
                  <li class="list-group-item">{{tkt.ticketId}}</li>
                  <li class="list-group-item"><b>{{tkt.status}}</b></li>
                  <li class="list-group-item"><button class="btn btn-warning btn-sm"
(click)="viewticket(tkt)"><i class="bi bi-eye-fill"></i></button></li>
               </ul>
            </td>
            <td>{{comp.createdAt | date:"dd-MMM-yy hh:mm"}}</td>
         </tr>
      </tbody>
   </table>
</div>
```

Adminallcomplaints.component.ts

```
import { Component } from '@angular/core';
import { MatDialog } from '@angular/material/dialog';
import { ViewticketComponent } from 'src/app/customer/viewticket/viewticket.component';
import { complaint } from 'src/app/models/Complaint';
import { Ticket } from 'src/app/models/Ticket';
import { ComplaintService } from 'src/app/services/complaint.service';

@Component({
  selector: 'app-adminallcomplaints',
  templateUrl: './adminallcomplaints.component.html',
  styleUrls: ['./adminallcomplaints.component.css']
})
export class AdminallcomplaintsComponent {
  complaints:complaint[];
  constructor(
    private compservice:ComplaintService,
    private dialog:MatDialog
    ){}
  ngOnInit(){
    this.compservice.getAllComplaints().subscribe(x=>this.complaints=x);
   };


  viewticket(tkt:Ticket){
    this.dialog.open(ViewticketComponent,{width:'30%',data:tkt})
  }
}
```

Adminalltickets.component.html

```
<table class="table table-striped table-outlined">
   <thead class="table-dark">
      <tr>
         <th class="text-center">TicketID</th>
         <th class="text-center">Status</th>
         <th class="text-center">Date of creation</th>
         <th class="text-center" >Last Updated</th>
         <th class="text-center">Area Manager</th>
         <th class="text-center">Complaint Details</th>
         <th class="text-center">Assigned Engineer</th>
      </tr>
   </thead>
```

```
  <tbody>

    <tr *ngFor="let ticket of tickets">

      <td class="text-center">{{ticket.ticketId}}</td>
      <td [ngStyle]="{'background-color': (ticket.status=='CLOSED')?
'#00db3a':(ticket.status=='RAISED')? '#00b3ff':(ticket.status=='ASSIGNED')?'#f5c105':'#d9d1e3' }"
class="text-center" style="color: white;"> {{ticket.status}} </td>
      <td class="text-center">{{ticket.createdAt | date :"dd-MMM-yyyy,hh:mm:ss"}}</td>
      <td class="text-center">{{ticket.updatedAt | date :"dd-MMM-yyyy,hh:mm:ss"}}</td>
      <td class="text-center"><button *ngIf="ticket.manager==null" class='btn btn-warning'
(click)='assignmanager(ticket)'>Assign Manager</button>{{(ticket.manager!==null)?
ticket.manager.firstName:'' + "  " }}{{ (ticket.manager!==null)? ticket.manager.lastName : '' }}</td>
      <td class="text-center"><button class="btn btn-warning btn-sm"
(click)="complaintdetails(ticket)"><i class="bi bi-eye-fill"></i></button></td>
      <td class="text-center"><button *ngIf="ticket.engineer==null" class='btn btn-warning'
(click)='assignengineer(ticket)'>Assign
Engineer</button>{{(ticket.engineer!==null)?ticket.engineer.firstName:"" + "  " }}{{
(ticket.engineer!==null)? ticket.engineer.lastName :" " }}</td>

    </tr>

  </tbody>
</table>
```

Adminalltickets.component.ts

```
import { Component } from '@angular/core';
import { MatDialog } from '@angular/material/dialog';
import { ComplaintdetailsComponent } from
'src/app/manager/complaintdetails/complaintdetails.component';
import { Ticket } from 'src/app/models/Ticket';
import { TicketService } from 'src/app/services/ticket.service';
import { AssignmanagerComponent } from '../assignmanager/assignmanager.component';
import { AssignengineerComponent } from 'src/app/assignengineer/assignengineer.component';

@Component({
 selector: 'app-adminalltickets',
 templateUrl: './adminalltickets.component.html',
 styleUrls: ['./adminalltickets.component.css']
})
export class AdminallticketsComponent {
 tickets:Ticket[];
 constructor(
  private tktService:TicketService,
  private dialog:MatDialog
  ){

 }
 ngOnInit(){
  this.tktService.getAllTickets().subscribe(x=>{this.tickets=x;});

 }
 complaintdetails(tkt:Ticket){
  this.dialog.open(ComplaintdetailsComponent,{width:'40%',data:tkt.ticketId});
 }
 assignmanager(tkt:Ticket){
    this.dialog.open(AssignmanagerComponent,{width:'40%',data:tkt});
  }
  assignengineer(tkt:Ticket){
    this.dialog.open(AssignengineerComponent,{width:'40%',data:tkt});
  }
}
```

Allusers.component.html

```
<button class="btn btn-primary" style="margin-left: 90%;" (click)="adduser()">Add User</button>
<table class="table table-striped table-outlined">
    <thead class="table-dark">
        <tr>
            <th>UserId</th>
            <th>Full Name</th>
            <th>Username</th>
            <th>Email</th>
            <th>Roles</th>
            <th>Account Status</th>
        </tr>
    </thead>
    <tbody>
        <tr *ngFor="let user of usrs">
            <td>{{user.userid}}</td>
            <td>{{user.firstName+' '+user.lastName}}</td>
            <td>{{user.username}}</td>
            <td>{{user.email}}</td>
            <td>
                {{user.roles}}
            </td>
            <td>{{user.accountStatus}}</td>
        </tr>
    </tbody>
</table>
```

Allusers.component.ts

```
import { Component } from '@angular/core';
import { MatDialog } from '@angular/material/dialog';
import { AdduserComponent } from '../adduser/adduser.component';
import { user } from 'src/app/models/user';
import { UserService } from 'src/app/services/user.service';

@Component({
  selector: 'app-allusers',
  templateUrl: './allusers.component.html',
  styleUrls: ['./allusers.component.css']
})
export class AllusersComponent {
  usrs:user[];
  constructor(private dialog:MatDialog, private usrService:UserService){

  }
  ngOnInit(){
    this.usrService.getAllUsers().subscribe(x=>this.usrs=x);
  }
  adduser(){
    this.dialog.open(AdduserComponent,{width:'80%',height:'75%'})
  }
}
```

Assignmanager.component.html

```
<div class="card px-3 py-3 mx-3 my-3">
   <div class="row">
      <div class="col"><h1 style="float: left;">Assign Manager</h1></div>
      <div class="col"><button style="float: right;" (click)="closedialog()" class="btn btn-
warning">X</button></div>
   </div>
   <table class="table table-outlined">
      <tbody>
         <tr>
            <th>TicketID</th>
            <td>{{data.ticketId}}</td>
         </tr>
         <tr>
            <th>Pincode</th>
            <td>{{comp.pin.pin}}</td>
         </tr>
         <tr>
            <th>Select Manager</th>
            <td>
               <select class="form-control" name="manager" id="manager" #mgr>
                  <option *ngFor="let mgr of managers" value={{mgr.userid}}>{{mgr.firstName+'
'+mgr.lastName}} </option>

               </select>
               <button class="btn btn-warning" (click)="assignmanager(mgr.value)">Assign</button>
            </td>
         </tr>
      </tbody>
   </table>
</div>
```

Assignmanager.component.ts

```
import { Component ,Inject} from '@angular/core';
import { MAT_DIALOG_DATA, MatDialogRef } from '@angular/material/dialog';
import { complaint } from 'src/app/models/Complaint';
import { Manager } from 'src/app/models/Manager';
import { Ticket } from 'src/app/models/Ticket';
import { user } from 'src/app/models/user';
import { ComplaintService } from 'src/app/services/complaint.service';
import { TicketService } from 'src/app/services/ticket.service';
import { UserService } from 'src/app/services/user.service';

@Component({
  selector: 'app-assignmanager',
  templateUrl: './assignmanager.component.html',
  styleUrls: ['./assignmanager.component.css']
})
export class AssignmanagerComponent {
managers:Manager[];
comp:complaint;
  constructor(
    @Inject(MAT_DIALOG_DATA) public data:Ticket,
    private ref:MatDialogRef<AssignmanagerComponent>,
    private userservice:UserService,
    private tktservice:TicketService
  ){}
ngOnInit(){
  console.log(this.data);
  this.userservice.getAllManagers().subscribe(x=>this.managers=x);
  this.tktservice.getComplaintdataByTicketid(this.data.ticketId).subscribe(x=>this.comp=x);
}
  closedialog(){
    this.ref.close();
  }

  assignmanager(managerId:any){
    let mgr:Manager = {
      userid:Number(managerId),
      firstName:"",
      lastName:"",
      username:"",
      password:"",
      email:"",
      roles:"",
      accountStatus:true,
      contactNo:0,
      pin:{
        pin:0
      }
    }
    this.data.manager=mgr;
    this.tktservice.assignmanager(this.data).subscribe(x=>{
      if(x.status==1){
        alert("Manager Assigned");
        this.ref.close();
       }
  });
  }
}
```

Pincodedetails.component.html

```
<div class="px-3 py-3 mx-3 my-3">
    <div class="pin" style="width: 30%;display: inline;float: left;">
        <button class="btn btn-primary my-3" (click)="addpin()">Add Pin</button>
    <table class="table table-outlined table-bordered">
        <thead>
            <tr>
                <th >Available Pincodes</th>

            </tr>
        </thead>
        <tbody>
            <tr *ngFor="let pin of pins">
                <td>{{pin.pin}}</td>
            </tr>
        </tbody>
    </table>
</div>
<div class="manager" style="width: 30%; float: right;">
```

```
<table class="table table-bordered">
  <thead>
    <tr>
      <th colspan="2">List of Managers</th>
    </tr>
  </thead>
  <tbody>
    <tr *ngFor="let mgr of managers">
      <td>{{mgr.pin.pin}}</td>
      <td>{{mgr.firstName+' '+mgr.lastName}}</td>
    </tr>
  </tbody>
</table>
</div>
<div class="engineer" style="width: 30%; display: inline-block;margin-left: 4rem;">

  <table class="table table-bordered">
    <thead>
      <tr>
        <th colspan="2">List of Engineers</th>
      </tr>
    </thead>
    <tbody>
      <tr *ngFor="let egr of engineers">
        <td>{{egr.firstName+' '+egr.lastName}}</td>
        <td><ul class="list-group">
          <li *ngFor="let pin of egr.locations" class="list-group-item">{{pin.pin}}</li>
          </ul>
      </td>
      </tr>
    </tbody>
  </table>
  </div>
</div>
```

Pincodedetails.component.ts

```
import { Component } from '@angular/core';
import { MatDialog } from '@angular/material/dialog';
import { Engineer } from 'src/app/models/Engineer';
import { Manager } from 'src/app/models/Manager';
import { pin } from 'src/app/models/pin';
import { ComplaintService } from 'src/app/services/complaint.service';
import { TicketService } from 'src/app/services/ticket.service';
import { UserService } from 'src/app/services/user.service';
import { AddpinComponent } from '../addpin/addpin.component';


@Component({
 selector: 'app-pincodedetails',
 templateUrl: './pincodedetails.component.html',
 styleUrls: ['./pincodedetails.component.css']
})
export class PincodedetailsComponent {
pins:pin[];
engineers:Engineer[];
managers:Manager[];

constructor(
  private userservice:UserService,
  private ticketservice:TicketService,
  private compservice:ComplaintService,
  private dialog:MatDialog
){}

ngOnInit(){
  this.userservice.getAllEngineers().subscribe(x=>this.engineers=x);
  this.userservice.getAllManagers().subscribe(x=>this.managers=x);
  this.compservice.getAllPin().subscribe(x=>this.pins=x);
}
addpin(){
  this.dialog.open(AddpinComponent,{width:'40%',height:'40%'})
}
}
```

Adminpanel.component.html

```
<div class="card">
   <h1 >Admin Dashboard</h1>
   <div class="row mx-3 my-4">
   <button class="btn btn-primary mx-2" routerLink="viewall" style="width: 10%;">View All
users</button>
   <button class="btn btn-primary " style="width: 10%;" routerLink="allcomplaints">View All
Complaints</button>
   <button class="btn btn-primary mx-2" style="width: 10%;" routerLink="alltickets">View All
Tickets</button>
   <button class="btn btn-primary " style="width: 20%;" routerLink="pincodedetails">Pincode,
Area manager and Engieers</button>
</div>
</div>
<div class="card px-3 py-3">
   <router-outlet></router-outlet>
</div>
```

Adminpanel.component.ts

```
import { Component } from '@angular/core';

@Component({
  selector: 'app-adminpanel',
  templateUrl: './adminpanel.component.html',
  styleUrls: ['./adminpanel.component.css']
})
export class AdminpanelComponent {

}
```

Assignengineer.component.html

```
<div class="card px-3 py-3 mx-3 my-3">
   <div class="row">
      <div class="col"><h1 style="float: left;">Assign Manager</h1></div>
      <div class="col"><button style="float: right;" (click)="closedialog()" class="btn btn-
warning">X</button></div>
   </div>
   <table class="table table-outlined">
      <tbody>
```

```
        <tr>
          <th>TicketID</th>
          <td>{{data.ticketId}}</td>
        </tr>
        <tr>
          <th>Pincode</th>
          <td>{{comp.pin.pin}}</td>
        </tr>
        <tr>
          <th>Select Engineer</th>
          <td>
            <select class="form-control" name="manager" id="manager" #egr>
              <option *ngFor="let egr of engineers" value={{egr.userid}}>{{egr.firstName+'
'+egr.lastName}} </option>

            </select>
            <button class="btn btn-warning" (click)="assignEngineer(egr.value)">Assign</button>
          </td>
        </tr>
      </tbody>
    </table>
</div>
```

Assignengineer.component.ts

```
import { Component,Inject } from '@angular/core';
import { MAT_DIALOG_DATA, MatDialogRef } from '@angular/material/dialog';
import { Ticket } from '../models/Ticket';
import { complaint } from '../models/Complaint';
import { Engineer } from '../models/Engineer';
import { TicketService } from '../services/ticket.service';

@Component({
  selector: 'app-assignengineer',
  templateUrl: './assignengineer.component.html',
  styleUrls: ['./assignengineer.component.css']
})
export class AssignengineerComponent {
  comp:complaint;
  engineers:Engineer[];

constructor(
  @Inject(MAT_DIALOG_DATA) public data:Ticket,
  private ref:MatDialogRef<AssignengineerComponent>,
  private ticketservice:TicketService
){}
ngOnInit(){
  this.ticketservice.getComplaintdataByTicketid(this.data.ticketId).subscribe(x=>{
    this.comp=x;
    this.ticketservice.getEngineerForPin(this.comp.pin.pin).subscribe(x=>{
      this.engineers=x;
    });
  });
}
closedialog(){
  this.ref.close();
}
assignEngineer(eid:string){
  let eng:Engineer={
    userid:Number(eid),
    firstName:"",
      lastName:"",
      username:"",
      password:"",
      email:"",
      roles:"",
      accountStatus:true,
      contactNo:0,
      locations:[],
  }
  this.data.engineer=eng;
  this.ticketservice.assignEngineer(this.data).subscribe(x=>{
    if(x.status==1){
      alert("Engineer Assigned");
      this.closedialog();
    }
  });
}
}
```

Allcomplaint.component.html

```
<div class="px-3 py-3">
    <table class="table table-outlined table-striped">
        <thead class="table table-dark">
            <tr>
                <th>Complaint Id</th>
                <th>Customer Name</th>
                <th>Customer Address</th>
                <th>Pincode</th>
                <th>Customer Contact</th>
                <th>Complaint Subject</th>
                <th>Complaint Details</th>
                <th>Feedback</th>
                <th>Tickets</th>
                <th>Created At</th>
            </tr>
        </thead>
        <tbody>
            <tr *ngFor="let comp of complaints">
                <td>{{comp.complaintId}}</td>
                <td>{{comp.name}}</td>
                <td>{{comp.address}}</td>
                <td>{{comp.pin.pin}}</td>
                <td>{{comp.contactNo}}</td>
                <td>{{comp.subject}}</td>
                <td>{{comp.details}}</td>
                <td>{{comp.feedback?comp.feedback:"Not given"}}<button *ngIf="comp.feedback==null
&& checkTicketClosed(comp)" class="btn btn-warning" (click)="givefeedback(comp)"><i class="bi
bi-pencil-square"></i></button></td>
                <td>
                    <ul *ngFor="let tkt of comp.ticket" class="list-group list-group-horizontal-sm">
                        <li class="list-group-item">{{tkt.ticketId}}</li>
                        <li class="list-group-item"><b>{{tkt.status}}</b></li>
                    <li class="list-group-item"><button class="btn btn-warning btn-sm"
(click)="viewticket(tkt)"><i class="bi bi-eye-fill"></i></button></li>

                </ul>
                <button *ngIf="checkTicketClosed(comp)" class="btn btn-warning"
(click)="raiseticket(comp)">Raise Ticket</button>
            </td>
            <td>{{comp.createdAt | date:"dd-MMM-yy hh:mm"}}</td>
        </tr>
      </tbody>
   </table>
</div>
```

Allcomplaint.component.ts

```
import { Component } from '@angular/core';
import { MatDialog } from '@angular/material/dialog';
import { complaint } from 'src/app/models/Complaint';
import { Customer } from 'src/app/models/Customer';
import { Ticket } from 'src/app/models/Ticket';
import { AuthService } from 'src/app/services/auth.service';
import { ComplaintService } from 'src/app/services/complaint.service';
import { ViewticketComponent } from '../viewticket/viewticket.component';
import { FeedbackComponent } from '../feedback/feedback.component';
import { TicketraiseComponent } from '../ticketraise/ticketraise.component';

@Component({
  selector: 'app-allcomplaint',
  templateUrl: './allcomplaint.component.html',
  styleUrls: ['./allcomplaint.component.css']
})
export class AllcomplaintComponent {
  complaints: complaint[];
  constructor(
    private compservice: ComplaintService,
    private authservice: AuthService,
    private dialog: MatDialog
  ) { }
  ngOnInit() {
    if (this.authservice.currentUser.roles.includes('CUSTOMER')) {
      this.authservice.getCurrentUser().subscribe(x => {
        this.compservice.getCustomerComplaints(x.userid).subscribe(x => { this.complaints = x;
console.log(x) });
      });
    } else {
      alert("Bad Request!")
    }
  }
  viewticket(tkt: Ticket) {
    this.dialog.open(ViewticketComponent, { width: '30%', data: tkt })
  }
  givefeedback(c: complaint) {
    this.dialog.open(FeedbackComponent, { data: c });
  }

  checkTicketClosed(c: complaint): boolean {
    let a = c.ticket.filter(x => {

      if (x.status == "CLOSED" || x.status == "ESCALATED") {

        return true;
      } else {

        return false;
      }
    });

    if (a.length > 0) {

      return true;
    } else {

      return false;
    }
  }
  raiseticket(c: complaint) {
    this.compservice.ticketReRaise(c).subscribe(x => {
      if (x.status == 1) {
        this.dialog.open(TicketraiseComponent, { data: x });
      } else {
        alert("Server error!")
      }
    });
  }
}
```

Complaintid.component.html

```
<div class="card px-3 py-3 mx-3 my-3">

<div class="row">
   <div class="col"><h1 style="float: left;display: inline;">Complaint Registered</h1></div>
   <div class="col"><button class="btn btn-danger" style="float: right;"
(click)="closedialog()">X</button></div>
</div>
<br>
<br>
<div>
   <p>Your complaint is successfully registered.</p>
   <p>Complaint reference number:ABCCR000{{data.complaintId}}</p>
   <p>Ticket Id:{{data.ticketId}} is created against your complaint. The concerned area manager
will shortly assign an engineer to resolve your issue. Keep track of the ticket status from customer
dashboard.</p>
</div>
</div>
```

Complaintid.component.ts

```
import { Component, Inject } from '@angular/core';
import { MAT_DIALOG_DATA, MatDialogRef } from '@angular/material/dialog';

@Component({
 selector: 'app-complaintid',
 templateUrl: './complaintid.component.html',
 styleUrls: ['./complaintid.component.css']
})
export class ComplaintidComponent {
constructor(
 @Inject(MAT_DIALOG_DATA) public data: any,
 private ref:MatDialogRef<ComplaintidComponent>
 ){}

 closedialog(){
   this.ref.close();
 }
}
```

Createcomplaint.component.html

```
<div class="card mx-4 my-4 px-4 py-4">
    <div>
        <div style="display: inline;float: left;">
            <h1>Raise complaint</h1>
        </div>
        <button class="btn btn-sm btn-danger" style="float: right;" (click)="closedialog()">X</button>
    </div>

    <form (ngSubmit)="createcomplaint()">
        <div class="row">
            <div class="col">
                <label for="cusname">Enter your name</label>
                <input type="text" id="cusname" name="cusname" class="form-control"
[(ngModel)]="complaint.name" required>
            </div>
            <div class="col">
                <label for="address">Enter your address</label>
                <input type="text" id="address" name="address" class="form-control"
[(ngModel)]="complaint.address" required>
            </div>
        </div>
        <div class="row">
            <div class="col">
                <label for="pin">Select Pin</label>
                <select class="form-control" name="pin" id="pin" required
[(ngModel)]="complaint.pin.pin" required>
                    <option>Select Pin</option>
                    <option *ngFor="let pin of pins" value="{{pin.pin}}">{{pin.pin}}</option>
                </select>
            </div>
            <div class="col">
                <label for="contact">Enter your contact No </label>
                <input type="number" id="contact" name="contact" class="form-control" required
[(ngModel)]="complaint.contactNo" required>
            </div>
        </div>
        <br><br>
        <div class="row">
            <div class="col">
                <label for="subject">Select Subject</label>
                <select class="form-control" name="subject" id="subject" required
[(ngModel)]="complaint.subject">
```

```
                <option>Select complaint subject</option>
                <option *ngFor="let sub of subjects" value="{{sub}}">{{sub}}</option>
            </select>
          </div>
          <div class="col">
            <label for="details">Enter complaint details</label>
            <input type="text" id="details" name="details" class="form-control"
[(ngModel)]="complaint.details" required>
          </div>
       </div>
       <br><br>
       <button class="btn btn-warning" type="submit">Submit</button>
   </form>
</div>
```

Createcomplaint.component.ts

```
import { Component } from '@angular/core';
import { MatDialog, MatDialogRef } from '@angular/material/dialog';
import { complaint } from 'src/app/models/Complaint';
import { Customer } from 'src/app/models/Customer';
import { pin } from 'src/app/models/pin';
import { AuthService } from 'src/app/services/auth.service';
import { ComplaintService } from 'src/app/services/complaint.service';
import { ComplaintidComponent } from '../complaintid/complaintid.component';

@Component({
  selector: 'app-createcomplaint',
  templateUrl: './createcomplaint.component.html',
  styleUrls: ['./createcomplaint.component.css']
})
export class CreatecomplaintComponent {
  complaint:complaint = new complaint();
  subjects:string[]= ["Cannot make a call but receive a call" , "Can make calls, but cannot receive
calls","Cannot make or receive calls"];
  pins:pin[];
  cus:Customer;
  constructor(
    private ref:MatDialogRef<CreatecomplaintComponent>,
    private compservice:ComplaintService,
    private authservice:AuthService,
    private dialog:MatDialog
    ){}
  ngOnInit(){
    this.compservice.getAllPin().subscribe(x=>this.pins=x);
    this.authservice.getCurrentUser().subscribe(x=>{this.cus=new Customer(x)});
    this.complaint.pin=new pin(0);
  }
  closedialog(){
    this.ref.close();
  }

  createcomplaint(){
    if(this.cus){
      this.complaint.customer=this.cus;
      this.compservice.raiseComplaint(this.complaint).subscribe(x=>{
        if(x.status==1){
```

```
        this.dialog.open(ComplaintidComponent,{data:x});
      }
    });
    this.ref.close();
  }
 }
}
```

Feedback.component.html

```
<div class="card px-3 py-3 mx-3 my-3">
   <div>
      <div style="display: inline;float: left;">
         <h1>Give Feedback</h1>
      </div>
      <button class="btn btn-sm btn-danger" style="float: right;" (click)="closedialog()">X</button>
   </div>
   <div class="my-3">


   <input type="text" name="feedback" id="feedback" class="form-control my-2"
[(ngModel)]="feedback">
   <button class="btn btn-primary" (click)="givefeedback()">Submit</button>
</div>
</div>
```

Feedback.component.ts

```
import { Component,Inject } from '@angular/core';
import { MAT_DIALOG_DATA, MatDialogRef } from '@angular/material/dialog';
import { complaint } from 'src/app/models/Complaint';
import { Ticket } from 'src/app/models/Ticket';
import { ComplaintService } from 'src/app/services/complaint.service';
import { TicketService } from 'src/app/services/ticket.service';

@Component({
  selector: 'app-feedback',
  templateUrl: './feedback.component.html',
  styleUrls: ['./feedback.component.css']
})
export class FeedbackComponent {
  feedback:string="";
  constructor(
    @Inject(MAT_DIALOG_DATA) private data:complaint,
    private ref:MatDialogRef<FeedbackComponent>,
    private compservice:ComplaintService){}

  closedialog(){
    this.ref.close();
  }
  givefeedback(){
    this.data.feedback=this.feedback;
    this.compservice.postFeedback(this.data).subscribe(x=>{
      if(x.status==1){
        alert("Feedback successfully posted!!");
      }
    });
    this.closedialog();
  }
}
```

Ticketraise.component.html

```
<div class="card px-5 py-5">
   <p class="text-lg">Ticket successfully raised again the complaint! <br>
   Complaint Reference Number:ABCCR000{{data.complaintId}} <br>
   Raised Ticket Number:{{data.ticketId}}
</p>
</div>
```

Ticketraise.component.ts

```
import { Component,Inject } from '@angular/core';
import { MAT_DIALOG_DATA } from '@angular/material/dialog';

@Component({
  selector: 'app-ticketraise',
  templateUrl: './ticketraise.component.html',
  styleUrls: ['./ticketraise.component.css']
})
export class TicketraiseComponent {
constructor(@Inject(MAT_DIALOG_DATA) public data:any){}
}
```

Viewticket.component.html

```
<div class="card px-3 py-3 mx-3 my-3">
   <div class="row">
   <div class="col">
      <h1 style="float: left;display: inline;">Ticket Details</h1>
   </div>
   <div class="col">
      <button class="btn btn-warning" style="float: right;" (click)="closedialog()">X</button>
   </div>
   </div>
<table class="table table-bordered">
   <tbody>
      <tr>
         <th>Ticket ID</th>
         <td>{{ticket.ticketId}}</td>
      </tr>
      <tr>
         <th>Status</th>
         <td> <button disabled class="btn" [ngStyle]="{'background-
color':(ticket.status=='RAISED')?'#F29727':(ticket.status=='CLOSED')?'#22A699':'#B3C890'}"
style="border: none;color: black;">{{ticket.status}}</button></td>
      </tr>
      <tr>
         <th>Area Manager</th>
         <td>{{ticket.manager==null?'Not Present':ticket.manager.firstName}} {{' '}}{{
ticket.manager==null?'':ticket.manager.lastName}}</td>
      </tr>
      <tr>
         <th>Assigned Engineer</th>
         <td>{{ticket.engineer==null?'Not Assigned':ticket.engineer.firstName }}{{' '}}{{
ticket.engineer==null?'':ticket.engineer.lastName}}</td>
      </tr>
      <tr>
```

```
        <th>Ticket Created at</th>
        <td>{{ticket.createdAt | date:"dd-MMM-yy hh:mm"}}</td>
      </tr>
      <tr>
        <th>Ticket last updated at</th>
        <td>{{ticket.updatedAt | date: "dd-MMM-yy hh:mm"}}</td>
      </tr>
    </tbody>
</table>
</div>
```

Viewticket.component.ts

```
import { Component, Inject } from '@angular/core';
import { MAT_DIALOG_DATA, MatDialogRef } from '@angular/material/dialog';
import { Ticket } from 'src/app/models/Ticket';

@Component({
  selector: 'app-viewticket',
  templateUrl: './viewticket.component.html',
  styleUrls: ['./viewticket.component.css']
})
export class ViewticketComponent {
constructor(
  @Inject(MAT_DIALOG_DATA) public ticket: Ticket,
  private ref:MatDialogRef<ViewticketComponent>
){}
closedialog(){
  this.ref.close();
}
}
```

Customer.component.html

```
<div class="card">
    <div class="row">
      <div class="col px-4 py-3">
        <span>
          <h1>Customer Dashboard</h1>
        </span>
      </div>
      <div class="col px-3 py-3">
        <button class="btn btn-primary mx-2" routerLink="createcomplaint" style="float: right;"
(click)="createcomplaint()">Create a
          complaint</button>
      </div>
    </div>


    <div class="card px-4 py-3">
      <router-outlet></router-outlet>
    </div>
    </div>
```

Customer.component.ts

```
import { Component } from '@angular/core';
import { MatDialog } from '@angular/material/dialog';
import { CreatecomplaintComponent } from './createcomplaint/createcomplaint.component';

@Component({
  selector: 'app-customer',
  templateUrl: './customer.component.html',
  styleUrls: ['./customer.component.css']
})
export class CustomerComponent {

  constructor(
    private dialog:MatDialog,
  ){}
  createcomplaint(){
    this.dialog.open(CreatecomplaintComponent,{width:'70%'});
  }
}
```

Alltickets.component.html

```
<table class="table table-striped table-outlined">
   <thead class="table-dark">
      <tr>
         <th class="text-center">TicketID</th>
         <th class="text-center">Status</th>
         <th class="text-center">Date of creation</th>
         <th class="text-center" >Last Updated</th>
         <th class="text-center">Area Manager</th>
         <th class="text-center">Complaint Details</th>
         <th class="text-center">Assigned Engineer</th>
      </tr>
   </thead>
   <tbody>

      <tr *ngFor="let ticket of tickets">

         <td class="text-center">{{ticket.ticketId}}</td>
         <td [ngStyle]="{'background-color': (ticket.status=='CLOSED')?
'#00db3a':(ticket.status=='RAISED')? '#00b3ff':(ticket.status=='ASSIGNED')?'#f5c105':'#d9d1e3' }"
class="text-center" style="color: white;"> {{ticket.status}} </td>
         <td class="text-center">{{ticket.createdAt | date :"dd-MMM-yyyy,hh:mm:ss"}}</td>
         <td class="text-center">{{ticket.updatedAt | date :"dd-MMM-yyyy,hh:mm:ss"}}</td>
         <td class="text-center">{{(ticket.manager!==null)? ticket.manager.firstName:"Not
Assigned" + "  " }}{{ (ticket.manager!==null)? ticket.manager.lastName : " " }}</td>
         <td class="text-center"><button class="btn btn-warning btn-sm"
(click)="complaintdetails(ticket)"><i class="bi bi-eye-fill"></i></button></td>
         <td class="text-center">{{(ticket.engineer!==null)?ticket.engineer.firstName:"Not
Assigned" + "  " }}{{ (ticket.engineer!==null)? ticket.engineer.lastName :" " }}</td>

      </tr>

   </tbody>
</table>
```

Alltickets.component.ts

```
import { Component } from '@angular/core';
import { MatDialog } from '@angular/material/dialog';
import { ComplaintdetailsComponent } from
'src/app/manager/complaintdetails/complaintdetails.component';
import { Engineer } from 'src/app/models/Engineer';
import { Ticket } from 'src/app/models/Ticket';
import { AuthService } from 'src/app/services/auth.service';
import { TicketService } from 'src/app/services/ticket.service';

@Component({
  selector: 'app-alltickets',
  templateUrl: './alltickets.component.html',
  styleUrls: ['./alltickets.component.css']
})
export class AllticketsComponent {
tickets:Ticket[]
constructor(
  private tktservice:TicketService,
  private authservice:AuthService,
  private dialog:MatDialog
){}
ngOnInit(){
  this.authservice.getCurrentUser().subscribe(x=>{
    this.tktservice.getAllEngineerTickets(x.userid).subscribe(x=>{
      this.tickets=x;
    })
  });

}
complaintdetails(tkt:Ticket){
  this.dialog.open(ComplaintdetailsComponent,{width:'40%',data:tkt.ticketId});
}
}
```

<u>Opentickets.component.html</u>

```
<table class="table table-striped table-outlined">
    <thead class="table-dark">
        <tr>
            <th class="text-center">TicketID</th>
            <th class="text-center">Status</th>
            <th class="text-center">Date of creation</th>
            <th class="text-center" >Last Updated</th>
            <th class="text-center">Area Manager</th>
            <th class="text-center">Complaint Details</th>
            <th class="text-center">Assigned Engineer</th>
        </tr>
    </thead>
    <tbody>

        <tr *ngFor="let ticket of tickets">

            <td class="text-center">{{ticket.ticketId}}</td>
            <td [ngStyle]="{'background-color': (ticket.status=='CLOSED')?
'#00db3a':(ticket.status=='RAISED')? '#00b3ff':(ticket.status=='ASSIGNED')?'#f5c105':'#d9d1e3' }"
class="text-center" style="color: white;"> {{ticket.status}} <button
*ngIf="ticket.status!=='CLOSED'" (click)="updatestatus(ticket)" class="btn btn-danger"><i
class="bi bi-pencil-square"></i></button></td>
            <td class="text-center">{{ticket.createdAt | date :"dd-MMM-yyyy,hh:mm:ss"}}</td>
            <td class="text-center">{{ticket.updatedAt | date :"dd-MMM-yyyy,hh:mm:ss"}}</td>
            <td class="text-center">{{(ticket.manager!==null)? ticket.manager.firstName:"Not
Assigned" + "  " }}{{ (ticket.manager!==null)? ticket.manager.lastName : " " }}</td>
            <td class="text-center"><button class="btn btn-warning btn-sm"
(click)="complaintdetails(ticket)"><i class="bi bi-eye-fill"></i></button></td>
```

```
        <td class="text-center">{{(ticket.engineer!==null)?ticket.engineer.firstName:"Not
Assigned" + "  " }}{{ (ticket.engineer!==null)? ticket.engineer.lastName :" " }}</td>

      </tr>

   </tbody>
</table>
```

Opentickets.component.ts

```
import { Component } from '@angular/core';
import { MatDialog } from '@angular/material/dialog';
import { ComplaintdetailsComponent } from
'src/app/manager/complaintdetails/complaintdetails.component';
import { Ticket } from 'src/app/models/Ticket';
import { AuthService } from 'src/app/services/auth.service';
import { TicketService } from 'src/app/services/ticket.service';
import { UpdatestatusComponent } from '../updatestatus/updatestatus.component';

@Component({
  selector: 'app-opentickets',
  templateUrl: './opentickets.component.html',
  styleUrls: ['./opentickets.component.css']
})
export class OpenticketsComponent {
  tickets:Ticket[]
  constructor(
    private tktservice:TicketService,
    private authservice:AuthService,
    private dialog:MatDialog
  ){}
  ngOnInit(){
    this.authservice.getCurrentUser().subscribe(x=>{
      this.tktservice.getEngineerOpenTickets(x.userid).subscribe(x=>{
        this.tickets=x;
      })
    });

  }
  complaintdetails(tkt:Ticket){
    this.dialog.open(ComplaintdetailsComponent,{width:'40%',data:tkt.ticketId});
  }
  updatestatus(tkt:Ticket){
    this.dialog.open(UpdatestatusComponent,{width:'20%',data:tkt});
  }
}
```

Updatestatus.component.html

```
<div class="card mx-3 my-3 px-3 py-3">
   <div class="row">
      <div class="col"><h1 style="float: left;">Update Status</h1></div>
      <div class="col"><button class="btn btn-danger" style="float: right;"
(click)="closedialog()">X</button></div>
   </div>
   <label for="status">Select Status</label>
   <select name="status" id="status" class="form-control" [(ngModel)]="tempstatus">
      <option value="WIP">Work In Progress(WIP)</option>
      <option value="ESCALATED">ESCALATED</option>
      <option value="CLOSED">CLOSED</option>
    </select>
    <button class="btn btn-primary my-3" (click)="updatestatus()">Update</button>
</div>
```

Updatestatus.component.ts

```
import { Component,Inject } from '@angular/core';
import { MAT_DIALOG_DATA, MatDialogRef } from '@angular/material/dialog';
import { Ticket } from 'src/app/models/Ticket';
import { TicketService } from 'src/app/services/ticket.service';

@Component({
  selector: 'app-updatestatus',
  templateUrl: './updatestatus.component.html',
  styleUrls: ['./updatestatus.component.css']
})
export class UpdatestatusComponent {
  tempstatus:string="";
  constructor(
    @Inject(MAT_DIALOG_DATA)private  data:Ticket,
    private ref:MatDialogRef<UpdatestatusComponent>,
    private tktservice:TicketService){}

    updatestatus(){
      this.data.status=this.tempstatus;
      this.tktservice.updateStatus(this.data).subscribe(x=>{
        if(x.status==1){
          alert("Status updated!!");
        }
      });
      this.closedialog();
    }

    closedialog(){
      this.ref.close();
    }
}
```

Engineer.component.html

```
<div class="card" >
    <h1 >Engineer Dashboard</h1>
    <div class="row">
    <button class="btn btn-primary mx-3" style="width:10%;float:left;display: inline;"
routerLink="alltickets">View All Tickets</button>
    <button class="btn btn-primary mx-3" style="width:10%;float:left;display: inline;"
routerLink="opentickets">View Open Tickets</button>
</div>
</div>
<div class="card my-4">
    <router-outlet></router-outlet>
</div>
```

Engineer.component.ts

```
import { Component } from '@angular/core';

@Component({
  selector: 'app-engineer',
  templateUrl: './engineer.component.html',
  styleUrls: ['./engineer.component.css']
})
export class EngineerComponent {

}
```

Login.gaurd.ts

```
import { CanActivateFn, Router } from '@angular/router';
import { AuthService } from '../services/auth.service';
import { inject } from '@angular/core';

export const loginGuard: CanActivateFn = (route, state) => {
 const authservice = inject(AuthService);
 const router = inject(Router);
 if(authservice.currentUser.authentication){
  console.log("Login status checking.......true");
  return true;
 }else{
  console.log("Login status checking.......false");
  router.navigateByUrl("login");
  return false;
 }
};
```

Landing.component.html

```
<app-navbar></app-navbar>
<router-outlet></router-outlet>
```

Landing.component.ts

```
import { Component } from '@angular/core';
import { AuthService } from '../services/auth.service';
import { user } from '../models/user';
import { Router } from '@angular/router';

@Component({
  selector: 'app-landing',
  templateUrl: './landing.component.html',
  styleUrls: ['./landing.component.css']
})
export class LandingComponent {
  usr:any= {
    authentication:false,
    username:"guest",
    roles:[]
  };
  constructor(private auth:AuthService,
    private router:Router){}
  ngOnInit(){
    this.usr = this.auth.currentUser;
  if(this.usr.roles.includes("MANAGER")){
    this.router.navigateByUrl('manager');
  }else if(this.usr.roles.includes("CUSTOMER")){
    this.router.navigateByUrl('customer');
  }else if(this.usr.roles.includes("ENGINEER")){
    this.router.navigateByUrl('engineer');
  }else if(this.usr.roles.includes("ADMIN")){
    this.router.navigateByUrl('adminpanel');
  }
  }
}
```

Login.component.html

```
<app-navbar></app-navbar>

    <div class="container">
     <h1 class="mt-4 text-center"><b>COMPLAINT REDRESSAL SYSTEM</b></h1>
     <div class="row">
       <div class="col-md-6 offset-md-3">
     <form class="" #userform="ngForm">

       <h2 >Log in</h2>
       <p>
         <label for="username" class="">Username</label>
         <input type="text" id="username" name="username" class="form-control"
placeholder="Username" required autofocus [(ngModel)]="loginreq.username">
       </p>
       <p>
         <label for="password" class="">Password</label>
         <input type="password" id="password" name="password" class="form-control"
placeholder="Password" required [(ngModel)]="loginreq.password">
       </p>
       <button class="btn btn-lg btn-primary btn-block" type="submit"
[disabled]="userform.invalid" (click)="signin()">Sign in</button>
     </form>
   </div>
   </div>
</div>
```

Login.component.ts

```
import { Component } from '@angular/core';
import { request } from '../models/loginRequestDto';
import { AuthService } from '../services/auth.service';
import { MatSnackBar, MatSnackBarHorizontalPosition, MatSnackBarVerticalPosition } from
'@angular/material/snack-bar';
import { Router } from '@angular/router';


@Component({
  selector: 'app-login',
  templateUrl: './login.component.html',
  styleUrls: ['./login.component.css']
})
export class LoginComponent {
  loginreq:request = new request();
  horizontalPosition: MatSnackBarHorizontalPosition = 'end';
  verticalPosition: MatSnackBarVerticalPosition = 'top';
  constructor(
    private authservice:AuthService,
    private snackbar:MatSnackBar,
    private router: Router

    ){}

  signin(){
   this.authservice.login(this.loginreq).subscribe(res=>{
     const rolesString = res.roles.replace(/[\[\]"]+/g, '');
     const rolesArray = rolesString.split(',').map((role: string) => role.trim());
     this.authservice.currentUser.authentication=true;
     this.authservice.currentUser.username=res.authentication;
     this.authservice.currentUser.roles=rolesArray;
     this.snackbar.open("Authentication Successful!",
"Dismiss",{duration:3000,horizontalPosition:this.horizontalPosition,
     verticalPosition: this.verticalPosition,})
     this.loginreq = new request();
     this.router.navigate(['/']);
   },
   (err)=>{
     this.snackbar.open("Authentication Failure!", "Dismiss",{duration:3000,horizontalPosition:
this.horizontalPosition,
       verticalPosition: this.verticalPosition,})
     this.loginreq = new request();
   }
   );

  }

}
```

Complaintdetails.component.html

```
<div class="card px-3 py-3 mx-3 my-3">
   <div class="row">
      <div class="col"><h1 style="float: left;display: inline;">Complaint Details</h1></div>
      <div class="col"><button class="btn btn-warning" style="float: right;"
(click)="closedialog()">X</button></div>
   </div>
   <table class="table table-bordered">
      <tbody>
         <tr>
            <th>Complaint Reference Number</th>
            <th>ABCCR000{{complaint.complaintId}}</th>
         </tr>
         <tr>
            <th>Customer Name</th>
            <td>{{complaint.name}}</td>
         </tr>
         <tr>
            <th>Customer Address</th>
            <td>{{complaint.address}}</td>
         </tr>
         <tr>
            <th>Pincode</th>
            <td>{{complaint.pin.pin}}</td>
         </tr>
         <tr>
            <th>Customer Contact Number</th>
            <td>{{complaint.contactNo}}</td>
         </tr>
         <br>
         <tr>
            <th>Complaint Subject</th>
            <td>{{complaint.subject}}</td>
          </tr>
          <tr>
            <th>Complaint Details</th>
            <td>{{complaint.details}}</td>
          </tr>
          <tr>
            <th>Complaint Feedback</th>
            <td>{{complaint.feedback==null?'Not Given':complaint.feedback}}</td>
          </tr>
          <tr>
            <th>Complaint raised date</th>
            <td>{{complaint.createdAt | date:"dd-MMM-yy hh:mm"}}</td>
          </tr>
        </tbody>
    </table>
</div>
```

<u>Complaintdetails.component.ts</u>

```
import { Component, Inject } from '@angular/core';
import { MAT_DIALOG_DATA, MatDialogRef } from '@angular/material/dialog';
import { complaint } from 'src/app/models/Complaint';
import { TicketService } from 'src/app/services/ticket.service';

@Component({
  selector: 'app-complaintdetails',
  templateUrl: './complaintdetails.component.html',
  styleUrls: ['./complaintdetails.component.css']
})
export class ComplaintdetailsComponent {
  complaint:complaint;
constructor(
  @Inject(MAT_DIALOG_DATA) private data:any,
  private ref:MatDialogRef<ComplaintdetailsComponent>,
  private ticketservice:TicketService
  ){console.log('passed data',data)}
ngOnInit(){
  this.ticketservice.getComplaintdataByTicketid(this.data).subscribe(x=>this.complaint=x);
}
closedialog(){
  this.ref.close();
}
}
```

<u>Manager.component.html</u>

```
<div class="card" >
    <h1 >Manager Dashboard</h1>
    <div class="row">
    <button class="btn btn-primary mx-3" style="width:10%;float:left;display: inline;"
routerLink="managerall">View All Tickets</button>
    <button class="btn btn-primary mx-3" style="width:10%;float:left;display: inline;"
routerLink="manageropen">View Open Tickets</button>
</div>
</div>
<div class="card my-4">
    <router-outlet></router-outlet>
</div>
```

Manager.component.ts
```
import { Component } from '@angular/core';
import { Engineer } from '../models/Engineer';
import { Ticket } from '../models/Ticket';
import { TicketService } from '../services/ticket.service';

@Component({
  selector: 'app-manager',
  templateUrl: './manager.component.html',
  styleUrls: ['./manager.component.css']
})
export class ManagerComponent {

}
```
Manageralltickets.component.html
```
<table class="table table-striped table-outlined">
   <thead class="table-dark">
      <tr>
         <th class="text-center">TicketID</th>
         <th class="text-center">Status</th>
         <th class="text-center">Date of creation</th>
         <th class="text-center" >Last Updated</th>
         <th class="text-center">Area Manager</th>
         <th class="text-center">Complaint Details</th>
         <th class="text-center">Assigned Engineer</th>
      </tr>
   </thead>
   <tbody>

      <tr *ngFor="let ticket of tickets">

         <td class="text-center">{{ticket.ticketId}}</td>
         <td [ngStyle]="{'background-color': (ticket.status=='CLOSED')?
'#00db3a':(ticket.status=='RAISED')? '#00b3ff':(ticket.status=='ASSIGNED')?'#f5c105':'#d9d1e3' }"
class="text-center" style="color: white;"> {{ticket.status}} </td>
         <td class="text-center">{{ticket.createdAt | date :"dd-MMM-yyyy,hh:mm:ss"}}</td>
         <td class="text-center">{{ticket.updatedAt | date :"dd-MMM-yyyy,hh:mm:ss"}}</td>
         <td class="text-center">{{(ticket.manager!==null)? ticket.manager.firstName:"Not
Assigned" + "  " }}{{ (ticket.manager!==null)? ticket.manager.lastName : " " }}</td>
         <td class="text-center"><button class="btn btn-warning btn-sm"
(click)="complaintdetails(ticket)"><i class="bi bi-eye-fill"></i></button></td>
         <td class="text-center">{{(ticket.engineer!==null)?ticket.engineer.firstName:"Not
Assigned" + "  " }}{{ (ticket.engineer!==null)? ticket.engineer.lastName :" " }}</td>

      </tr>

   </tbody>
</table>
```
Manageralltickets.component.ts
```
import { Component } from '@angular/core';
import { Ticket } from '../models/Ticket';
import { TicketService } from '../services/ticket.service';
import { MatDialog } from '@angular/material/dialog';
import { ComplaintdetailsComponent } from
'../manager/complaintdetails/complaintdetails.component';
```

```
@Component({
  selector: 'app-manageralltickets',
  templateUrl: './manageralltickets.component.html',
  styleUrls: ['./manageralltickets.component.css']
})
export class ManagerallticketsComponent {
  tickets:Ticket[];
  constructor(
    private tktService:TicketService,
    private dialog:MatDialog
    ){

  }
  ngOnInit(){
    this.tktService.getAllTickets().subscribe(x=>{this.tickets=x;});

  }
  complaintdetails(tkt:Ticket){
    this.dialog.open(ComplaintdetailsComponent,{width:'40%',data:tkt.ticketId});
  }
}
```

Manageropentickets.component.html

```
<table class="table table-striped table-outlined">
    <thead class="table-dark">
        <tr>
            <th class="text-center">TicketID</th>
            <th class="text-center">Status</th>
            <th class="text-center">Date of creation</th>
            <th class="text-center" >Last Updated</th>
            <th class="text-center">Area Manager</th>
            <th class="text-center">Complaint Details</th>
            <th class="text-center">Assigned Engineer</th>
        </tr>
    </thead>
    <tbody>

        <tr *ngFor="let ticket of tickets">

            <td class="text-center">{{ticket.ticketId}}</td>
            <td [ngStyle]="{'background-color': (ticket.status=='CLOSED')?
'#00db3a':(ticket.status=='RAISED')? '#00b3ff':(ticket.status=='ASSIGNED')?'#f5c105':'#d9d1e3' }"
class="text-center" style="color: white;"> {{ticket.status}} </td>
            <td class="text-center">{{ticket.createdAt | date :"dd-MMM-yyyy,hh:mm:ss"}}</td>
            <td class="text-center">{{ticket.updatedAt | date :"dd-MMM-yyyy,hh:mm:ss"}}</td>
            <td class="text-center">{{(ticket.manager!==null)? ticket.manager.firstName:"Not
Assigned" + "  " }}{{ (ticket.manager!==null)? ticket.manager.lastName : " " }}</td>
            <td class="text-center"><button class="btn btn-warning btn-sm"
(click)="complaintdetails(ticket)"><i class="bi bi-eye-fill"></i></button></td>
            <td class="text-center"><button *ngIf="ticket.engineer==null" class='btn btn-warning'
(click)='assignengineer(ticket)'>Assign
Engineer</button>{{(ticket.engineer!==null)?ticket.engineer.firstName:"" + "  " }}{{
(ticket.engineer!==null)? ticket.engineer.lastName :" " }}</td>

        </tr>
```

```
  </tbody>
</table>
```

Manageropentickets.component.ts

```
import { Component } from '@angular/core';
import { AuthService } from '../services/auth.service';
import { TicketService } from '../services/ticket.service';
import { Ticket } from '../models/Ticket';
import { user } from '../models/user';
import { Manager } from '../models/Manager';
import { MatDialog } from '@angular/material/dialog';
import { ComplaintdetailsComponent } from
'../manager/complaintdetails/complaintdetails.component';
import { AssignengineerComponent } from '../assignengineer/assignengineer.component';

@Component({
 selector: 'app-manageropentickets',
 templateUrl: './manageropentickets.component.html',
 styleUrls: ['./manageropentickets.component.css']
})
export class ManageropenticketsComponent {
 usr:user;
 tickets:Ticket[];
 constructor(private authservice:AuthService,
       private tktservice:TicketService,
       private dialog:MatDialog){

 }
 ngOnInit(){
  this.authservice.getCurrentUser().subscribe(d=>{
   this.usr=d;
   this.tktservice.getManagerOpenTickets(this.usr.userid).subscribe(x=>this.tickets=x);
  });

 }
 complaintdetails(tkt:Ticket){
  this.dialog.open(ComplaintdetailsComponent,{width:'40%',data:tkt.ticketId});
 }
 assignengineer(tkt:Ticket){
  this.dialog.open(AssignengineerComponent,{width:'40%',data:tkt});
 }
}
```

Complaint.ts

```
import { Customer } from "./Customer";
import { Ticket } from "./Ticket";
import { pin } from "./pin";

export class complaint{
  complaintId:number;
  name:string;
  address:string;
  pin:pin;
  contactNo:number;
  customer:Customer;
  subject:string;
  details:string;
  feedback:string;
  ticket:Ticket[];
  createdAt:Date;
  lastUpdated:Date;
}
```

Customer.ts

```
import { pin } from "./pin";
import { user } from "./user";

export class Customer extends user {
  address:string;
  pin:pin;
  contactNo:number;
  constructor(usr:user){
    super(usr);
  }
}
```

Engineer.ts

```
import { pin } from "./pin";
import { user } from "./user";

export class Engineer extends user{
  locations:pin[];
  contactNo:number;
  constructor(usr:user){
    super(usr);
  }
}
```

loginrequestDto.ts

```
export class request{
  username:string;
  password:string;
}
```

Manager.ts

```
import { pin } from "./pin";
import { user } from "./user";

export class Manager extends user{
  pin:pin;
  contactNo:number;
  constructor(usr:user){
    super(usr);
  }
}
```

Pin.ts

```
export class pin{
  pin:number;
  constructor(pin:number){
    this.pin=pin;
  }
}
```

Status.ts

```
export class status{
   status:number;
}
```

Ticket.ts

```
import { complaint } from "./Complaint";
import { Engineer } from "./Engineer";
import { Manager } from "./Manager";

export class Ticket{
   ticketId:number;
   status:string;
   complaint:complaint;
   manager:Manager;
   engineer:Engineer;
   comment:string;
   createdAt:Date;
   updatedAt:Date;
}
```

User.ts

```
export class user {
   userid:number;
   firstName:string;
   lastName:string;
   username:string;
   password:string;
   email:string;
   roles:string;
   accountStatus:boolean;
   constructor(usr:user){
      this.userid=usr.userid;
      this.firstName=usr.firstName;
      this.lastName=usr.lastName;
      this.username=usr.username;
      this.password=usr.password;
      this.email=usr.email;
      this.roles=usr.roles;
      this.accountStatus=usr.accountStatus;
   }
}
```

Navbar.component.html

```
<nav class="navbar navbar-light bg-light justify-content-between">
   <a class="navbar-brand" routerLink="">ABC Telecom Ltd.</a>

   <form class="form-inline">
      <span>
        Welcome {{currentUser.username}}!!
       </span>

<button class="btn btn-warning my-2 my-sm-0" *ngIf="!currentUser.authentication"
routerLink="login">Login</button>
   <button class="btn btn-warning my-2 my-sm-0" *ngIf="currentUser.authentication"
(click)="logout()">Log out</button>
   </form>
</nav>
```

Navbar.component.ts

```
import { Component } from '@angular/core';
import { AuthService } from '../services/auth.service';
import { Router } from '@angular/router';

@Component({
  selector: 'app-navbar',
  templateUrl: './navbar.component.html',
  styleUrls: ['./navbar.component.css']
})
export class NavbarComponent {
  currentUser:{
    authentication:boolean,
    username:string,
    roles:string[]
  }= {
    authentication:false,
    username:"guest",
    roles:[]
  };
constructor(
  private authservice:AuthService,
  private router:Router){

}
ngOnInit(){
  if(this.authservice.currentUser.username!='guest'){
    this.currentUser = this.authservice.currentUser;

  }
}
logout(){
this.authservice.logout();
this.currentUser = this.authservice.currentUser;
this.router.navigateByUrl("/");
}
}
```

Auth.service.ts

```
import { HttpClient, HttpHeaders } from '@angular/common/http';
import { Injectable } from '@angular/core';
import { request } from '../models/loginRequestDto';
import { Observable } from 'rxjs';
import { MatSnackBar, MatSnackBarHorizontalPosition, MatSnackBarVerticalPosition } from
'@angular/material/snack-bar';
import { user } from '../models/user';

@Injectable({
  providedIn: 'root'
})
export class AuthService {
  private baseUrl:string = "http://localhost:8080/"
  horizontalPosition: MatSnackBarHorizontalPosition = 'end';
  verticalPosition: MatSnackBarVerticalPosition = 'top';
  currentUser:{
    authentication:boolean,
    username:string,
    roles:string[]
  } = {
    authentication:false,
    username:"guest",
    roles:[]
  }

  constructor(private http:HttpClient,
    private snackbar:MatSnackBar,) { }

  login(req:request):Observable<any>{
    const body = new FormData();
    body.append('username', req.username);
    body.append('password', req.password);
    const headers = new HttpHeaders();
    headers.append('Content-Type', 'multipart/form-data');
    return this.http.post(this.baseUrl+"auth",body,{headers,withCredentials: true});
  }

  logout():Observable<any>{
    this.currentUser = {
      authentication:false,
    username:"guest",
    roles:[]
    }
    this.snackbar.open("Logged Out!",
"Dismiss",{duration:3000,horizontalPosition:this.horizontalPosition,
      verticalPosition: this.verticalPosition,})
    return this.http.get(this.baseUrl+"logout");
  }

  hasRole(role: string): boolean {
    return this.currentUser.roles.includes(role);
  }

  hasAnyRole(roles: string[]): boolean {
    return this.currentUser.roles.some(r => roles.includes(r));
  }
  isLoggedIn():boolean{
    return this.currentUser.authentication;
  }
  getCurrentUser():Observable<user>{
    return
this.http.get<user>("http://localhost:8080/api/ticket/"+'getcurrentuser',{withCredentials:true});
  }
}
```

Complaint.service.ts

```
import { HttpClient, HttpParams } from '@angular/common/http';
import { Injectable } from '@angular/core';
import { complaint } from '../models/Complaint';
import { Observable } from 'rxjs';
import { status } from '../models/status';
import { pin } from '../models/pin';
import { Manager } from '../models/Manager';
```

```
@Injectable({
  providedIn: 'root'
})
export class ComplaintService {
  baseUrl:string = 'http://localhost:8080/api/complaint/'
  constructor(private http:HttpClient) { }
  raiseComplaint(cmp:complaint):Observable<any>{
    return this.http.post<any>(this.baseUrl+'raise',cmp,{withCredentials:true});
  }
  getAllComplaints():Observable<complaint[]>{
    return this.http.get<complaint[]>(this.baseUrl+'all',{withCredentials:true});
  }
  getCustomerComplaints(custId:number):Observable<complaint[]>{
    let params:HttpParams = new HttpParams().set("cid",custId);
    return
this.http.get<complaint[]>(this.baseUrl+'cuscomplaints',{params:params,withCredentials:true});
  }
  ticketReRaise(cmp:complaint):Observable<any>{
    return this.http.post<any>(this.baseUrl+'ticketreraise',cmp,{withCredentials:true});
  }
  postFeedback(cmp:complaint):Observable<status>{
    return this.http.post<status>(this.baseUrl+'addfeedback',cmp,{withCredentials:true});
  }
  getAllPin():Observable<pin[]>{
    return this.http.get<pin[]>(this.baseUrl+"allpin",{withCredentials:true});
  }
  addPin(p:pin):Observable<status>{
    return this.http.post<status>(this.baseUrl+"addpin",p,{withCredentials:true});
  }
  getManagerForPin(pin:number):Observable<Manager>{
    let params = new HttpParams().set("pin",pin);
    return
this.http.get<Manager>(this.baseUrl+'managerforpin',{params:params,withCredentials:true})
  }
}
```

Ticket.service.ts

```
import { HttpClient, HttpParams } from '@angular/common/http';
import { Injectable } from '@angular/core';
import { Observable } from 'rxjs';
import { Ticket } from '../models/Ticket';
import { complaint } from '../models/Complaint';
import { status } from '../models/status';
import { Engineer } from '../models/Engineer';
import { user } from '../models/user';

@Injectable({
  providedIn: 'root'
})
export class TicketService {
  baseUrl: string = 'http://localhost:8080/api/ticket/'
  constructor(private http: HttpClient) { }

  getAllTickets(): Observable<Ticket[]> {
    return this.http.get<Ticket[]>(this.baseUrl + 'all', { withCredentials: true });
  }
  getTicketById(ticketId: number): Observable<Ticket> {
    let param: HttpParams = new HttpParams().set("ticketId", ticketId);
    return this.http.get<Ticket>(this.baseUrl + 'ticketdata', { params: param });
  }
  getComplaintdataByTicketid(ticketId: number): Observable<complaint> {
    let param: HttpParams = new HttpParams().set("ticketId", ticketId);
    return this.http.get<complaint>(this.baseUrl + 'complaintdata', { params: param,
withCredentials: true });
  }
  updateStatus(tkt: Ticket): Observable<status> {
    return this.http.patch<status>(this.baseUrl + 'updatestatus', tkt,{withCredentials:true});
  }
  updateComment(tkt: Ticket): Observable<status> {
    return this.http.patch<status>(this.baseUrl + 'updatecomment', tkt);
  }
  assignEngineer(tkt: Ticket): Observable<status> {
    return this.http.patch<status>(this.baseUrl + 'assignEngineer', tkt,{withCredentials:true});
  }
  getAllEngineerTickets(engineerID: number): Observable<Ticket[]> {
    let param: HttpParams = new HttpParams().set("engineerid", engineerID);
    return this.http.get<Ticket[]>(this.baseUrl + 'engineeralltickets', { params: param
,withCredentials:true});
  }
  getEngineerOpenTickets(engId: number): Observable<Ticket[]> {
    let param: HttpParams = new HttpParams().set("engineerid", engId);
    return this.http.get<Ticket[]>(this.baseUrl + 'engineeropentickets', { params: param
,withCredentials:true});
  }
  getManagerOpenTickets(mgrId: number): Observable<Ticket[]> {
    let param: HttpParams = new HttpParams().set("managerid", mgrId);
    return this.http.get<Ticket[]>(this.baseUrl + 'manageropentickets', { params: param,
withCredentials: true });
  }
  getAllManagerTickets(mgrId: number): Observable<Ticket[]> {
    let param: HttpParams = new HttpParams().set("managerid", mgrId);
    return this.http.get<Ticket[]>(this.baseUrl + 'manageralltickets', { params: param });
  }
  getEngineerForPin(pincode: number): Observable<Engineer[]> {
    let param: HttpParams = new HttpParams().set("pin", pincode);
    return this.http.get<Engineer[]>(this.baseUrl + 'engineerforpin', { params:
param,withCredentials:true });
  }
  assignmanager(t: Ticket): Observable<status> {
    return this.http.patch<status>(this.baseUrl + 'assignmanager', t, { withCredentials: true });
  }
}
```

User.service.ts

```
import { HttpClient, HttpClientModule, HttpParams } from '@angular/common/http';
import { Injectable } from '@angular/core';
import { user } from '../models/user';
import { Observable } from 'rxjs';
import { status } from '../models/status';
import { Manager } from '../models/Manager';
import { Engineer } from '../models/Engineer';
import { Customer } from '../models/Customer';

@Injectable({
  providedIn: 'root'
})
export class UserService {
  baseUrl:string='http://localhost:8080/api/user/'
  constructor(private http:HttpClient) { }

  getAllUsers():Observable<user[]>{
    return this.http.get<user[]>(this.baseUrl +'all', {withCredentials:true});
  }

  adduser(usr:user):Observable<status>{
    return this.http.post<status>(this.baseUrl+'adduser',usr);
  }
  deleteuser(usrid:number):Observable<status>{
    let params:HttpParams = new HttpParams().set("userid",usrid)
    return this.http.delete<status>(this.baseUrl+'deleteuser', {params:params});
  }
  addManager(mgr:Manager):Observable<status>{
    return this.http.post<status>(this.baseUrl+'addmanager',mgr,{withCredentials:true});
  }
  addEngineer(egr:Engineer):Observable<status>{
    console.log("Service Method called !!");
    return this.http.post<status>(this.baseUrl+'addengineer',egr,{withCredentials:true});
  }
  addCustomer(cus:Customer){
    return this.http.post<status>(this.baseUrl+'addcustomer',cus,{withCredentials:true});
  }
  getAllManagers():Observable<Manager[]>{
    return this.http.get<Manager[]>(this.baseUrl+'allmanagers',{withCredentials:true});
  }
  getAllEngineers():Observable<Engineer[]>{
    return this.http.get<Engineer[]>(this.baseUrl+'allengineers',{withCredentials:true});
  }
  getAllCustomers():Observable<Customer[]>{
    return this.http.get<Customer[]>(this.baseUrl+'allcustomers');
  }
}
```

App-routing.module.ts

```
import { NgModule } from '@angular/core';
import { RouterModule, Routes } from '@angular/router';
import { LoginComponent } from './login/login.component';
import { LandingComponent } from './landing/landing.component';
import { loginGuard } from './gaurds/login.guard';
import { ManageralltticketsComponent } from './manageralltickets/manageralltickets.component';
import { ManageropenticketsComponent } from
'./manageropentickets/manageropentickets.component';
import { ManagerComponent } from './manager/manager.component';
import { CustomerComponent } from './customer/customer.component';
import { AdminpanelComponent } from './adminpanel/adminpanel.component';
import { EngineerComponent } from './engineer/engineer.component';
import { AllusersComponent } from './adminpanel/allusers/allusers.component';
import { CreatecomplaintComponent } from
'./customer/createcomplaint/createcomplaint.component';
import { AllcomplaintComponent } from './customer/allcomplaint/allcomplaint.component';
import { AdminallcomplaintsComponent } from
'./adminpanel/adminallcomplaints/adminallcomplaints.component';
import { AdminallticketsComponent } from
'./adminpanel/adminalltickets/adminalltickets.component';
import { PincodedetailsComponent } from
'./adminpanel/pincodedetails/pincodedetails.component';
import { AllticketsComponent } from './engineer/alltickets/alltickets.component';
import { OpenticketsComponent } from './engineer/opentickets/opentickets.component';

const routes: Routes = [
  {path:'login',component:LoginComponent},
  {path:'',component:LandingComponent,canActivate:[loginGuard],children:[
    {path:'manager',component:ManagerComponent,children:[
    {path:'managerall', component:ManagerallticketsComponent},
    {path:'manageropen', component:ManageropenticketsComponent}
  ]},
  {path:'customer',component:CustomerComponent,children:[
     {path:'allcomplaints',component:AllcomplaintComponent},
     {path:'**',redirectTo:'allcomplaints',pathMatch:'full'}
  ]},
  {path:'engineer',component:EngineerComponent,children:[
    {path:'alltickets',component:AllticketsComponent},
    {path:'opentickets',component:OpenticketsComponent}
  ]},
  {path:'adminpanel', component:AdminpanelComponent,children:[
    {path:'viewall', component:AllusersComponent},
    {path:'allcomplaints',component:AdminallcomplaintsComponent},
    {path:'alltickets',component:AdminallticketsComponent},
    {path:'pincodedetails',component:PincodedetailsComponent}
  ]}
  ]},
  {path:'**',redirectTo:'',pathMatch:'full'}

];

@NgModule({
  imports: [RouterModule.forRoot(routes)],
  exports: [RouterModule]
})
export class AppRoutingModule { }
```

App.component.html

```
<div class="container">
   <router-outlet></router-outlet>
</div>
```

App.component.ts

```
import { Component } from '@angular/core';

@Component({
  selector: 'app-root',
  templateUrl: './app.component.html',
  styleUrls: ['./app.component.css']
})
```

```
export class AppComponent {
  title = 'ComplaintRedressalSystem-ui';
}
```

App.module.ts

```
import { NgModule } from '@angular/core';
import { BrowserModule } from '@angular/platform-browser';
import {HttpClientModule} from '@angular/common/http';
import { AppRoutingModule } from './app-routing.module';
import { AppComponent } from './app.component';
import { LoginComponent } from './login/login.component';
import { NavbarComponent } from './navbar/navbar.component';
import { FormsModule } from '@angular/forms';
import {MatSnackBarModule} from '@angular/material/snack-bar';
import {BrowserAnimationsModule} from '@angular/platform-browser/animations';
import { CookieService } from 'ngx-cookie-service';
import { LandingComponent } from './landing/landing.component';
import { CustomerComponent } from './customer/customer.component';
import { ManagerComponent } from './manager/manager.component';
import { EngineerComponent } from './engineer/engineer.component';
import { AdminpanelComponent } from './adminpanel/adminpanel.component';
import { ManagerallticketsComponent } from './manageralltickets/manageralltickets.component';
import { ManageropenticketsComponent } from
'./manageropentickets/manageropentickets.component';
import { AllusersComponent } from './adminpanel/allusers/allusers.component';
import { AdduserComponent } from './adminpanel/adduser/adduser.component';
import {MatDialogModule}from '@angular/material/dialog';
import {MatRadioModule} from '@angular/material/radio';
import { CreatecomplaintComponent } from
'./customer/createcomplaint/createcomplaint.component';
import { AllcomplaintComponent } from './customer/allcomplaint/allcomplaint.component';
import { ViewticketComponent } from './customer/viewticket/viewticket.component';
import { ComplaintidComponent } from './customer/complaintid/complaintid.component';
import { ComplaintdetailsComponent } from
'./manager/complaintdetails/complaintdetails.component';
import { AdminallcomplaintsComponent } from
'./adminpanel/adminallcomplaints/adminallcomplaints.component';
import { AdminallticketsComponent } from
'./adminpanel/adminalltickets/adminalltickets.component';
import { AssignmanagerComponent } from
'./adminpanel/assignmanager/assignmanager.component';
import { AssignengineerComponent } from './assignengineer/assignengineer.component';
import { PincodedetailsComponent } from
'./adminpanel/pincodedetails/pincodedetails.component';
import { AddpinComponent } from './adminpanel/addpin/addpin.component';
import { AllticketsComponent } from './engineer/alltickets/alltickets.component';
import { OpenticketsComponent } from './engineer/opentickets/opentickets.component';
import { UpdatestatusComponent } from './engineer/updatestatus/updatestatus.component';
import { FeedbackComponent } from './customer/feedback/feedback.component';
import { TicketraiseComponent } from './customer/ticketraise/ticketraise.component';


@NgModule({
  declarations: [
    AppComponent,
    LoginComponent,
    NavbarComponent,
    LandingComponent,
    CustomerComponent,
    ManagerComponent,
    EngineerComponent,
    AdminpanelComponent,
    ManagerallticketsComponent,
    ManageropenticketsComponent,
    AllusersComponent,
    AdduserComponent,
    CreatecomplaintComponent,
    AllcomplaintComponent,
    ViewticketComponent,
    ComplaintidComponent,
    ComplaintdetailsComponent,
    AdminallcomplaintsComponent,
    AdminallticketsComponent,
    AssignmanagerComponent,
    AssignengineerComponent,
    PincodedetailsComponent,
    AddpinComponent,
    AllticketsComponent,
    OpenticketsComponent,
    UpdatestatusComponent,
    FeedbackComponent,
    TicketraiseComponent


  ],
  imports: [
    BrowserModule,
    AppRoutingModule,
    HttpClientModule,
    FormsModule,
    MatSnackBarModule,
    BrowserAnimationsModule,
    MatDialogModule,
    MatRadioModule
  ],
  providers: [CookieService],
  bootstrap: [AppComponent]
})
export class AppModule { }
```