

C:\Users\r0886323\Documents\Applicatiearchitecturen\application_architectures\src\main\java

```
package krb.soit.application_architectures;

import org.springframework.boot.SpringApplication;
import org.springframework.boot.autoconfigure.SpringBootApplication;

@SpringBootApplication
public class ApplicationArchitecturesApplication {

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

}
```

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```
package krb.soit.application_architectures.controllers;
import krb.soit.application_architectures.model.*;
import krb.soit.application_architectures.services.MainServiceImpl;
import krb.soit.application_architectures.services.CustomerServiceImpl;

import java.util.ArrayList;

import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.stereotype.Controller;
import org.springframework.ui.Model;
import org.springframework.validation.Errors;
import org.springframework.web.bind.annotation.GetMapping;
import org.springframework.web.bind.annotation.ModelAttribute;
import org.springframework.web.bind.annotation.PostMapping;

import jakarta.annotation.PostConstruct;
import jakarta.servlet.ServletContext;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpSession;
import jakarta.validation.Valid;

@Controller
public class MainController {

    @Autowired
    private ServletContext ctx;

    @Autowired
    private MainServiceImpl mainService;

    @Autowired
    private CustomerServiceImpl customerService;

    @PostConstruct
    public void init_model() {
        // ctx.setAttribute("data", new Data());
        ctx.setAttribute("allCars", mainService.findAllCars());
        ctx.setAttribute("allLocations", mainService.findAllLocations());
    }

    @GetMapping("/")
    public String index() {
        return "index";
    }

    @GetMapping("/login.html")
    public String login() {
        return "login";
    }

    @GetMapping("/register")
    public String register(Model m) {
        m.addAttribute("newCostumer", new Costumer());
        return "register";
    }

    @GetMapping("/rental.html")
    public String rental(HttpSession ses, Model mod) {
        if (ses.getAttribute("email") != null) {
            mod.addAttribute("newRent", new Rent());
            return "rental";
        }
    }
}
```

```

    } else
        return "forward:/register";
    }

@GetMapping("/overview.html")
public String overview(HttpSession ses, Model mod) {
    if (ses.getAttribute("email") != null)
        return "overview";
    else
        return "forward:/register";
}

@GetMapping("/logout.html")
public String logout(HttpSession ses) {
    ses.invalidate();
    return "index";
}

@PostMapping("/login_to_index")
public String login_to_index(Model mod, HttpSession ses, HttpServletRequest req) {
    ArrayList<Costumer> res = customerService.findAllCostumers();
    if (res != null) {
        Boolean found = false;
        for(int i=0; i<res.size(); i++) {
            if (req.getParameter("email") == res.get(i).getEmail() && req.getParameter("password")
                found = true;
            }
        }
        if (found) {
            return "index";
        }
    }
    return "index.html";
}
}

```

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```
package krb.soit.application_architectures.controllers;

import java.util.ArrayList;

import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.stereotype.Controller;
import org.springframework.ui.Model;
import org.springframework.validation.Errors;
import org.springframework.web.bind.annotation.ModelAttribute;
import org.springframework.web.bind.annotation.PostMapping;

import jakarta.servlet.ServletContext;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpSession;
import jakarta.validation.Valid;
import krb.soit.application_architectures.model.Costumer;
import krb.soit.application_architectures.services.CustomerService;
import krb.soit.application_architectures.services.CustomerServiceImpl;
import krb.soit.application_architectures.services.MainService;
import krb.soit.application_architectures.services.MainServiceImpl;
import krb.soit.application_architectures.services.RentService;

@Controller
public class CustomerController {

    @Autowired
    private CustomerServiceImpl costumerServiceImpl;

    @PostMapping("/register_to_index")
    public String register(Model mod, HttpSession ses, HttpServletRequest req, @ModelAttribute
        if (e.hasErrors())
            return "register";

    ArrayList<Costumer> res = costumerServiceImpl.findAllCostumers();
    if (res != null) {
        Boolean found = false;
        for(int i=0; i<res.size(); i++) {
            if (req.getParameter("email") == res.get(i).getEmail() && req.getParameter("password")
                found = true;
            }
        }
        if (found) {
            ses.setAttribute("email", req.getParameter("email"));
            return "index";
        }
    }
    costumerServiceImpl.addCostumer(costumer);
    ses.setAttribute("email", req.getParameter("email"));
    return "index";
}
}
```

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```
package krb.soit.application_architectures.controllers;

import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.stereotype.Controller;
import org.springframework.ui.Model;
import org.springframework.web.bind.annotation.GetMapping;
import org.springframework.web.bind.annotation.PostMapping;

import jakarta.servlet.http.HttpServletRequest;
import krb.soit.application_architectures.model.Rent;
import krb.soit.application_architectures.services.RentService;
import krb.soit.application_architectures.services.RentServiceImpl;

@Controller
public class RentController {
    @Autowired
    private RentServiceImpl rentService;

    @GetMapping("/rental")
    public String rental(Model m, HttpServletRequest req) {
        m.addAttribute("rent_price", rentService.berekenPrijs(Integer.parseInt(req.getParameter(
            return "rental";
        }

    @PostMapping("/rental_again")
    public String rental_again(Model mod, HttpServletRequest req) {
        mod.addAttribute("newRent", new Rent());
        mod.addAttribute("rent_price", rentService.berekenPrijs(Integer.parseInt(req.getParameter(
        return "rental";
    }
}
```

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```
package krb.soit.application_architectures.model;

import jakarta.persistence.Column;
import jakarta.persistence.Entity;
import jakarta.persistence.Id;
import jakarta.persistence.Table;

@Entity
@Table(name = "AA_cars")
public class Car {
    @Id
    @Column(name = "CARID")
    private int id;

    @Column(name = "CARTYPE")
    private String type;

    @Column(name = "CARPRICE")
    private double price;
    /*=====*/
    public Car() {
    }

    public Car(int id, String type, double price) {
        this.id = id;
        this.type = type;
        this.price = price;
    }
    /*=====*/
    public int getId() {
        return id;
    }
    public void setId(int id) {
        this.id = id;
    }
    public String getType() {
        return type;
    }
    public void setType(String type) {
        this.type = type;
    }
    public double getPrice() {
        return price;
    }
    public void setPrice(double price) {
        this.price = price;
    }
}
```

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```
package krb.soit.application_architectures.model;

import java.util.ArrayList;

public class Data {
    private ArrayList<Car> cars;
    private ArrayList<Location> locations;

    /*=====*/

    public Data() {
        this.cars = new ArrayList<Car>();
        this.locations = new ArrayList<Location>();
    }

    /*=====*/

    public ArrayList<Car> getCars() {
        return cars;
    }
    public void setCars(ArrayList<Car> cars) {
        this.cars = cars;
    }
    public ArrayList<Location> getLocations() {
        return locations;
    }
    public void setLocations(ArrayList<Location> locations) {
        this.locations = locations;
    }

}
```

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```
package krb.soit.application_architectures.model;

import jakarta.persistence.Column;
import jakarta.persistence.Entity;
import jakarta.persistence.Id;
import jakarta.persistence.Table;

@Entity
@Table(name = "AA_LOCATIONS")
public class Location {
    @Id
    @Column(name = "LOCID")
    private int id;

    @Column(name = "LOCNAME")
    private String name;
    /*=====*/
    public Location() {
    }
    public Location(int id, String name) {
        this.id = id;
        this.name = name;
    }
    /*=====*/
    public int getId() {
        return id;
    }
    public void setId(int id) {
        this.id = id;
    }
    public String getName() {
        return name;
    }
    public void setName(String name) {
        this.name = name;
    }
}
```


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```
package krb.soit.application_architectures.model;

import jakarta.persistence.Column;
import jakarta.persistence.Entity;
import jakarta.persistence.Id;
import jakarta.persistence.JoinColumn;
import jakarta.persistence.ManyToOne;
import jakarta.persistence.Table;
import jakarta.validation.constraints.*;

@Entity
@Table(name = "AA_CUSTOMERS")
public class Costumer {
    @Column(name = "NAME")
    @NotBlank
    private String name;
    @Id
    @Column(name = "EMAIL")
    @NotBlank
    private String email;
    @Column(name = "PASSWD")
    @NotBlank
    private String password;
    @Column(name = "ADDRESS")
    @NotBlank
    private String address;
    @Column(name = "PCODE")
    @Min(0)
    private int pcode;
    @Column(name = "CITY")
    @NotBlank
    private String city;
    @Column(name = "ENABLED")
    private int enabled = 1;

    /*=====*/

    public Costumer(String email, String password, String address, int pcode, String city, int enabled) {
        this.email = email;
        this.password = password;
        this.address = address;
        this.pcode = pcode;
        this.city = city;
        this.enabled = enabled;
    }

    public Costumer() {
    }

    /*=====*/

    public String getEmail() {
        return email;
    }

    public String getName() {
        return name;
    }

    public void setName(String name) {
        this.name = name;
    }
}
```

```
}

public void setEmail(String email) {
    this.email = email;
}
public String getPassword() {
    return password;
}
public void setPassword(String password) {
    this.password = password;
}
public String getAddress() {
    return address;
}
public void setAddress(String address) {
    this.address = address;
}
public int getPcode() {
    return pcode;
}
public void setPcode(int pcode) {
    this.pcode = pcode;
}
public String getCity() {
    return city;
}
public void setCity(String city) {
    this.city = city;
}
public int getEnabled() {
    return enabled;
}
public void setEnabled(int enabled) {
    this.enabled = enabled;
}

}
```

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```
package krb.soit.application_architectures.model;

import java.util.Date;

import jakarta.persistence.Column;
import jakarta.persistence.Entity;
import jakarta.persistence.Id;
import jakarta.persistence.JoinColumn;
import jakarta.persistence.ManyToOne;
import jakarta.persistence.Table;
import jakarta.validation.constraints.*;

@Entity
@Table(name = "AA_RESERVATIONS")
public class Rent {
    @Id
    @Column(name = "ID")
    private int id;

    @ManyToOne
    @JoinColumn(name = "COSTUMER")
    private Costumer customer;

    @ManyToOne
    @JoinColumn(name = "PICKUPLOCATION")
    private Location pickupLocation;

    @ManyToOne
    @JoinColumn(name = "DROPOFFLOCATION")
    private Location dropoffLocation;

    @ManyToOne
    @JoinColumn(name = "CAR")
    private Car car;

    @Column(name = "DAYS")
    @Max(100)
    private int days;

    @Column(name = "FROMDATE")
    private Date fromDate;

    @Column(name = "RESDATE")
    private Date resDate;
    /*=====*/

    public Rent(int id, int days, Date fromDate, Date resDate) {
        this.id = id;
        this.days = days;
        this.fromDate = fromDate;
        this.resDate = resDate;
    }

    public Rent() {
    }

    /*=====*/

    public int getId() {
        return id;
    }
}
```

```
public void setId(int id) {
    this.id = id;
}
public int getDays() {
    return days;
}
public void setDays(int days) {
    this.days = days;
}
public Date getFromDate() {
    return fromDate;
}
public void setFromDate(Date fromDate) {
    this.fromDate = fromDate;
}
public Date getResDate() {
    return resDate;
}
public void setResDate(Date resDate) {
    this.resDate = resDate;
}
}
```

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```
package krb.soit.application_architectures.repositories;

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

import krb.soit.application_architectures.model.Car;

@Repository
public interface CarRepository extends JpaRepository<Car, Integer> {

}
```

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```
package krb.soit.application_architectures.repositories;

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

import krb.soit.application_architectures.model.Location;

@Repository
public interface LocationRepository extends JpaRepository<Location, Integer>{

}
```

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```
package krb.soit.application_architectures.repositories;

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

import krb.soit.application_architectures.model.Costumer;

@Repository
public interface CostumerRepository extends JpaRepository<Costumer, String> {

}
```

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```
package krb.soit.application_architectures.repositories;

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

import krb.soit.application_architectures.model.Location;
import krb.soit.application_architectures.model.Rent;

@Repository
public interface RentRepository extends JpaRepository<Rent, Integer> {

}
```


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```
package krb.soit.application_architectures.services;

import java.util.ArrayList;

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

import krb.soit.application_architectures.model.Rent;
import krb.soit.application_architectures.repositories.RentRepository;

@Service
public class RentServiceImpl implements RentService{

    @Autowired
    private RentRepository rentRepo;

    public float berekenPrijs(int numberOfDays, int priceOfTheDay) {
        int p = numberOfDays * (priceOfTheDay + 1000);
        return (float) (p * 1.21);
    }

    public void addRent(Rent r) {
        rentRepo.save(r);
    }

    public ArrayList<Rent> findAllRents() {
        return (ArrayList<Rent>) rentRepo.findAll();
    }

    public void deleteRent(Rent r) {
        rentRepo.delete(r);
    }
}
```

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```
package krb.soit.application_architectures.services;

import java.util.ArrayList;

import krb.soit.application_architectures.model.Rent;

public interface RentService {
    public float berekenPrijs(int numberOfDays, int priceOfTheDay);
    public void addRent(Rent r);
    public ArrayList<Rent> findAllRents();
    public void deleteRent(Rent r);
}
```

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```
package krb.soit.application_architectures.services;

import java.util.ArrayList;

import krb.soit.application_architectures.model.Costumer;

public interface CustomerService {
    public ArrayList<Costumer> findAllCostumers();
    public void addCostumer(Costumer c);
}
```

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```
package krb.soit.application_architectures.services;
import java.util.ArrayList;

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

import krb.soit.application_architectures.model.Costumer;
import krb.soit.application_architectures.repositories.CostumerRepository;

@Service
public class CustomerServiceImpl implements CustomerService{

    @Autowired
    private CostumerRepository costumerRepo;

    public ArrayList<Costumer> findAllCostumers() {
        return (ArrayList<Costumer>) costumerRepo.findAll();
    }

    public void addCostumer(Costumer c) {
        costumerRepo.save(c);
    }
}
```

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```
package krb.soit.application_architectures.services;

import java.util.ArrayList;

import krb.soit.application_architectures.model.Car;
import krb.soit.application_architectures.model.Location;

public interface MainService {
    public ArrayList<Location> findAllLocations();
    public ArrayList<Car> findAllCars();
}
```

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```
package krb.soit.application_architectures.services;
import java.util.ArrayList;
import java.util.Optional;

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

import krb.soit.application_architectures.model.Car;
import krb.soit.application_architectures.model.Costumer;
import krb.soit.application_architectures.model.Location;
import krb.soit.application_architectures.repositories.CarRepository;
import krb.soit.application_architectures.repositories.CostumerRepository;
import krb.soit.application_architectures.repositories.LocationRepository;

@Service
public class MainServiceImpl implements MainService {
    @Autowired
    private CarRepository carRepo;

    @Autowired
    private LocationRepository locationRepo;

    public ArrayList<Car> findAllCars() {
        return (ArrayList<Car>) carRepo.findAll();
    }

    public ArrayList<Location> findAllLocations() {
        return (ArrayList<Location>) locationRepo.findAll();
    }
}
```

C:\Users\r0886323\Documents\Applicatiearchitecturen\application_architectures\src\test\java

```
package krb.soit.application_architectures;

import org.junit.jupiter.api.Test;
import org.springframework.boot.test.context.SpringBootTest;

@SpringBootTest
class ApplicationArchitecturesApplicationTests {

    @Test
    void contextLoads() {
    }

}
```

