

Computer Architecture Project II

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Overview of the project:

Election Management System:

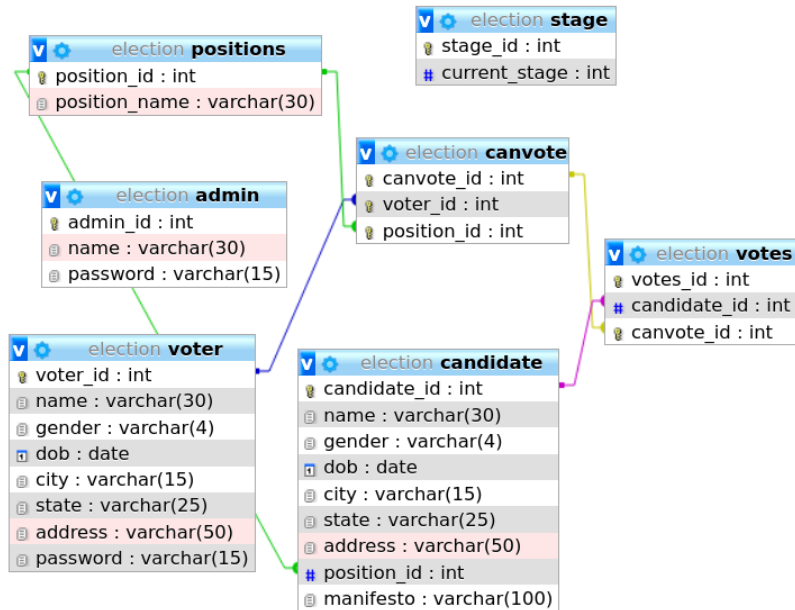
This is a system that has the following functionalities:

- Poll your Vote
- View Election Results
- Participate as Voter
- Has multiple positions that a candidate can stand for
- Participate as a Candidate
- Admin who can alter all voters, candidates, announce results.
- Login as an admin or Voter

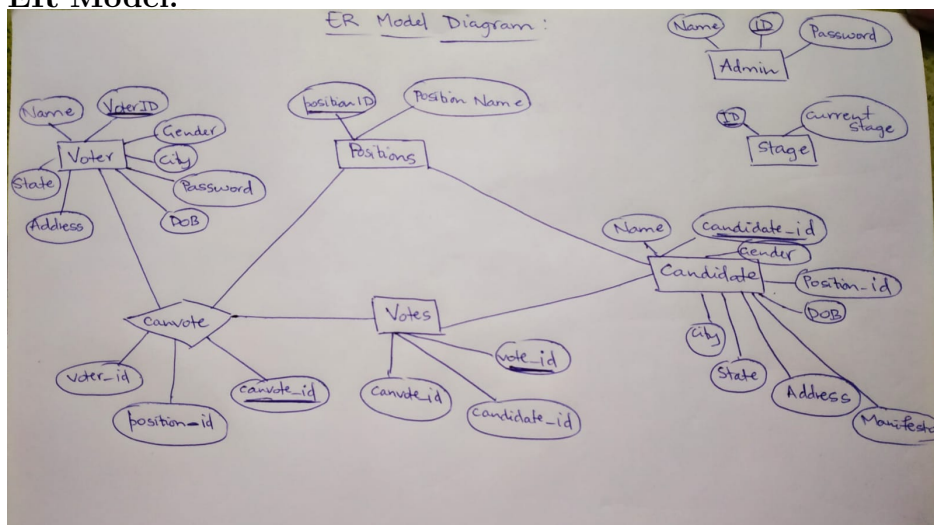
This election management system can be used to conduct elections for multiple positions and show the results after the elections are complete. Each voter would be able to see those positions and candidates he is eligible to vote. Admin or Voter can use their functionalities after they login.

Database schema, ER Model, Users:

Database Schema:



ER Model:



Users

There are 2 types of users in our election management system:

1. Voter
2. Admin

Voter:

Voter can login with his voter ID and password. Based on his voter ID, he can see which positions he is eligible to vote and the corresponding candidates who are participating for those positions. He can choose one candidate per position and cast his vote.

Admin:

An admin can login with his id and password. In the admin home page he can add voters, positions, candidates and voting rights for different users. Apart from this, he can set the current stage of elections whether they are about to start or started or ended and announce the results.

Relational Database design(Tables creation):

```
mysql> describe voter;
```

Field	Type	Null	Key	Default	Extra
voter_id	int	NO	PRI	NULL	
name	varchar(30)	YES		NULL	
gender	varchar(4)	YES		NULL	
dob	date	YES		NULL	
city	varchar(15)	YES		NULL	
state	varchar(25)	YES		NULL	
address	varchar(50)	YES		NULL	
password	varchar(15)	YES		NULL	

```
mysql> describe candidate  
-> ;
```

Field	Type	Null	Key	Default	Extra
candidate_id	int	NO	PRI	NULL	
name	varchar(30)	YES		NULL	
gender	varchar(4)	YES		NULL	
dob	date	YES		NULL	
city	varchar(15)	YES		NULL	
state	varchar(25)	YES		NULL	
address	varchar(50)	YES		NULL	
position_id	int	YES	MUL	NULL	
manifesto	varchar(100)	YES		NULL	

```
9 rows in set (0.00 sec)
```

```
mysql> describe admin;
```

Field	Type	Null	Key	Default	Extra
admin_id	int	NO	PRI	NULL	
name	varchar(30)	YES		NULL	
password	varchar(15)	YES		NULL	

```
3 rows in set (0.00 sec)
```

```
mysql> describe canvote;
```

Field	Type	Null	Key	Default	Extra
canvote_id	int	NO	PRI	NULL	auto_increment
voter_id	int	YES	MUL	NULL	
position_id	int	YES	MUL	NULL	

```
3 rows in set (0.00 sec)
```

```
mysql> describe positions;
```

Field	Type	Null	Key	Default	Extra
position_id	int	NO	PRI	NULL	
position_name	varchar(30)	YES		NULL	

```
2 rows in set (0.01 sec)
```

```
mysql> describe stage;
```

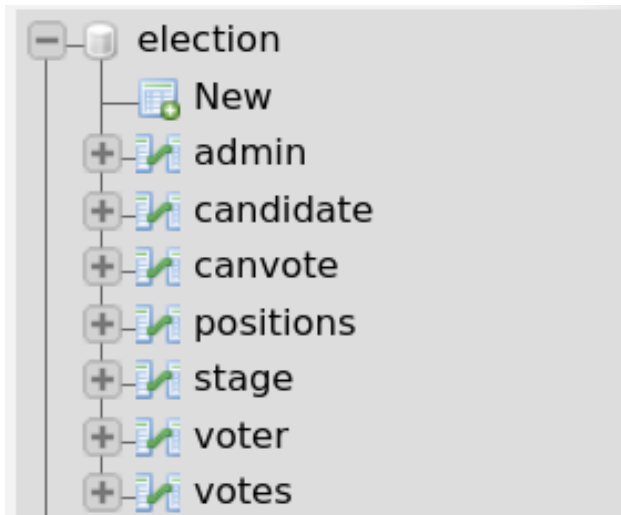
Field	Type	Null	Key	Default	Extra
stage_id	int	NO	PRI	NULL	
current_stage	int	YES		NULL	

```
2 rows in set (0.00 sec)
```

```
mysql> describe votes;
```

Field	Type	Null	Key	Default	Extra
votes_id	int	NO	PRI	NULL	auto_increment
candidate_id	int	YES	MUL	NULL	
canvote_id	int	YES	MUL	NULL	

```
3 rows in set (0.00 sec)
```



All the table creation queries and values insertion queries are shared in separate sql files.

Languages and Technologies used:

Languages Used:

Java, HTML in JSP files

Technologies used:

Java JDBC, J2EEE, MySQL Database, Servlets, JSP. Apache Tomcat 9.0 Server.

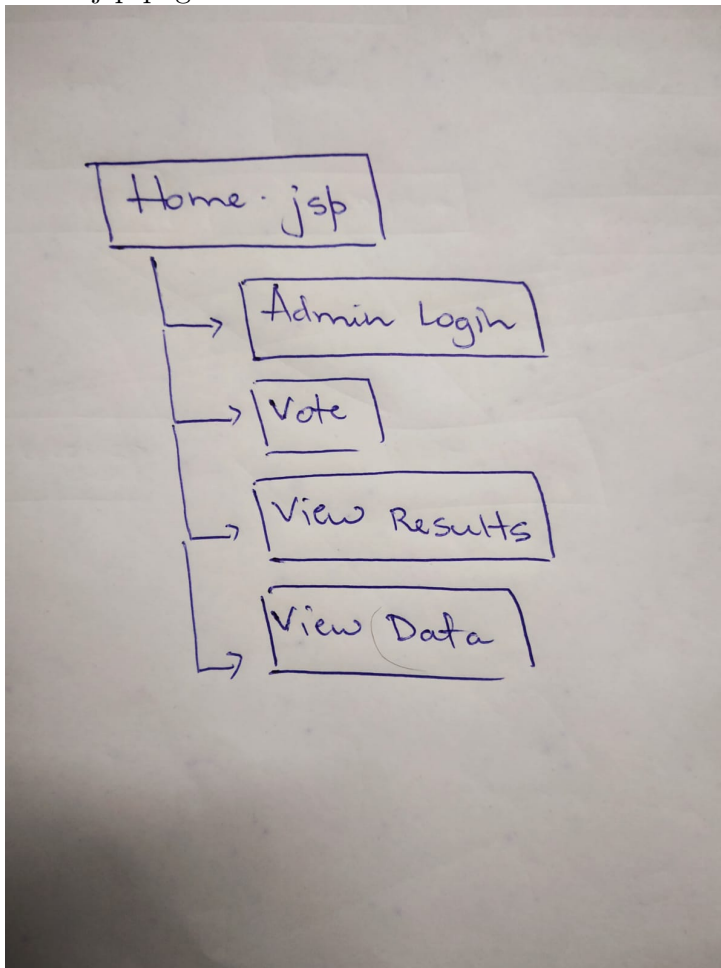
Interface Design:

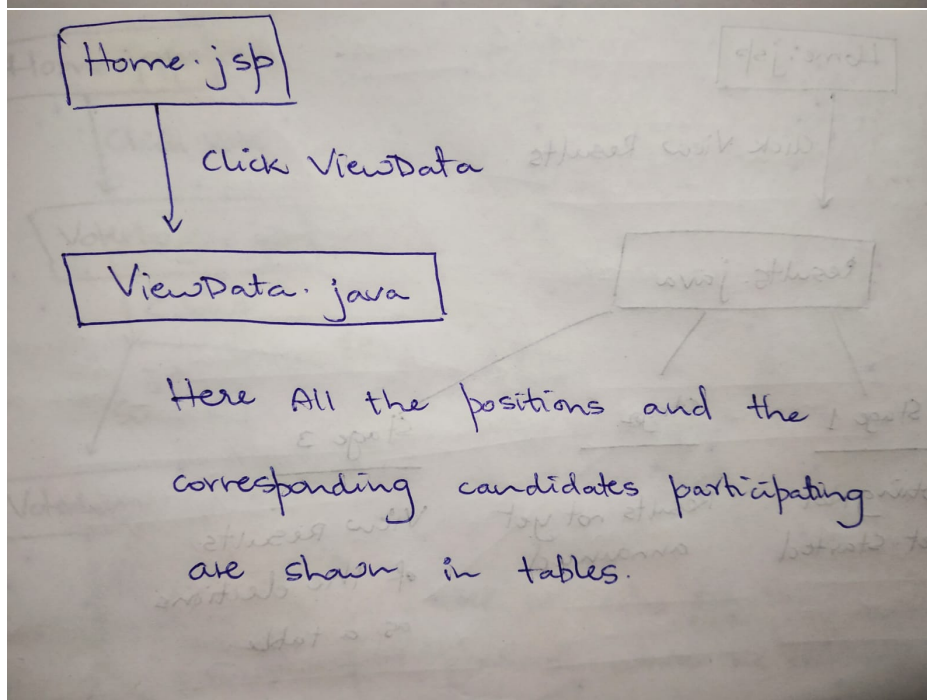
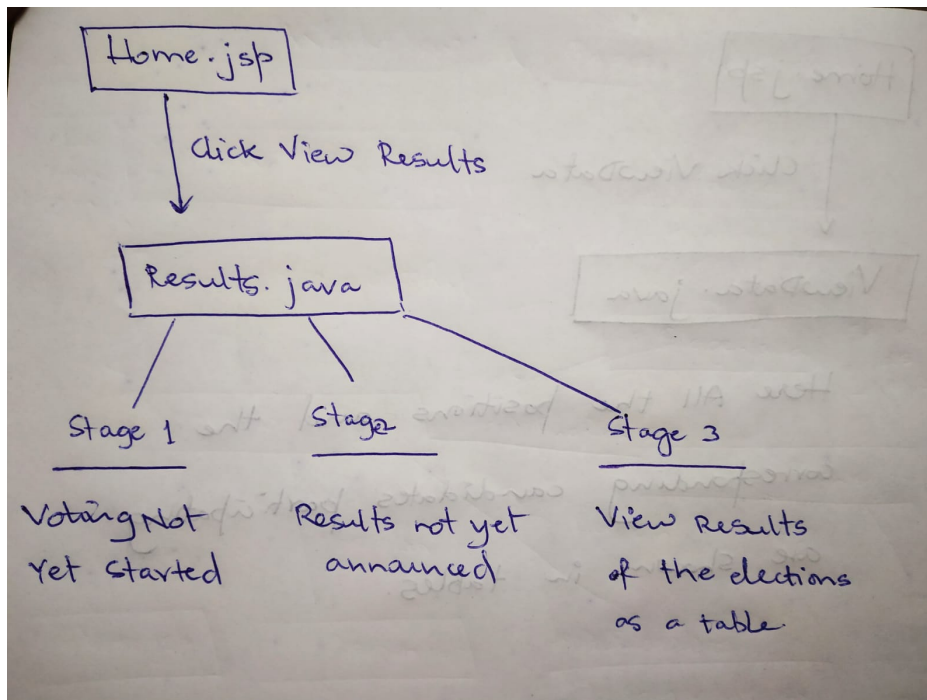
In this election management system, we have used basic css, HTML fields and buttons for text fields and referencing different pages.

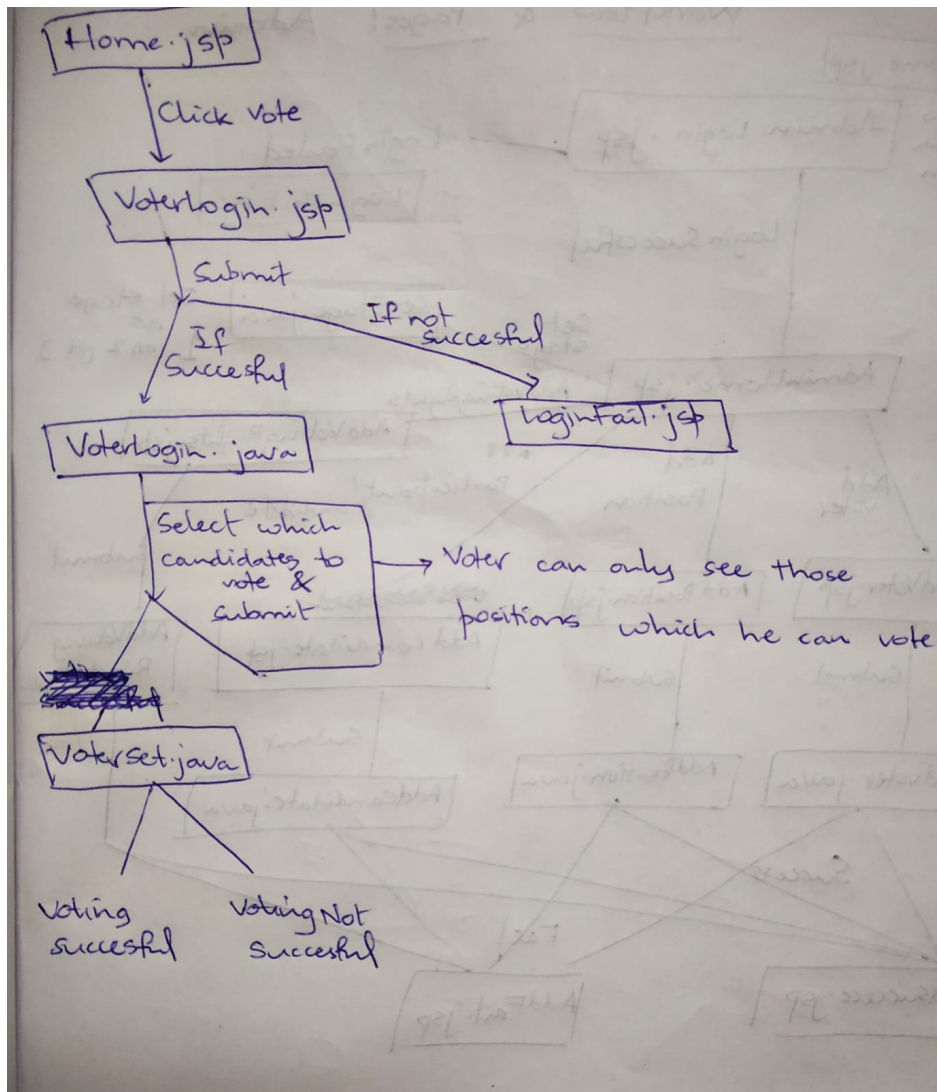
Workflow and Pages:

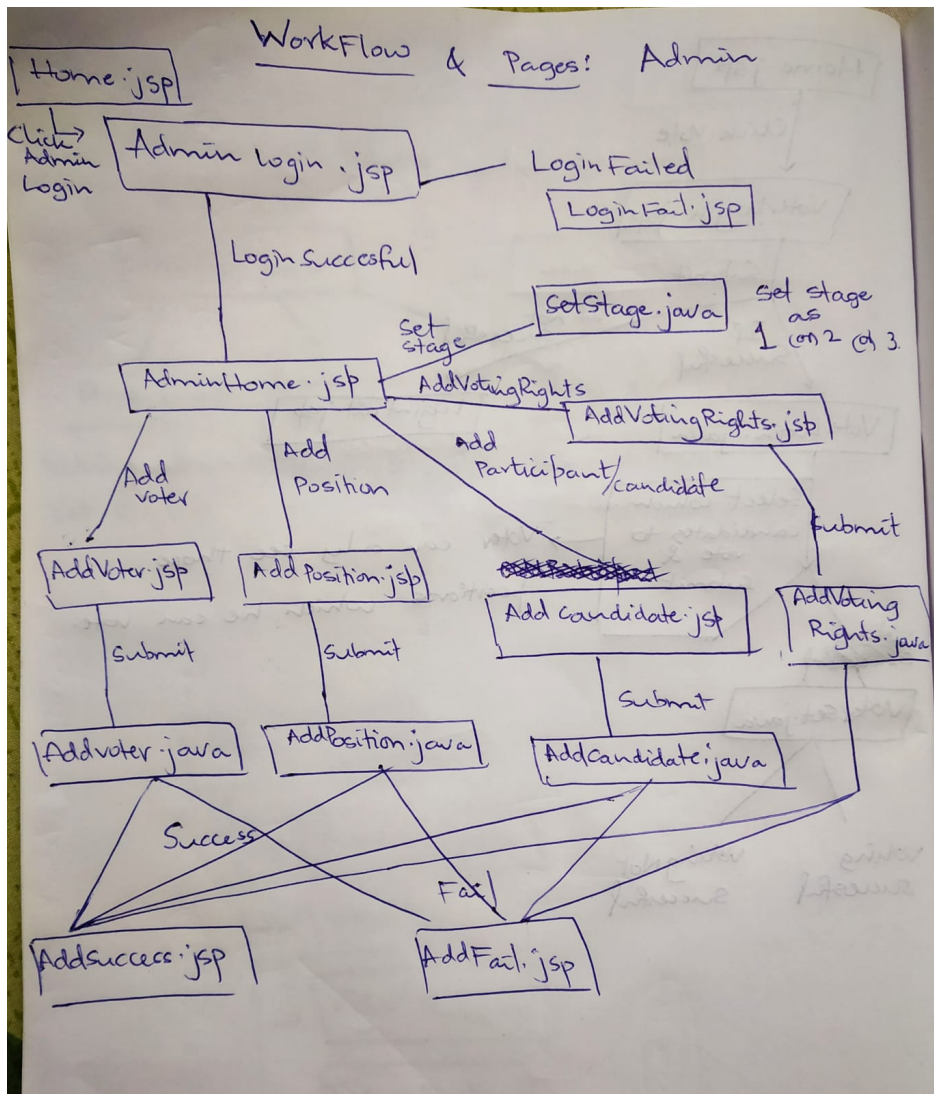
When the sever is started, Home.jsp file is opened. From there based on which option we select, the corresponding pages are loaded and the action is performed.

Please see the below images to understand the workflow starting from the Home.jsp page.



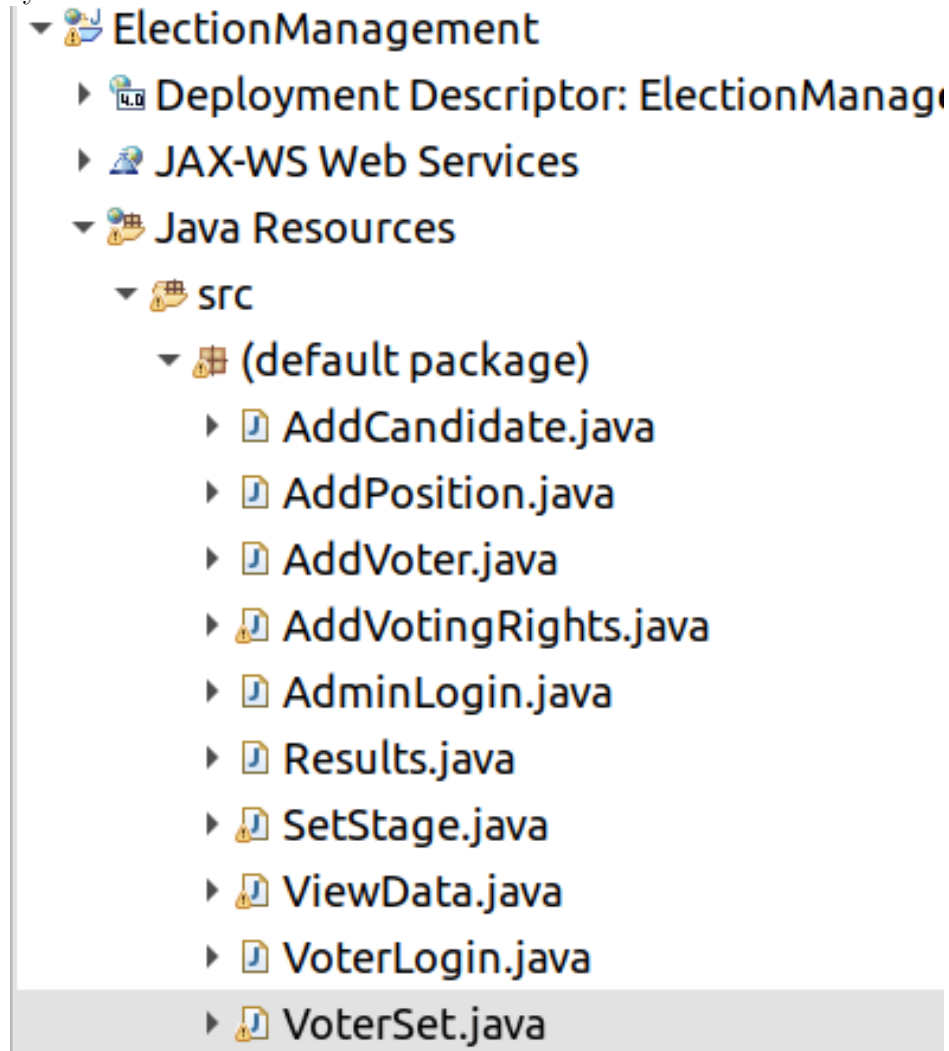


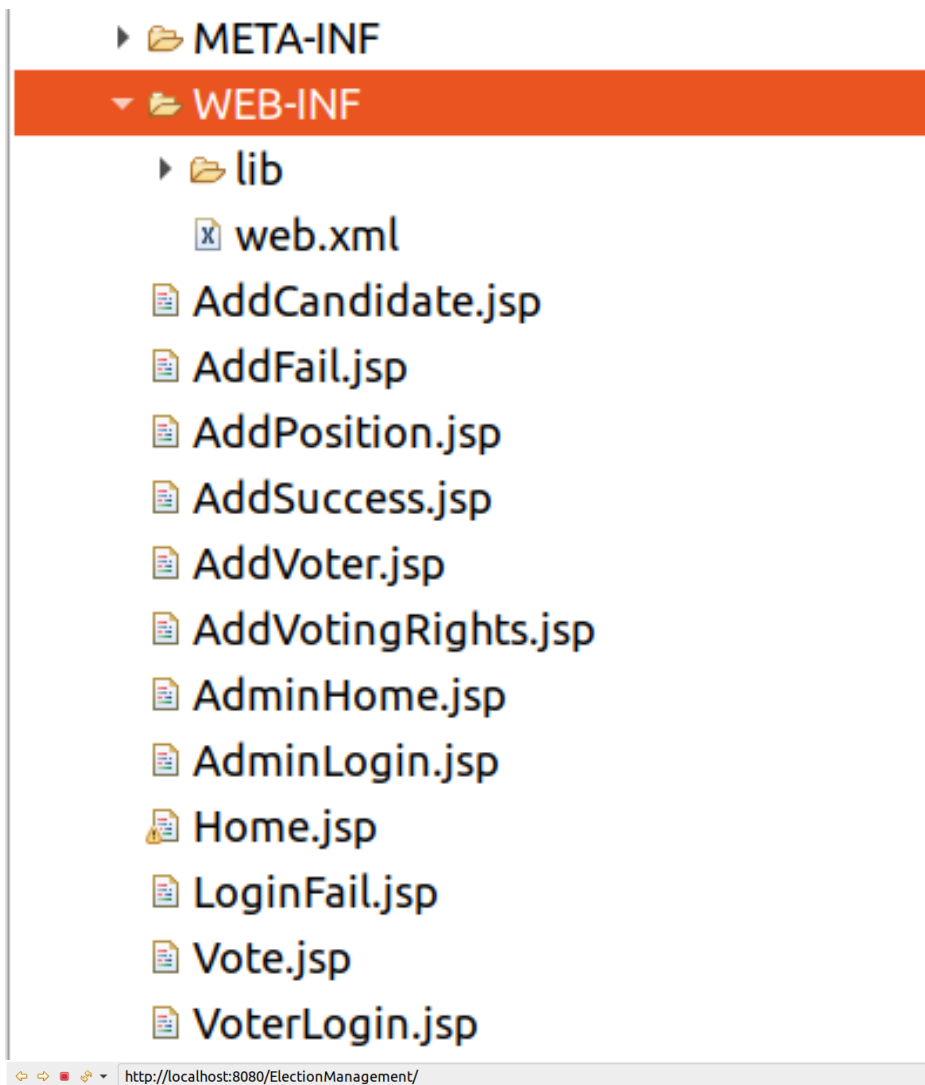




Screenshots:

These screenshots show the overall structure of this election management system.





Election Management System

[Admin Login](#)[Vote](#)[View Results](#)[View Data](#)

Admin Dashboard

Add Voter

Add Candidate

Add Position

Add Voting Rights

Set Current Stage

1 ☐

2 ☐

3 ☐

Set Stage

Enter Admin ID and Password

Admin Id

Password

Submit

Wrong ID or Password Entered!!
Please go back and try again.

Voter Details

Voter Id	<input type="text"/>
Name	<input type="text"/>
Gender	<input type="text"/>
Date of Birth	<input type="text"/>
City	<input type="text"/>
State	<input type="text"/>
Address	<input type="text"/>
Password	<input type="text"/>
<input type="submit" value="Submit"/>	

Candidate Details

Candidate Id	<input type="text"/>
Name	<input type="text"/>
Gender	<input type="text"/>
Date of Birth	<input type="text"/>
City	<input type="text"/>
State	<input type="text"/>
Address	<input type="text"/>
Position ID	<input type="text"/>
Manifesto Link	<input type="text"/>
<input type="submit" value="Submit"/>	

⏮ ⏭ 🛑 ⚙️ http://localhost:8080/ElectionManagement/AddPosition.jsp

Position Details

Position Id

Position Name

Submit

⏮ ⏭ 🛑 ⚙️ http://localhost:8080/ElectionManagement/AddVotingRights.jsp

Voter and Position Details

Voter Id

Position ID

Submit

Record added successfully!!

Failed to add the record. Please go back and try again.

⏮ ⏭ 🛑 ⚙️ http://localhost:8080/ElectionManagement/SetStage

Update Successful

Admin Dashboard

Add Voter

Add Candidate

Add Position

Add Voting Rights

Set Current Stage

1 ☐

2 ☐

3 ☐

Set Stage



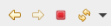
http://localhost:8080/ElectionManagement/VoterLogin.jsp

Enter Voter ID and Password

Voter Id

Password

Submit



http://localhost:8080/ElectionManagement/VoterLogin

Voter ID: 1

Position Name: GSHA		
<input type="radio"/>	1	pranav
<input type="radio"/>	2	fqwf
<input type="radio"/>	4	gowtham
Position Name: GSAA		
<input type="radio"/>	3	gowtham

Poll your vote



http://localhost:8080/ElectionManagement/VoterSet

Voting Succesful

http://localhost:8080/ElectionManagement/VoterSet

Voting not succesful

http://localhost:8080/ElectionManagement/Results

Postion Name: GSHA	
Candidate Name	No of Votes
pranav	1
Postion Name: GSAA	
Candidate Name	No of Votes
gowtham	1

http://localhost:8080/ElectionManagement/ViewData

Postion Name: GSHA	
Candidate ID	Candidate Name
1	pranav
2	fqwf
4	gowtham
Postion Name: GSAA	
Candidate ID	Candidate Name
3	gowtham

Conclusion:

We created an election management system that stores election data in MySQL database and used JDBC to communicate with MySQL database from Servlets. This can be used to conduct elections online for different positions.