Web application

Auto-answer Robot

Ralph Z.

Overview

This application builds "an auto-answer robot", a webpage that can response to users' different questions in real time. This function is very popular among various websites to provide customers the information they are looking for more efficiently and precisely.

Even the function and content of this program is simple, it shows the construction of a database Web page project built on Java EE.

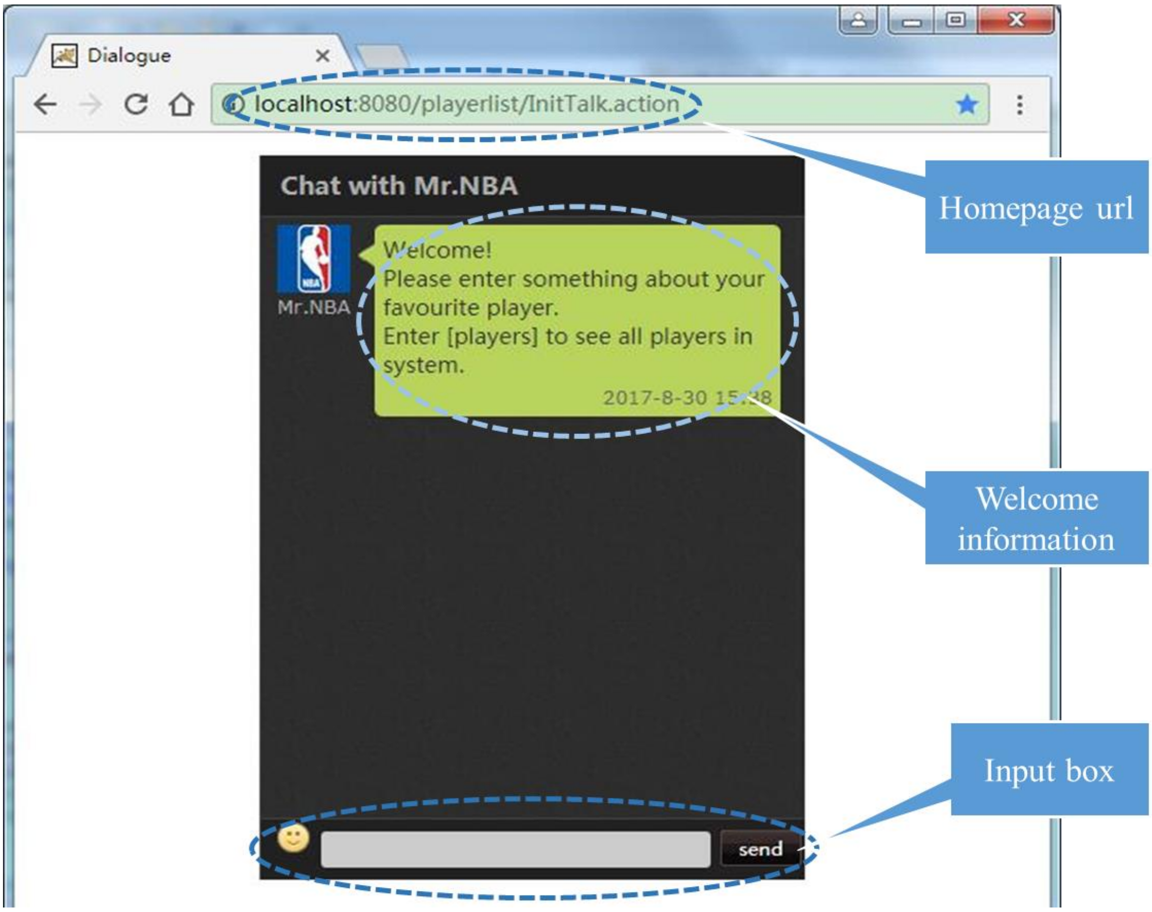
It required core technologies of full-stack web developing, including establishments of front-end web pages (HTML, CSS, JavaScript, JSP, JQuery) and back-end controllers/models (Java) plus database system (MySQL).

Besides, this program utilized **Maven** for project building, and **MyBatis** for Object Relational Mapping and persistence layer.

Application Characteristics

This auto-answer robot is built to answer user's question about NBA players or teams, according to information in database. It has both a front-end dialog page and a back-end administration page for user interaction.

The dialog page (auto-answer Robot '*Mr.NBA*')



Dialogue

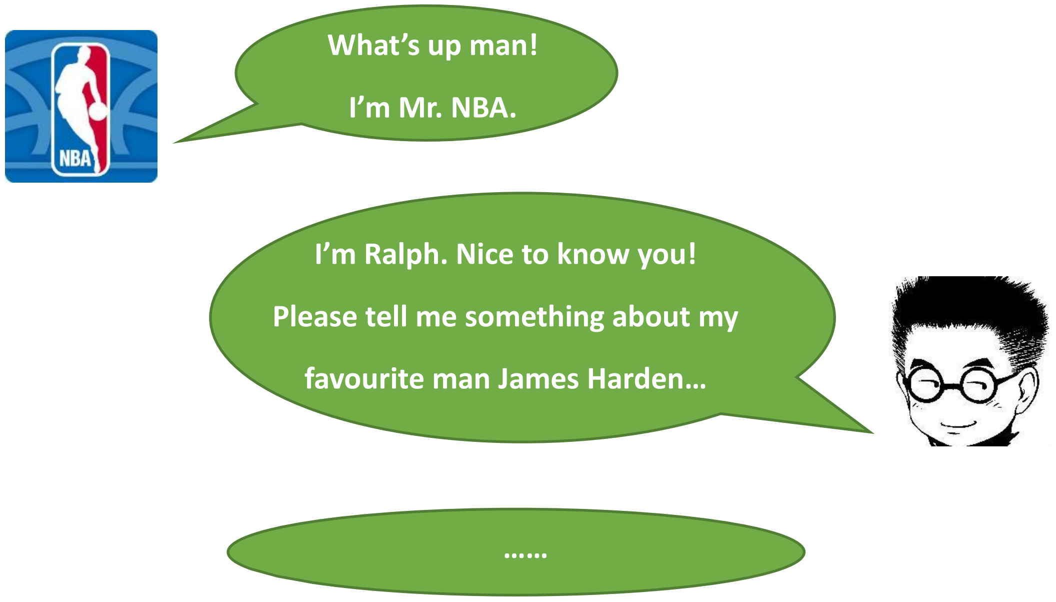
localhost:8080/playerlist/InitTalk.action

Chat with Mr.NBA

Mr.NBA

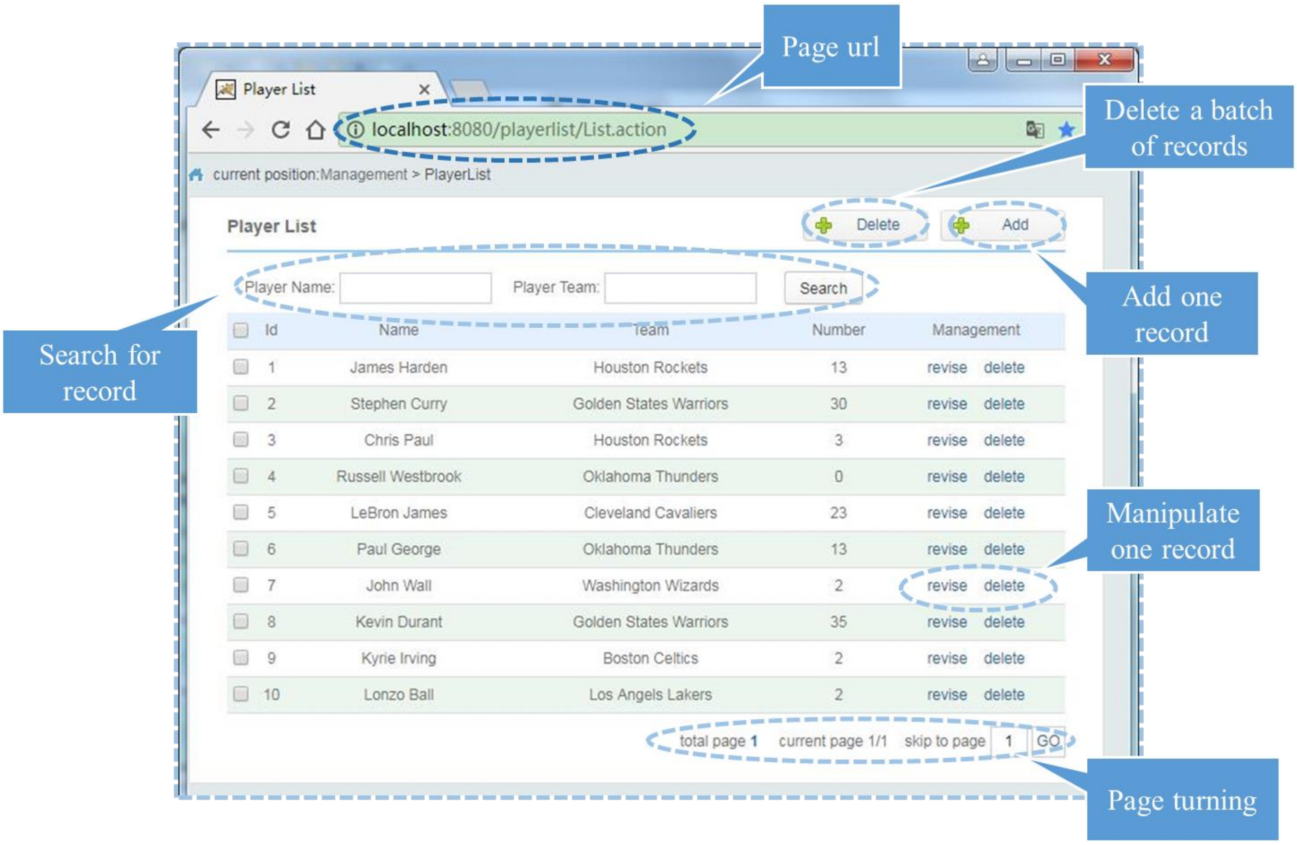
Welcome!
Please enter something about your favourite player.
Enter [players] to see all players in system.

2017-8-30 15:38



What's up man! I'm Mr. NBA.
I'm Ralph. Nice to know you! Please tell me something about my favourite man James Harden…
……

The administration page



Player List
localhost:8080/playerlist/List.action
current position:Management > PlayerList
Player List
Delete
Add
Player Name:
Player Team:
Search

	Id	Name	Team	Number	Management
□	1	James Harden	Houston Rockets	13	revise delete
□	2	Stephen Curry	Golden States Warriors	30	revise delete
□	3	Chris Paul	Houston Rockets	3	revise delete
□	4	Russell Westbrook	Oklahoma Thunders	0	revise delete
□	5	LeBron James	Cleveland Cavaliers	23	revise delete
□	6	Paul George	Oklahoma Thunders	13	revise delete
□	7	John Wall	Washington Wizards	2	revise delete
□	8	Kevin Durant	Golden States Warriors	35	revise delete
□	9	Kyrie Irving	Boston Celtics	2	revise delete
□	10	Lonzo Ball	Los Angels Lakers	2	revise delete

Page url

Delete a batch of records

Add one record

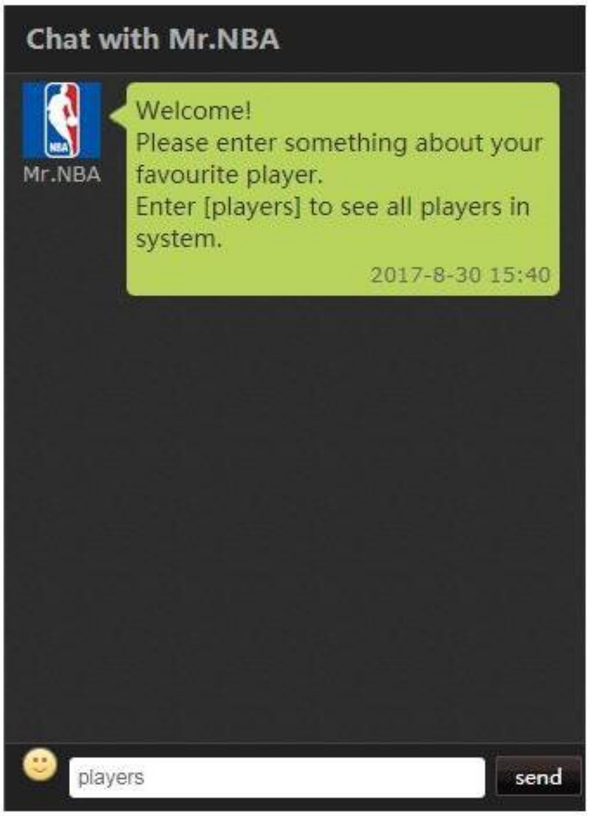
Search for record

Manipulate one record

Page turning

Basic functions

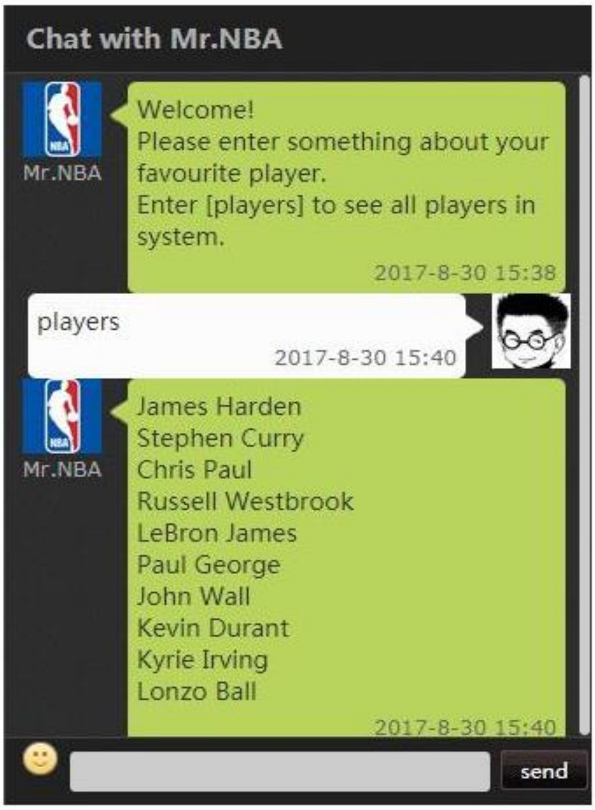
The dialog page



Welcome!
Please enter something about your favourite player.
Enter [players] to see all players in system.
2017-8-30 15:40

players

Input in the textbox at bottom and press “send”.

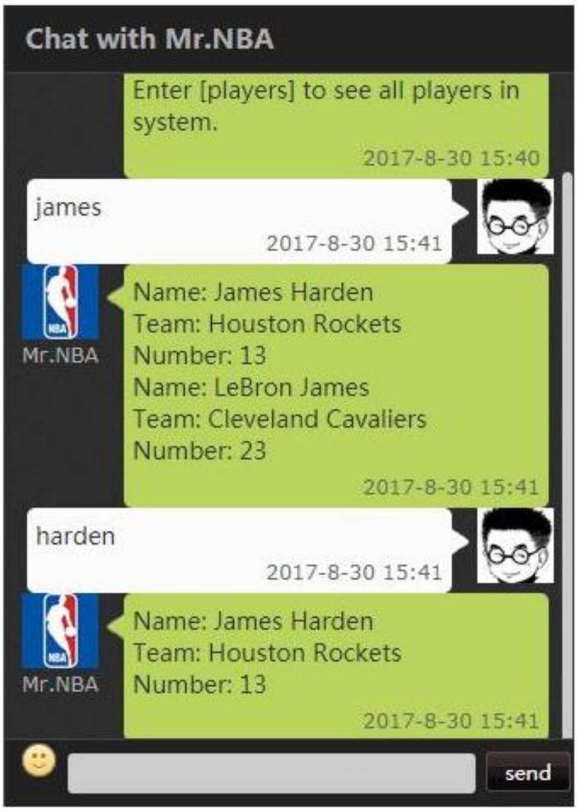


Welcome!
Please enter something about your favourite player.
Enter [players] to see all players in system.
2017-8-30 15:38

players
2017-8-30 15:40

James Harden
Stephen Curry
Chris Paul
Russell Westbrook
LeBron James
Paul George
John Wall
Kevin Durant
Kyrie Irving
Lonzo Ball
2017-8-30 15:40

Query all NBA players in database.



Enter [players] to see all players in system.
2017-8-30 15:40

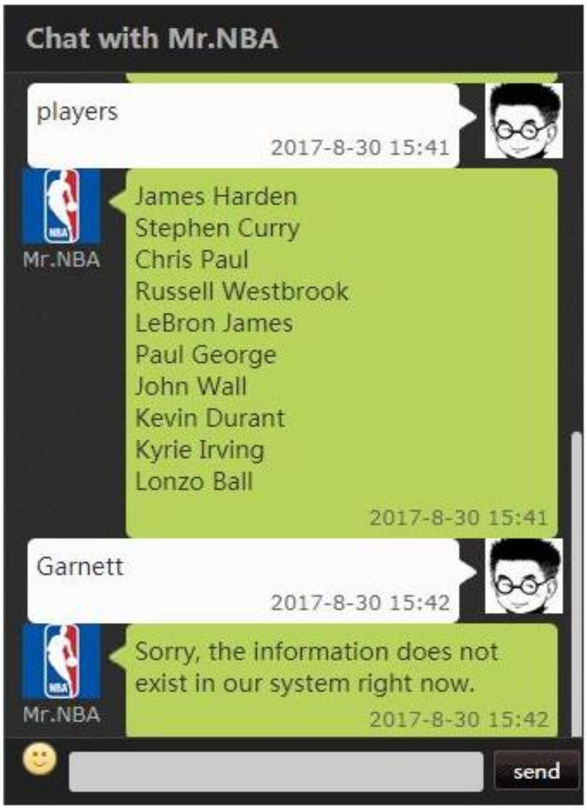
james
2017-8-30 15:41

Name: James Harden
Team: Houston Rockets
Number: 13
Name: LeBron James
Team: Cleveland Cavaliers
Number: 23
2017-8-30 15:41

harden
2017-8-30 15:41

Name: James Harden
Team: Houston Rockets
Number: 13
2017-8-30 15:41

Query player information by key words.
(supporting intangible inquiry)



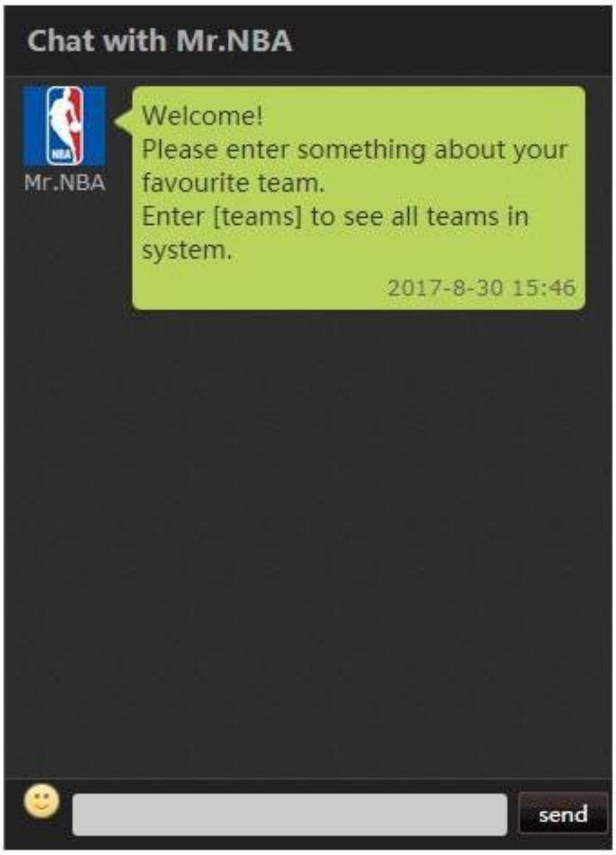
players
2017-8-30 15:41

James Harden
Stephen Curry
Chris Paul
Russell Westbrook
LeBron James
Paul George
John Wall
Kevin Durant
Kyrie Irving
Lonzo Ball
2017-8-30 15:41

Garnett
2017-8-30 15:42

Sorry, the information does not exist in our system right now.
2017-8-30 15:42

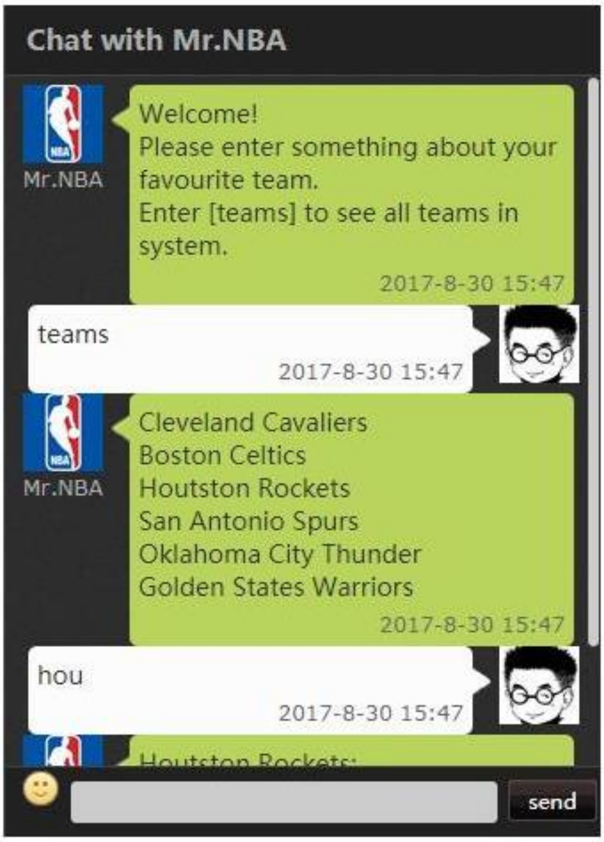
Prompt user when there is no player info matching.



Chat with Mr.NBA

Mr.NBA: Welcome!
Please enter something about your favourite team.
Enter [teams] to see all teams in system.
2017-8-30 15:46

he dialog page for NBA team query.



Chat with Mr.NBA

Mr.NBA: Welcome!
Please enter something about your favourite team.
Enter [teams] to see all teams in system.
2017-8-30 15:47

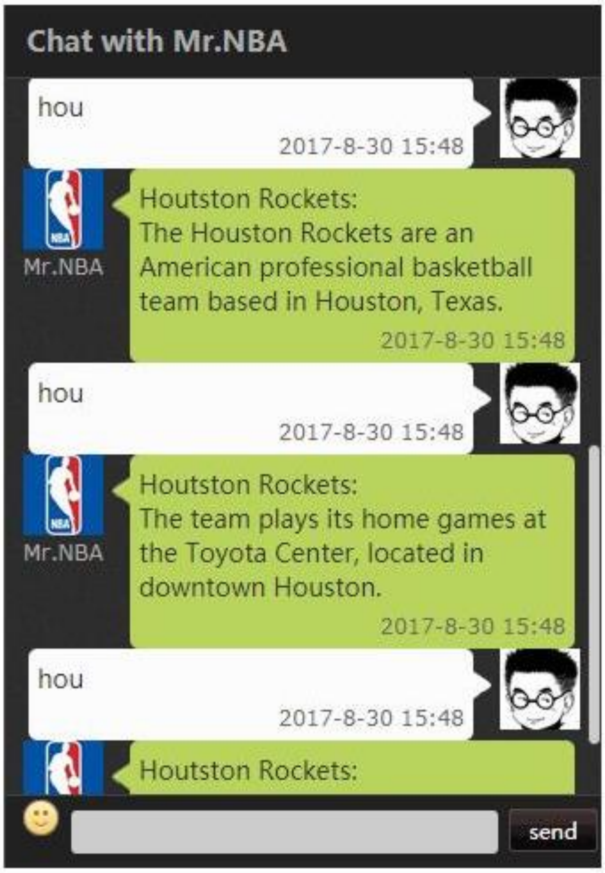
teams
2017-8-30 15:47

Mr.NBA: Cleveland Cavaliers
Boston Celtics
Houtston Rockets
San Antonio Spurs
Oklahoma City Thunder
Golden States Warriors
2017-8-30 15:47

hou
2017-8-30 15:47

Houtston Rockets:

Query all NBA teams in database.



Chat with Mr.NBA

hou
2017-8-30 15:48

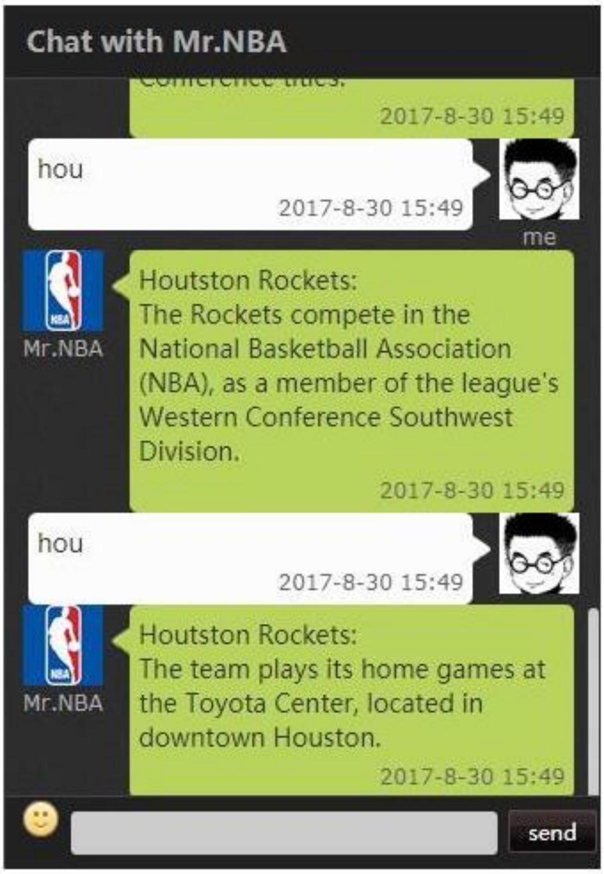
Mr.NBA: Houtston Rockets:
The Houston Rockets are an American professional basketball team based in Houston, Texas.
2017-8-30 15:48

hou
2017-8-30 15:48

Mr.NBA: Houtston Rockets:
The team plays its home games at the Toyota Center, located in downtown Houston.
2017-8-30 15:48

hou
2017-8-30 15:48

Houtston Rockets:



Chat with Mr.NBA

Conference titles.
2017-8-30 15:49

hou
2017-8-30 15:49
me

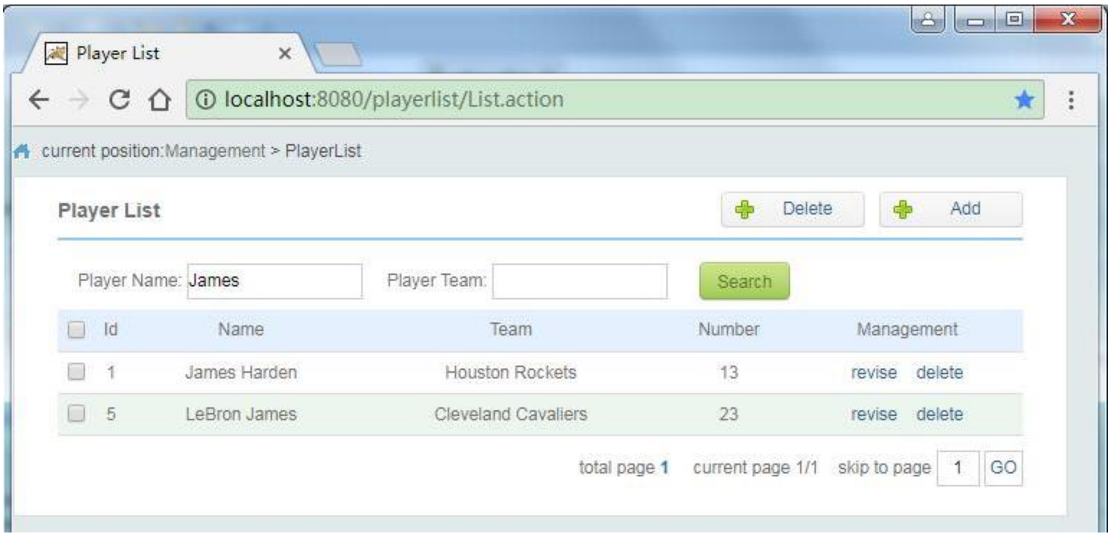
Mr.NBA: Houtston Rockets:
The Rockets compete in the National Basketball Association (NBA), as a member of the league's Western Conference Southwest Division.
2017-8-30 15:49

hou
2017-8-30 15:49

Mr.NBA: Houtston Rockets:
The team plays its home games at the Toyota Center, located in downtown Houston.
2017-8-30 15:49

Query team info, same query with different responses.
One-to-many relationship mapping.

The administration page



current position:Management > PlayerList

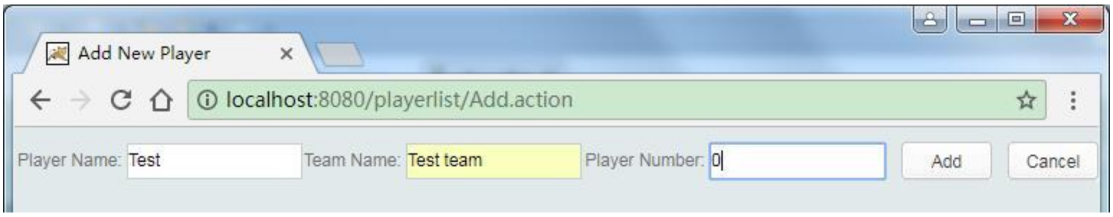
Player List

Player Name: James

Player Team:

□	Id	Name	Team	Number	Management
□	1	James Harden	Houston Rockets	13	revise delete
□	5	LeBron James	Cleveland Cavaliers	23	revise delete

Search for player record

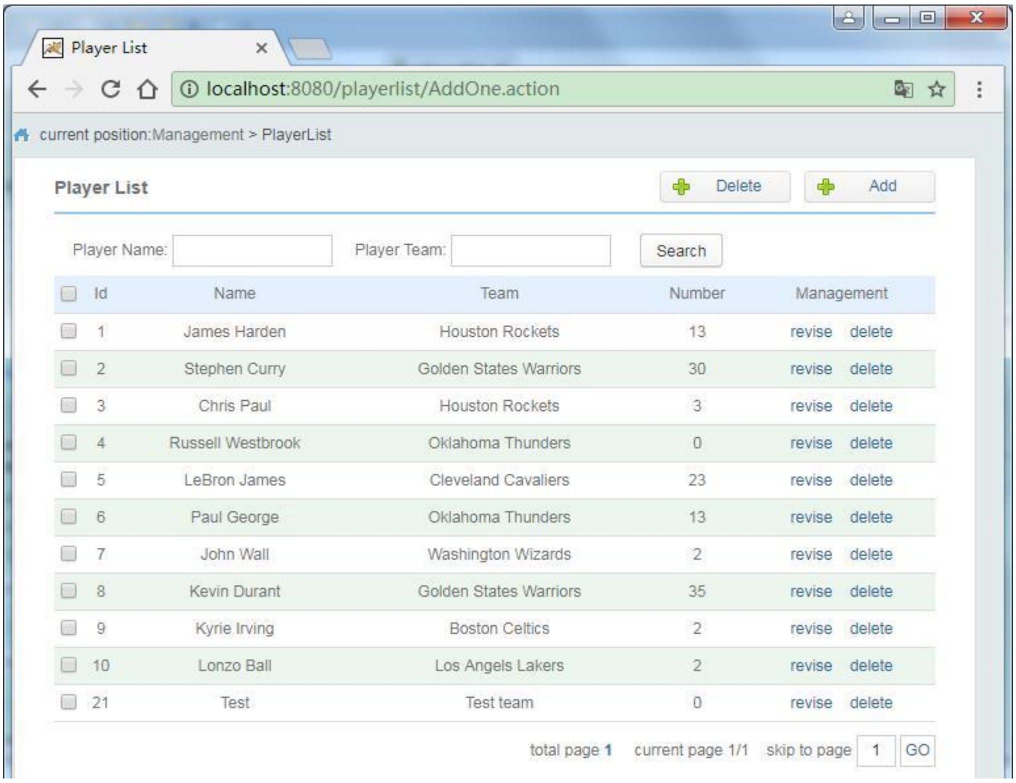


Player Name: Test

Team Name: Test team

Player Number: 0

Add new record (adding)



current position:Management > PlayerList

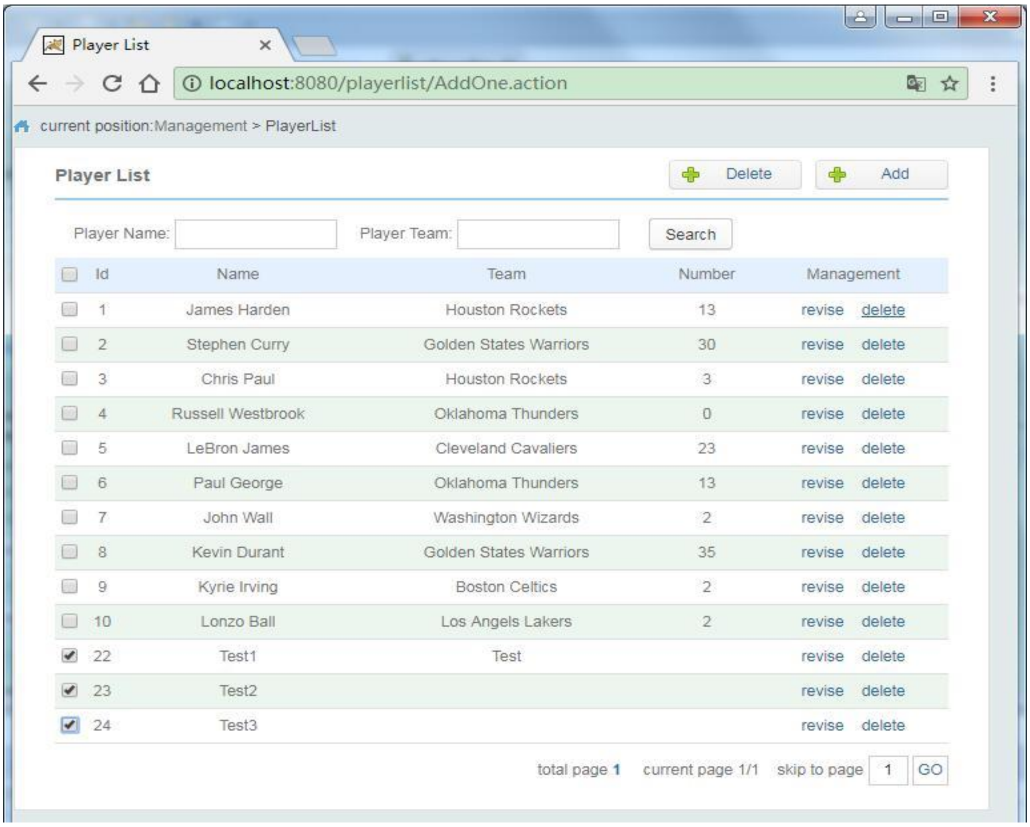
Player List

Player Name:

Player Team:

□	Id	Name	Team	Number	Management
□	1	James Harden	Houston Rockets	13	revise delete
□	2	Stephen Curry	Golden States Warriors	30	revise delete
□	3	Chris Paul	Houston Rockets	3	revise delete
□	4	Russell Westbrook	Oklahoma Thunders	0	revise delete
□	5	LeBron James	Cleveland Cavaliers	23	revise delete
□	6	Paul George	Oklahoma Thunders	13	revise delete
□	7	John Wall	Washington Wizards	2	revise delete
□	8	Kevin Durant	Golden States Warriors	35	revise delete
□	9	Kyrie Irving	Boston Celtics	2	revise delete
□	10	Lonzo Ball	Los Angels Lakers	2	revise delete
□	21	Test	Test team	0	revise delete

Add new record (result)



current position:Management > PlayerList

Player List

Player Name:

Player Team:

☐	Id	Name	Team	Number	Management
☐	1	James Harden	Houston Rockets	13	revise delete
☐	2	Stephen Curry	Golden States Warriors	30	revise delete
☐	3	Chris Paul	Houston Rockets	3	revise delete
☐	4	Russell Westbrook	Oklahoma Thunders	0	revise delete
☐	5	LeBron James	Cleveland Cavaliers	23	revise delete
☐	6	Paul George	Oklahoma Thunders	13	revise delete
☐	7	John Wall	Washington Wizards	2	revise delete
☐	8	Kevin Durant	Golden States Warriors	35	revise delete
☐	9	Kyrie Irving	Boston Celtics	2	revise delete
☐	10	Lonzo Ball	Los Angels Lakers	2	revise delete
☑	22	Test1	Test		revise delete
☑	23	Test2			revise delete
☑	24	Test3			revise delete

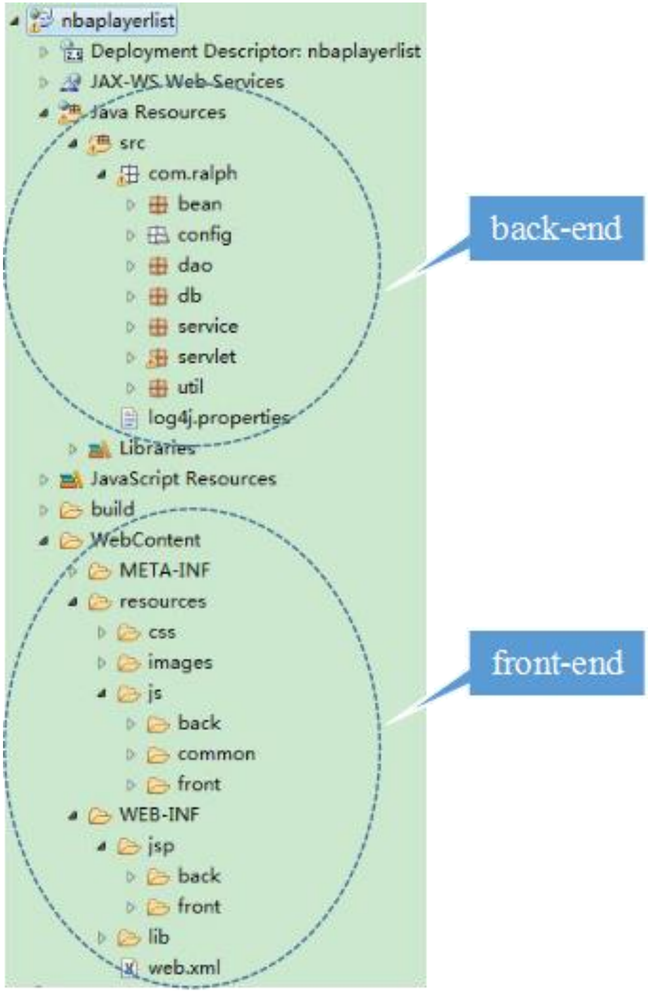
total page **1** current page 1/1 skip to page 1 GO

Select and delete a batch of records

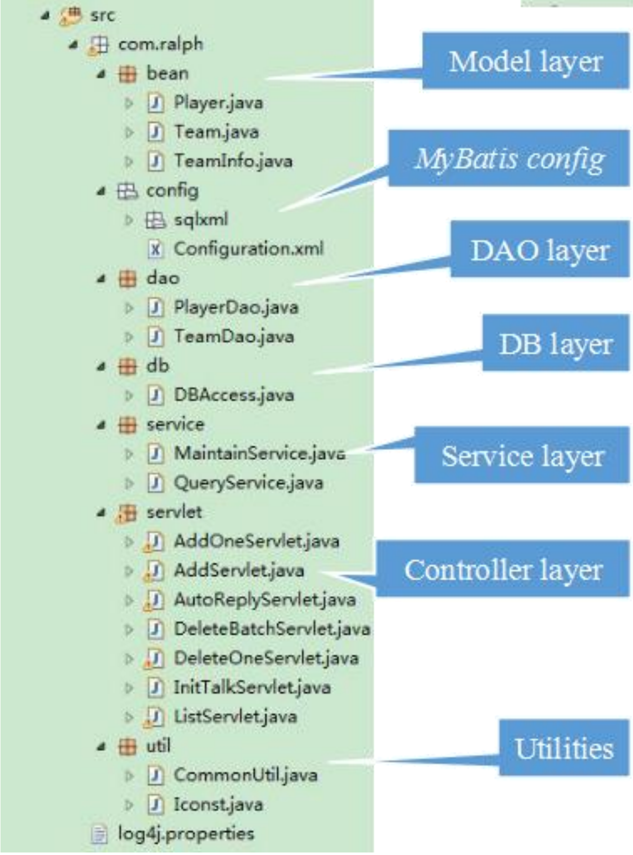
Program structure

The layout of the program in Java EE is shown as follows:

Lay-out of project in Java EE



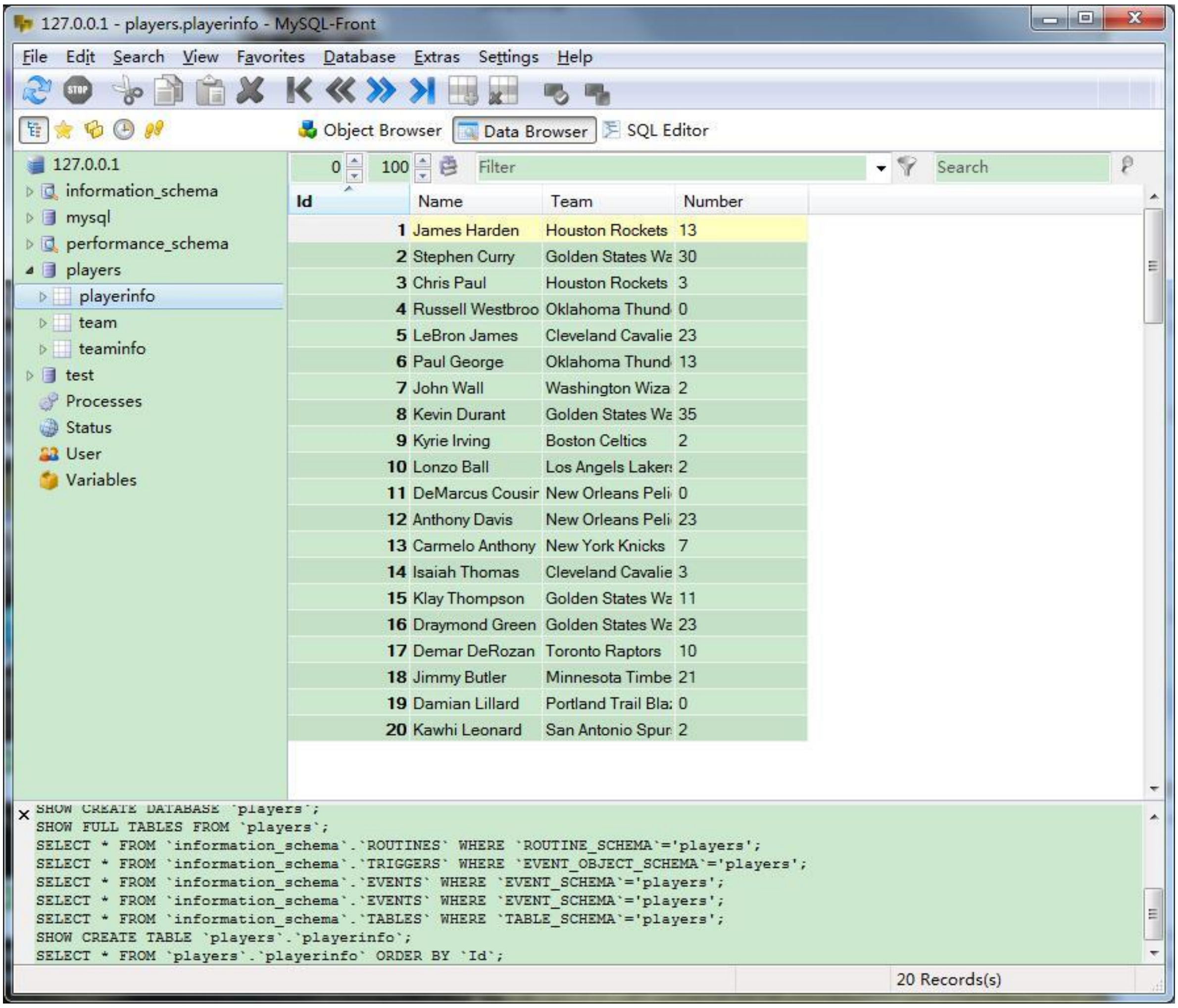
```
nbaplayerlist
  Deployment Descriptor: nbaplayerlist
  JAX-WS Web Services
  Java Resources
    src
      com.ralph
        bean
        config
        dao
        db
        service
        servlet
        util
      log4j.properties
    Libraries
  JavaScript Resources
  build
  WebContent
    META-INF
    resources
      css
      images
      js
        back
        common
        front
    WEB-INF
      jsp
        back
        front
      lib
      web.xml
```



```
Java Resources
  src
    com.ralph
      bean
        Player.java
        Team.java
        TeamInfo.java
      config
        sqlxml
        Configuration.xml
      dao
        PlayerDao.java
        TeamDao.java
      db
        DBAccess.java
      service
        MaintainService.java
        QueryService.java
      servlet
        AddOneServlet.java
        AddServlet.java
        AutoReplyServlet.java
        DeleteBatchServlet.java
        DeleteOneServlet.java
        InitTalkServlet.java
        ListServlet.java
      util
        CommonUtil.java
        Iconst.java
    log4j.properties
```

Lay-out of back-end codes

Database:



Id	Name	Team	Number
1	James Harden	Houston Rockets	13
2	Stephen Curry	Golden States Wa	30
3	Chris Paul	Houston Rockets	3
4	Russell Westbroo	Oklahoma Thund	0
5	LeBron James	Cleveland Cavalie	23
6	Paul George	Oklahoma Thund	13
7	John Wall	Washington Wiza	2
8	Kevin Durant	Golden States Wa	35
9	Kyrie Irving	Boston Celtics	2
10	Lonzo Ball	Los Angels Laker	2
11	DeMarcus Cousir	New Orleans Peli	0
12	Anthony Davis	New Orleans Peli	23
13	Carmelo Anthony	New York Knicks	7
14	Isaiah Thomas	Cleveland Cavalie	3
15	Klay Thompson	Golden States Wa	11
16	Draymond Green	Golden States Wa	23
17	Demar DeRozan	Toronto Raptors	10
18	Jimmy Butler	Minnesota Timbe	21
19	Damian Lillard	Portland Trail Bla	0
20	Kawhi Leonard	San Antonio Spur	2

```
SHOW CREATE DATABASE `players`;
SHOW FULL TABLES FROM `players`;
SELECT * FROM `information_schema`.`ROUTINES` WHERE `ROUTINE_SCHEMA`='players';
SELECT * FROM `information_schema`.`TRIGGERS` WHERE `EVENT_OBJECT_SCHEMA`='players';
SELECT * FROM `information_schema`.`EVENTS` WHERE `EVENT_SCHEMA`='players';
SELECT * FROM `information_schema`.`EVENTS` WHERE `EVENT_SCHEMA`='players';
SELECT * FROM `information_schema`.`TABLES` WHERE `TABLE_SCHEMA`='players';
SHOW CREATE TABLE `players`.`playerinfo`;
SELECT * FROM `players`.`playerinfo` ORDER BY `Id`;
```

MySQL database shown in MySQL-Front