

Vietnamese Study System for Japanese

DETAIL DESIGN DOCUMENT

Class Design

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SIGNATURE PAGE

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# Introduction

## Purpose

Vietnamese Study System for Japanese class design document contains descriptions of all classes of the Vietnamese Study System for Japanese system. It includes:

* Class diagrams that describe the static relation of all classes in the system.

## Definitions, Acronyms and Abbreviations

|  |  |  |
| --- | --- | --- |
| Abbreviations | Description | Comment |
| MVC | Model View Control model |  |

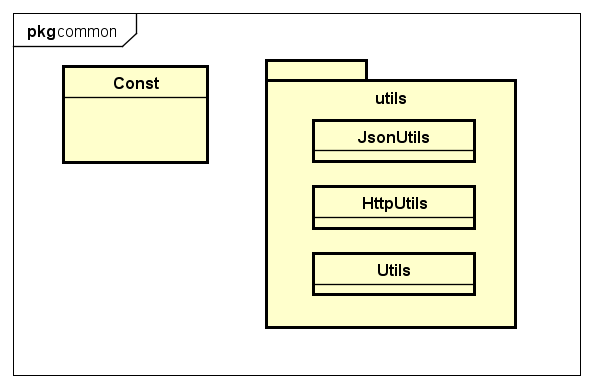
# D:\Documents\GitHub\DATN\201605JS01\WIP\Users\TungDT\Class Diagram\Package.pngPackages

**Figure 0: List Packages**

|  |  |  |  |
| --- | --- | --- | --- |
| No | Package | Language | Description |
| 1. 01 | core | JAVA | Contains classes related to core function |
|  | dictionary | JAVA | Contain classes related to dictionary |
|  | common | JAVA |  |
|  | controller | JAVA | Contain web controller |
|  | dao | JAVA | Contain data access object |
|  | exception | JAVA | Contain defined exception |
|  | form | JAVA | Contain defined web form |
|  | model | JAVA | Contain model class |
|  | response | JAVA | Contain response model class |
|  | security | JAVA | Contain classes related security |
|  | service | JAVA | Contain web service |

## core.common Package

### Class diagram



**Figure 1: Class diagram core.common package**

|  |  |  |
| --- | --- | --- |
| No | Class Name | Description |
| 1 | Const | Contain constant variable |
| 2 | Utils | Contain common utility function |
| 3 | JsonUtils | Contain utility function about json |
| 4 | HttpUtils | Contain utility function about http |

### Const class

#### Attributes

|  |  |  |  |
| --- | --- | --- | --- |
| No | Attribute | Type | Value |
| 1. 1 | CORS\_HEADER\_ENABLED | boolean | true |
| 1. 2 | RESOURCE\_URL | String | /res |
| 1. 3 | URLMAPPING\_HOME | String | / |
| 1. 3 | URLMAPPING\_UPLOADFILE | String | /uploadfile |
|  | URL\_PREFIX | String | /api |
|  | URLMAPPING\_REGISTER | String | URL\_PREFIX + /register |
|  | URLMAPPING\_LOGIN | String | URL\_PREFIX + /login |
|  | URLMAPPING\_LOGOUT | String | URL\_PREFIX + /logout |
|  | URLMAPPING\_RESET\_PASSWORD | String | URL\_PREFIX + /users/reset\_password |
|  | URLMAPPING\_GET\_USER | String | URL\_PREFIX + /users/{user\_id} |
|  | URLMAPPING\_GET\_CURRENT\_USER | String | URL\_PREFIX + /user |
|  | URLMAPPING\_UPDATE\_CURRENT\_USER | String | URL\_PREFIX + /user/update |
|  | URLMAPPING\_CHGPWD\_CURRENT\_USER | String | URL\_PREFIX + /user/chgpwd |
|  | URLMAPPING\_GET\_LIST\_USERS | String | URL\_PREFIX + /users |
|  | URLMAPPING\_GET\_LEARNER\_EXAMS | String | URL\_PREFIX + /users/{user\_id}/exams |
|  | URLMAPPING\_GET\_LEARNER\_EXAM\_STATISTIC | String | URL\_PREFIX + /users/{user\_id}/exams/statistics |
|  | URLMAPPING\_CHANGE\_ROLE | String | URL\_PREFIX + /users/change\_roll/{user\_id} |
|  | URLMAPPING\_CREATE\_LESSON | String | URL\_PREFIX + /lessons/new |
|  | URLMAPPING\_GET\_LESSON\_VERSION | String | URL\_PREFIX + /lessons/{lesson\_id}/ver{version} |
|  | URLMAPPING\_UPDATE\_LESSON | String | URL\_PREFIX + /lessons/update/{lesson\_id} |
|  | URLMAPPING\_PUBLISH\_LESSON | String | URL\_PREFIX + /lessons/publish/{lesson\_id} |
|  | URLMAPPING\_REPORT\_LESSON | String | URL\_PREFIX + /lessons/report/{lesson\_id} |
|  | URLMAPPING\_GET\_LESSON\_COURSE | String | URL\_PREFIX + /courses/{course\_id}/lessons |
|  | URLMAPPING\_GET\_LESSON | String | URL\_PREFIX + /lessons/{lesson\_id} |
|  | URLMAPPING\_GET\_ALL\_LESSON | String | URL\_PREFIX + /lessons |
|  | URLMAPPING\_DELETE\_LESSON | String | URL\_PREFIX + /lessons/delete/{lesson\_id} |
|  | URLMAPPING\_GET\_COURSES | String | URL\_PREFIX + /courses |
|  | URLMAPPING\_LOOKUP\_JAVI | String | URL\_PREFIX + /dict/javi/ |
|  | URLMAPPING\_LOOKUP\_VIJA | String | URL\_PREFIX + /dict/vija/ |
|  | URLMAPPING\_CREATE\_QUESTION | String | URL\_PREFIX + /questions/new |
|  | URLMAPPING\_UPDATE\_QUESTION | String | URL\_PREFIX + /questions/update/{question\_id} |
|  | URLMAPPING\_GET\_QUESTION | String | URL\_PREFIX + /questions/{question\_id} |
|  | URLMAPPING\_GET\_LIST\_QUESTIONS | String | URL\_PREFIX + /questions |
|  | URLMAPPING\_DELETE\_QUESTION | String | URL\_PREFIX + /questions/delete/{question\_id} |
|  | URLMAPPING\_REPORT\_QUESTION | String | URL\_PREFIX + /questions/report/{question\_id} |
|  | URLMAPPING\_CREATE\_EXAM | String | URL\_PREFIX + /exams |
|  | URLMAPPING\_GET\_REPORT | String | URL\_PREFIX + /report/get/{report\_id} |
|  | URLMAPPING\_GET\_ALL\_REPORT | String | URL\_PREFIX + /report/all |
|  | URLMAPPING\_READ\_REPORT | String | URL\_PREFIX + /report/read/{report\_id} |
|  | URLMAPPING\_DELETE\_REPORT | String | URL\_PREFIX + /report/delete/{report\_id} |
|  | UPDATING | Integer | 1 |
|  | PUBLISHED | Integer | 2 |
|  | START\_INDEX | Integer | 1 |
|  | ROLE\_ADMIN | Integer | 1 |
|  | ROLE\_EDITOR | Integer | 2 |
|  | ROLE\_LEARNER | Integer | 3 |
|  | ALL | Integer | 0 |
|  | SINGULAR | Integer | 1 |
|  | GROUP | Integer | 2 |
|  | MULTIPLE\_CHOICE | Integer | 1 |
|  | VOCABULARY | Integer | 1 |
|  | GRAMMAR | Integer | 2 |
|  | READING | Integer | 3 |
|  | LISTENING | Integer | 4 |
|  |  |  |  |
|  |  |  |  |

### Utils class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | REGEX\_EMAIL\_PATTERN | String |  | private | Regex pattern to determine an email |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | isValidEmail() | Check if a string is a valid email or not. |
| 2 | isNullOrEmpty() | Check if a string is null or empty. |

### JsonUtils class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
|  |  |  |  |  |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | toJson() | Convert an object to a json format |
| 2 | toBeautyJson() | Convert an object to a beautiful json format |

### HttpUtils Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 |  |  |  |  |  |

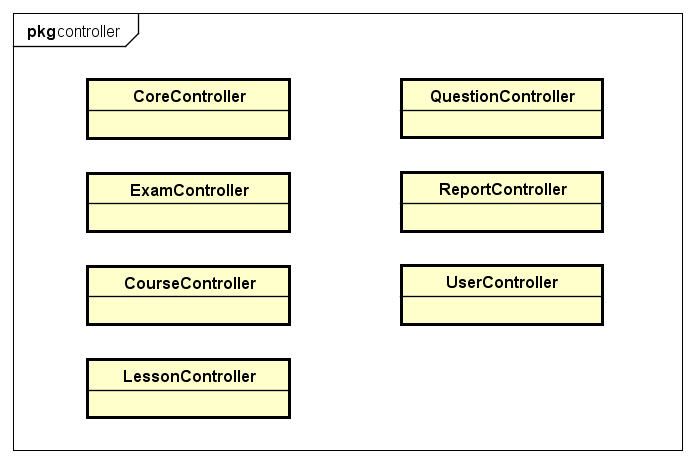
#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | getContextUrl() |  |
| 2 | addCorsHeader() |  |

### Common Sequence Diagram

## core.controller Package

### Class diagram



**Figure 2: Class diagram core.controller package**

|  |  |  |
| --- | --- | --- |
| No | Class Name | Description |
| 1 | CoreController | Control core API |
| 2 | CourseController | Control course API |
| 3 | ExamController | Control exam API |
| 4 | LessonController | Control lesson API |
| 5 | QuestionController | Control question API |
| 6 | ReportController | Control report API |
| 7 | UserController | Control user API |

### CoreController Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 |  |  |  |  |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 2 | uploadFile() | To upload file |

### CourseController Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 |  |  |  |  |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | getCourses() | Return all courses |

### ExamController Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 |  |  |  |  |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | createExam () | Generate an exam for learner and return the exam. |

### LessonController Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 |  |  |  |  |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | createLesson () | Create a lesson |
| 2 | updateLesson () | Update a lesson |
| 3 | publishLesson () | Make updating lesson version to publish state |
| 4 | reportLesson () | Report a lesson |
| 5 | getLessonOfCourse () | Return all lesson of a course |
| 6 | getLesson () | Return a lesson |
| 7 | getAllLesson () | Return all lesson of system |
| 8 | getLessonVersion () | Return the version of lesson |
| 9 | delete () | Delete a lesson |

### QuestionController Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 |  |  |  |  |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | createQuestion () | Create a question |
| 2 | updateQuestion () | Update a question |
| 3 | getListQuestions () | Return list of question |
| 4 | getQuestion () | Return a question |
| 5 | deleteQuestion() | Delete a question |
| 6 | reportQuestion() | Report a question |

### ReportController Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 |  |  |  |  |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | getReport () | Return a report |
| 2 | getAllReport () | Return all report |
| 3 | readReport () | Make a report as read state |
| 4 | deleteReport () | Delete a report |

### UserController Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 |  |  |  |  |  |

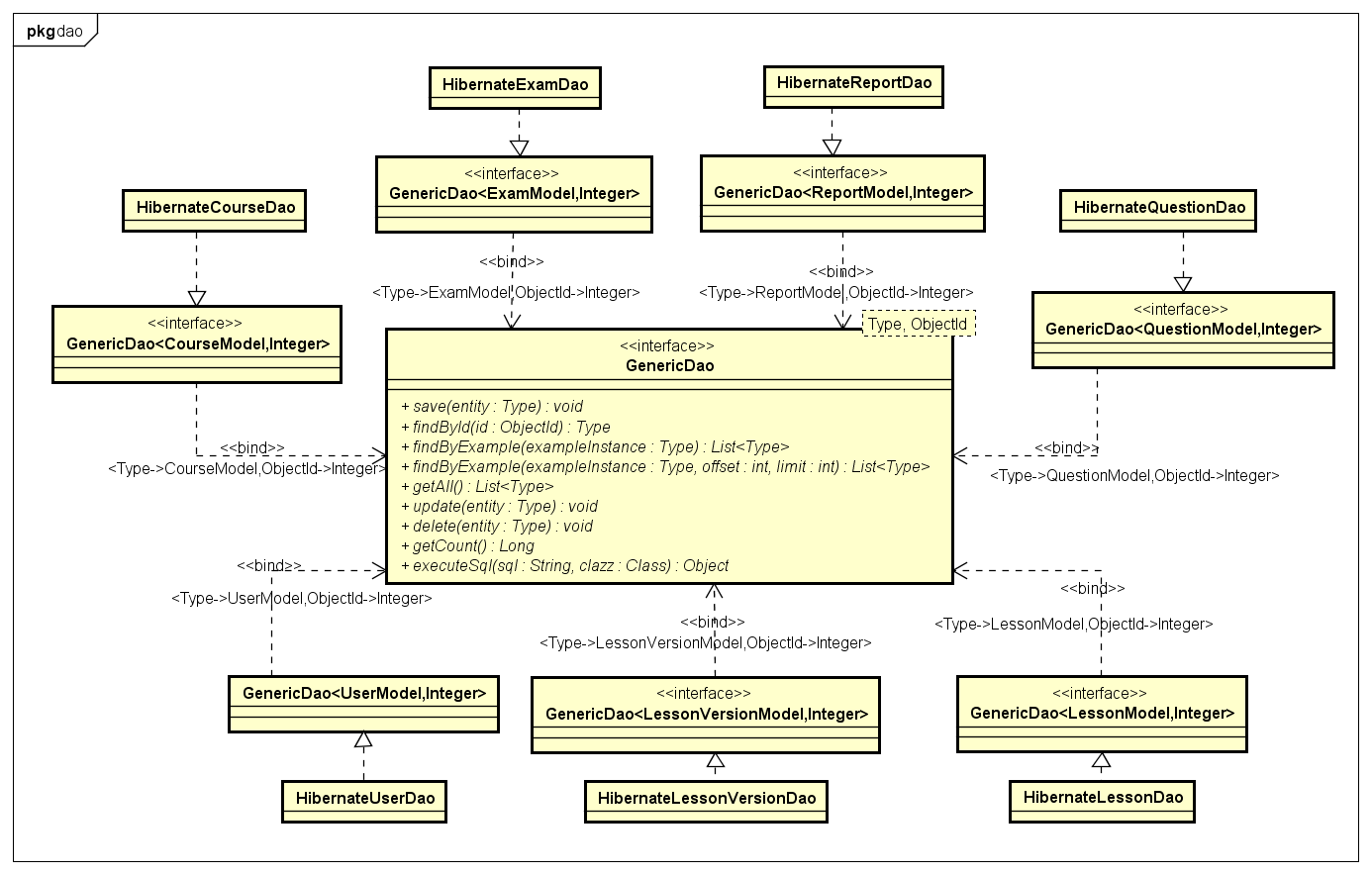
#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | register () | Sign up an account |
| 2 | loginProceed () | Login to system |
| 3 | logoutProceed () | Logout system |
| 4 | getCurrentUser () | Return current user information |
| 5 | updateCurrentUser() | Update user information |
| 6 | changePasswordCurrentUser() | Change password |
| 7 | getUser() | Return an user information |
| 8 | getListUser() | Return list of the user |
| 9 | getLearnerExamss() | Return the done exam of a learner |
| 10 | changeUserRoll() | Change user role |

### Sequence Diagram

## core.dao Package

### Class diagram



**Figure 3: Class diagram core.dao package**

|  |  |  |
| --- | --- | --- |
| No | Class Name | Description |
| 1 | HibernateCourseDao | Provide method to manage the course in database |
| 2 | HibernateExamDao | Provide method to manage the exam in database |
| 3 | HibernateLessonDao | Provide method to manage the lesson in database |
| 4 | HibernateLessonVersionDao | Provide method to manage the version of lesson in database |
| 5 | HibernateQuestionDao | Provide method to manage the question in database |
| 6 | HibernateReportDao | Provide method to manage the report in database |
| 7 | HibernateUserDao | Provide method to manage the account in database |

### HibernateCourseDao Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 |  |  |  |  |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | save() | Save a course to database |
| 2 | findById() | Find a course by its id |
| 3 | findByExample() | Find all course have same feature with example |
| 4 | findByExample() | Find some course have same feature with example |
| 5 | getAll() | Return all course |
| 6 | update() | Update a course |
| 7 | delete() | Delete a course |
| 8 | getCount() | Return the number of the course in database |
| 9 | executeSql() | Return the courses execute by sql |

### HibernateExamDao Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 |  |  |  |  |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | save() | Save an exam to database |
| 2 | findById() | Find an exam by its id |
| 3 | findByExample() | Find all exam have same feature with example |
| 4 | findByExample() | Find some exam have same feature with example |
| 5 | getAll() | Return all exam |
| 6 | update() | Update an exam |
| 7 | delete() | Delete an exam |
| 8 | getCount() | Return the number of the exam in database |
| 9 | executeSql() | Return the exams execute by sql |

### HibernateLessonDao Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 |  |  |  |  |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | save() | Save a lesson to database |
| 2 | findById() | Find a lesson by its id |
| 3 | findByExample() | Find all lesson have same feature with example |
| 4 | findByExample() | Find some lesson have same feature with example |
| 5 | getAll() | Return all lesson |
| 6 | update() | Update a lesson |
| 7 | delete() | Delete a lesson |
| 8 | getCount() | Return the number of the lesson in database |
| 9 | executeSql() | Return the lessons execute by sql |

### HibernateLessonVersionDao Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 |  |  |  |  |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | save() | Save a lesson version to database |
| 2 | findById() | Find a lesson version by its id |
| 3 | findByExample() | Find all lesson version have same feature with example |
| 4 | findByExample() | Find some lesson version have same feature with example |
| 5 | getAll() | Return all lesson version |
| 6 | update() | Update a lesson version |
| 7 | delete() | Delete a lesson version |
| 8 | getCount() | Return the number of the lesson version in database |
| 9 | executeSql() | Return the lesson versions execute by sql |

### HibernateQuestionDao Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 |  |  |  |  |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | save() | Save a question to database |
| 2 | findById() | Find a question by its id |
| 3 | findByExample() | Find all question have same feature with example |
| 4 | findByExample() | Find some question have same feature with example |
| 5 | getAll() | Return all question |
| 6 | update() | Update a question |
| 7 | delete() | Delete a question |
| 8 | getCount() | Return the number of the question in database |
| 9 | executeSql() | Return the questions execute by sql |

### HibernateReportDao Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 |  |  |  |  |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | save() | Save a report to database |
| 2 | findById() | Find a report by its id |
| 3 | findByExample() | Find all report have same feature with example |
| 4 | findByExample() | Find some report have same feature with example |
| 5 | getAll() | Return all report |
| 6 | update() | Update a report |
| 7 | delete() | Delete a report |
| 8 | getCount() | Return the number of the report in database |
| 9 | executeSql() | Return the reports execute by sql |

### HibernateUserDao Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 |  |  |  |  |  |

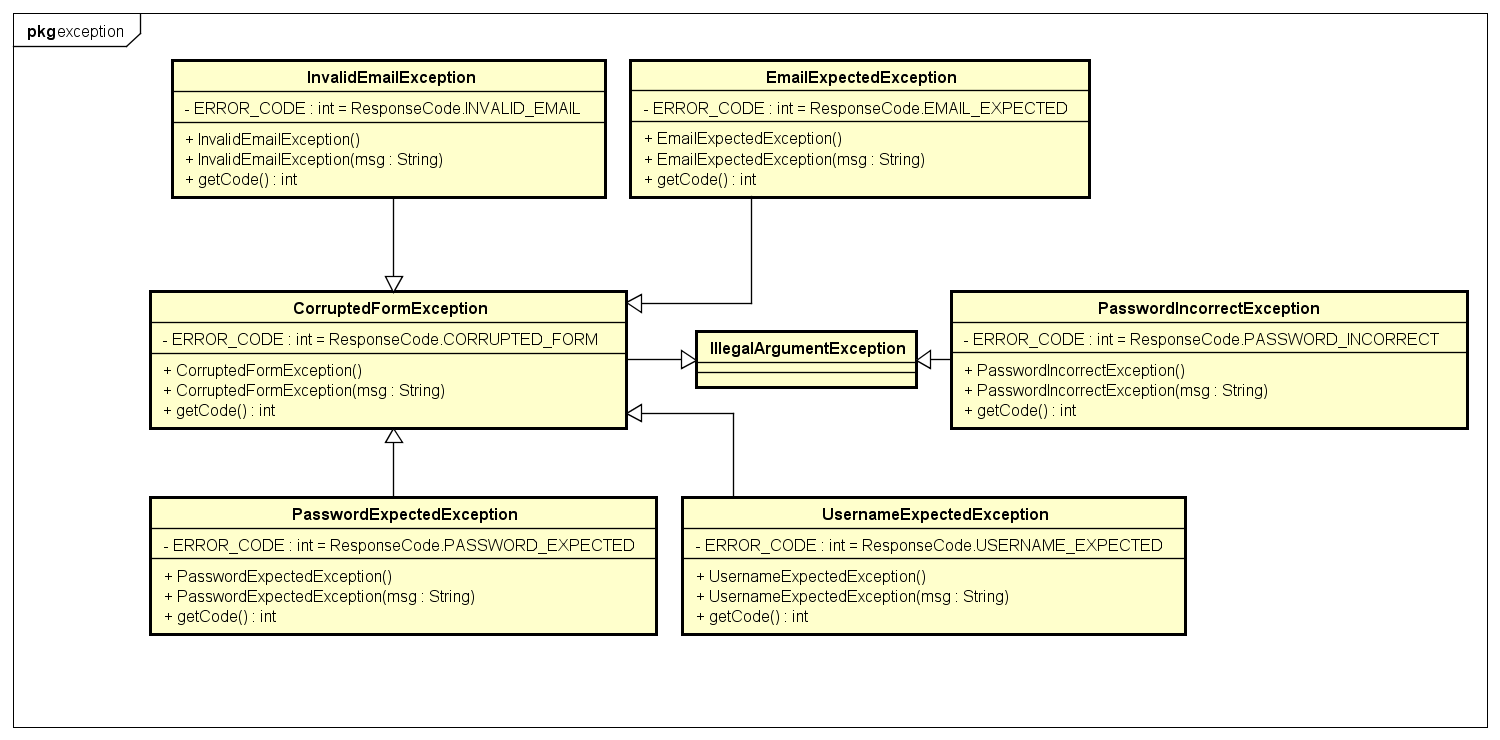
#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | save() | Save an account to database |
| 2 | findById() | Find an account by its id |
| 3 | findByExample() | Find all account have same feature with example |
| 4 | findByExample() | Find some account have same feature with example |
| 5 | getAll() | Return all account |
| 6 | update() | Update an account |
| 7 | delete() | Delete an account |
| 8 | getCount() | Return the number of the account in database |
| 9 | executeSql() | Return the accounts execute by sql |

### Sequence diagram

## core.exception Package

### Class diagram



***Figure 4: Class diagram Practice core.exception package***

|  |  |  |
| --- | --- | --- |
| No | Class Name | Description |
| 1 | CorruptedFormException | Corrupted form exception |
| 2 | EmailExpectedException | Email expected exception |
| 3 | InvalidEmailException | Invalid email exception |
| 4 | PasswordExpectedException | Password expected exception |
| 5 | PasswordIncorrectException | Password incorrect exception |
|  | UsernameExpectedException | Username expected exception |

### CorruptedFormException Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | ERROR\_CODE | int |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | getCode() |  |

### EmailExpectedException Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | ERROR\_CODE | int |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | getCode() |  |

### InvalidEmailException Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | ERROR\_CODE | int |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | getCode() |  |

### PasswordExpectedException Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | ERROR\_CODE | int |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | getCode() |  |

### PasswordIncorrectException Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | ERROR\_CODE | int |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | getCode() |  |

### UsernameExpectedException Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | ERROR\_CODE | int |  | private |  |

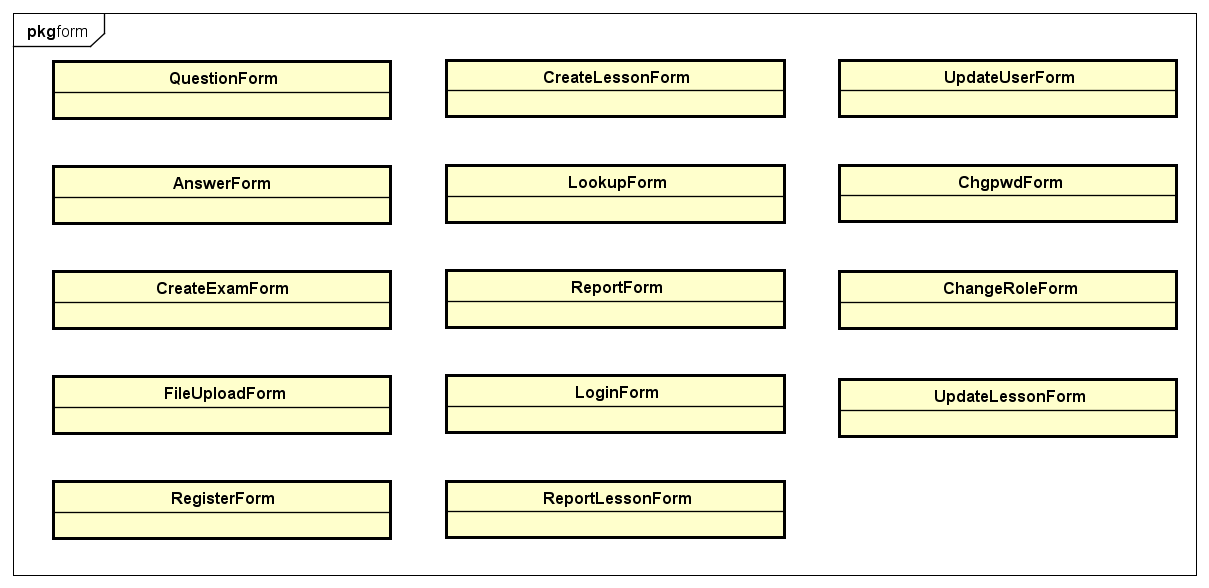
#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | getCode() |  |

### Sequence Diagram

## core.form Package

### Class diagram



**Figure 5: Class diagram core.form package**

|  |  |  |
| --- | --- | --- |
| No | Class Name | Description |
| 1 | AnswerForm | Answer form |
| 2 | ChangeRoleForm | Change user role form |
| 3 | ChgpwdForm | Change password form |
| 4 | CreateExamForm | Create exam form |
| 5 | FileUploadForm | Upload file form |
| 6 | CreateLessonForm | Create lesson form |
| 7 | LoginForm | Login form |
| 8 | LookupForm | Lookup word form |
| 9 | QuestionForm | Get a question form |
| 10 | RegisterForm | Register form |
| 11 | ReportForm | Report a question form |
| 12 | ReportLessonForm | Report lesson form |
| 13 | UpdateLessonForm | Update lesson form |
| 14 | UpdateUserForm | Update user form |

### AnswerForm Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | answer | String |  | private |  |
| 2 | isRight | Boolean |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### ChangeRoleForm Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | userId | Integer |  | private |  |
| 2 | role | Integer |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### ChgpwdForm Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | oldPassword | String |  | private |  |
| 2 | newPassword | String |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### CreateExamForm Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | courseId | Integer |  | private |  |
| 2 | examSkill | Integer |  | private |  |
| 3 | questionNumber | Integer |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### CreateLessonForm Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | courseId | Integer |  | private |  |
| 2 | lessonTitle | String |  | private |  |
| 3 | description | String |  | private |  |
| 4 | vocabulary | String |  | private |  |
| 5 | grammar | String |  | private |  |
| 6 | reading | String |  | private |  |
| 7 | listening | String |  | private |  |
| 8 | practice | String |  | private |  |
| 9 | article | String |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### FileUploadForm Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 |  |  |  |  |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### LoginForm Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | username | String |  | private |  |
| 2 | encryptedPassword | String |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### LookupForm Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | key | String |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### QuestionForm Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | questionAnswerType | Integer |  | private |  |
| 2 | questionType | Integer |  | private |  |
| 3 | questionSkill | Integer |  | private |  |
| 4 | courseId | Integer |  | private |  |
| 5 | numberOfQuestion | Integer |  | private |  |
| 6 | question | String |  | private |  |
| 7 | attachment | String |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### RegisterForm Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | username | String |  | private |  |
| 2 | password | String |  | private |  |
| 3 | email | String |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### ReportForm Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | content | String |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### ReportLessonForm Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | lessonID | Integer |  | private |  |
| 2 | content | String |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### UpdateLessonForm Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | lessonId | Integer |  | private |  |
| 2 | courseId | Integer |  | private |  |
| 3 | lessonTitle | String |  | private |  |
| 4 | description | String |  | private |  |
| 5 | vocabulary | String |  | private |  |
| 6 | grammar | String |  | private |  |
| 7 | reading | String |  | private |  |
| 8 | listening | String |  | private |  |
| 9 | practice | String |  | private |  |
| 10 | article | String |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### UpdateUserForm Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | firstName | String |  | private |  |
| 2 | lastName | String |  | private |  |
| 3 | dob | Long |  | private | date of birth |
| 4 | address | String |  | private |  |
| 5 | hobby | String |  | private |  |
| 6 | bio | String |  | private | about me |
| 7 | website | String |  | private |  |
| 8 | quote | String |  | private |  |

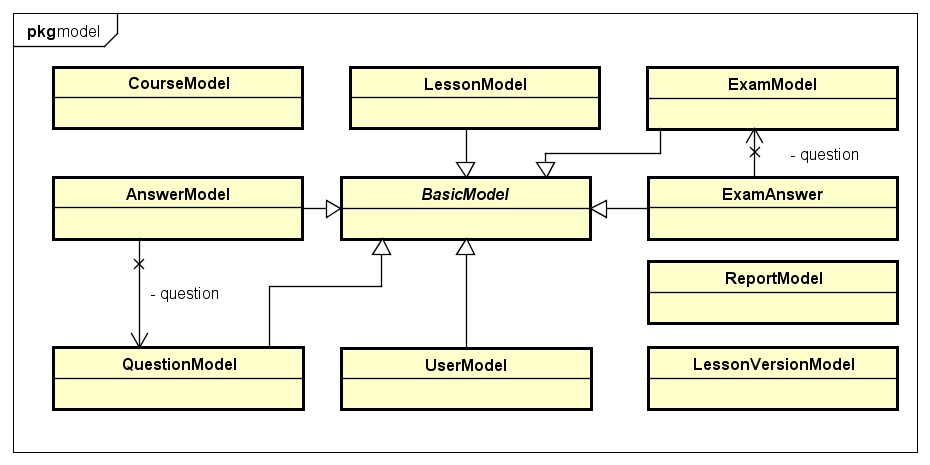
#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### Sequence Diagram

## core.model package

### Class diagram



**Figure 6: Class diagram core.model package**

|  |  |  |
| --- | --- | --- |
| NNo | Class Name | Description |
| 1 | AnswerModel | answer model |
| 2 | BasicModel | basic model |
| 3 | CourseModel | course model |
| 4 | ExamAnswer | exam answer |
| 5 | ExamModel | exam model |
| 6 | LessonModel | lesson model |
| 7 | LessonVersionModel | lesson version model |
| 8 | QuestionModel | question model |
| 9 | ReportModel | report model |
| 10 | UserModel | user model |

### AnswerModel Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | answer | String |  | private |  |
| 2 | isRight | Boolean |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### BasicModel Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | id | Integer |  | private |  |
| 2 | createDate | Long |  | private |  |
| 3 | updateDate | Long |  | private |  |
| 4 | deleteDate | Long |  | private |  |
| 5 | deleteFlag | Boolean |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### CourseModel Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | id | Integer |  | private |  |
| 2 | name | String |  | private |  |
| 3 | description | String |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### ExamAnswer Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | questionId | Integer |  | private |  |
| 2 | userAnswer | String |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### ExamModel Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | userId | Integer |  | private |  |
| 2 | courseId | Integer |  | private |  |
| 3 | result | Double |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### LessonModel Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | index | Integer |  | private |  |
| 2 | courseId | Integer |  | private |  |
| 3 | currentVersionId | Integer |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### LessonVersionModel Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | id | Integer |  | private |  |
| 2 | createDate | Long |  | private |  |
| 3 | updateDate | Long |  | private |  |
| 4 | lessonId | Integer |  | private |  |
| 5 | version | Integer |  | private |  |
| 6 | state | Integer |  | private |  |
| 7 | title | String |  | private |  |
| 8 | description | String |  | private |  |
| 9 | creatorId | Integer |  | private |  |
| 10 | vocabulary | String |  | private |  |
| 11 | grammar | String |  | private |  |
| 12 | reading | String |  | private |  |
| 13 | listening | String |  |  |  |
| 14 | practice | String |  |  |  |
| 15 | article | String |  |  |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### QuestionModel Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | questionCode | Integer |  | private |  |
| 2 | creatorId | Integer |  | private |  |
| 3 | questionAnswerType | Integer |  | private |  |
| 4 | questionType | Integer |  | private |  |
| 5 | questionSkill | Integer |  | private |  |
| 6 | numberOfQuestion | Integer |  | private |  |
| 7 | courseId | Integer |  | private |  |
| 8 | question | String |  | private |  |
| 9 | content | List<Integer> |  | private |  |
| 10 | state | Integer |  | private |  |
| 11 | attachment | Integer |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### ReportModel Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | id | Integer |  | private |  |
| 2 | createDate | Long |  | private |  |
| 3 | deleteDate | Long |  | private |  |
| 4 | deleteFlag | Long |  | private |  |
| 5 | senderId | Integer |  | private |  |
| 6 | receiverId | Integer |  | private |  |
| 7 | readFlag | Boolean |  | private |  |
| 8 | content | String |  | private |  |
| 9 | lessonId | Integer |  | private |  |
| 10 | questionId | Integer |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### UserModel Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | email | String |  | private |  |
| 2 | userName | String |  | private |  |
| 3 | encryptedPassword | String |  | private |  |
| 4 | firstName | String |  | private |  |
| 5 | lastName | String |  | private |  |
| 6 | dob | Long |  | private |  |
| 7 | joinDate | Long |  | private |  |
| 8 | address | String |  | private |  |
| 9 | role | Integer |  | private |  |
| 10 | hobby | String |  | private |  |
| 11 | bio | String |  | private |  |
| 12 | website | String |  | private |  |
| 13 | quote | String |  |  |  |
| 14 | isBanned | Boolean |  |  |  |

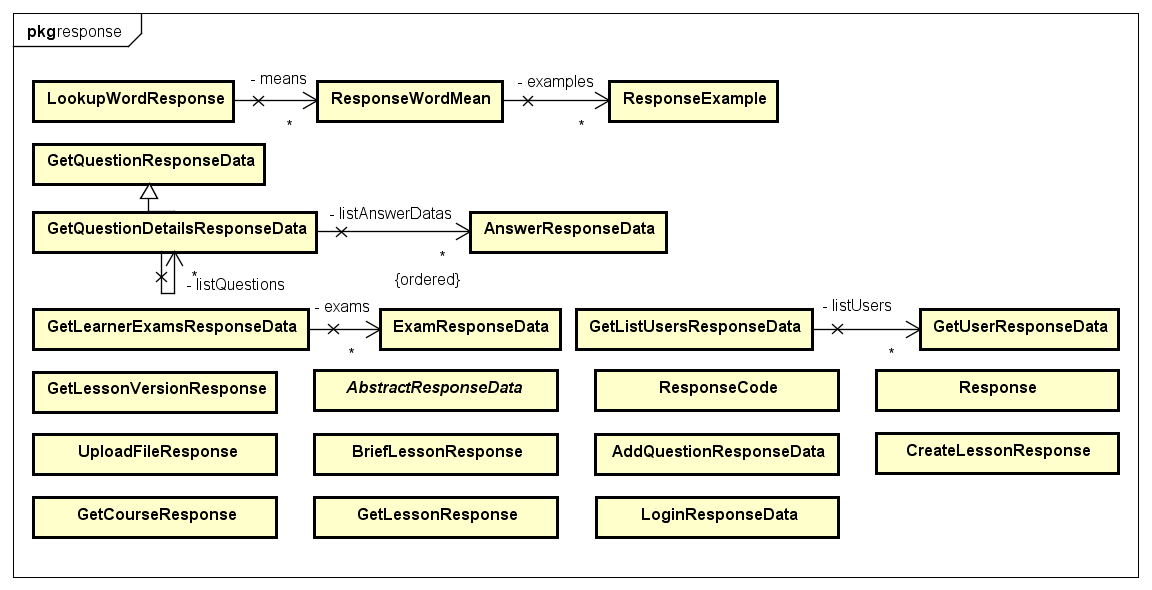
#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### Sequence Diagram

## core.response Package

### Class diagram



**Figure 7: Class diagram core.response package**

|  |  |  |
| --- | --- | --- |
| No | Class Name | Description |
| 1 | AddQuestionResponseData | Add question response data |
| 2 | AnswerResponseData | Answer response data |
| 3 | BriefLessonResponse | Brief lesson response |
| 4 | CreateLessonResponse | Create lesson response |
| 5 | ExamResponseData | Exam response data |
| 6 | GetCourseResponse | Get course response |
| 7 | GetLearnerExamsResponseData | Get learner exams response data |
| 8 | GetLessonResponse | Get lesson response |
| 9 | GetLessonVersionResponse | Get lesson version response |
| 10 | GetListUsersResponseData | Get list users response data |
| 11 | GetQuestionDetailsResponseData | Get question details response data |
| 12 | GetQuestionResponseData | Get question response data |
| 13 | GetUserResponseData | Get user response data |
| 14 | LoginResponseData | Login response data |
| 15 | LookupWordResponse | Lookup word response |
| 16 | Response | Response |
| 17 | ResponseCode | Response code |
| 18 | ResponseExample | Response example |
| 19 | ResponseWordMean | Response word mean |
| 20 | UploadFileResponse | Upload file response |

### AddQuestionResponseData Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | questionId | Integer |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### AnswerResponseData Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | answer | String |  | private |  |
| 2 | isRight | Boolean |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### BriefLessonResponse Class

#### Attributes

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No | Attribute | Type | Note | Description |
| 1 | lessonId | Integer | private |  |
| 2 | title | String | private |  |
| 3 | state | Integer | private |  |
| 4 | courseId | Integer | private |  |
| 5 | version | Integer | private |  |
| 6 | description | String | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### CreateLessonResponse Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | lessonId | Integer |  | private |  |
| 2 | courseId | Integer |  | private |  |
| 3 | version | Integer |  | private |  |
| 4 | lessonTitle | String |  | private |  |
| 5 | description | String |  | private |  |
| 6 | creatorId | Integer |  | private |  |
| 7 | createDate | Long |  | private |  |
| 8 | vocabulary | String |  | private |  |
| 9 | grammar | String |  | private |  |
| 10 | reading | String |  | private |  |
| 11 | listening | String |  | private |  |
| 12 | practice | String |  | private |  |
| 13 | article | String |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### ExamResponseData Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | examId | Integer |  | private |  |
| 2 | result | Double |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### GetCourseResponse Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | name | String |  | private |  |
| 2 | description | String |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### GetLearnerExamsResponseData Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | exams | ExamResponseData |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### GetLessonResponse Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | lessonId | Integer |  | private |  |
| 2 | courseId | Integer |  | private |  |
| 3 | lessonTitle | String |  | private |  |
| 4 | description | String |  | private |  |
| 5 | updateDate | Long |  | private |  |
| 6 | state | Integer |  | private |  |
| 7 | version | Integer |  | private |  |
| 8 | vocabulary | String |  | private |  |
| 9 | grammar | String |  | private |  |
| 10 | conversation | String |  | private |  |
| 11 | listening | String |  | private |  |
| 12 | practice | String |  | private |  |
| 13 | reading | String |  | private |  |
| 14 | previousLessonId | Integer |  | private |  |
| 15 | nextLessonId | Integer |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### GetLessonVersionResponse Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | lessonId | Integer |  | private |  |
| 2 | courseId | Integer |  | private |  |
| 3 | version | Integer |  | private |  |
| 4 | lessonTitle | String |  | private |  |
| 5 | description | String |  | private |  |
| 6 | creatorId | Integer |  | private |  |
| 7 | createDate | Long |  | private |  |
| 8 | updateDate | Long |  | private |  |
| 9 | vocabulary | String |  | private |  |
| 10 | grammar | String |  | private |  |
| 11 | reading | String |  | private |  |
| 12 | listening | String |  | private |  |
| 13 | practice | String |  | private |  |
| 14 | article | String |  | private |  |
| 15 | listVersions | List< Integer> |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### GetListUsersResponseData Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | listUsers | List<GetUserResponseData> |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### GetQuestionDetailsResponseData Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | numberOfQuestion | Integer |  | private |  |
| 2 | attachment | String |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### GetQuestionResponseData Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | questionId | Integer |  | private |  |
| 2 | questionCode | Integer |  | private |  |
| 3 | questionAnswerType | Integer |  | private |  |
| 4 | questionType | Integer |  | private |  |
| 5 | questionSkill | Integer |  | private |  |
| 6 | courseId | Integer |  | private |  |
| 7 | question | String |  | private |  |
| 8 | state | Integer |  | private |  |
| 9 | createDate | Long |  | private |  |
| 10 | updateDate | Long |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### GetUserResponseData Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | email | String |  | private |  |
| 2 | userName | String |  | private |  |
| 3 | firstName | String |  | private |  |
| 4 | lastName | String |  | private |  |
| 5 | dob | Long |  | private |  |
| 6 | joinDate | Long |  | private |  |
| 7 | address | String |  | private |  |
| 8 | role | Integer |  | private |  |
| 9 | hobby | String |  | private |  |
| 10 | bio | String |  | private |  |
| 11 | website | String |  | private |  |
| 12 | quote | String |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### LoginResponseData Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | role | Integer |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### LookupWordResponse Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | word | String |  | private |  |
| 2 | means | List<ResponseWordMean> |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### Response Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | code | Integer |  | private |  |
| 2 | data | String |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### ResponseCode Class

#### Attributes

|  |  |  |  |
| --- | --- | --- | --- |
| No | Attribute | Type | Value |
| 1. 1 | SUCCESS | int | 200 |
| 1. 2 | CREATED | int | 201 |
| 1. 3 | FOUND | int | 302 |
| 1. 3 | BAD\_REQUEST | int | 400 |
|  | UNAUTHORIZED | int | 401 |
|  | PERMISSION\_DENIED | int | 403 |
|  | REQUEST\_TIMEOUT | int | 408 |
|  | INVALID\_EMAIL | int | 410 |
|  | DUPLICATED\_EMAIL | int | 411 |
|  | EMAIL\_NOT\_FOUND | int | 412 |
|  | DUPLICATED\_USERNAME | int | 413 |
|  | CORRUPTED\_FORM | int | 460 |
|  | USERNAME\_EXPECTED | int | 461 |
|  | PASSWORD\_EXPECTED | int | 462 |
|  | EMAIL\_EXPECTED | int | 463 |
|  | INVALID\_PASSWORD | int | 420 |
|  | INCORRECT\_PASSWORD | int | 421 |
|  | USER\_NOT\_FOUND | int | 430 |
|  | USER\_NOT\_ALLOW | int | 431 |
|  | USER\_INACTIVE | int | 432 |
|  | USER\_EXAMS\_NOT\_FOUND | int | 433 |
|  | USERNAME\_PASSWORD\_NOT\_MATCH | int | 470 |
|  | PASSWORD\_INCORRECT | int | 471 |
|  | QUESTION\_NOT\_FOUND | int | 440 |
|  | INTERNAL\_SERVER\_ERROR | int | 500 |
|  | UNSUPPORTED\_API | int | 600 |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### ResponseExample Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | vi | String |  | private |  |
| 2 | ja | String |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### ResponseWordMean Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | kind | String |  | private |  |
| 2 | mean | String |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### UploadFileResponse Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | link | String |  | private |  |

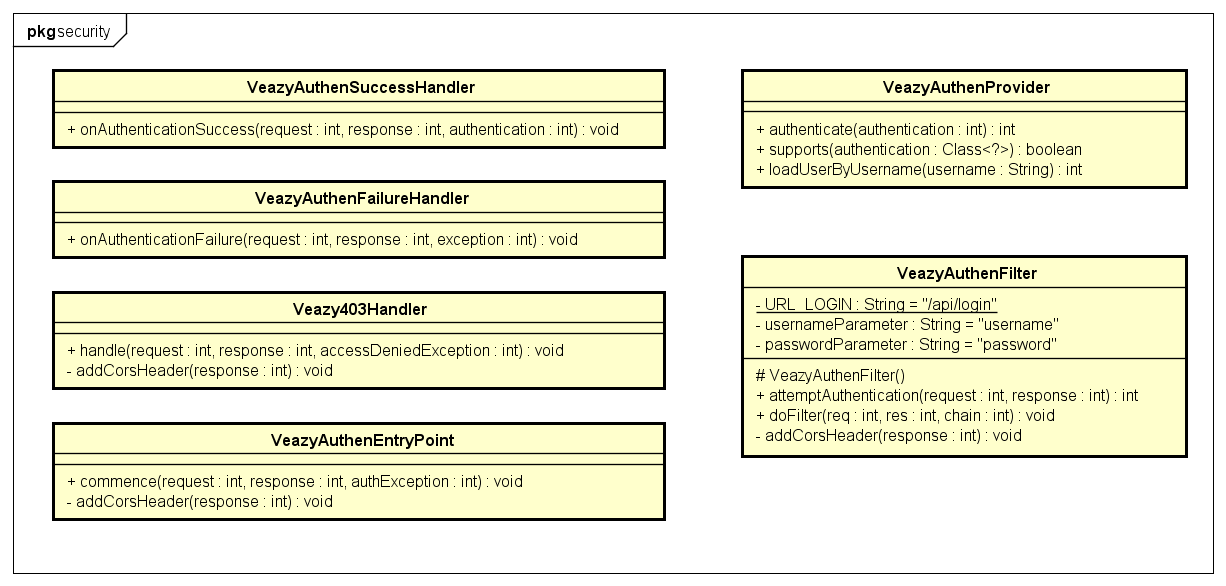
#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### Sequence Diagram

## core.security package

### Class diagram



**Figure 8: Class diagram core.security package**

|  |  |  |
| --- | --- | --- |
| No | Class Name | Description |
| 1 | Veazy403Handler |  |
| 2 | VeazyAuthenEntryPoint |  |
| 3 | VeazyAuthenFailureHandler |  |
| 4 | VeazyAuthenFilter |  |
| 5 | VeazyAuthenProvider |  |
| 6 | VeazyAuthenSuccessHandler |  |

### Veazy403Handler Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 |  |  |  |  |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | handle() |  |

### VeazyAuthenEntryPoint Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 |  |  |  |  |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | commence() |  |

### VeazyAuthenFailureHandler Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 |  |  |  |  |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | onAuthenticationFailure() |  |

### VeazyAuthenFilter Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | URL\_LOGIN | String |  | private |  |
| 2 | usernameParameter | String |  | private |  |
| 3 | passwordParameter | String |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | attemptAuthentication() |  |
| 2 | doFilter() |  |
| 3 | addCorsHeader() |  |

### VeazyAuthenProvider Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 |  |  |  |  |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | authenticate() |  |
| 2 | supports() |  |
| 3 | loadUserByUsername() |  |

### VeazyAuthenSuccessHandler Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 |  |  |  |  |  |

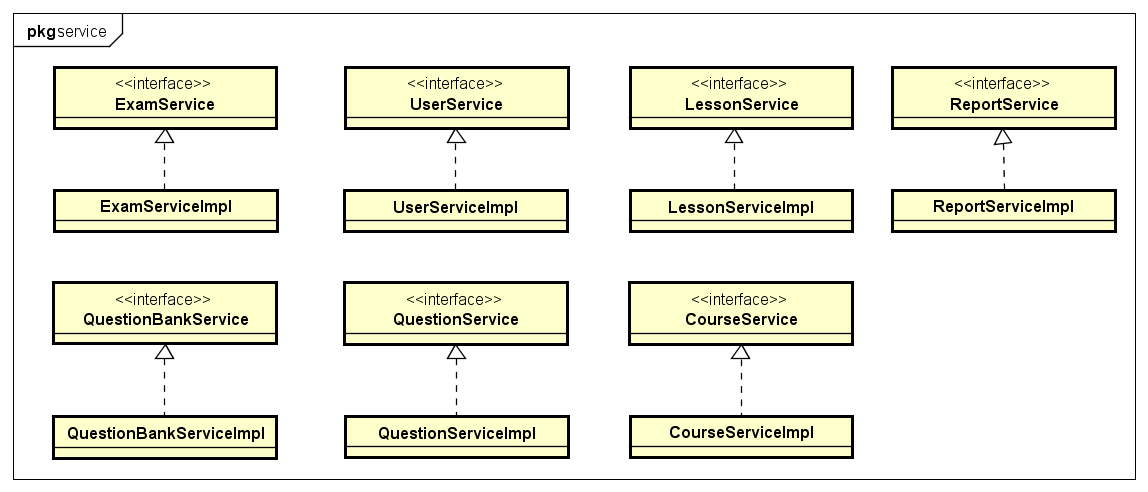
#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | onAuthenticationSuccess() |  |

### Sequence Diagram

## core.service Package

### Class diagram



**Figure 9: Class diagram core.service package**

|  |  |  |
| --- | --- | --- |
| No | Class Name | Description |
| 1 | CourseServiceImpl | Contain service for course API |
| 2 | ExamServiceImpl | Contain service for exam API |
| 3 | LessonServiceImpl | Contain service for lesson API |
| 4 | QuestionBankServiceImpl | Contain service for question bank API |
| 5 | QuestionServiceImpl | Contain service for question API |
| 6 | ReportServiceImpl | Contain service for report API |
| 7 | UserServiceImpl | Contain service for account API |

### CourseServiceImpl Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 |  |  |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | getCourses() |  |

### ExamServiceImpl Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 |  |  |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | findLearnerExams() |  |
| 2 | saveExam() |  |

### LessonServiceImpl Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 |  |  |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | createLesson() |  |
| 2 | getLessonVersion() |  |
| 3 | updateLesson() |  |
| 4 | publishLessonVersion() |  |
| 5 | reportLesson() |  |
| 6 | getLessonsOfCourse() |  |
| 7 | getLesson() |  |
| 8 | deleteLesson() |  |
| 9 | getAllLesson() |  |

### QuestionBankServiceImpl Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 |  |  |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | generateTest() |  |
| 2 | getSingleQuestion() |  |

### QuestionServiceImpl Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 |  |  |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | saveQuestion() |  |
| 2 | findQuestionById() |  |
| 3 | findQuestionByCode() |  |
| 4 | findAllQuestion() |  |
| 5 | update() |  |
| 6 | delete() |  |
| 7 | size() |  |

### ReportServiceImpl Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 |  |  |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | saveReport() |  |
| 2 | getReport() |  |
| 3 | getAllReports() |  |
| 4 | readReport() |  |
| 5 | deleteReport() |  |

### UserServiceImpl Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 |  |  |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | saveUser() |  |
| 2 | saveUser() |  |
| 3 | findUserById() |  |
| 4 | findUserByEmail() |  |
| 5 | findUserByUsername() |  |
| 6 | findAllUser() |  |
| 7 | update() |  |
| 8 | update() |  |
| 9 | delete() |  |
| 10 | deleteUsers() |  |
| 11 | size() |  |
| 12 | changeUserRoll() |  |
| 13 | changePassword() |  |

## dictionary.controller Package

### D:\Documents\GitHub\DATN\201605JS01\WIP\Users\TungDT\Class Diagram\Dict Controller.pngClass diagram

**Figure 10: Class diagram dictionary.controller package**

|  |  |  |
| --- | --- | --- |
| No | Class Name | Description |
| 1 | DictController | Control lookup word API |

### DictController Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 |  |  |  |  |  |

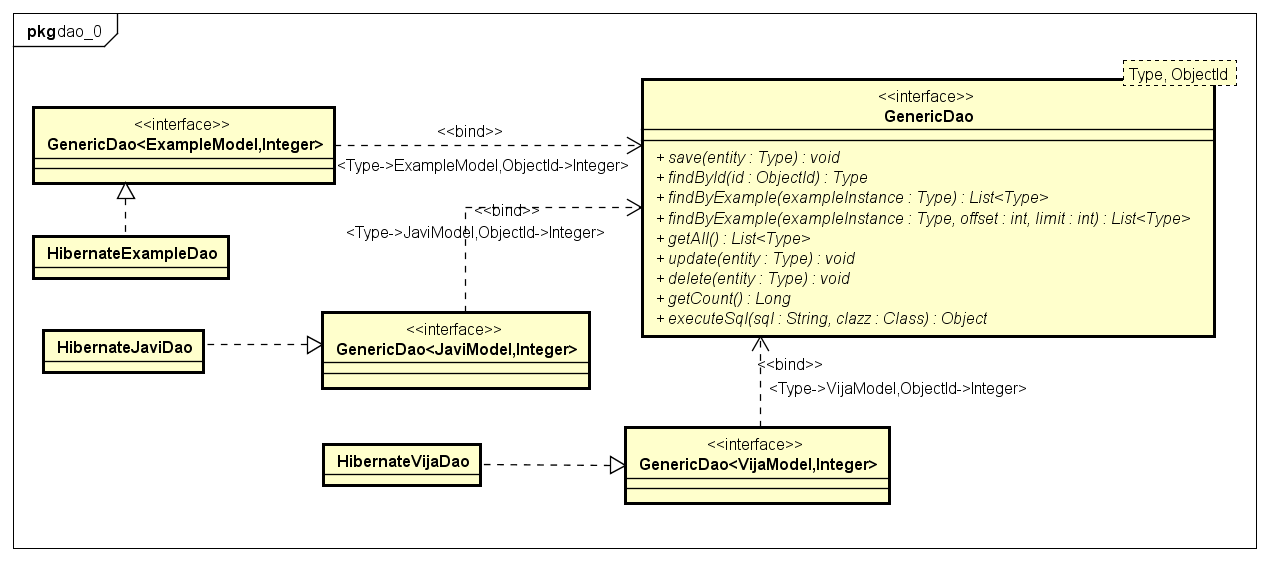
#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | lookupJavi() | Look up word at Japanese Vietnamese dictionary |
| 2 | lookupVija() | Look up word at Vietnamese Japanese dictionary |

### Sequence Diagram

## dictionary.dao Package

### Class diagram



**Figure 11: Class diagram dictionary.dao package**

|  |  |  |
| --- | --- | --- |
| No | Class Name | Description |
| 1 | HibernateExampleDao | Provide method to access the example in database |
| 2 | HibernateJaviDao | Provide method to access the Japanese Vietnamese dictionary in database |
| 3 | HibernateVijaDao | Provide method to access the Vietnamese Japanese dictionary in database |

### HibernateExampleDao Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 |  |  |  |  |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | save() | Save an example to database |
| 2 | findById() | Find an example by its id |
| 3 | findByExample() | Find all example have same feature with example |
| 4 | findByExample() | Find some example have same feature with example |
| 5 | getAll() | Return all example |
| 6 | update() | Update an example |
| 7 | delete() | Delete an example |
| 8 | getCount() | Return the number of the example in database |
| 9 | executeSql() | Return the examples execute by sql |

### HibernateJaviDao Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 |  |  |  |  |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | save() | Save a Japanese Vietnamese vocabulary to database |
| 2 | findById() | Find a Japanese Vietnamese vocabulary by its id |
| 3 | findByExample() | Find all Japanese Vietnamese vocabulary have same feature with example |
| 4 | findByExample() | Find some Japanese Vietnamese vocabulary have same feature with example |
| 5 | getAll() | Return all Japanese Vietnamese vocabulary |
| 6 | update() | Update a Japanese Vietnamese vocabulary |
| 7 | delete() | Delete a Japanese Vietnamese vocabulary |
| 8 | getCount() | Return the number of the Japanese Vietnamese vocabulary in database |
| 9 | executeSql() | Return the Japanese Vietnamese vocabulary execute by sql |

### HibernateVijaDao Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 |  |  |  |  |  |

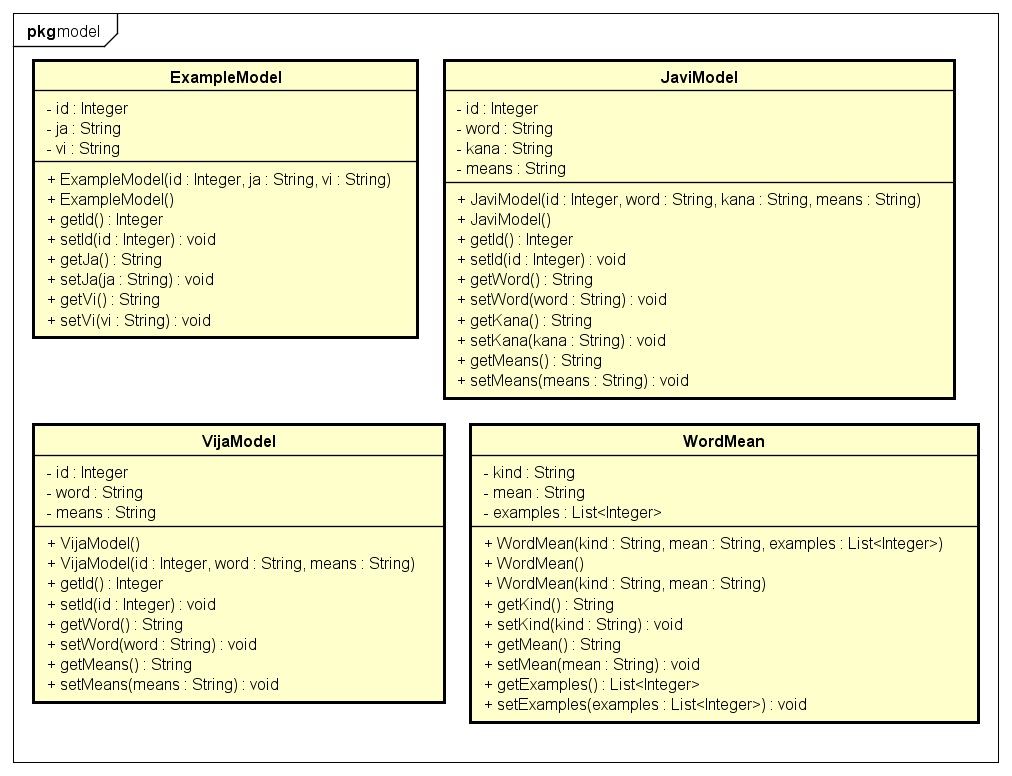
#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | save() | Save a Vietnamese Japanese vocabulary to database |
| 2 | findById() | Find a Vietnamese Japanese vocabulary by its id |
| 3 | findByExample() | Find all Vietnamese Japanese vocabulary have same feature with example |
| 4 | findByExample() | Find some Vietnamese Japanese vocabulary have same feature with example |
| 5 | getAll() | Return all Vietnamese Japanese vocabulary |
| 6 | update() | Update a Vietnamese Japanese vocabulary |
| 7 | delete() | Delete a Vietnamese Japanese vocabulary |
| 8 | getCount() | Return the number of the Vietnamese Japanese vocabulary in database |
| 9 | executeSql() | Return the Vietnamese Japanese vocabulary execute by sql |

### Sequence Diagram

## dictionary.model package

### Class diagram



**Figure 7: Class diagram dictionary.model package**

|  |  |  |
| --- | --- | --- |
| No | Class Name | Description |
| 1 | ExampleModel | Example Model |
| 2 | JaviModel | Japanese Vietnamese word Model |
| 3 | VijaModel | Vietnamese Japanese word Model |
| 4 | WordMean | Word Meaning |

### ExampleModel Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | id | Integer |  | private |  |
| 2 | ja | String |  | private |  |
| 3 | vi | String |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### JaviModel Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | id | Integer |  | private |  |
| 2 | word | String |  | private |  |
| 3 | kana | String |  | private |  |
| 4 | means | String |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### VijaModel Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | id | Integer |  | private |  |
| 2 | word | String |  | private |  |
| 3 | means | String |  | private |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### WordMean Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 | kind | String |  | private |  |
| 2 | mean | String |  | private |  |
| 3 | examples | List<Integer> |  | private |  |

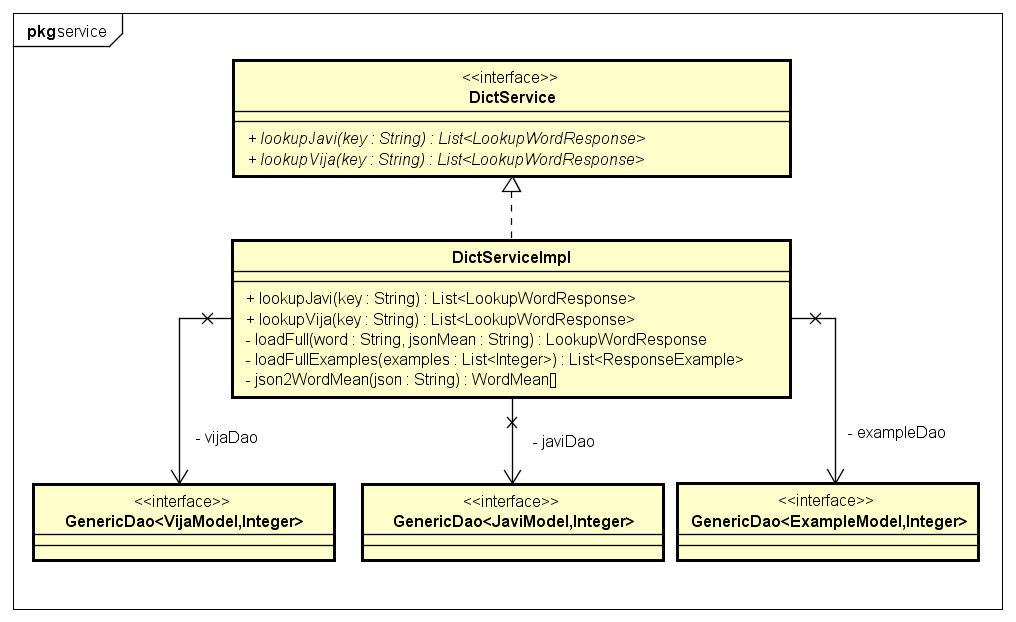
#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 |  |  |

### Sequence Diagram

## dictionary.service package

### Class diagram



**Figure 7: Class diagram dictionary.service package**

|  |  |  |
| --- | --- | --- |
| No | Class Name | Description |
| 1 | DictServiceImpl | contain service for dictionary API |

### DictServiceImpl Class

#### Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Attribute | Type | Default | Note | Description |
| 1 |  |  |  |  |  |

#### Methods

|  |  |  |
| --- | --- | --- |
| No | Method | Description |
| 1 | lookupJavi() | look up word at Japanese Vietnamese dictionary |
| 2 | lookupVija() | look up word at Vietnamese Japanese dictionary |
| 3 | loadFull() | load a word with its word mean form database |
| 4 | loadFullExamples() | load a word mean with its example form database |
| 5 | json2WordMean() | convert json to WordMean object |

### Sequence Diagram

# MVC model



***Figure 6: MVC Model***