Documentation

Beanframework

Thank you so much for using beanframework project. 100% open source project under MIT license.

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> If you have any questions that are beyond the scope of this help file, Please feel free to post via Github Discussion Page .

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```
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```

Installation

Create a new database:

1. By default, this project supported unicode character such as Chinese language, therefore the database must use CHARACTER SET utf8 COLLATE utf8_unicode_ci

```
CREATE SCHEMA `beanframework` DEFAULT CHARACTER SET utf8 COLLATE utf8_unicode_ci
```

2. Configure project by copy and remove **.template** suffix:

   - `beanframework/bin/` pom.xml.template

   - `beanframework/bin/install/` server.bat.template

   - `beanframework/bin/install/` server.sh.template

   - `beanframework/bin/platform/` pom.xml.template

   - `beanframework/config/` pom.xml.template

   - `beanframework/config/src/main/resources/` *.template

   - `beanframework/config/src/main/resources/import/dev.template`

    ○ Optional: `beanframework/bin/install/` app.xml.template

3. Open command prompt and navigate to `beanframework/bin` directory run:

```
mvnw clean install
```

4. Navigate to `beanframework/bin/install` directory and run:

```
server.bat
```

5. Access application endpoints:

    ○ Console: http://localhost:8080/console

    ○ Backoffice: http://localhost:8080/backoffice

    ○ Documentation: http://localhost:8080/documentation

6. Import update data:

    ○ Access Console: http://localhost:8080/console

    ○ Login with default admin account: username: **admin** , password: **admin**

    ○ Goto menu `Platform->Update` , check all and update.

7. You are good to go for run your project now!

Project Structure

1. Below is the `beanframework` folder structure:

    ○ `bin` - Source files

        ■ `custom` - Create a custom modules and put in this folder, best practice for not mixing with original project structure and codes, and easily to upgrade software in future.

        ■ `install` - Install/Run application manually or install as windows service.

        ■ `modules` - Project default modules.

        ■ `platform` - Platform that startup this application with configured modules.

    ○ `config` - Mainly use for application properties and configurations for different environments.

    ○ `data` - Data storage for this application

        ■ `media` - All the media stored in this directory.

        ■ `integration` - Spring Integration. Can be used for import data.

    ○ `log` - Application logging files, with archived and rotated logging files.

    ○ `temp` - Application temporary files.

Platform

Platform Configuration and Import Data

Configuration

`beanframework/bin/config/src/main/resources/`

- Configure environment:

    ○ `application.properties`

        ■ **spring.profiles.active=dev**

- Configure configurations and import data for environment:

-    `application-dev.properties` - Environment properties.
-    `ehcache-dev.xml` - Cache configuration.
-    `logback-dev.xml` - Logback configuration.
-    `import/dev` - Contains data to import

Import Data

`beanframework/bin/config/src/main/resources/import/`

- `dev/initdata/**/*.csv` - Contains data to import every time when application startup.
  - `module.imex.import.init.locations=classpath*:import/dev/initdata/**/*.csv`
- `dev/initsql/**/*.sql` - Contains sql to execute every time when application startup.
  - `platform.import.startup.enabled=true`
  - `platform.import.sql.locations=classpath*:import/dev/initsql/**/*.sql`
- `dev/updatedata` - Contains data to import when manually performing platform update.
  - `module.imex.import.update.locations=classpath*:import/dev/updatedata`

Development

Development guide for Spring Boot developer

Module Gen

`beanframework/bin/module/modulegen/`

- Set module configuration `src/main/resources/application.properties`
- Run `src/main/java/com/beanframework/modulegen/ModulegenApplication.java`
- Generated module output: `beanframework/bin/module/custom/`

Configure new module in project:

- Add new module in `beanframework/bin/pom.xml`
- Add new dependency in `beanframework/config/pom.xml`
- Add new profile and packages in `beanframework/config/src/main/resources/application.properties`
  - **spring.profiles.include=platform,console,backoffice,documentation,training**
  - **spring.scanBasePackages=com.beanframework,com.sample**
  - **jpa.domain.packagetoscans=com.beanframework.*.domain,com.sample.*.domain**

Model Attribute

Example of adding new attribute in Model

- `Training.java` - Add new attribute
- `TrainingDto.java` - Add new attribute
- `TrainingPopulator.java` - Add new attribute
- `TrainingEntityConverter.java` - Add new attribute
- `trainingForm.html` - Add new input

```html
...

<div class="col-md-3">
        <div class="form-group">
                <label for="name" th:text="#{module.training.name}"></label>
                <input type="text" class="form-control" name="name" th:value="*{name}">
        </div>
</div>

...
```

Datatable

Example of adding new column in datatable

- `training.html` - Add new attribute, for example "name":

```html
...

<th:block th:insert="~{backoffice/adminlte/common/fragment/content-datatable :: datatable (title=#
{module.training}, tableId='trainingTable', columnsi18n=${#strings.arraySplit(id+','+name, ',')},
selectAuthority=true )}"></th:block>

...

<th:block th:insert="~{backoffice/adminlte/common/fragment/content-datatable :: js (tableId='trainingTable',
columns=${#strings.arraySplit('id,name', ',')}, pageUrl=@{${@environment.getProperty('path.api.training')}},
formUrl=@{${@environment.getProperty('path.training.form')}}, addAuthority=${addAuthority}, selectAuthority=true
)}"></th:block>

...
```

- `Training.java` - Add new attribute, for example "name":

```java
...

public Training(UUID uuid, String id, String name) {
                super();
                setUuid(uuid);
                setId(id);
                setName(name);
        }
...
```

- `TrainingSpecification.java` - Add new attribute, for example "name":

```java
        ...

        @Override
        public Predicate toPredicate(Root<T> root, CriteriaQuery<?>; query, CriteriaBuilder cb) {
                        List<Predicate> predicates = new ArrayList<Predicate>();

                        String search = clean(dataTableRequest.getSearch());

                        if (StringUtils.isNotBlank(search)) {
                                predicates.add(cb.or(cb.like(root.get(TRAINING.ID), convertToLikePattern(search))));
                                predicates.add(cb.or(cb.like(root.get(TRAINING.NAME), convertToLikePattern(search))));
                        }

                        if (predicates.isEmpty()) {
                                return cb.and(predicates.toArray(new Predicate[predicates.size()]));
                        } else {
                                return cb.or(predicates.toArray(new Predicate[predicates.size()]));
                        }
        }
```

```java
        ...

        @Override
        public List<Selection<?>> toSelection(Root<T> root) {
                        List<Selection<?>> multiselect = new ArrayList<Selection<?>>();
                        multiselect.add(root.get(Training.UUID));
                        multiselect.add(root.get(Training.ID));
                        multiselect.add(root.get(Training.NAME));
                        return multiselect;
        }
        ...
```

- `TrainingDataTableResponseData.java` - Add new property, for example "name"

- `TrainingResource.java` - Add new data, for example "name":

```java
        ...

        for (TrainingDto dto : pagination.getContent()) {

                        TrainingDataTableResponseData data = new TrainingDataTableResponseData();
                        data.setUuid(dto.getUuid().toString());
                        data.setId(StringUtils.stripToEmpty(dto.getId()));
                        data.setName(StringUtils.stripToEmpty(dto.getName()));
                        dataTableResponse.getData().add(data);
        }
        ...
```

Dynamic Attributes

*Please check example of dynamic attributes used in UserGroup module in project.

Example of creating Dynamic Field for a Training Model:

- Create/Reuse a new entry in DynamicField **name_en**

- Create a new entry in DynamicFieldSlot **training_name_en**

- Create a new entry in DynamicFieldTemplate **training.dynamicfield.template**

Example of creating Attributes for a Training model:

- `TrainingAttribute.java` - Create new entity

- `Training.java` - Insert attributes property

- `TrainingAttributeDto.java` - Insert attributes property

- `TrainingDto.java` - Insert attributes property

- `TrainingPopulator.java` - Insert attributes property

- `TrainingEntityConvTraining.java` - Insert attributes property

- `TrainingServiceImpl.java` - Create generateTrainingAttribute(…)

- `TrainingLoadInterceptor.java` - Insert trainingService.generateTrainingAttribute(…)

- `TrainingInitialDefaultsInterceptor.java` - Insert trainingService.generateTrainingAttribute(…)

- `trainingForm.html` - Insert:

```
...

<li class="nav-item">
        <a class="nav-link" id="custom-tabs-attribute-tab" data-toggle="pill" href="#custom-tabs-attribute"
role="tab" aria-controls="custom-tabs-attribute" aria-selected="false" th:text="#{module.common.attribute}"></a>
</li>

...

<div class="tab-pane fade" id="custom-tabs-attribute" role="tabpanel" aria-labelledby="custom-tabs-attribute-
tab">
        <th:block th:insert="~{backoffice/adminlte/common/fragment/content-form-attribute :: form(attributes=*
{attributes})}"></th:block>
</div>

...
```