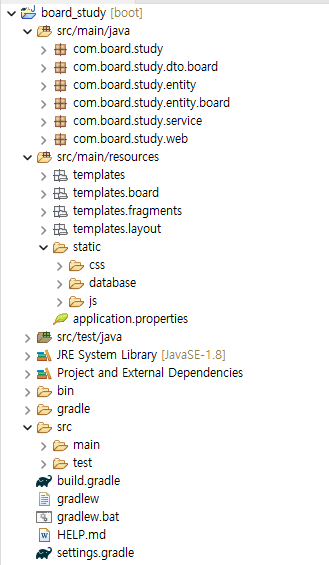
|  |
| --- |
|  |
| **스프링 부트를 이용한 게시판 개발(기본 CRUD)** |
|  |

|  |  |  |
| --- | --- | --- |
|  | 소속: | Ub1st |
|  | **이름:** | **천승주** |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

## Spring Project 구조

# 



image

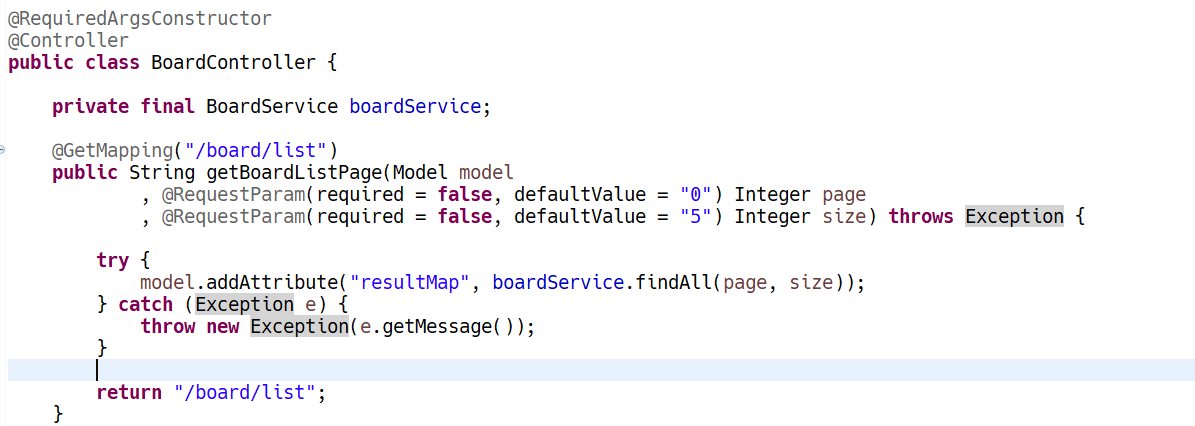
## JAVA



image

localhost:8080/board/list

Controller에서 url을 매핑해준다. 그리고 서비스를 통해 뷰에 뿌려줄 data를 가져온다.



image

DB작업이나 API 작업은 Repository에서 하고 Service에선 Repository에서 데이터를 받아 데이터 타입에 맞게 넣어준다.  - 읽기 전용 트랜잭션 사용 > 속도 최적화

@Transactional(readOnly=true)

* 해당 옵션을 주면 Spring Framework가 Hibernate Session의 Flush 모드를 Manual로 설정하여, 강제로 flush()를 하지 않는 한 flush()가 일어나지 않는다.
  + 트랜잭션이 커밋되어도 플러시되지 않음
  + flush() 할 때 일어나는 스냅샷 비교와 같은 무거운 로직을 수행하지 않음 > 성능 향상
  + 트랜잭션 시작, 로직수행, 커밋을 똑같이 동작함

Repository에서 DB작업을 하는데 JpaRepository에 내장된 findAll이나 findById를 쓸 수도 있고 쿼리문을 직접 작성할 수도 있다. 

board model이다



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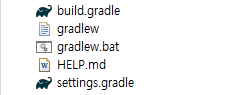
board DB작업에서 요청과 응답 모델이다.



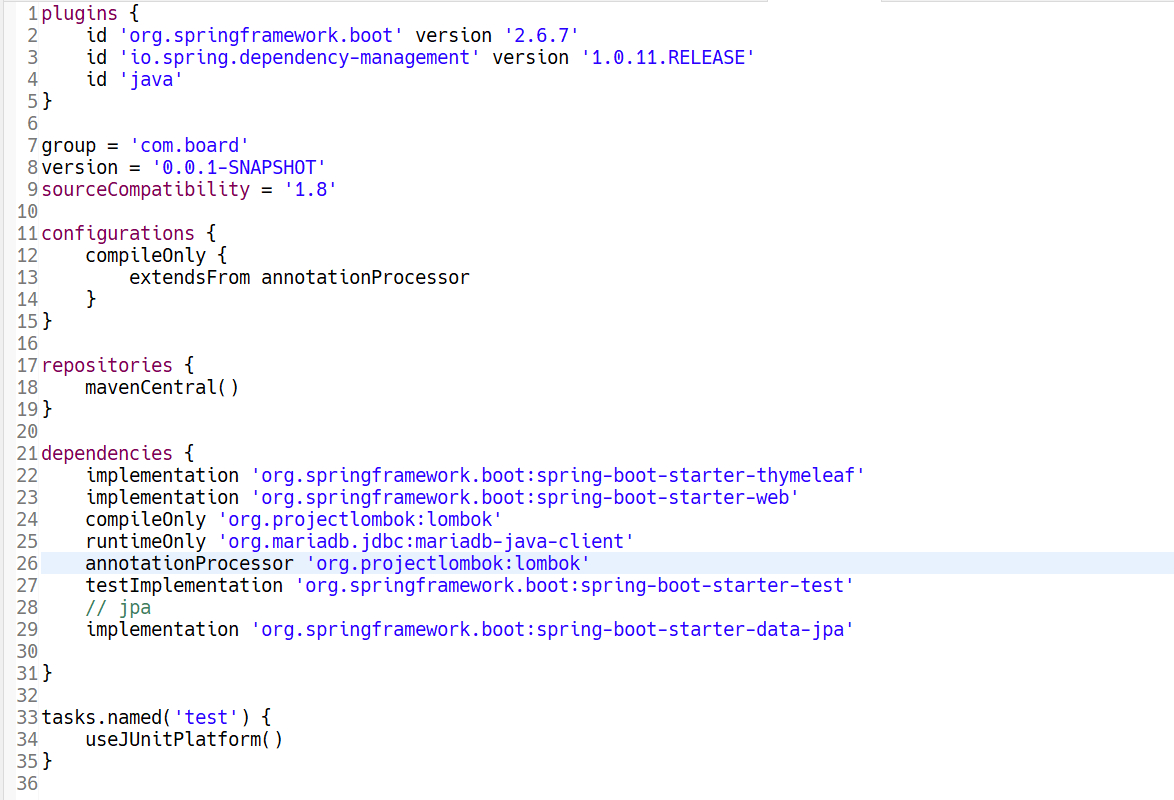
image

 #

build.gradle에서 의존성을 추가하면 jar 파일이 생긴다.



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## image # ## VIEW

## image

templates/board/list.html

<!DOCTYPE html>  
<html xmlns:th="http://www.thymeleaf.org" xmlns:layout="http://www.ultraq.net.nz/thymeleaf/layout" layout:decorate="~{layout/default\_layout}">  
 <!-- layout Content -->  
 <th:block layout:fragment="content">  
 <div id="wrapper">  
 <div class="container">  
 <form action="/board/list" id="frm" method="get">  
 <div class="col-md-12 mt-4">  
 <button type="button" class="btn btn-danger" onclick="fnDelete()">Delete</button>  
 <button type="button" class="btn btn-primary" onclick="javascript:location.href='/board/write'">Register</button>  
 <div class="float-right">  
 <button type="button" class="btn btn-primary" onclick="javascript:location.href='/logout'">Logout</button>   
 </div>  
 <table class="table table-striped table-horizontal table-bordered mt-3">  
 <thead class="thead-strong">  
 <tr>  
 <th width="5%"><input type="checkbox" id="chkAll"></th>  
 <th width="10%">No.</th>  
 <th width="">Title.</th>  
 <th width="20%">Writer.</th>  
 <th width="10%">Views.</th>  
 <th width="20%">Reg Time.</th>  
 </tr>  
 </thead>  
 <tbody id="tbody">  
 <tr th:each="list,index : ${resultMap.list}" th:with="paging=${resultMap.paging}">  
 <td>  
 <input type="checkbox" name="deleteId" th:value="${list.id}">  
 </td>  
 <td>  
 <span th:text="${(resultMap.totalCnt - index.index) - (paging.pageNumber \* paging.pageSize)}"></span>  
 </td>  
 <td>  
 <a th:href="@{./view(id=${list.id})}"><span th:text="${list.title}"></span></a>  
 </td>  
 <td>  
 <span th:text="${list.registerId}"></span>  
 </td>  
 <td>  
 <span th:text="${list.readCnt}"></span>  
 </td>  
 <td>  
 <span th:text="${list.registerTime}"></span>  
 </td>  
 <tr>  
 </tbody>  
 </table>  
 <div class="row">  
 <div class="col">  
 <ul class="pagination">  
 <li class="page-item" th:each="index : ${#numbers.sequence(1, resultMap.totalPage)}" th:with="paging=${resultMap.paging}">  
 <a class="page-link" th:classappend="${paging.pageNumber == (index-1)} ? bg-primary : bg-secondary" th:href="@{./list(page=${index - 1},page=${paging.pageSize})}">  
 <span class="text-white" th:text="${index}"></span>  
 </a>  
 </li>  
 </ul>  
 </div>  
 </div>  
 </div>  
 </form>  
 </div>  
 </div>  
 <script th:inline="javascript">  
 // header checkbox event  
 $("#chkAll").click(function() {  
 if (this.checked) {  
 $("input[name='deleteId']").prop("checked", true);  
 } else {  
 $("input[name='deleteId']").prop("checked", false);  
 }  
 });  
   
 // body checkbox event  
 $("input[name='deleteId']").click(function() {  
 let delInpLen = $("input[name='deleteId']").length;  
 let delInpChkLen = $("input[name='deleteId']:checked").length;  
   
 if (delInpLen == delInpChkLen) {  
 $("#chkAll").prop("checked", true);  
 } else {  
 $("#chkAll").prop("checked", false);  
 }  
 });  
   
 function fnDelete() {  
 let delInpChkLen = $("input[name='deleteId']:checked").length;  
   
 if (delInpChkLen > 0) {  
 if (confirm("Do you want to delete it?")) {  
 let frm = $("#frm");  
 frm.attr("action","/board/delete");  
 frm.attr("method","post");  
 frm.submit();  
 }  
 } else {  
 alert("Not selected.");  
 }  
 }  
 </script>  
 </th:block>  
</html>

templates/board/view.html

<!DOCTYPE html>  
  
<html xmlns:th="http://www.thymeleaf.org" xmlns:layout="http://www.ultraq.net.nz/thymeleaf/layout" layout:decorate="~{layout/default\_layout}">  
 <!-- layout Content -->  
 <th:block layout:fragment="content">  
 <div class="container">  
 <h1>Board View.</h1>  
 <form id="frm" action="/board/view/action" method="post" th:with="info=${resultMap}" enctype="multipart/form-data">  
 <input type="hidden" name="id" th:value="${info.id}">  
 <div class="mb-3">  
 <label class="form-label font-weight-bold"><span class="text-danger">\* </span>Title.</label>  
 <input type="text" class="form-control" name="title" th:value="${info.title}" required >  
 </div>  
 <div class="mb-3">  
 <label class="form-label font-weight-bold"><span class="text-danger">\* </span>Content.</label>  
 <textarea class="form-control" rows="5" name="content" th:text="${info.content}" required ></textarea>  
 </div>  
 <div class="mb-3">  
 <label class="form-label font-weight-bold"><span class="text-danger">\* </span>Writer.</label>  
 <input type="text" class="form-control" name="registerId" th:value="${info.registerId}" required >  
 </div>  
 <div class="clearfix mt-5">  
 <div class="">  
 <button type="button" class="btn btn-success" onclick="javascript:location.href='/board/list'">Previous</button>  
 <button type="button" class="btn btn-primary" onclick="fnSubmit();">Edit</button>  
 <button type="button" class="btn btn-danger" th:onclick="fnViewDelete()">Delete</button>  
 </div>  
 </div>  
 </form>  
 </div>  
 <!--jQuery 추가 -->  
<script src="https://code.jquery.com/jquery-1.12.4.min.js"></script>  
 <script th:inline="javascript">  
 let frm = $("#frm");  
   
 function fnSubmit() {  
 frm.submit();  
 }  
   
 $(function() {  
   
 frm.validate({  
 messages: {  
 // Message Custom..  
 title: {  
 required : "Custom required, Please enter a title."  
 }  
 },  
 submitHandler: function (form) {  
 // Submit Action..  
 form.submit();  
 }  
 });  
 });  
 </script>  
   
 </th:block>  
   
</html>

templates/board/write.html

<!DOCTYPE html>  
<html xmlns:th="http://www.thymeleaf.org" xmlns:layout="http://www.ultraq.net.nz/thymeleaf/layout" layout:decorate="~{layout/default\_layout}">  
 <!-- layout Content -->  
 <th:block layout:fragment="content">  
 <div class="container">  
 <h1>Board Register.</h1>  
 <form id="frm" action="/board/write/action" method="post" enctype="multipart/form-data">  
 <div class="mb-3">  
 <label class="form-label font-weight-bold"><span class="text-danger">\* </span>Title.</label>  
 <input type="text" class="form-control" name="title" required >  
 </div>  
 <div class="mb-3">  
 <label class="form-label font-weight-bold"><span class="text-danger">\* </span>Content.</label>  
 <textarea class="form-control" rows="5" name="content" required ></textarea>  
 </div>  
 <div class="mb-3">  
 <label class="form-label font-weight-bold"><span class="text-danger">\* </span>Writer.</label>  
 <input type="text" class="form-control" name="registerId" required >  
 </div>  
 <div class="mt-5">  
 <button type="button" class="btn btn-success" onclick="javascript:location.href='/board/list'">Previous</button>  
 <button type="button" class="btn btn-primary" onclick="fnSubmit();">Submit</button>  
 </div>  
 </form>  
 </div>  
 <script th:inline="javascript">  
 let frm = $("#frm");  
   
 function fnSubmit() {  
 frm.submit();  
 }  
   
 $(function() {  
   
 frm.validate({  
 messages: {  
 // Message Custom..  
 title: {  
 required : "Custom required, Please enter a title."  
 }  
 },  
 submitHandler: function (form) {  
 // Submit Action..  
 form.submit();  
 }  
 });  
 });  
 </script>  
 </th:block>  
</html>

레이아웃 적용하기

templates/layout/default\_layout.html

<!DOCTYPE html>  
<html xmlns:th="http://www.thymeleaf.org" xmlns:layout="http://www.ultraq.net.nz/thymeleaf/layout">   
 <th:block th:replace="fragments/header :: headerFragment"></th:block>  
 <body>  
 <th:block layout:fragment="content"></th:block>  
 </body>   
 <th:block th:replace="fragments/footer :: footerFragment"></th:block>  
</html>

templates/fragments/header.html

<!DOCTYPE html>  
<html xmlns:th="http://www.thymeleaf.org" >  
 <th:block th:fragment="headerFragment">  
 <head>  
 <title>승주의 게시판</title>  
 <meta charset="UTF-8">  
 <meta name="viewport" content="width=device-width, initial-scale=1" />  
 <!-- 게시판 css 추가 -->  
 <link rel="stylesheet" href="/css/board.css">  
 <!--부트스트랩 css 추가 -->  
 <link rel="stylesheet" href="/css/lib/bootstrap.min.css">  
 <!--jQuery 추가 -->  
 <script src="/js/lib/jquery.min.js"></script>  
 <!--부트스트랩 script 추가 -->  
 <script src="/js/lib/bootstrap.min.js"></script>  
 <!-- jQuery Validation Plugin 추가 -->  
 <script src="https://cdn.jsdelivr.net/npm/jquery-validation@1.19.3/dist/jquery.validate.min.js"></script>  
 </head>  
 </th:block>  
</html>

templates/fragments/footer.html

<!DOCTYPE html>  
<html xmlns:th="http://www.thymeleaf.org">  
 <th:block th:fragment="footerFragment">  
 <div class="card mt-5">  
 <div class="card-body text-center">  
 <p class="card-text"><small class="text-muted">Copyright © Venh.log Tistory Corp. All Rights Reserved.</small></p>  
 </div>  
 </div>  
 </th:block>  
</html>

templates/board/view.html

<html xmlns:th="http://www.thymeleaf.org" xmlns:layout="http://www.ultraq.net.nz/thymeleaf/layout" layout:decorate="~{layout/default\_layout}">

# 

## DB

application.properties 파일 DB 설정

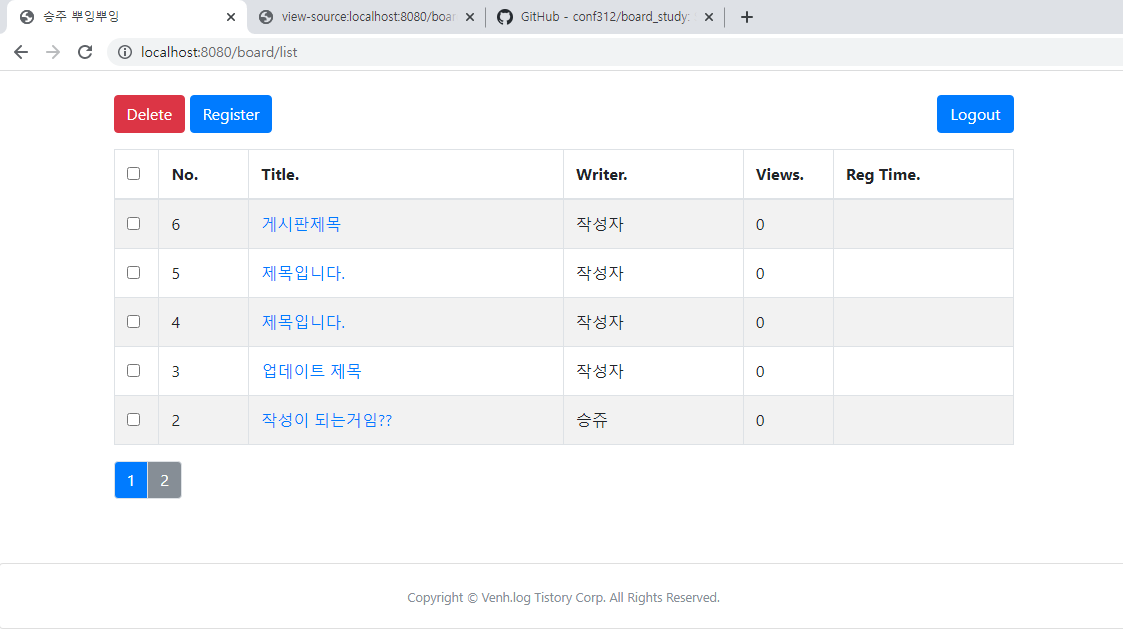
spring.datasource.driverClassName=org.mariadb.jdbc.Driver  
spring.datasource.url=jdbc:mariadb://localhost:3306/board\_study  
spring.datasource.username=root  
spring.datasource.password=zmwpxm98:D

DB 생성

CREATE TABLE IF NOT EXISTS `board`(  
`id`bigint(20) NOT NULL AUTO\_INCREMENT COMMENT 'PK',  
`title` varchar(200) NOT NULL COMMENT '제목',  
`content` text NOT NULL COMMENT '내용',  
`read\_cnt` int(11) NOT NULL DEFAULT 0 COMMENT '조회수',  
`register\_id` VARCHAR(100) NOT NULL COMMENT '작성자',  
`register\_time` DATETIME NULL DEFAULT NULL COMMENT '작성일',  
`update\_time` DATETIME NULL DEFAULT NULL COMMENT '수정일',  
PRIMARY KEY(`id`)  
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb3 COMMENT='게시판';

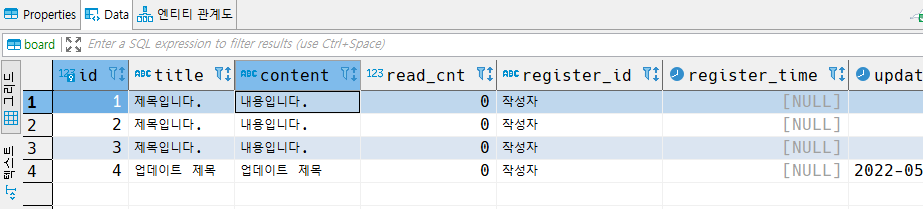
# 

## 완성된 UI



image

DB에도 잘 들어온다.

 #

application.properties 재시작 없이 HTML 적용

spring.thymeleaf.cache=false

application.properties 재시작 없이 정적 소스 반영

spring.devtools.livereload.enabled=true  
spring.freemarker.cache=false  
spring.thymeleaf.cache=false

build.gradle에 devtools 추가

implementation 'org.springframework.boot:spring-boot-devtools'

# 

## References

* [Spring Boot](https://kitty-geno.tistory.com/124?category=983148)
* [JPA](https://happyer16.tistory.com/entry/JPA-15%EC%9E%A5-%EA%B3%A0%EA%B8%89-%EC%A3%BC%EC%A0%9C%EC%99%80-%EC%84%B1%EB%8A%A5-%EC%B5%9C%EC%A0%81%ED%99%94)