

2025년 상반기 K-디지털 트레이닝

Travel - 백엔드

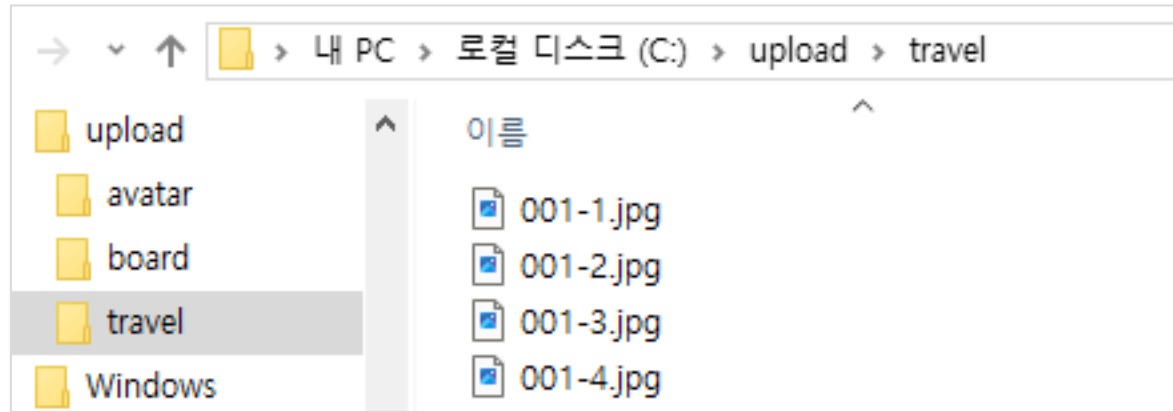
[KB] IT's Your Life

✓ travel 데이터베이스 준비

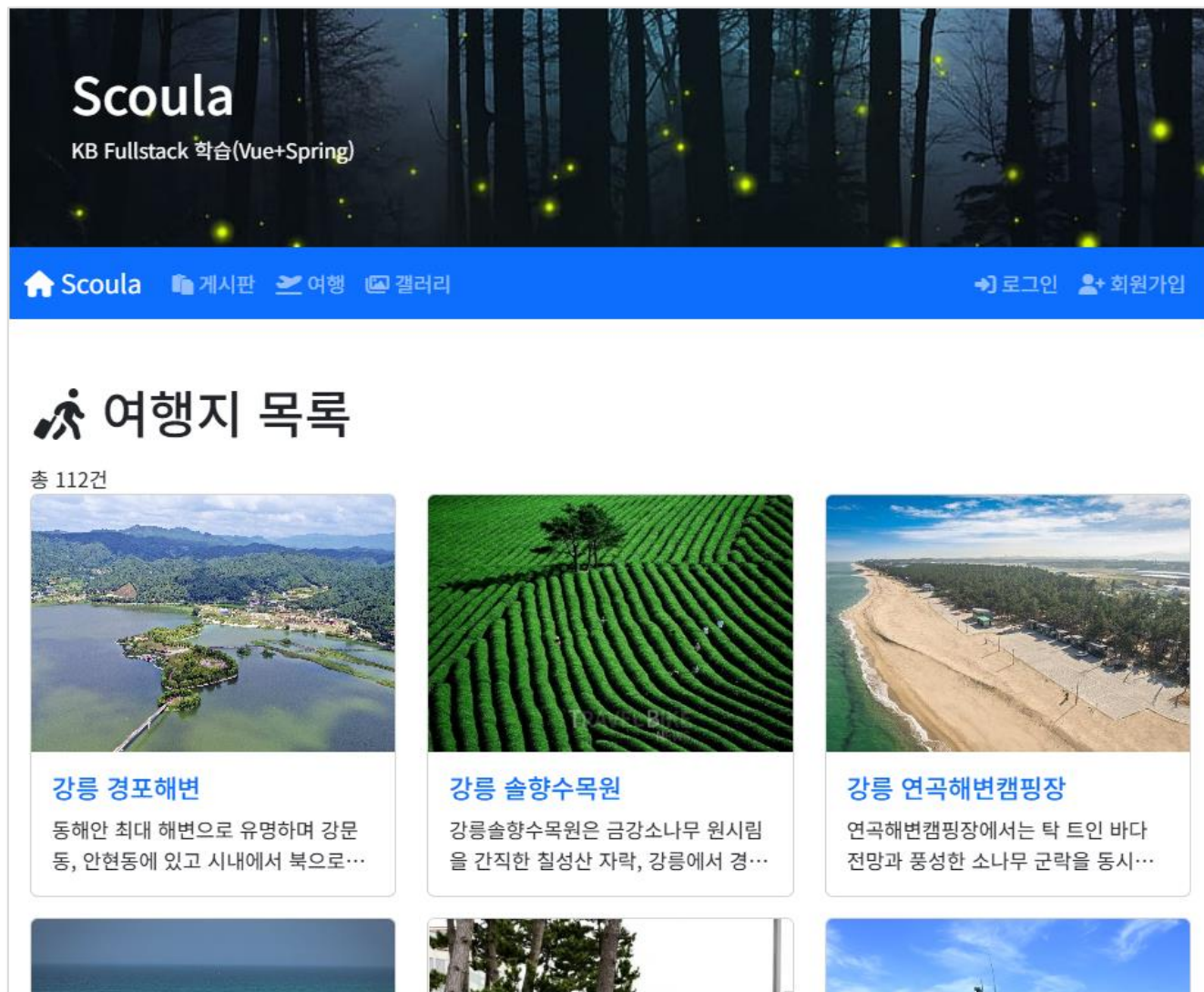
- travelapp를 이용해서 scoula_db에 tbl_table, tbl_table_image 테이블에 데이터 импорт

✓ travel 이미지 준비

- c:/upload/travel에 이미지 복사



✓ Travel 소개



✓ Travel 소개



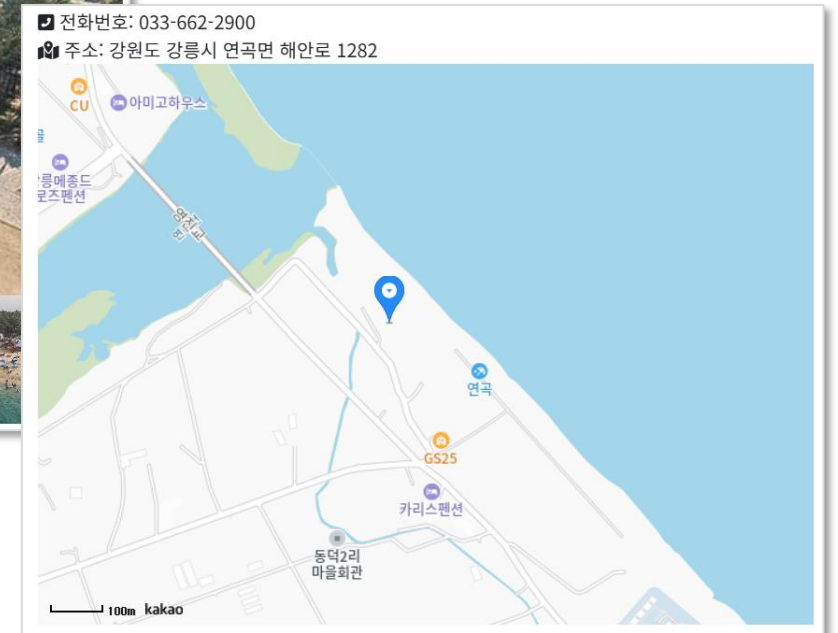
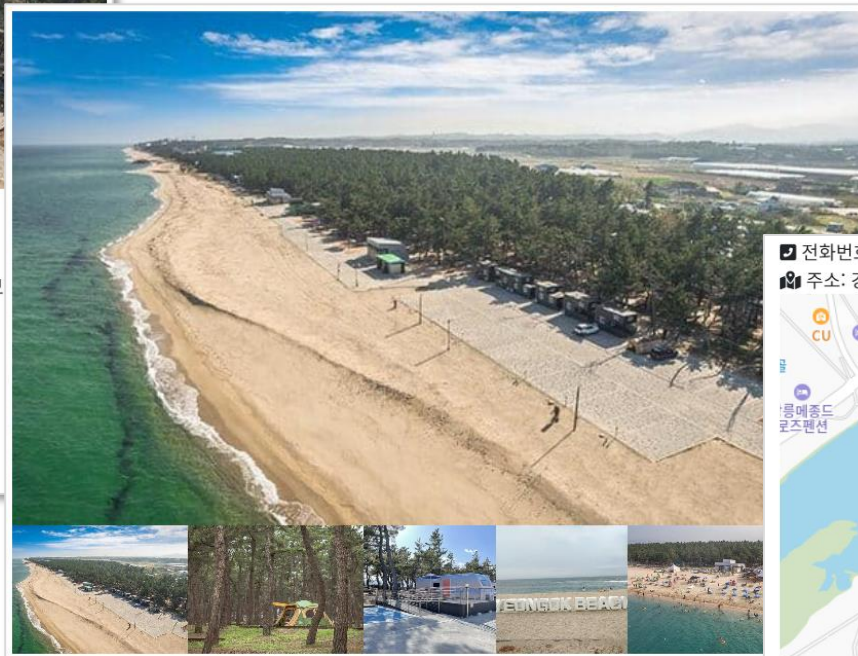
연곡해변캠핑장에서는 탁 트인 바다 전망과 풍성한 소나무 군락을 동시에 누릴 수 있다.

최근 해변에 자리해 있던 군사시설물을 말끔히 정리해 시야에는 오로지 넓은 바다와 흰 모았다.

연곡해변캠핑장의 가장 큰 묘미는 울창한 소나무 숲속에서 캠핑을 할 수 있다는 것이다.

소나무가 내뿜는 피톤치드 덕분에 산림욕을 즐기기도 좋다.

캠핑 자리마다 거리가 확보되어 있어 독립적인 캠핑이 가능하다는 것도 장점이다.



✓ 페이지별 목록 보기 데이터

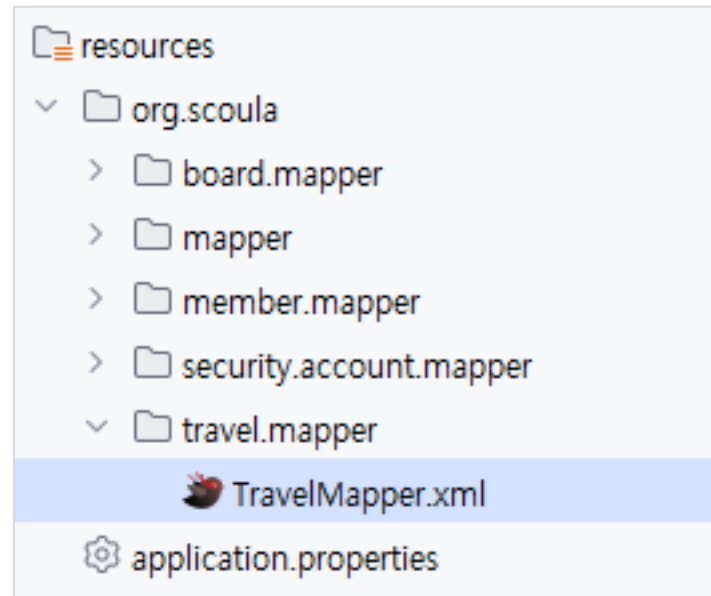
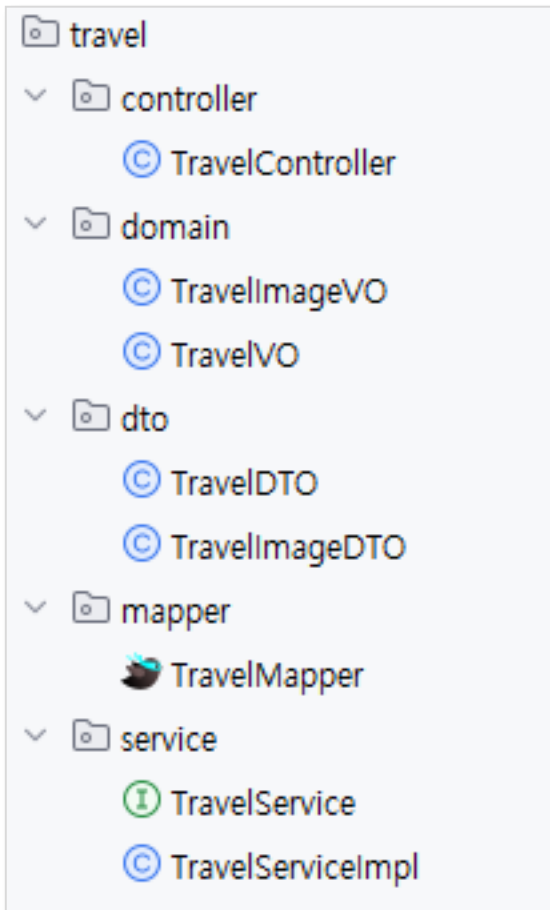
```

amount: 12
▼ list: Array(12)
  ▼ 0:
    address: "강원도 강릉시 창해로 514 (안현동)"
    description: "동해안 최대 해변으로 유명하며 강문동, 안현동에 있고 시내에서 북으로 6km, 경포대"
    district: "강원권"
    ▼ images: Array(5)
      ▶ 0: {no: 501, filename: '101-1.jpg', travelNo: 101, url: '/api/travel/image/501'}
      ▶ 1: {no: 502, filename: '101-2.jpg', travelNo: 101, url: '/api/travel/image/502'}
      ▶ 2: {no: 503, filename: '101-3.jpg', travelNo: 101, url: '/api/travel/image/503'}
      ▶ 3: {no: 504, filename: '101-4.jpg', travelNo: 101, url: '/api/travel/image/504'}
      ▶ 4: {no: 505, filename: '101-5.jpg', travelNo: 101, url: '/api/travel/image/505'}
      length: 5
    ▶ [[Prototype]]: Array(0)
    no: 101
    phone: "033-640-4901"
    title: "강릉 경포해변"
    ▶ [[Prototype]]: Object
    ▶ 1: {imageFiles: null, no: 105, district: '강원권', title: '강릉 솔향수목원', description: '강릉솔'
    ▶ 2: {imageFiles: null, no: 100, district: '강원권', title: '강릉 연곡해변캠핑장', description: '연'
    ▶ 3: {imageFiles: null, no: 106, district: '강원권', title: '강릉 정동진 모래시계공원', description:
    ▶ 4: {imageFiles: null, no: 103, district: '강원권', title: '강릉 커피거리', description: '강원도 강'
    ▶ 5: {imageFiles: null, no: 104, district: '강원권', title: '강릉 통일공원', description: '세계유일'
    ▶ 6: {imageFiles: null, no: 102, district: '강원권', title: '강릉 허균?허난설헌 기념공원', descript
    ▶ 7: {imageFiles: null, no: 107, district: '강원권', title: '동해 망상해수욕장', description: '망상'
    ▶ 8: {imageFiles: null, no: 98, district: '강원권', title: '속초 아바이마을', description: '청호동0'
    ▶ 9: {imageFiles: null, no: 99, district: '강원권', title: '속초 해수욕장관광지', description: '197'
    ▶ 10: {imageFiles: null, no: 108, district: '강원권', title: '정선 삼탄아트마인', description: '삼탄'
    ▶ 11: {imageFiles: null, no: 95, district: '강원권', title: '춘천 남이섬', description: '남이섬은 [
      length: 12
    ▶ [[Prototype]]: Array(0)
    pageNum: 1
    totalCount: 112
    totalPages: 10
  
```

✓ 단일 항목 데이터

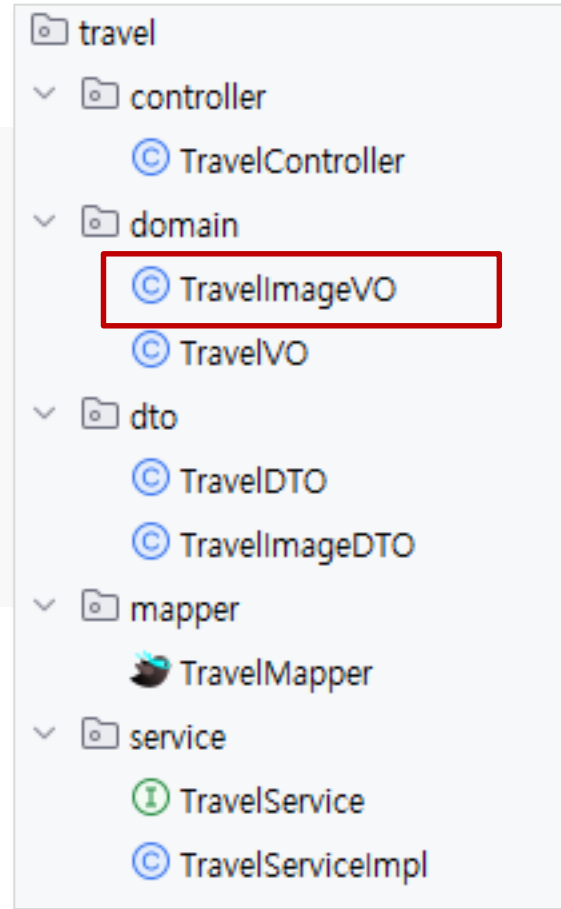
```
address: "강원도 강릉시 창해로 514 (안현동)"
description: "<p>동해안 최대 해변으로 유명하며 강문동, 안현동에 있고 시내에서 북으로 6km, 경포대"
district: "강원권"
▼ images: Array(5)
  ▶ 0: {no: 501, filename: '101-1.jpg', travelNo: 101, url: '/api/travel/image/501'}
  ▶ 1: {no: 502, filename: '101-2.jpg', travelNo: 101, url: '/api/travel/image/502'}
  ▶ 2: {no: 503, filename: '101-3.jpg', travelNo: 101, url: '/api/travel/image/503'}
  ▶ 3: {no: 504, filename: '101-4.jpg', travelNo: 101, url: '/api/travel/image/504'}
  ▶ 4: {no: 505, filename: '101-5.jpg', travelNo: 101, url: '/api/travel/image/505'}
  length: 5
  ▶ [[Prototype]]: Array(0)
no: 101
phone: "033-640-4901"
title: "강릉 경포해변"
```

✓ 프로젝트 구성



TravellImageVO.java

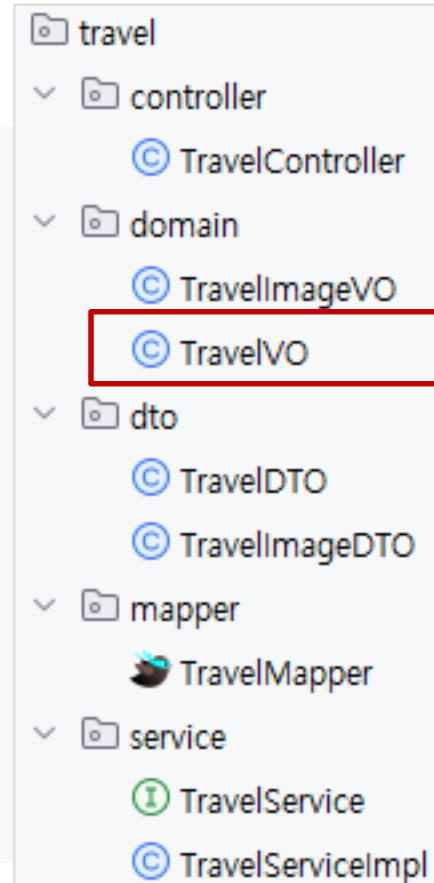
```
@Data
@Builder
@NoArgsConstructor
@AllArgsConstructor
public class TravelImageVO {
    private Long no;
    private String filename;
    private Long travelNo;
}
```



TravelVO.java

```
@Data
@Builder
@NoArgsConstructor
@AllArgsConstructor
public class TravelVO {
    private Long no;
    private String district;
    private String title;
    private String description;
    private String address;
    private String phone;

    private List<TravelImageVO> images;
}
```



TravelMapper.xml

```
@Mapper
public interface TravelMapper {
    int getTotalCount();

    List<String> getDistricts();    // 구역 목록 얻기

    List<TravelVO> getTravels();    // 목록 얻기

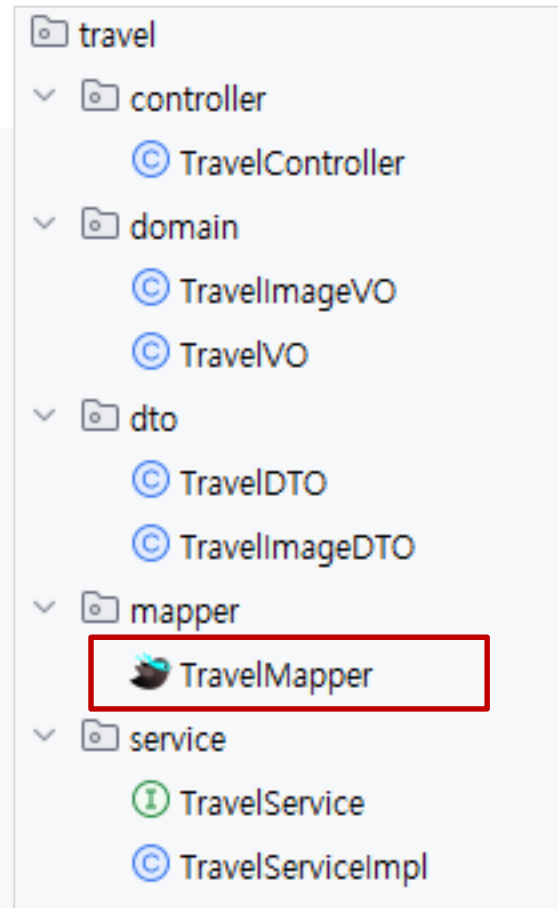
    List<TravelVO> getPage(PageRequest pageRequest);    // 페이지별 목록 얻기

    List<TravelVO> getTravelsByDistrict(String district);    // 해당 구역의 목록 얻기

    TravelVO getTravel(Long no);    // 특정 관광지 정보 얻기

    List<TravelImageVO> getImages(Long travelNo);    // 해당 관광지 이미지 목록 얻기

    TravelImageVO getImage(Long no);    // 이미지 정보 얻기
}
```



✓ 이미지 정보를 같이 얻어야 하므로 Join 필요

○ resultMap 구성

○ 비슷한 sql 문이 사용됨 (공통 부분이 존재)

- `List<TravelVO> getTravels();`
- `List<TravelVO> getTravelsByDistrict(String district);`
- `TravelVO getTravel(Long no);` // 특정 관광지 정보 얻기

○ `getPage(PageRequest pageRequest)`에서는 Join을 사용할 수 없음

- Join을 하면 추출할 개 수를 지정 할 수 없음
- TravelVO 목록만 추출
- Service에서 목록에 대해 TravelImageVO 추출

✓ MyBatis 공통 SQL문 사용하기

- <sql id="">로 공통 SQL 문장 정의

<sql id="travel-select">

```
SELECT t.*, ti.no AS tino, ti.filename, ti.travel_no  
FROM tbl_travel t  
LEFT OUTER JOIN tbl_travel_image ti  
ON t.no = ti.travel_no
```

</sql>

- 필요한 곳에서 <include refid=""/>로 참조

<select id="getTravels" resultMap="travelMap">

<include refid="travel-select"/>

ORDER BY district, title

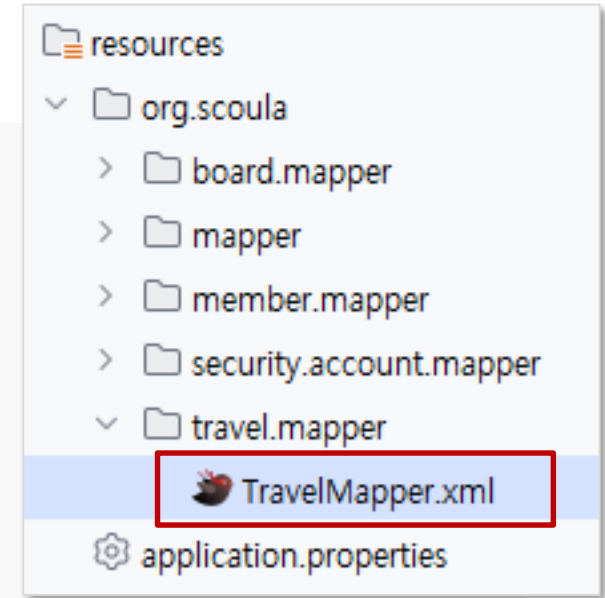
</select>

TravelMapper.xml

```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE mapper
    PUBLIC "-//mybatis.org//DTD Mapper 3.0//EN"
    "http://mybatis.org/dtd/mybatis-3-mapper.dtd">

<mapper namespace="org.scoula.travel.mapper.TravelMapper">
    <select id="getTotalCount" resultType="java.lang.Integer">
        SELECT count(*)
        FROM tbl_travel
    </select>

    <sql id="travel-select">
        SELECT t.*, ti.no AS tino, ti.filename, ti.travel_no
        FROM tbl_travel t
            LEFT OUTER JOIN tbl_travel_image ti
                ON t.no = ti.travel_no
    </sql>
```



TravelMapper.xml

```
<select id="getDistricts" resultType="java.lang.String">
    SELECT DISTINCT(district)
    FROM tbl_travel
    ORDER BY district
</select>

<resultMap id="imagesMap" type="org.scoula.travel.domain.TravelImageV0">
    <id column="tino" property="no"/>
    <result column="filename" property="filename"/>
    <result column="travel_no" property="travelNo"/>
</resultMap>

<resultMap id="travelMap" type="org.scoula.travel.domain.TravelV0">
    <id column="no" property="no"/>
    <result column="district" property="district"/>
    <result column="title" property="title"/>
    <result column="description" property="description"/>
    <result column="address" property="address"/>
    <result column="phone" property="phone"/>
    <collection property="images" resultMap="imagesMap"/>
</resultMap>
```

TravelMapper.xml

```
<select id="getTravels" resultMap="travelMap">
    <include refid="travel-select"/>
    ORDER BY district, title
</select>

<select id="getPage" resultMap="travelMap">
    SELECT *
    FROM tbl_travel
    ORDER BY district, title LIMIT #{offset}, #{amount}
</select>

<select id="getTravelsByDistrict" resultMap="travelMap">
    <include refid="travel-select"/>
    WHERE district = #{district}
    ORDER BY district
</select>

<select id="getTravel" resultMap="travelMap">
    <include refid="travel-select"/>
    WHERE t.no = #{no}
</select>
```


TravelMapper.xml

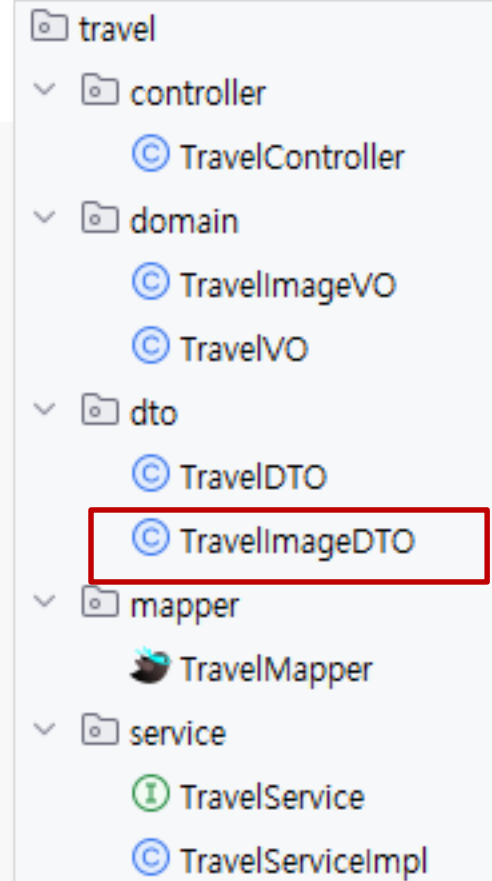
```
<select id="getImages" resultType="org.scoula.travel.domain.TravelImageVO">
    SELECT *
    FROM tbl_travel_image
    WHERE travel_no = #{travelNo}
</select>

<select id="getImage" resultType="org.scoula.travel.domain.TravelImageVO">
    SELECT *
    FROM tbl_travel_image
    WHERE no = #{no}
</select>
</mapper>
```

TravellImageDTO.java

```
@Data
@NoArgsConstructor
@AllArgsConstructor
@Builder
public class TravelImageDTO {
    private static final String BASE = "c:/upload/travel/";
    private long no;
    private String filename;
    private long travelNo;

    public static TravelImageDTO of(TravelImageVO vo) {
        return TravelImageDTO.builder()
            .no(vo.getNo())
            .filename(vo.getFilename())
            .travelNo(vo.getTravelNo())
            .build();
    }
}
```



TravellImageDTO.java

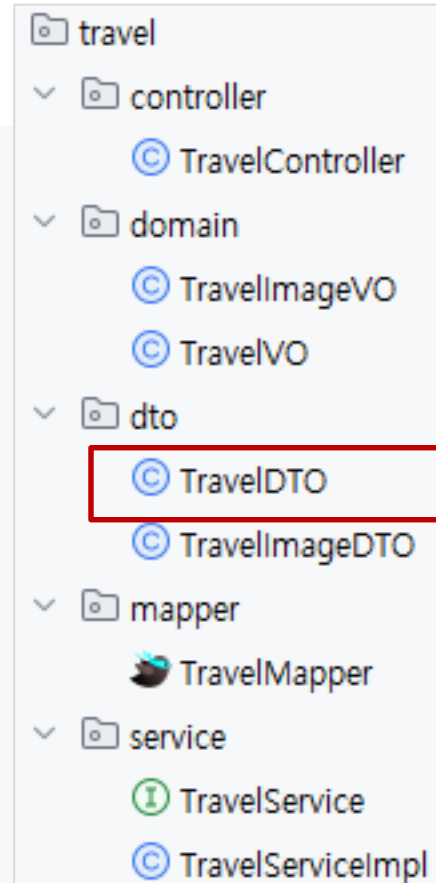
```
@JsonIgnore // JSON 변환에서 제외
public String getPath() {
    return BASE + filename;
}

// 프론트엔드에서 사용할 url 프로퍼티
public String getUrl() {
    return "/api/travel/image/" + no;
}
}
```

TravelDTO.java

```
@Data
@NoArgsConstructor
@AllArgsConstructor
@Builder
public class TravelDTO {
    List<MultipartFile> imageFiles;

    private long no;
    private String district;
    private String title;
    private String description;
    private String address;
    private String phone;
    private List<TravelImageDTO> images;
```



TravelDTO.java

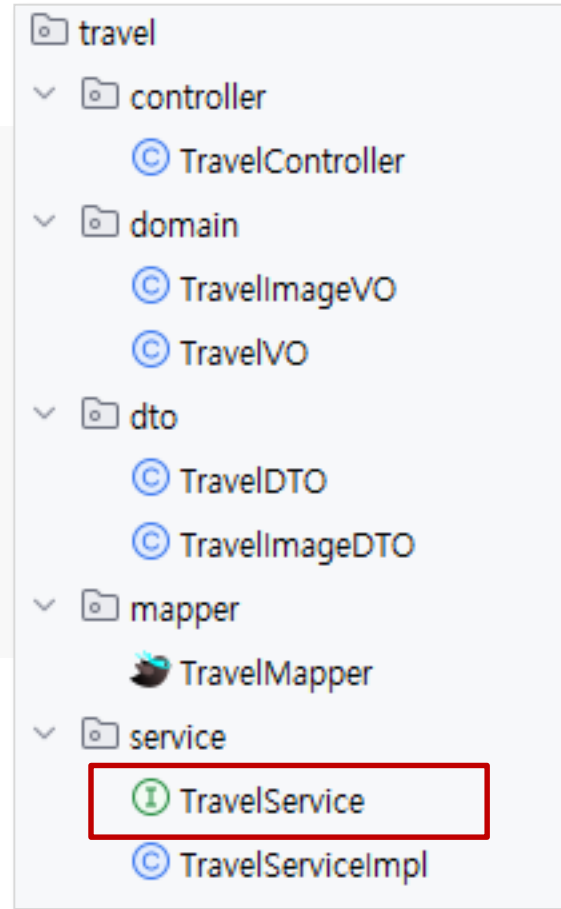
```
public static TravelDTO of(TravelVO vo) {
    TravelDTO travel = TravelDTO.builder()
        .no(vo.getNo())
        .district(vo.getDistrict())
        .title(vo.getTitle())
        .description(vo.getDescription())
        .address(vo.getAddress())
        .phone(vo.getPhone())
        .build();

    if (vo.getImages() != null) {
        travel.setImages(vo.getImages().stream().map(TravelImageDTO::of).toList());
    }

    return travel;
}
```

TravelService.java

```
public interface TravelService {  
    Page<TravelDTO> getPage(PageRequest pageRequest);  
  
    List<TravelDTO> getList();  
  
    TravelDTO get(Long no);  
  
    TravelImageDTO getImage(Long no);  
  
}
```



TravelService.java

```
@Log4j2
@Service
@RequiredArgsConstructor
public class TravelServiceImpl implements TravelService {
    final TravelMapper mapper;

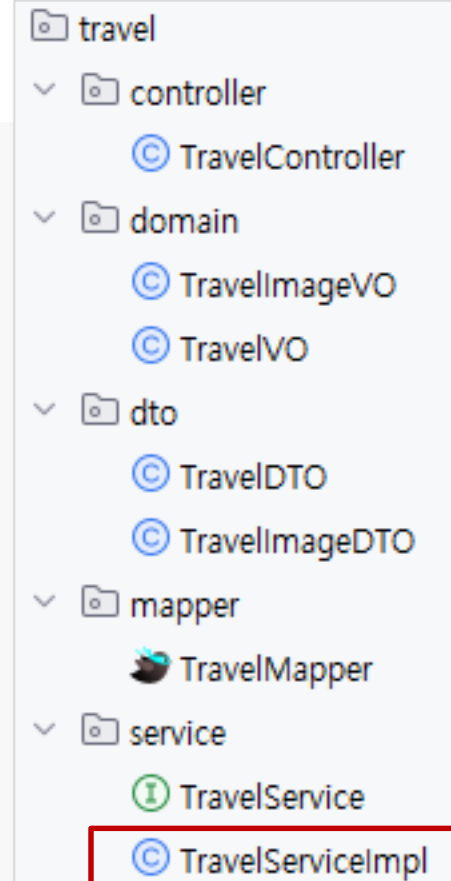
    @Override
    public Page<TravelDTO> getPage(PageRequest pageRequest) {

        List<TravelDTO> travels = mapper.getPage(pageRequest)
            .stream().map(TravelDTO::of).toList();

        travels.forEach(travel -> {
            List<TravelImageDTO> images = mapper.getImages(
                travel.getNo()).stream().map(TravelImageDTO::of).toList();
            travel.setImages(images);
        });

        int totalCount = mapper.getTotalCount();

        return Page.of(pageRequest, totalCount, travels);
    }
}
```



TravelService.java

```
@Override
public List<TravelDTO> getList() {
    List<TravelVO> travels = mapper.getTravels();
    return travels.stream().map(TravelDTO::of).toList();
}

@Override
public TravelDTO get(Long no) {
    TravelVO travel = mapper.getTravel(no);
    if (travel == null) {
        throw new NoSuchElementException();
    }
    return TravelDTO.of(travel);
}

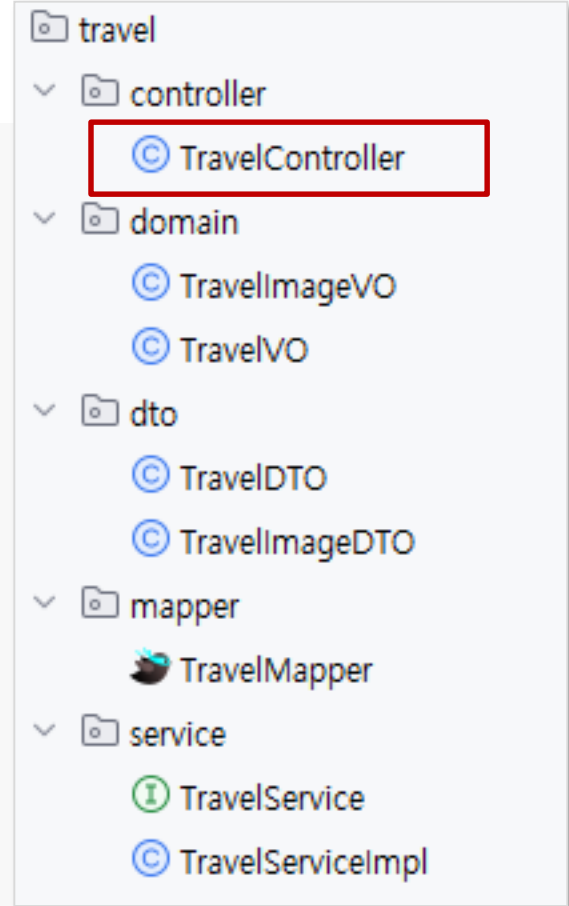
@Override
public TravelImageDTO getImage(Long no) {
    TravelImageVO image = mapper.getImage(no);
    return TravelImageDTO.of(image);
}
}
```

TravelController.java

```
@RestController
@RequiredArgsConstructor
@Log4j2
@RequestMapping("/api/travel")
public class TravelController {
    final TravelService service;

    @GetMapping("")
    public ResponseEntity<Page> getTravels(PageRequest pageRequest) {
        return ResponseEntity.ok(service.getPage(pageRequest));
    }

    @GetMapping("/{no}")
    public ResponseEntity<TravelDTO> getTravels(@PathVariable("no") Long no) {
        return ResponseEntity.ok(service.get(no));
    }
}
```



TravelController.java

```
@GetMapping("/image/{no}")
public void viewImage(@PathVariable Long no, HttpServletResponse response) {
    TravelImageDTO image = service.getImage(no);
    File file = new File(image.getPath());
    UploadFiles.downloadImage(response, file);
}
}
```