二、 后端Spring Boot实体类 (Java Entity)

这些Java类使用了 Lombok 来简化代码，并使用 MyBatis-Plus 的注解来映射数据库表和字段。请将这些文件分别创建在 backend/src/main/java/com/cupk/entity/ 目录下。

1.User.java

package com.cupk.entity;  
import com.baomidou.mybatisplus.annotation.IdType;  
import com.baomidou.mybatisplus.annotation.TableId;  
import com.baomidou.mybatisplus.annotation.TableName;  
import com.fasterxml.jackson.annotation.JsonFormat;  
import lombok.Data;  
import java.time.LocalDateTime;  
*/\*\*  
 \* 用户实体类  
 \*/*@Data  
@TableName("user")  
public class User {  
 */\*\*  
 \* 主键ID  
 \*/* @TableId(type = IdType.*AUTO*)  
 private Long id;  
 */\*\*  
 \* 用户名 (学号/工号)  
 \*/* private String username;  
 */\*\*  
 \* 密码 (加密存储)  
 \*/* private String password;  
 */\*\*  
 \* 真实姓名  
 \*/* private String realName;  
 */\*\*  
 \* 手机号码  
 \*/* private String phone;  
 */\*\*  
 \* 角色 (0-普通用户 1-管理员)  
 \*/* private Integer role;  
 */\*\*  
 \* 创建时间  
 \*/* @JsonFormat(pattern = "yyyy-MM-dd HH:mm:ss")  
 private LocalDateTime createTime;  
}

2.Project.java

package com.cupk.entity;  
import com.baomidou.mybatisplus.annotation.IdType;  
import com.baomidou.mybatisplus.annotation.TableId;  
import com.baomidou.mybatisplus.annotation.TableName;  
import com.fasterxml.jackson.annotation.JsonFormat;  
import lombok.Data;  
import java.math.BigDecimal;  
import java.time.LocalDateTime;  
*/\*\*  
 \* 志愿项目实体类  
 \*/*@Data  
@TableName("project")  
public class Project {  
 */\*\*  
 \* 主键ID  
 \*/* @TableId(type = IdType.*AUTO*)  
 private Long id;  
 */\*\*  
 \* 项目标题  
 \*/* private String title;  
 */\*\*  
 \* 项目描述  
 \*/* private String description;  
 */\*\*  
 \* 活动地点  
 \*/* private String location;  
 */\*\*  
 \* 开始时间  
 \*/* @JsonFormat(pattern = "yyyy-MM-dd HH:mm:ss")  
 private LocalDateTime startTime;  
 */\*\*  
 \* 结束时间  
 \*/* @JsonFormat(pattern = "yyyy-MM-dd HH:mm:ss")  
 private LocalDateTime endTime;  
 */\*\*  
 \* 可获得服务时长  
 \*/* private BigDecimal hours;  
 */\*\*  
 \* 状态 (0-招募中 1-进行中 2-已结束)  
 \*/* private Integer status;  
 */\*\*  
 \* 组织单位ID  
 \*/* private Long organizerId;  
}

3. ServiceRecord.java

package com.cupk.entity;  
import com.baomidou.mybatisplus.annotation.IdType;  
import com.baomidou.mybatisplus.annotation.TableId;  
import com.baomidou.mybatisplus.annotation.TableName;  
import com.fasterxml.jackson.annotation.JsonFormat;  
import lombok.Data;  
  
import java.math.BigDecimal;  
import java.time.LocalDate;  
*/\*\*  
 \* 服务记录实体类  
 \*/*@Data  
@TableName("service\_record")  
public class ServiceRecord {  
 */\*\*  
 \* 主键ID  
 \*/* @TableId(type = IdType.*AUTO*)  
 private Long id;  
 */\*\*  
 \* 用户ID  
 \*/* private Long userId;  
 */\*\*  
 \* 项目ID  
 \*/* private Long projectId;  
 */\*\*  
 \* 服务日期  
 \*/* @JsonFormat(pattern = "yyyy-MM-dd")  
 private LocalDate serviceDate;  
 */\*\*  
 \* 实际服务时长  
 \*/* private BigDecimal hours;  
 */\*\*  
 \* 服务内容纪实  
 \*/* private String content;  
 */\*\*  
 \* 组织方评价  
 \*/* private String evaluation;  
}

4.Organization.java

package com.cupk.entity;  
import com.baomidou.mybatisplus.annotation.IdType;  
import com.baomidou.mybatisplus.annotation.TableId;  
import com.baomidou.mybatisplus.annotation.TableName;  
import com.fasterxml.jackson.annotation.JsonFormat;  
import lombok.Data;  
import java.time.LocalDateTime;  
*/\*\*  
 \* 组织单位实体类  
 \*/*@Data  
@TableName("organization")  
public class Organization {  
 */\*\*  
 \* 主键ID  
 \*/* @TableId(type = IdType.*AUTO*)  
 private Long id;  
 */\*\*  
 \* 组织名称  
 \*/* private String name;  
 */\*\*  
 \* 组织描述  
 \*/* private String description;  
 */\*\*  
 \* 联系方式 (联系人/电话)  
 \*/* private String contact;  
 */\*\*  
 \* 所属校区  
 \*/* private String campus;  
  
 */\*\*  
 \* 创建时间  
 \*/* @JsonFormat(pattern = "yyyy-MM-dd HH:mm:ss")  
 private LocalDateTime createTime;  
}

5. News.java

package com.cupk.entity;  
import com.baomidou.mybatisplus.annotation.IdType;  
import com.baomidou.mybatisplus.annotation.TableId;  
import com.baomidou.mybatisplus.annotation.TableName;  
import com.fasterxml.jackson.annotation.JsonFormat;  
import lombok.Data;  
import java.time.LocalDateTime;  
*/\*\*  
 \* 新闻公告实体类  
 \*/*@Data  
@TableName("news")  
public class News {  
 */\*\*  
 \* 主键ID  
 \*/* @TableId(type = IdType.*AUTO*)  
 private Long id;  
 */\*\*  
 \* 新闻标题  
 \*/* private String title;  
 */\*\*  
 \* 新闻内容  
 \*/* private String content;  
 */\*\*  
 \* 发布人/单位  
 \*/* private String publisher;  
  
 */\*\*  
 \* 发布时间  
 \*/* @JsonFormat(pattern = "yyyy-MM-dd HH:mm:ss")  
 private LocalDateTime publishTime;  
 */\*\*  
 \* 更新时间  
 \*/* @JsonFormat(pattern = "yyyy-MM-dd HH:mm:ss")  
 private LocalDateTime updateTime;  
 */\*\*  
 \* 浏览次数  
 \*/* private Long viewCount;  
}

6.Application.java

package com.cupk.entity  
import com.baomidou.mybatisplus.annotation.IdType;  
import com.baomidou.mybatisplus.annotation.TableId;  
import com.baomidou.mybatisplus.annotation.TableName;  
import com.fasterxml.jackson.annotation.JsonFormat;  
import lombok.Data;  
import java.time.LocalDateTime  
*/\*\*  
 \* 报名记录实体类  
 \*/*@Data  
@TableName("application")  
public class Application {  
 */\*\*  
 \* 主键ID  
 \*/* @TableId(type = IdType.*AUTO*)  
 private Long id;  
 */\*\*  
 \* 用户ID  
 \*/* private Long userId;  
 */\*\*  
 \* 项目ID  
 \*/* private Long projectId;  
 */\*\*  
 \* 报名时间  
 \*/* @JsonFormat(pattern = "yyyy-MM-dd HH:mm:ss")  
 private LocalDateTime applyTime;  
 */\*\*  
 \* 审核状态 (0-待审核 1-通过 2-拒绝)  
 \*/* private Integer status;  
 */\*\*  
 \* 备注  
 \*/* private String notes;  
}

第二步：Mapper 接口层与 Service 业务层

一、 Mapper接口层 (src/main/java/com/cupk/mapper/)

Mapper 接口继承了 MyBatis-Plus 提供的 BaseMapper<T>，这使得我们无需编写任何 SQL 语句，即可拥有强大且完善的单表 CRUD (增删改查) 功能。Spring Boot 会自动扫描带有 @Mapper 注解的接口并为其创建实现。

1. UserMapper.java

package com.cupk.mapper;

import com.baomidou.mybatisplus.core.mapper.BaseMapper;

import com.cupk.entity.User;

import org.apache.ibatis.annotations.Mapper;

@Mapper

public interface UserMapper extends BaseMapper<User> {

}

2. OrganizationMapper.java

package com.cupk.mapper;

import com.baomidou.mybatisplus.core.mapper.BaseMapper;

import com.cupk.entity.Organization;

import org.apache.ibatis.annotations.Mapper;

@Mapper

public interface OrganizationMapper extends BaseMapper<Organization> {

}

3. ProjectMapper.java

package com.cupk.mapper;

import com.baomidou.mybatisplus.core.mapper.BaseMapper;

import com.cupk.entity.Project;

import org.apache.ibatis.annotations.Mapper;

@Mapper

public interface ProjectMapper extends BaseMapper<Project> {

}

4. ApplicationMapper.java

package com.cupk.mapper;

import com.baomidou.mybatisplus.core.mapper.BaseMapper;

import com.cupk.entity.Application;

import org.apache.ibatis.annotations.Mapper;

@Mapper

public interface ApplicationMapper extends BaseMapper<Application> {

}

5. ServiceRecordMapper.java

package com.cupk.mapper;

import com.baomidou.mybatisplus.core.mapper.BaseMapper;

import com.cupk.entity.ServiceRecord;

import org.apache.ibatis.annotations.Mapper;

@Mapper

public interface ServiceRecordMapper extends BaseMapper<ServiceRecord> {

}

6. NewsMapper.java

package com.cupk.mapper;

import com.baomidou.mybatisplus.core.mapper.BaseMapper;

import com.cupk.entity.News;

import org.apache.ibatis.annotations.Mapper;

@Mapper

public interface NewsMapper extends BaseMapper<News> {

}

二、 Service业务层 (src/main/java/com/cupk/service/)

Service 层采用 接口 + 实现类 的模式，这是良好的编程实践，有利于代码解耦和扩展。我们同样利用 MyBatis-Plus 提供的 IService<T> 接口和 ServiceImpl<M, T> 实现类来简化开发。

2.1 Service 接口

这些接口继承 IService<T>，同样内置了丰富的业务逻辑方法。

放置于 src/main/java/com/cupk/service/ 目录下

1. IUserService.java

package com.cupk.service;

import com.baomidou.mybatisplus.extension.service.IService;

import com.cupk.entity.User;

public interface IUserService extends IService<User> {

}

2. IOrganizationService.java

package com.cupk.service;

import com.baomidou.mybatisplus.extension.service.IService;

import com.cupk.entity.Organization;

public interface IOrganizationService extends IService<Organization> {

}

3. IProjectService.java

package com.cupk.service;

import com.baomidou.mybatisplus.extension.service.IService;

import com.cupk.entity.Project;

public interface IProjectService extends IService<Project> {

}

4. IApplicationService.java

package com.cupk.service;

import com.baomidou.mybatisplus.extension.service.IService;

import com.cupk.entity.Application;

public interface IApplicationService extends IService<Application> {

}

5. IServiceRecordService.java

package com.cupk.service;

import com.baomidou.mybatisplus.extension.service.IService;

import com.cupk.entity.ServiceRecord;

public interface IServiceRecordService extends IService<ServiceRecord> {

}

6. INewsService.java

package com.cupk.service;

import com.baomidou.mybatisplus.extension.service.IService;

import com.cupk.entity.News;

public interface INewsService extends IService<News> {

}

2.2 Service 实现类

这些实现类继承 ServiceImpl<M, T>，并实现我们刚刚定义的 Service 接口。@Service 注解会将其注册为 Spring 的 Bean。

放置于 src/main/java/com/cupk/service/impl/ 目录下 (建议新建一个 impl 子目录)

1. UserServiceImpl.java

package com.cupk.service.impl;

import com.baomidou.mybatisplus.extension.service.impl.ServiceImpl;

import com.cupk.entity.User;

import com.cupk.mapper.UserMapper;

import com.cupk.service.IUserService;

import org.springframework.stereotype.Service;

@Service

public class UserServiceImpl extends ServiceImpl<UserMapper, User> implements IUserService {

}

2. OrganizationServiceImpl.java

package com.cupk.service.impl;

import com.baomidou.mybatisplus.extension.service.impl.ServiceImpl;

import com.cupk.entity.Organization;

import com.cupk.mapper.OrganizationMapper;

import com.cupk.service.IOrganizationService;

import org.springframework.stereotype.Service;

@Service

public class OrganizationServiceImpl extends ServiceImpl<OrganizationMapper, Organization> implements IOrganizationService {

}

3. ProjectServiceImpl.java

package com.cupk.service.impl;

import com.baomidou.mybatisplus.extension.service.impl.ServiceImpl;

import com.cupk.entity.Project;

import com.cupk.mapper.ProjectMapper;

import com.cupk.service.IProjectService;

import org.springframework.stereotype.Service;

@Service

public class ProjectServiceImpl extends ServiceImpl<ProjectMapper, Project> implements IProjectService {

}

4. ApplicationServiceImpl.java

package com.cupk.service.impl;

import com.baomidou.mybatisplus.extension.service.impl.ServiceImpl;

import com.cupk.entity.Application;

import com.cupk.mapper.ApplicationMapper;

import com.cupk.service.IApplicationService;

import org.springframework.stereotype.Service;

@Service

public class ApplicationServiceImpl extends ServiceImpl<ApplicationMapper, Application> implements IApplicationService {

}

5. ServiceRecordServiceImpl.java

package com.cupk.service.impl;

import com.baomidou.mybatisplus.extension.service.impl.ServiceImpl;

import com.cupk.entity.ServiceRecord;

import com.cupk.mapper.ServiceRecordMapper;

import com.cupk.service.IServiceRecordService;

import org.springframework.stereotype.Service;

@Service

public class ServiceRecordServiceImpl extends ServiceImpl<ServiceRecordMapper, ServiceRecord> implements IServiceRecordService {

}

6. NewsServiceImpl.java

package com.cupk.service.impl;

import com.baomidou.mybatisplus.extension.service.impl.ServiceImpl;

import com.cupk.entity.News;

import com.cupk.mapper.NewsMapper;

import com.cupk.service.INewsService;

import org.springframework.stereotype.Service;

@Service

public class NewsServiceImpl extends ServiceImpl<NewsMapper, News> implements INewsService {

}

至此，我们已经完成了数据访问层（Mapper）和业务逻辑层（Service）的搭建。它们为上层的控制器（Controller）提供了所需的数据操作和业务处理能力。

下一步，我将为您生成所有API接口对应的 Controller 层代码，请确认。

以下是根据您的需求生成的完整 **RESTful API控制器（Controller）** 代码，用于实现用户管理、项目管理、报名管理、新闻管理、服务记录管理和组织管理模块。这些代码基于 Spring Boot 框架，结合 MyBatis-Plus 提供的数据操作能力，并考虑了权限控制和基本的数据校验。代码包含详细的注释，便于理解和后续维护。