MyBatis Plus

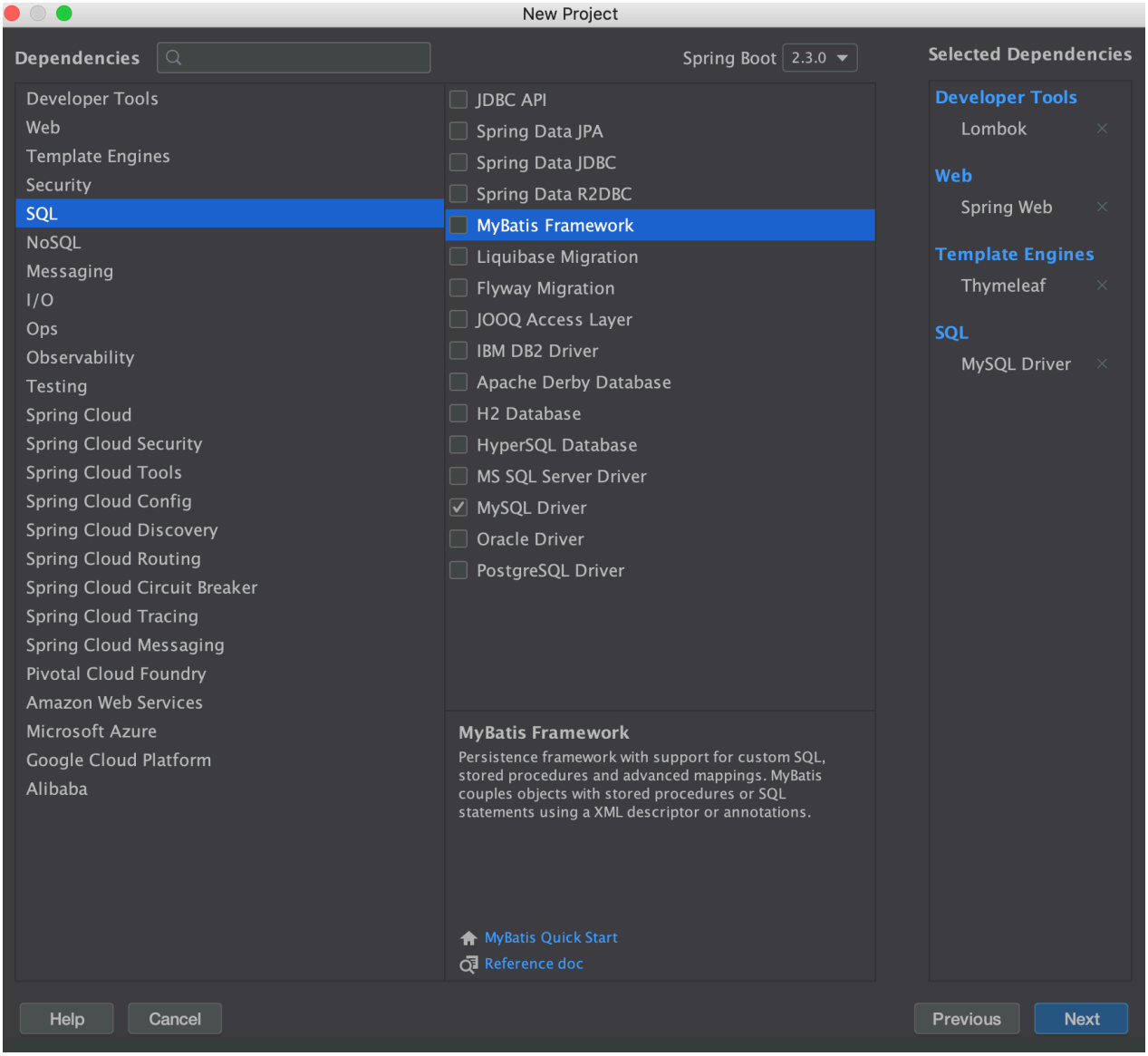
国产的开源框架，基于 MyBatis

核心功能就是简化 MyBatis 的开发，提高效率。

MyBatis Plus 快速上手

Spring Boot(2.3.0) + MyBatis Plus（国产的开源框架，并没有接入到 Spring 官方孵化器中）

1、创建 Maven 工程



2、pom.xml 引入 MyBatis Plus 的依赖

```
<dependency>
    <groupId>com.baomidou</groupId>
    <artifactId>mybatis-plus-boot-
starter</artifactId>
    <version>3.3.1.tmp</version>
</dependency>
```

3、创建实体类

```java
package com.southwind.mybatisplus.entity;

import lombok.Data;

@Data
public class User {
    private Integer id;
    private String name;
    private Integer age;
}
```

4、创建 Mapper 接口

```java
package com.southwind.mybatisplus.mapper;

import
com.baomidou.mybatisplus.core.mapper.BaseMa
pper;
import
com.southwind.mybatisplus.entity.User;

public interface UserMapper extends
BaseMapper<User> {

}
```

5、application.yml

```
spring:
  datasource:
    driver-class-name:
com.mysql.cj.jdbc.Driver
    url: jdbc:mysql://localhost:3306/db?
useUnicode=true&characterEncoding=UTF-8
    username: root
    password: root
mybatis-plus:
  configuration:
    log-impl:
org.apache.ibatis.logging.stdout.StdOutImpl
```

6、启动类需要添加 @MapperScan("mapper所在的包")，否则无法加载 Mppaer bean。

```
package com.southwind.mybatisplus;

import
org.mybatis.spring.annotation.MapperScan;
import
org.springframework.boot.SpringApplication;
import
org.springframework.boot.autoconfigure.Spri
ngBootApplication;

@SpringBootApplication
```

```
@MapperScan("com.southwind.mybatisplus.mapp
er")
public class MybatisplusApplication {

    public static void main(String[] args)
{

 SpringApplication.run(MybatisplusApplicati
on.class, args);
    }

}
```

7、测试

```
package com.southwind.mybatisplus.mapper;

import org.junit.jupiter.api.Test;
import
org.springframework.beans.factory.annotatio
n.Autowired;
import
org.springframework.boot.test.context.Sprin
gBootTest;

@SpringBootTest
class UserMapperTest {
```

```
    @Autowired
    private UserMapper mapper;

    @Test
    void test(){

 mapper.selectList(null).forEach(System.out
::println);
    }

}
```

常用注解

> @TableName

映射数据库的表名

```
package com.southwind.mybatisplus.entity;

import
com.baomidou.mybatisplus.annotation.TableNa
me;
import lombok.Data;

@Data
@TableName(value = "user")
public class Account {
    private Integer id;
    private String name;
    private Integer age;
}
```

> @TableId

设置主键映射，value 映射主键字段名

type 设置主键类型，主键的生成策略，

```
AUTO(0),
NONE(1),
INPUT(2),
ASSIGN_ID(3),
ASSIGN_UUID(4),
```

```
/** @deprecated */
@Deprecated
ID_WORKER(3),
/** @deprecated */
@Deprecated
ID_WORKER_STR(3),
/** @deprecated */
@Deprecated
UUID(4);
```

值	描述
AUTO	数据库自增
NONE	MP set 主键，雪花算法实现
INPUT	需要开发者手动赋值
ASSIGN_ID	MP 分配 ID，Long、Integer、String
ASSIGN_UUID	分配 UUID，Strinig

INPUT 如果开发者没有手动赋值，则数据库通过自增的方式给主键赋值，如果开发者手动赋值，则存入该值。

AUTO 默认就是数据库自增，开发者无需赋值。

ASSIGN_ID MP 自动赋值，雪花算法。

ASSIGN_UUID 主键的数据类型必须是 String，自动生成 UUID 进行赋值

> @TableField

映射非主键字段，value 映射字段名

exist 表示是否为数据库字段 false，如果实体类中的成员变量在数据库中没有对应的字段，则可以使用 exist，VO、DTO

select 表示是否查询该字段

fill 表示是否自动填充，将对象存入数据库的时候，由 MyBatis Plus 自动给某些字段赋值，create_time、update_time

1、给表添加 create_time、update_time 字段

2、实体类中添加成员变量

```
package com.southwind.mybatisplus.entity;

import
com.baomidou.mybatisplus.annotation.FieldFi
ll;
```

```
import
com.baomidou.mybatisplus.annotation.TableFi
eld;
import
com.baomidou.mybatisplus.annotation.TableId
;
import
com.baomidou.mybatisplus.annotation.TableNa
me;
import lombok.Data;

import java.util.Date;

@Data
@TableName(value = "user")
public class User {
    @TableId
    private String id;
    @TableField(value = "name",select =
false)
    private String title;
    private Integer age;
    @TableField(exist = false)
    private String gender;
    @TableField(fill = FieldFill.INSERT)
    private Date createTime;
```

```
    @TableField(fill =
FieldFill.INSERT_UPDATE)
    private Date updateTime;
}
```

3、创建自动填充处理器

```
package com.southwind.mybatisplus.handler;

import
com.baomidou.mybatisplus.core.handlers.Meta
ObjectHandler;
import
org.apache.ibatis.reflection.MetaObject;
import
org.springframework.stereotype.Component;

import java.util.Date;

@Component
public class MyMetaObjectHandler implements
MetaObjectHandler {
    @Override
    public void insertFill(MetaObject
metaObject) {


```

```
 this.setFieldValByName("createTime",new
Date(),metaObject);

 this.setFieldValByName("updateTime",new
Date(),metaObject);
    }

    @Override
    public void updateFill(MetaObject
metaObject) {

 this.setFieldValByName("updateTime",new
Date(),metaObject);
    }
}
```

> @Version

标记乐观锁，通过 version 字段来保证数据的安全性，当修改数据的时候，会以 version 作为条件，当条件成立的时候才会修改成功。

version = 2

线程 1:update ... set version = 2 where version = 1

线程2： update ... set version = 2 where version = 1

1、数据库表添加 version 字段，默认值为 1

2、实体类添加 version 成员变量，并且添加 @Version

```
package com.southwind.mybatisplus.entity;

import
com.baomidou.mybatisplus.annotation.*;
import lombok.Data;

import java.util.Date;

@Data
@TableName(value = "user")
public class User {
    @TableId
    private String id;
    @TableField(value = "name",select =
false)
    private String title;
    private Integer age;
    @TableField(exist = false)
    private String gender;
    @TableField(fill = FieldFill.INSERT)
    private Date createTime;
```

```
    @TableField(fill =
FieldFill.INSERT_UPDATE)
    private Date updateTime;
    @Version
    private Integer version;
}
```

3、注册配置类

```
package com.southwind.mybatisplus.config;

import
com.baomidou.mybatisplus.extension.plugins.
OptimisticLockerInterceptor;
import
org.springframework.context.annotation.Bean
;
import
org.springframework.context.annotation.Conf
iguration;

@Configuration
public class MyBatisPlusConfig {

    @Bean
    public OptimisticLockerInterceptor
optimisticLockerInterceptor(){
```

```
        return new
OptimisticLockerInterceptor();
    }

}
```

> @EnumValue

1、通用枚举类注解，将数据库字段映射成实体类的枚举类型成员变量

```
package com.southwind.mybatisplus.enums;

import
com.baomidou.mybatisplus.annotation.EnumVal
ue;

public enum StatusEnum {
    WORK(1,"上班"),
    REST(0,"休息");

    StatusEnum(Integer code, String msg) {
        this.code = code;
        this.msg = msg;
    }
```

```
    @EnumValue
    private Integer code;
    private String msg;
}
```

```
package com.southwind.mybatisplus.entity;

import
com.baomidou.mybatisplus.annotation.*;
import
com.southwind.mybatisplus.enums.StatusEnum;
import lombok.Data;

import java.util.Date;

@Data
@TableName(value = "user")
public class User {
    @TableId
    private String id;
    @TableField(value = "name",select =
false)
    private String title;
    private Integer age;
    @TableField(exist = false)
    private String gender;
    @TableField(fill = FieldFill.INSERT)
```

```
    private Date createTime;
    @TableField(fill =
FieldFill.INSERT_UPDATE)
    private Date updateTime;
    @Version
    private Integer version;
    private StatusEnum status;
}
```

application.yml

```
type-enums-package:
  com.southwind.mybatisplus.enums
```

2、实现接口

```
package com.southwind.mybatisplus.enums;

import
com.baomidou.mybatisplus.core.enums.IEnum;

public enum AgeEnum implements
IEnum<Integer> {
    ONE(1,"一岁"),
    TWO(2,"两岁"),
    THREE(3,"三岁");
```

```
    private Integer code;
    private String msg;

    AgeEnum(Integer code, String msg) {
        this.code = code;
        this.msg = msg;
    }

    @Override
    public Integer getValue() {
        return this.code;
    }
}
```

> @TableLogic

映射逻辑删除

1、数据表添加 deleted 字段

2、实体类添加注解

```
package com.southwind.mybatisplus.entity;

import
com.baomidou.mybatisplus.annotation.*;
```

```
import
com.southwind.mybatisplus.enums.AgeEnum;
import
com.southwind.mybatisplus.enums.StatusEnum;
import lombok.Data;

import java.util.Date;

@Data
@TableName(value = "user")
public class User {
    @TableId
    private String id;
    @TableField(value = "name",select =
false)
    private String title;
    private AgeEnum age;
    @TableField(exist = false)
    private String gender;
    @TableField(fill = FieldFill.INSERT)
    private Date createTime;
    @TableField(fill =
FieldFill.INSERT_UPDATE)
    private Date updateTime;
    @Version
    private Integer version;
    @TableField(value = "status")
```

```
    private StatusEnum statusEnum;
    @TableLogic
    private Integer deleted;
}
```

3、application.yml 添加配置

```
global-config:
  db-config:
    logic-not-delete-value: 0
    logic-delete-value: 1
```

查询

```
//mapper.selectList(null);
QueryWrapper wrapper = new QueryWrapper();
//        Map<String,Object> map = new
HashMap<>();
//        map.put("name","小红");
//        map.put("age",3);
//        wrapper.allEq(map);
//        wrapper.gt("age",2);
//        wrapper.ne("name","小红");
//        wrapper.ge("age",2);
```

```
//like '%小'
//        wrapper.likeLeft("name","小");
//like '小%'
//        wrapper.likeRight("name","小");

//inSQL
//        wrapper.inSql("id","select id
from user where id < 10");
//        wrapper.inSql("age","select age
from user where age > 3");

//        wrapper.orderByDesc("age");

//        wrapper.orderByAsc("age");
//        wrapper.having("id > 8");

mapper.selectList(wrapper).forEach(System.o
ut::println);
```

```
//
System.out.println(mapper.selectById(7));
//
mapper.selectBatchIds(Arrays.asList(7,8,9))
.forEach(System.out::println);
```

```
//Map 只能做等值判断，逻辑判断需要使用 Wrapper 来处理
//        Map<String,Object> map = new HashMap<>();
//        map.put("id",7);
//
mapper.selectByMap(map).forEach(System.out::println);

QueryWrapper wrapper = new QueryWrapper();
wrapper.eq("id",7);
////
System.out.println(mapper.selectCount(wrapper));
//
//        //将查询的结果集封装到Map中
//
mapper.selectMaps(wrapper).forEach(System.out::println);
//        System.out.println("----------------");
//
mapper.selectList(wrapper).forEach(System.out::println);

//分页查询
```

```
//        Page<User> page = new Page<>
(2,2);
//        Page<User> result =
mapper.selectPage(page,null);
//
System.out.println(result.getSize());
//
System.out.println(result.getTotal());
//
result.getRecords().forEach(System.out::pri
ntln);

//        Page<Map<String,Object>> page =
new Page<>(1,2);
//
mapper.selectMapsPage(page,null).getRecords
().forEach(System.out::println);

//
mapper.selectObjs(null).forEach(System.out:
:println);


System.out.println(mapper.selectOne(wrapper
));
```

自定义 SQL（多表关联查询）

```
package com.southwind.mybatisplus.entity;

import lombok.Data;

@Data
public class ProductVO {
    private Integer category;
    private Integer count;
    private String description;
    private Integer userId;
    private String userName;
}
```

```
package com.southwind.mybatisplus.mapper;

import
com.baomidou.mybatisplus.core.mapper.BaseMa
pper;
import
com.southwind.mybatisplus.entity.ProductVO;
import
com.southwind.mybatisplus.entity.User;
import
org.apache.ibatis.annotations.Select;

import java.util.List;

public interface UserMapper extends
BaseMapper<User> {
    @Select("select p.*,u.name userName
from product p,user u where p.user_id =
u.id and u.id = #{id}")
    List<ProductVO> productList(Integer
id);
}
```

添加

```
User user = new User();
user.setTitle("小明");
user.setAge(22);
mapper.insert(user);
System.out.println(user);
```

删除

```
//mapper.deleteById(1);
//
mapper.deleteBatchIds(Arrays.asList(7,8));
//        QueryWrapper wrapper = new
QueryWrapper();
//        wrapper.eq("age",14);
//        mapper.delete(wrapper);

Map<String,Object> map = new HashMap<>();
map.put("id",10);
mapper.deleteByMap(map);
```

修改

```
//        //update ... version = 3 where
version = 2
//        User user = mapper.selectById(7);
//        user.setTitle("一号");
//
//        //update ... version = 3 where
version = 2
//        User user1 =
mapper.selectById(7);
//        user1.setTitle("二号");
//
//        mapper.updateById(user1);
//        mapper.updateById(user);

User user = mapper.selectById(1);
user.setTitle("小红");
QueryWrapper wrapper = new QueryWrapper();
wrapper.eq("age",22);
mapper.update(user,wrapper);
```

MyBatisPlus 自动生成

根据数据表自动生成实体类、Mapper、Service、ServiceImpl、Controller

1、pom.xml 导入 MyBatis Plus Generator

```
<dependency>
    <groupId>com.baomidou</groupId>
    <artifactId>mybatis-plus-
generator</artifactId>
    <version>3.3.1.tmp</version>
</dependency>

<dependency>
    <groupId>org.apache.velocity</groupId>
    <artifactId>velocity</artifactId>
    <version>1.7</version>
</dependency>
```

Velocity（默认）、Freemarker、Beetl

2、启动类

```
package com.southwind.mybatisplus;

import
com.baomidou.mybatisplus.annotation.DbType;
import
com.baomidou.mybatisplus.generator.AutoGene
rator;
```

```
import
com.baomidou.mybatisplus.generator.config.D
ataSourceConfig;
import
com.baomidou.mybatisplus.generator.config.G
lobalConfig;
import
com.baomidou.mybatisplus.generator.config.P
ackageConfig;
import
com.baomidou.mybatisplus.generator.config.S
trategyConfig;
import
com.baomidou.mybatisplus.generator.config.r
ules.NamingStrategy;

public class Main {
    public static void main(String[] args)
{
        //创建generator对象
        AutoGenerator autoGenerator = new
AutoGenerator();
        //数据源
        DataSourceConfig dataSourceConfig =
new DataSourceConfig();

 dataSourceConfig.setDbType(DbType.MYSQL);
```

```
 dataSourceConfig.setUrl("jdbc:mysql://ip:3306/db?useUnicode=true&characterEncoding=UTF-8");

 dataSourceConfig.setUsername("root");

 dataSourceConfig.setPassword("root");

 dataSourceConfig.setDriverName("com.mysql.cj.jdbc.Driver");

 autoGenerator.setDataSource(dataSourceConfig);
        //全局配置
        GlobalConfig globalConfig = new GlobalConfig();

 globalConfig.setOutputDir(System.getProperty("user.dir")+"/src/main/java");
        globalConfig.setOpen(false);

 globalConfig.setAuthor("southwind");

 globalConfig.setServiceName("%sService");
```

```
 autoGenerator.setGlobalConfig(globalConfig
);
        //包信息
        PackageConfig packageConfig = new
PackageConfig();

 packageConfig.setParent("com.southwind.myb
atisplus");

 packageConfig.setModuleName("generator");

 packageConfig.setController("controller");

 packageConfig.setService("service");

 packageConfig.setServiceImpl("service.impl
");
        packageConfig.setMapper("mapper");
        packageConfig.setEntity("entity");

 autoGenerator.setPackageInfo(packageConfig
);
        //配置策略
        StrategyConfig strategyConfig = new
StrategyConfig();
```

```
 strategyConfig.setEntityLombokModel(true);

 strategyConfig.setNaming(NamingStrategy.underline_to_camel);

 strategyConfig.setColumnNaming(NamingStrategy.underline_to_camel);

 autoGenerator.setStrategy(strategyConfig);

        autoGenerator.execute();
    }
}
```

Spring Boot + MyBatis Plus 打包应用，直接发布 阿里云 上云