数据库设计说明书

DataBase Design

**编号： TMP-DBD**

**版本 3.0**

|  |  |  |  |
| --- | --- | --- | --- |
| 作者： | **蒋子涵** | 日期： | **2018-04-10** |
| 审批： | **全体** | 日期： | **2018-04-10** |

**变更记录**

|  |  |  |  |
| --- | --- | --- | --- |
| 日期 | 版本 | 变更说明 | 作者 |
| **2018-04-10** | **1.0** | **创建数据库设计说明书** | **蒋子涵** |
| **2018-04-11** | **2.0** | **完善各个数据库表** | **全体** |
| **2018-04-12** | **3.0** | **添加数据库字段类型** | **蒋子涵** |

# answer

|  |  |  |  |
| --- | --- | --- | --- |
| **表名** | **answer** | | |
| **表描述** | **答疑回帖表** | | |
| **列名** | **描述** | **类型** | **Primary key** |
| **answer\_id** | **回帖id** | **Varchar(50)** | **√** |
| **post\_id** | **帖子id** | **Varchar(50)** |  |
| **student\_id** | **回帖的学生id** | **Varchar(50)** |  |
| **answer\_content** | **回帖内容** | **Varchar(300)** |  |
| **answer\_time** | **回帖时间** | **datetime** |  |
| **likes** | **点赞数** | **Int(9)** |  |

# class

|  |  |  |  |
| --- | --- | --- | --- |
| **表名** | **class** | | |
| **表描述** | **班级表** | | |
| **列名** | **描述** | **类型** | **Primary key** |
| **class\_id** | **班级id** | **Varchar(50)** | **√** |
| **pic\_path** | **班级头像** | **Varchar(50)** |  |
| **grade** | **班级所属年级** | **Varchar(10)** |  |
| **class\_name** | **班级名字** | **Varchar(50)** |  |
| **create\_time** | **班级创建时间** | **Datetime** |  |
| **student\_number** | **班级人数** | **Int(3)** |  |

# class\_paper

|  |  |  |  |
| --- | --- | --- | --- |
| **表名** | **class\_paper** | | |
| **表描述** | **班级和paper的关系表** | | |
| **列名** | **描述** | **类型** | **Primary key** |
| **paper\_id** | **试卷id** | **Varchar(50)** | **√** |
| **class\_id** | **班级id** | **Varchar(50)** | **√** |
| **ave\_time** | **平均耗时** | **Int(5)** |  |
| **ave\_score** | **平均分** | **Int(3)** |  |
| **assign\_teacher\_id** | **布置作业老师的id** | **Varchar(50)** |  |
| **dead\_line** | **最晚提交时间** | **Datetime** |  |
| **submit\_number** | **提交人数** | **Int(3)** |  |
| **assign\_time** | **试卷创建时间** | **Datetime** |  |
| **paper\_type** | **试卷类型（考试或作业）** | **Varchar(1)** |  |
| **exam\_time** | **(仅考试才有)** | **Int(5)** |  |
| **rank** | **存Map，将map（已经实现serializable接口）转化为ObjectOutputStream存数据库** | **BLOB** |  |

# paper

|  |  |  |  |
| --- | --- | --- | --- |
| **表名** | **paper** | | |
| **表描述** | **试卷、练习、作业表** | | |
| **列名** | **描述** | **类型** | **Primary key** |
| **paper\_id** | **试卷的id号** | **Varchar(50)** | **√** |
| **paper\_name** | **试卷标题内容** | **Varchar(50)** |  |
| **Grade** | **年级** | **Varchar(10)** |  |
| **subject\_id** | **科目** | **Varchar(5)** |  |
| **create\_teacher\_id** | **创建试卷教师的id** | **Varchar(50)** |  |
| **create\_time** | **试卷创建时间** | **Datetime** |  |
| **max\_score** | **试卷总分数** | **Int(3)** |  |

# parent

|  |  |  |  |
| --- | --- | --- | --- |
| **表名** | **parent** | | |
| **表描述** | **家长实体表** | | |
| **列名** | **描述** | **类型** | **Primary key** |
| **parent\_id** | **家长id** | **Varchar(50)** | **√** |
| **Phone** | **电话号码** | **Varchar(14)** |  |
| **password** | **密码** | **Varchar(20)** |  |
| **create\_time** | **账号创建时间** | **Datetime** |  |
| **token** | **登录密钥** | **Varchar(50)** |  |
| **pic\_path** | **头像图片地址** | **Varchar(50)** |  |
| **birthday** | **生日** | **Date** |  |
| **sex** | **性别** | **Varchar(1)** |  |
| **nickname** | **昵称** | **Varchar(20)** |  |
| **state** | **账号状态（0未激活，1已激活）** | **Varchar(1)** |  |
| **verify\_code** | **验证码** | **Varchar(20)** |  |

# parent\_student

|  |  |  |  |
| --- | --- | --- | --- |
| **表名** | **parent\_student** | | |
| **表描述** | **家长和学生关系表** | | |
| **列名** | **描述** | **类型** | **Primary key** |
| **parent\_id** | **家长id** | **Varchar(50)** | **√** |
| **student\_id** | **学生id** | **Varchar(50)** | **√** |

# post

|  |  |  |  |
| --- | --- | --- | --- |
| **表名** | **post** | | |
| **表描述** | **学生发帖表** | | |
| **列名** | **描述** | **类型** | **Primary key** |
| **post\_id** | **帖子id** | **Varchar(50)** | **√** |
| **student\_id** | **学生id** | **Varchar(50)** |  |
| **post\_title** | **帖子标题** | **Varchar(50)** |  |
| **post\_content** | **帖子内容** | **Varchar(300)** |  |
| **create\_time** | **帖子创建时间** | **Datetime** |  |
| **subject\_id** | **科目** | **Varchar(5)** |  |
| **change\_time** | **改变时间** | **Datetime** |  |
| **answer\_number** | **回帖数量** | **Int(9)** |  |
| **pic\_path** | **图片地址** | **Varchar(50)** |  |

# question

|  |  |  |  |
| --- | --- | --- | --- |
| **表名** | **question** | | |
| **表描述** | **问题实体表** | | |
| **列名** | **描述** | **类型** | **Primary key** |
| **question\_id** | **问题id** | **Varchar(50)** | **√** |
| **title\_id** | **题目id** | **Varchar(50)** |  |
| **option\_a** | **通过判断值是否为空判断是否为选择题** | **Varchar(50)** |  |
| **option\_b** | **选项b** | **Varchar(50)** |  |
| **option\_c** |  | **Varchar(50)** |  |
| **option\_d** |  | **Varchar(50)** |  |
| **answer** | **正确答案** | **Varchar(50)** |  |

# question\_paper

|  |  |  |
| --- | --- | --- |
| **表名** | **question\_paper** | |
| **表描述** | **问题和试卷的关系表** | |
| **列名** | **描述** | **Primary key** |
| **paper\_id** | **试卷id** | **√** |
| **question\_id** | **问题id** | **√** |
| **point** | **每道题的分数** |  |

# reply

|  |  |  |  |
| --- | --- | --- | --- |
| **表名** | **reply** | | |
| **表描述** | **回帖回复的回复** | | |
| **列名** | **描述** | **类型** | **Primary key** |
| **reply\_id** | **回复id** | **Varchar(50)** | **√** |
| **answer\_id** | **回帖回复的id** | **Varchar(50)** |  |
| **reply\_content** | **回复的内容** | **Varchar(300)** |  |
| **reply\_time** | **回复的时间** | **Datetime** |  |
| **likes** | **点赞数** | **Int(9)** |  |

# schedule

|  |  |  |
| --- | --- | --- |
| **表名** | **schedule** | |
| **表描述** | **学生日程表，跟学生为多对一的关系** | |
| **列名** | **描述** | **Primary key** |
| **schedule\_id** | **日程表id，也是主id** | **√** |
| **student\_id** | **题目内容** |  |
| **start\_time** | **本schedule开始时间（包括了日期）** |  |
| **end\_time** | **本schedule结束时间** |  |
| **schedule\_content** | **计划内容** |  |

# solution

|  |  |  |  |
| --- | --- | --- | --- |
| **表名** | **solution** | | |
| **表描述** | **学生的做题记录** | | |
| **列名** | **描述** | **类型** | **Primary key** |
| **student\_id** | **学生的id** | **Varchar(50)** | **√** |
| **paper\_id** | **试卷的id** | **Varchar(50)** | **√** |
| **question\_id** | **问题的id** | **Varchar(50)** | **√** |
| **content** | **学生提交的答案** | **Varchar(500)** |  |
| **point** | **该题获得的分数** | **Int(3)** |  |
| **isright** | **是否正确（”1”,”0”）** | **Varchar(1)** |  |

# student

|  |  |  |  |
| --- | --- | --- | --- |
| **表名** | **student** | | |
| **表描述** | **学生实体表** | | |
| **列名** | **描述** | **类型** | **Primary key** |
| **student\_id** | **学生id** | **Varchar(50)** | **√** |
| **phone** | **电话号码** | **Varchar(14)** |  |
| **password** | **密码** | **Varchar(20)** |  |
| **create\_time** | **账号创建时间** | **Datetime** |  |
| **pic\_path** | **头像图片地址** | **Varchar(50)** |  |
| **nickname** | **昵称** | **Varchar(20)** |  |
| **birthday** | **生日** | **Date** |  |
| **sex** | **性别** | **Varchar(1)** |  |
| **school\_name** | **学校** | **Varchar(20)** |  |
| **token** | **登录密钥** | **Varchar(50)** |  |
| **class\_id** | **班级id** | **Varchar(50)** |  |
| **state** | **账号状态（0未激活，1已激活）** | **Varchar(1)** |  |
| **verify\_code** | **验证码** | **Varchar(20)** |  |

# student\_paper

|  |  |  |
| --- | --- | --- |
| **表名** | **student\_paper** | |
| **表描述** | **Student和paper之间的关系表，它们是多对多的关系，一个student可以做多张试卷，一张试卷可以给多个学生做** | |
| **列名** | **描述** | **Primary key** |
| **paper\_id** | **试卷的ID** | **√** |
| **student\_id** | **学生的ID，跟paper\_id配合使用，表明某个学生跟某张试卷有关** | **√** |
| **submit** | **布尔值，1表示该学生已提交试卷，0表示该学生未提交试卷** |  |
| **submit\_time** | **提交试卷的时间，如果submit为0，则这个时间不存在** |  |
| **score** | **学生试卷分数** |  |
| **used\_time** | **做试卷所用时间** |  |
| **start\_time** | **做试卷开始时间** |  |

# subject

|  |  |  |  |
| --- | --- | --- | --- |
| **表名** | **subject** | | |
| **表描述** | **学生实体表** | | |
| **列名** | **描述** | **类型** | **Primary key** |
| **subject\_id** | **科目id** | **Varchar(5)** | **√** |
| **subject\_name** | **科目名** | **Varchar(50)** |  |

# teacher

|  |  |  |  |
| --- | --- | --- | --- |
| **表名** | **teacher** | | |
| **表描述** | **老师实体表** | | |
| **列名** | **描述** | **类型** | **Primary key** |
| **teacher\_id** | **老师id** | **Varchar(50)** | **√** |
| **phone** | **电话号码** | **Varchar(14)** |  |
| **password** | **密码** | **Varchar(20)** |  |
| **name** | **老师实名** | **Varchar(20)** |  |
| **birthday** | **生日** | **Date** |  |
| **school\_name** | **学校名字** | **Varchar(20)** |  |
| **pic\_path** | **头像图片** | **Varchar(50)** |  |
| **sex** | **性别** | **Varchar(1)** |  |
| **create\_time** | **账号创建时间** | **Datetime** |  |
| **token** | **登录码** | **Varchar(50)** |  |
| **nickname** | **昵称** | **Varchar(50)** |  |
| **state** | **账号状态（0未激活，1已激活）** | **Varchar(1)** |  |
| **verify\_code** | **验证码** | **Varchar(20)** |  |

# teacher\_class

|  |  |  |  |
| --- | --- | --- | --- |
| **表名** | **teacher\_class** | | |
| **表描述** | **老师和班级的关系表** | | |
| **列名** | **描述** | **类型** | **Primary key** |
| **class\_id** | **班级id** | **Varchar(50)** | **√** |
| **teacher\_id** | **老师id** | **Varchar(50)** | **√** |

# title

|  |  |  |  |
| --- | --- | --- | --- |
| **表名** | **title** | | |
| **表描述** | **考虑到很多选择题，多个选择题共享对应一个题目（如英语阅读,一篇文章有五个选择题），因此题目内容单开一个表，由于title和question是一对多的关系，所以在total\_question表里存title\_id，直接表示question和title的关系，免去再建一张关系表** | | |
| **列名** | **描述** | **Varchar(50)** | **Primary key** |
| **title\_id** | **题目id** | **Varchar(50)** | **√** |
| **title\_content** | **题目内容** | **Varchar(3000)** |  |
| **pic\_path** | **图片地址** | **Varchar(50)** |  |

# user\_like\_answer

|  |  |  |
| --- | --- | --- |
| **表名** | **user\_like\_answer** | |
| **表描述** | **用户点赞answer表** | |
| **列名** | **描述** | **Primary key** |
| **student\_id** | **学生id** | **√** |
| **answer\_id** | **回答id** | **√** |

# user\_like\_reply

|  |  |  |
| --- | --- | --- |
| **表名** | **user\_like\_reply** | |
| **表描述** | **用户点赞reply表** | |
| **列名** | **描述** | **Primary key** |
| **student\_id** | **学生id** | **√** |
| **reply\_id** | **回帖回复的回复id** | **√** |