java实现任务调度的方法:1.Thread 2.TimerTask 3.线程池 4.quartz

分布式job解决幂等性问题:集群时 多个服务器会重复执行定时任务,解决

1.redis zookeeper分布式锁

2.使用配置文件开关 flag=true, true 中job false不执行 去查询配置文件 但项目要达成不同的war包

3.使用数据库为判断

4.分布式任务平台xxl-job

注意:quartz有集群模式，但是基于api控制并不直观。xxl-job有控制台 很好的查看各种信息

github地址:https://github.com/xuxueli/xxl-job/

执行流程

执行器1:job所在的服务器(a行的代码)

添加到 添加到

各种任务--------------->分布式job平台<-----------执行器2:job所在的服务器(执行的代码)

执行器3:job所在的服务器(执行的代码)

在平台中配置任务与执行器的关系

在xxl-admin：修改xxl-job-admin.properties配置

xxl.job.db.driverClass=com.mysql.jdbc.Driver

xxl.job.db.url=jdbc:mysql://localhost:3306/xxl-job?useUnicode=true&characterEncoding=UTF-8

xxl.job.db.user=root

xxl.job.db.password=root

登录到后台:



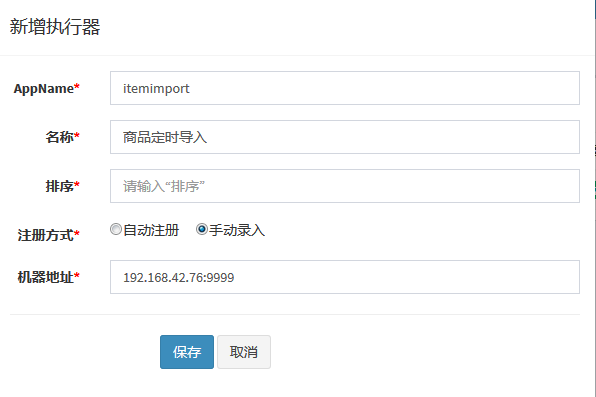
新增执行器:

### xxl-job executor address

xxl.job.executor.appname=itemimport

xxl.job.executor.ip=192.168.42.76

xxl.job.executor.port=9999



所需要的数据库:

SET FOREIGN\_KEY\_CHECKS=0;

-- ----------------------------

-- Table structure for xxl\_job\_qrtz\_blob\_triggers

-- ----------------------------

DROP TABLE IF EXISTS `xxl\_job\_qrtz\_blob\_triggers`;

CREATE TABLE `xxl\_job\_qrtz\_blob\_triggers` (

`SCHED\_NAME` varchar(120) COLLATE utf8\_bin NOT NULL,

`TRIGGER\_NAME` varchar(200) COLLATE utf8\_bin NOT NULL,

`TRIGGER\_GROUP` varchar(200) COLLATE utf8\_bin NOT NULL,

`BLOB\_DATA` blob,

PRIMARY KEY (`SCHED\_NAME`,`TRIGGER\_NAME`,`TRIGGER\_GROUP`),

CONSTRAINT `xxl\_job\_qrtz\_blob\_triggers\_ibfk\_1` FOREIGN KEY (`SCHED\_NAME`, `TRIGGER\_NAME`, `TRIGGER\_GROUP`) REFERENCES `xxl\_job\_qrtz\_triggers` (`SCHED\_NAME`, `TRIGGER\_NAME`, `TRIGGER\_GROUP`)

) ENGINE=InnoDB DEFAULT CHARSET=utf8 COLLATE=utf8\_bin;

-- ----------------------------

-- Table structure for xxl\_job\_qrtz\_calendars

-- ----------------------------

DROP TABLE IF EXISTS `xxl\_job\_qrtz\_calendars`;

CREATE TABLE `xxl\_job\_qrtz\_calendars` (

`SCHED\_NAME` varchar(120) COLLATE utf8\_bin NOT NULL,

`CALENDAR\_NAME` varchar(200) COLLATE utf8\_bin NOT NULL,

`CALENDAR` blob NOT NULL,

PRIMARY KEY (`SCHED\_NAME`,`CALENDAR\_NAME`)

) ENGINE=InnoDB DEFAULT CHARSET=utf8 COLLATE=utf8\_bin;

-- ----------------------------

-- Table structure for xxl\_job\_qrtz\_cron\_triggers

-- ----------------------------

DROP TABLE IF EXISTS `xxl\_job\_qrtz\_cron\_triggers`;

CREATE TABLE `xxl\_job\_qrtz\_cron\_triggers` (

`SCHED\_NAME` varchar(120) COLLATE utf8\_bin NOT NULL,

`TRIGGER\_NAME` varchar(200) COLLATE utf8\_bin NOT NULL,

`TRIGGER\_GROUP` varchar(200) COLLATE utf8\_bin NOT NULL,

`CRON\_EXPRESSION` varchar(200) COLLATE utf8\_bin NOT NULL,

`TIME\_ZONE\_ID` varchar(80) COLLATE utf8\_bin DEFAULT NULL,

PRIMARY KEY (`SCHED\_NAME`,`TRIGGER\_NAME`,`TRIGGER\_GROUP`),

CONSTRAINT `xxl\_job\_qrtz\_cron\_triggers\_ibfk\_1` FOREIGN KEY (`SCHED\_NAME`, `TRIGGER\_NAME`, `TRIGGER\_GROUP`) REFERENCES `xxl\_job\_qrtz\_triggers` (`SCHED\_NAME`, `TRIGGER\_NAME`, `TRIGGER\_GROUP`)

) ENGINE=InnoDB DEFAULT CHARSET=utf8 COLLATE=utf8\_bin;

-- ----------------------------

-- Table structure for xxl\_job\_qrtz\_fired\_triggers

-- ----------------------------

DROP TABLE IF EXISTS `xxl\_job\_qrtz\_fired\_triggers`;

CREATE TABLE `xxl\_job\_qrtz\_fired\_triggers` (

`SCHED\_NAME` varchar(120) COLLATE utf8\_bin NOT NULL,

`ENTRY\_ID` varchar(95) COLLATE utf8\_bin NOT NULL,

`TRIGGER\_NAME` varchar(200) COLLATE utf8\_bin NOT NULL,

`TRIGGER\_GROUP` varchar(200) COLLATE utf8\_bin NOT NULL,

`INSTANCE\_NAME` varchar(200) COLLATE utf8\_bin NOT NULL,

`FIRED\_TIME` bigint(13) NOT NULL,

`SCHED\_TIME` bigint(13) NOT NULL,

`PRIORITY` int(11) NOT NULL,

`STATE` varchar(16) COLLATE utf8\_bin NOT NULL,

`JOB\_NAME` varchar(200) COLLATE utf8\_bin DEFAULT NULL,

`JOB\_GROUP` varchar(200) COLLATE utf8\_bin DEFAULT NULL,

`IS\_NONCONCURRENT` varchar(1) COLLATE utf8\_bin DEFAULT NULL,

`REQUESTS\_RECOVERY` varchar(1) COLLATE utf8\_bin DEFAULT NULL,

PRIMARY KEY (`SCHED\_NAME`,`ENTRY\_ID`)

) ENGINE=InnoDB DEFAULT CHARSET=utf8 COLLATE=utf8\_bin;

-- ----------------------------

-- Table structure for xxl\_job\_qrtz\_job\_details

-- ----------------------------

DROP TABLE IF EXISTS `xxl\_job\_qrtz\_job\_details`;

CREATE TABLE `xxl\_job\_qrtz\_job\_details` (

`SCHED\_NAME` varchar(120) COLLATE utf8\_bin NOT NULL,

`JOB\_NAME` varchar(200) COLLATE utf8\_bin NOT NULL,

`JOB\_GROUP` varchar(200) COLLATE utf8\_bin NOT NULL,

`DESCRIPTION` varchar(250) COLLATE utf8\_bin DEFAULT NULL,

`JOB\_CLASS\_NAME` varchar(250) COLLATE utf8\_bin NOT NULL,

`IS\_DURABLE` varchar(1) COLLATE utf8\_bin NOT NULL,

`IS\_NONCONCURRENT` varchar(1) COLLATE utf8\_bin NOT NULL,

`IS\_UPDATE\_DATA` varchar(1) COLLATE utf8\_bin NOT NULL,

`REQUESTS\_RECOVERY` varchar(1) COLLATE utf8\_bin NOT NULL,

`JOB\_DATA` blob,

PRIMARY KEY (`SCHED\_NAME`,`JOB\_NAME`,`JOB\_GROUP`)

) ENGINE=InnoDB DEFAULT CHARSET=utf8 COLLATE=utf8\_bin;

-- ----------------------------

-- Table structure for xxl\_job\_qrtz\_locks

-- ----------------------------

DROP TABLE IF EXISTS `xxl\_job\_qrtz\_locks`;

CREATE TABLE `xxl\_job\_qrtz\_locks` (

`SCHED\_NAME` varchar(120) COLLATE utf8\_bin NOT NULL,

`LOCK\_NAME` varchar(40) COLLATE utf8\_bin NOT NULL,

PRIMARY KEY (`SCHED\_NAME`,`LOCK\_NAME`)

) ENGINE=InnoDB DEFAULT CHARSET=utf8 COLLATE=utf8\_bin;

-- ----------------------------

-- Table structure for xxl\_job\_qrtz\_paused\_trigger\_grps

-- ----------------------------

DROP TABLE IF EXISTS `xxl\_job\_qrtz\_paused\_trigger\_grps`;

CREATE TABLE `xxl\_job\_qrtz\_paused\_trigger\_grps` (

`SCHED\_NAME` varchar(120) COLLATE utf8\_bin NOT NULL,

`TRIGGER\_GROUP` varchar(200) COLLATE utf8\_bin NOT NULL,

PRIMARY KEY (`SCHED\_NAME`,`TRIGGER\_GROUP`)

) ENGINE=InnoDB DEFAULT CHARSET=utf8 COLLATE=utf8\_bin;

-- ----------------------------

-- Table structure for xxl\_job\_qrtz\_scheduler\_state

-- ----------------------------

DROP TABLE IF EXISTS `xxl\_job\_qrtz\_scheduler\_state`;

CREATE TABLE `xxl\_job\_qrtz\_scheduler\_state` (

`SCHED\_NAME` varchar(120) COLLATE utf8\_bin NOT NULL,

`INSTANCE\_NAME` varchar(200) COLLATE utf8\_bin NOT NULL,

`LAST\_CHECKIN\_TIME` bigint(13) NOT NULL,

`CHECKIN\_INTERVAL` bigint(13) NOT NULL,

PRIMARY KEY (`SCHED\_NAME`,`INSTANCE\_NAME`)

) ENGINE=InnoDB DEFAULT CHARSET=utf8 COLLATE=utf8\_bin;

-- ----------------------------

-- Table structure for xxl\_job\_qrtz\_simple\_triggers

-- ----------------------------

DROP TABLE IF EXISTS `xxl\_job\_qrtz\_simple\_triggers`;

CREATE TABLE `xxl\_job\_qrtz\_simple\_triggers` (

`SCHED\_NAME` varchar(120) COLLATE utf8\_bin NOT NULL,

`TRIGGER\_NAME` varchar(200) COLLATE utf8\_bin NOT NULL,

`TRIGGER\_GROUP` varchar(200) COLLATE utf8\_bin NOT NULL,

`REPEAT\_COUNT` bigint(7) NOT NULL,

`REPEAT\_INTERVAL` bigint(12) NOT NULL,

`TIMES\_TRIGGERED` bigint(10) NOT NULL,

PRIMARY KEY (`SCHED\_NAME`,`TRIGGER\_NAME`,`TRIGGER\_GROUP`),

CONSTRAINT `xxl\_job\_qrtz\_simple\_triggers\_ibfk\_1` FOREIGN KEY (`SCHED\_NAME`, `TRIGGER\_NAME`, `TRIGGER\_GROUP`) REFERENCES `xxl\_job\_qrtz\_triggers` (`SCHED\_NAME`, `TRIGGER\_NAME`, `TRIGGER\_GROUP`)

) ENGINE=InnoDB DEFAULT CHARSET=utf8 COLLATE=utf8\_bin;

-- ----------------------------

-- Table structure for xxl\_job\_qrtz\_simprop\_triggers

-- ----------------------------

DROP TABLE IF EXISTS `xxl\_job\_qrtz\_simprop\_triggers`;

CREATE TABLE `xxl\_job\_qrtz\_simprop\_triggers` (

`SCHED\_NAME` varchar(120) COLLATE utf8\_bin NOT NULL,

`TRIGGER\_NAME` varchar(200) COLLATE utf8\_bin NOT NULL,

`TRIGGER\_GROUP` varchar(200) COLLATE utf8\_bin NOT NULL,

`STR\_PROP\_1` varchar(512) COLLATE utf8\_bin DEFAULT NULL,

`STR\_PROP\_2` varchar(512) COLLATE utf8\_bin DEFAULT NULL,

`STR\_PROP\_3` varchar(512) COLLATE utf8\_bin DEFAULT NULL,

`INT\_PROP\_1` int(11) DEFAULT NULL,

`INT\_PROP\_2` int(11) DEFAULT NULL,

`LONG\_PROP\_1` bigint(20) DEFAULT NULL,

`LONG\_PROP\_2` bigint(20) DEFAULT NULL,

`DEC\_PROP\_1` decimal(13,4) DEFAULT NULL,

`DEC\_PROP\_2` decimal(13,4) DEFAULT NULL,

`BOOL\_PROP\_1` varchar(1) COLLATE utf8\_bin DEFAULT NULL,

`BOOL\_PROP\_2` varchar(1) COLLATE utf8\_bin DEFAULT NULL,

PRIMARY KEY (`SCHED\_NAME`,`TRIGGER\_NAME`,`TRIGGER\_GROUP`),

CONSTRAINT `xxl\_job\_qrtz\_simprop\_triggers\_ibfk\_1` FOREIGN KEY (`SCHED\_NAME`, `TRIGGER\_NAME`, `TRIGGER\_GROUP`) REFERENCES `xxl\_job\_qrtz\_triggers` (`SCHED\_NAME`, `TRIGGER\_NAME`, `TRIGGER\_GROUP`)

) ENGINE=InnoDB DEFAULT CHARSET=utf8 COLLATE=utf8\_bin;

-- ----------------------------

-- Table structure for xxl\_job\_qrtz\_triggers

-- ----------------------------

DROP TABLE IF EXISTS `xxl\_job\_qrtz\_triggers`;

CREATE TABLE `xxl\_job\_qrtz\_triggers` (

`SCHED\_NAME` varchar(120) COLLATE utf8\_bin NOT NULL,

`TRIGGER\_NAME` varchar(200) COLLATE utf8\_bin NOT NULL,

`TRIGGER\_GROUP` varchar(200) COLLATE utf8\_bin NOT NULL,

`JOB\_NAME` varchar(200) COLLATE utf8\_bin NOT NULL,

`JOB\_GROUP` varchar(200) COLLATE utf8\_bin NOT NULL,

`DESCRIPTION` varchar(250) COLLATE utf8\_bin DEFAULT NULL,

`NEXT\_FIRE\_TIME` bigint(13) DEFAULT NULL,

`PREV\_FIRE\_TIME` bigint(13) DEFAULT NULL,

`PRIORITY` int(11) DEFAULT NULL,

`TRIGGER\_STATE` varchar(16) COLLATE utf8\_bin NOT NULL,

`TRIGGER\_TYPE` varchar(8) COLLATE utf8\_bin NOT NULL,

`START\_TIME` bigint(13) NOT NULL,

`END\_TIME` bigint(13) DEFAULT NULL,

`CALENDAR\_NAME` varchar(200) COLLATE utf8\_bin DEFAULT NULL,

`MISFIRE\_INSTR` smallint(2) DEFAULT NULL,

`JOB\_DATA` blob,

PRIMARY KEY (`SCHED\_NAME`,`TRIGGER\_NAME`,`TRIGGER\_GROUP`),

KEY `SCHED\_NAME` (`SCHED\_NAME`,`JOB\_NAME`,`JOB\_GROUP`),

CONSTRAINT `xxl\_job\_qrtz\_triggers\_ibfk\_1` FOREIGN KEY (`SCHED\_NAME`, `JOB\_NAME`, `JOB\_GROUP`) REFERENCES `xxl\_job\_qrtz\_job\_details` (`SCHED\_NAME`, `JOB\_NAME`, `JOB\_GROUP`)

) ENGINE=InnoDB DEFAULT CHARSET=utf8 COLLATE=utf8\_bin;

-- ----------------------------

-- Table structure for xxl\_job\_qrtz\_trigger\_group

-- ----------------------------

DROP TABLE IF EXISTS `xxl\_job\_qrtz\_trigger\_group`;

CREATE TABLE `xxl\_job\_qrtz\_trigger\_group` (

`id` int(11) NOT NULL AUTO\_INCREMENT,

`app\_name` varchar(64) NOT NULL COMMENT '执行器AppName',

`title` varchar(12) NOT NULL COMMENT '执行器名称',

`order` tinyint(4) NOT NULL DEFAULT '0' COMMENT '排序',

`address\_type` tinyint(4) NOT NULL DEFAULT '0' COMMENT '执行器地址类型：0=自动注册、1=手动录入',

`address\_list` varchar(200) DEFAULT NULL COMMENT '执行器地址列表，多地址逗号分隔',

PRIMARY KEY (`id`)

) ENGINE=InnoDB AUTO\_INCREMENT=3 DEFAULT CHARSET=utf8;

-- ----------------------------

-- Table structure for xxl\_job\_qrtz\_trigger\_info

-- ----------------------------

DROP TABLE IF EXISTS `xxl\_job\_qrtz\_trigger\_info`;

CREATE TABLE `xxl\_job\_qrtz\_trigger\_info` (

`id` int(11) NOT NULL AUTO\_INCREMENT,

`job\_group` int(11) NOT NULL COMMENT '执行器主键ID',

`job\_cron` varchar(128) NOT NULL COMMENT '任务执行CRON',

`job\_desc` varchar(255) NOT NULL,

`add\_time` datetime DEFAULT NULL,

`update\_time` datetime DEFAULT NULL,

`author` varchar(64) DEFAULT NULL COMMENT '作者',

`alarm\_email` varchar(255) DEFAULT NULL COMMENT '报警邮件',

`executor\_route\_strategy` varchar(50) DEFAULT NULL COMMENT '执行器路由策略',

`executor\_handler` varchar(255) DEFAULT NULL COMMENT '执行器任务handler',

`executor\_param` varchar(255) DEFAULT NULL COMMENT '执行器任务参数',

`executor\_block\_strategy` varchar(50) DEFAULT NULL COMMENT '阻塞处理策略',

`executor\_fail\_strategy` varchar(50) DEFAULT NULL COMMENT '失败处理策略',

`glue\_type` varchar(50) NOT NULL COMMENT 'GLUE类型',

`glue\_source` text COMMENT 'GLUE源代码',

`glue\_remark` varchar(128) DEFAULT NULL COMMENT 'GLUE备注',

`glue\_updatetime` datetime DEFAULT NULL COMMENT 'GLUE更新时间',

`child\_jobkey` varchar(255) DEFAULT NULL COMMENT '子任务Key',

PRIMARY KEY (`id`)

) ENGINE=InnoDB AUTO\_INCREMENT=2 DEFAULT CHARSET=utf8;

-- ----------------------------

-- Table structure for xxl\_job\_qrtz\_trigger\_log

-- ----------------------------

DROP TABLE IF EXISTS `xxl\_job\_qrtz\_trigger\_log`;

CREATE TABLE `xxl\_job\_qrtz\_trigger\_log` (

`id` int(11) NOT NULL AUTO\_INCREMENT,

`job\_group` int(11) NOT NULL COMMENT '执行器主键ID',

`job\_id` int(11) NOT NULL COMMENT '任务，主键ID',

`glue\_type` varchar(50) DEFAULT NULL COMMENT 'GLUE类型',

`executor\_address` varchar(255) DEFAULT NULL COMMENT '执行器地址，本次执行的地址',

`executor\_handler` varchar(255) DEFAULT NULL COMMENT '执行器任务handler',

`executor\_param` varchar(255) DEFAULT NULL COMMENT 'executor\_param',

`trigger\_time` datetime DEFAULT NULL COMMENT '调度-时间',

`trigger\_code` varchar(255) NOT NULL DEFAULT '0' COMMENT '调度-结果',

`trigger\_msg` varchar(2048) DEFAULT NULL COMMENT '调度-日志',

`handle\_time` datetime DEFAULT NULL COMMENT '执行-时间',

`handle\_code` varchar(255) NOT NULL DEFAULT '0' COMMENT '执行-状态',

`handle\_msg` varchar(2048) DEFAULT NULL COMMENT '执行-日志',

PRIMARY KEY (`id`)

) ENGINE=InnoDB AUTO\_INCREMENT=659 DEFAULT CHARSET=utf8;

-- ----------------------------

-- Table structure for xxl\_job\_qrtz\_trigger\_logglue

-- ----------------------------

DROP TABLE IF EXISTS `xxl\_job\_qrtz\_trigger\_logglue`;

CREATE TABLE `xxl\_job\_qrtz\_trigger\_logglue` (

`id` int(11) NOT NULL AUTO\_INCREMENT,

`job\_id` int(11) NOT NULL COMMENT '任务，主键ID',

`glue\_type` varchar(50) DEFAULT NULL COMMENT 'GLUE类型',

`glue\_source` text COMMENT 'GLUE源代码',

`glue\_remark` varchar(128) NOT NULL COMMENT 'GLUE备注',

`add\_time` timestamp NULL DEFAULT NULL,

`update\_time` timestamp NULL DEFAULT NULL ON UPDATE CURRENT\_TIMESTAMP,

PRIMARY KEY (`id`)

) ENGINE=InnoDB DEFAULT CHARSET=utf8;

-- ----------------------------

-- Table structure for xxl\_job\_qrtz\_trigger\_registry

-- ----------------------------

DROP TABLE IF EXISTS `xxl\_job\_qrtz\_trigger\_registry`;

CREATE TABLE `xxl\_job\_qrtz\_trigger\_registry` (

`id` int(11) NOT NULL AUTO\_INCREMENT,

`registry\_group` varchar(255) NOT NULL,

`registry\_key` varchar(255) NOT NULL,

`registry\_value` varchar(255) NOT NULL,

`update\_time` timestamp NOT NULL DEFAULT CURRENT\_TIMESTAMP,

PRIMARY KEY (`id`)

) ENGINE=InnoDB AUTO\_INCREMENT=4 DEFAULT CHARSET=utf8;

-----------------------------------------------------------------------------宋付双---------联系邮箱:1113201707@qq.com