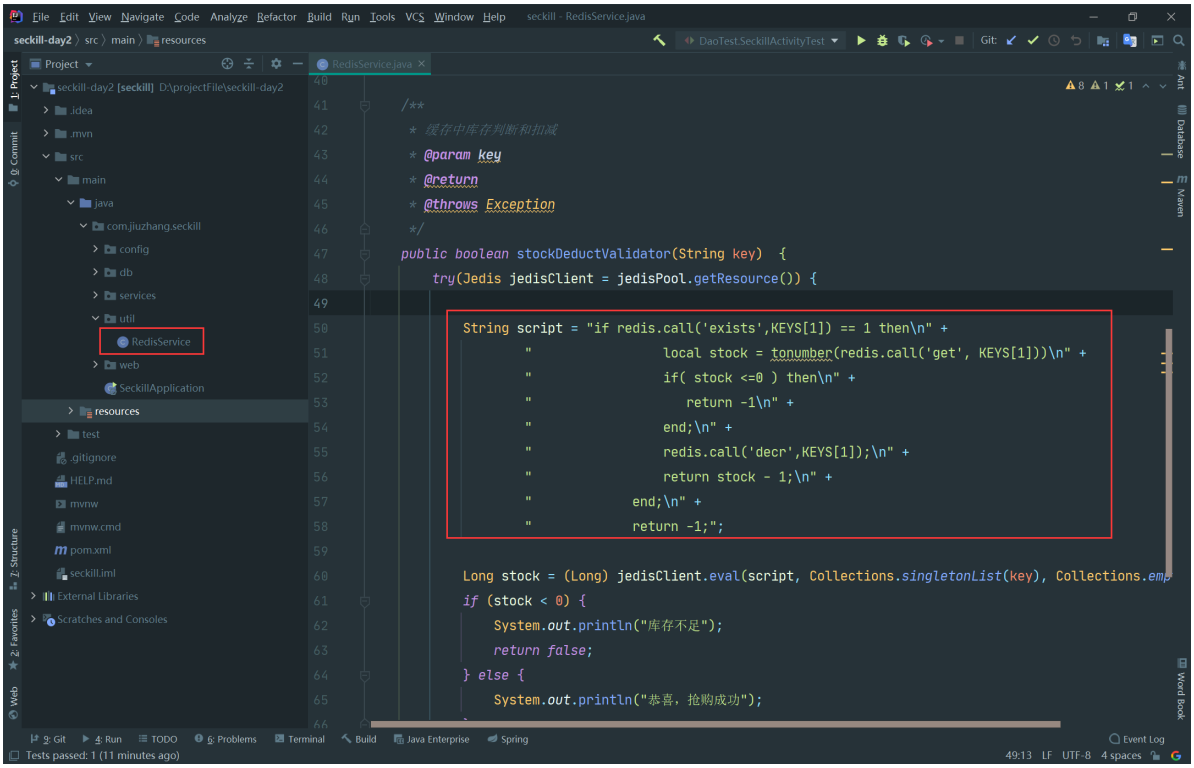
《保姆级教程》第六集 Lua 脚本实现库存扣减

1. 结合 Redis 和 Lua 脚本， Redis 库存判断方法实现

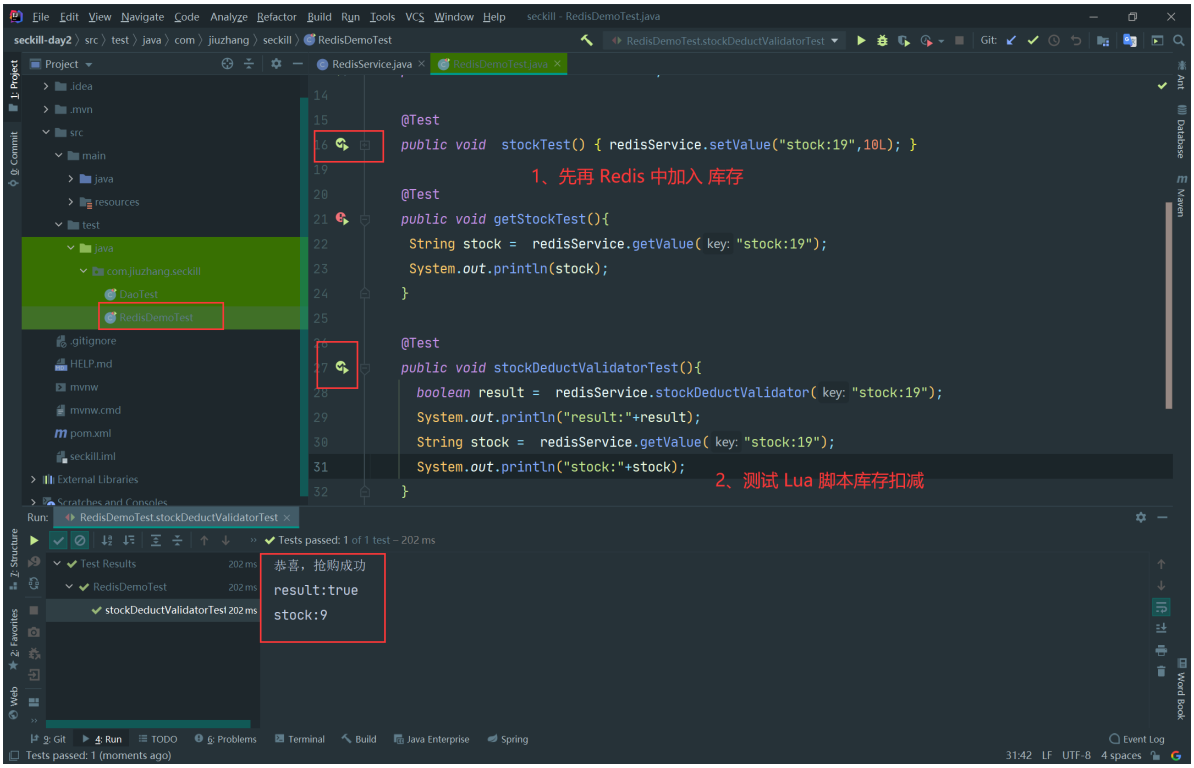
> 在 RedisService 中加入 stockDeductValidator 方法




```
    /**
     * 缓存中库存判断和扣减
     * @param key
     * @return
     * @throws Exception
     */
    public boolean stockDeductValidator(String key)  {
        try(Jedis jedisClient = jedisPool.getResource()) {

            String script = "if redis.call('exists',KEYS[1]) == 1 then\n" +
                    "                local stock = tonumber(redis.call('get',
KEYS[1]))\n" +
                    "                if( stock <=0 ) then\n" +
                    "                   return -1\n" +
                    "                end;\n" +
                    "                redis.call('decr',KEYS[1]);\n" +
                    "                return stock - 1;\n" +
                    "            end;\n" +
                    "            return -1;";

            Long stock = (Long) jedisClient.eval(script,
Collections.singletonList(key), Collections.emptyList());
```

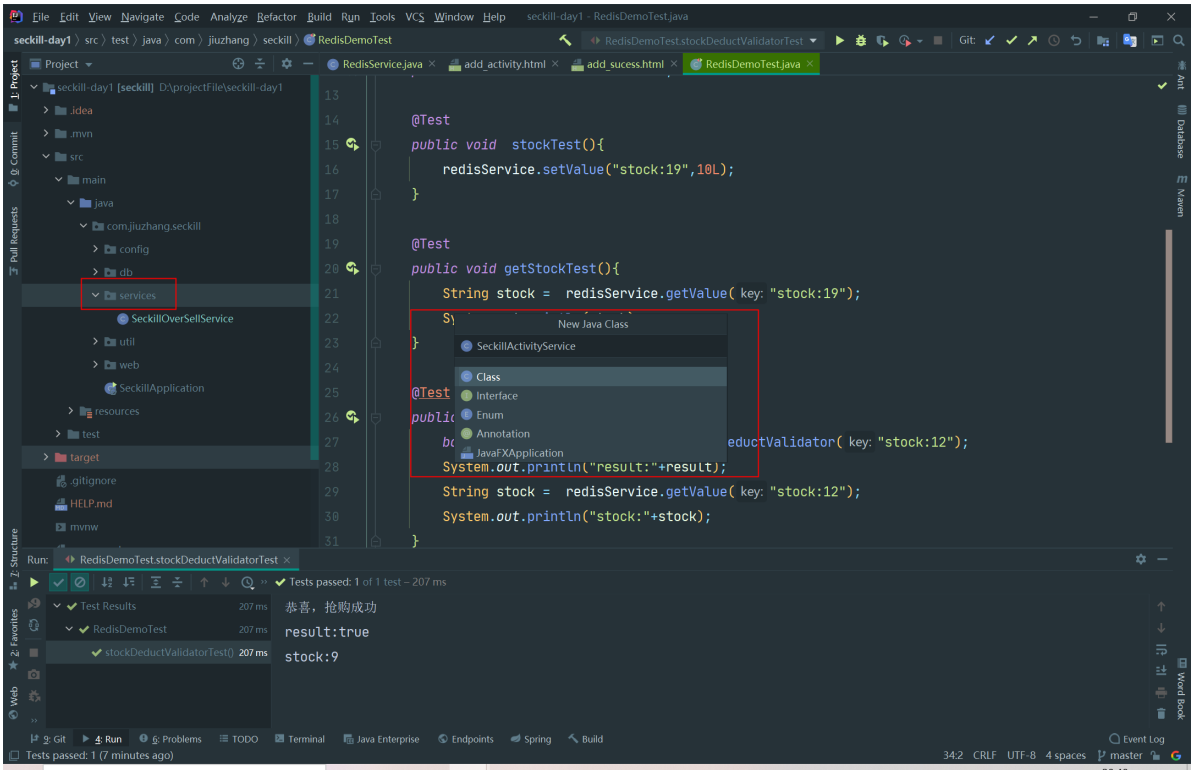
```
            if (stock < 0) {
                System.out.println("库存不足");
                return false;
            } else {
                System.out.println("恭喜，抢购成功");
            }
            return true;
        } catch (Throwable throwable) {
            System.out.println("库存扣减失败：" + throwable.toString());
            return false;
        }
    }
```

2. 测试 Lua 脚本扣减库存， 在RedisDemoTest中编写测试方法，并进行测试

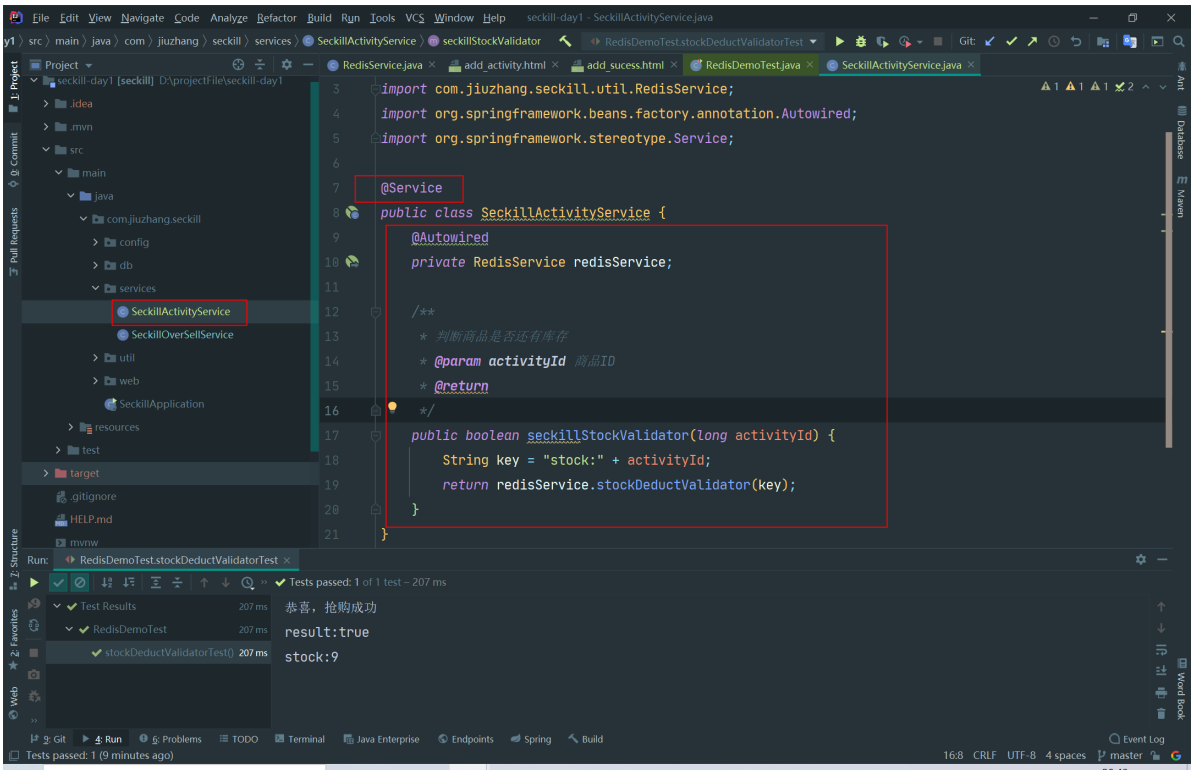



```
@Test
public void stockDeductValidatorTest(){
    boolean result =  redisService.stockDeductValidator("stock:19");
    System.out.println("result:"+result);
    String stock =  redisService.getValue("stock:19");
    System.out.println("stock:"+stock);
}
```

3. 新建 SeckillActivityService 类



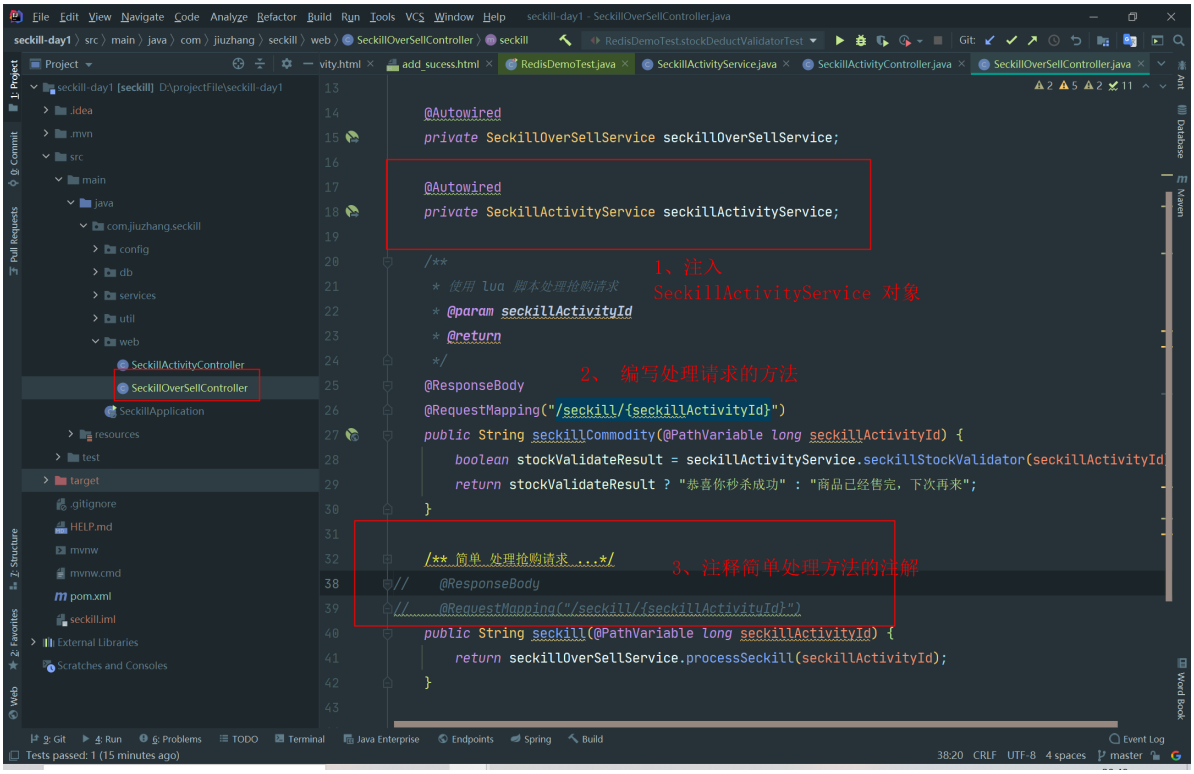
4. 加上 @Service 注解， 注入 RedisService 对象， 编写判断库存方法




```
@Service
public class SeckillActivityService {

    @Autowired
    private RedisService redisService;

    /**
     * 判断商品是否还有库存
     * @param activityId 商品ID
```

```
     * @return
     */
    public boolean seckillStockValidator(long activityId) {
        String key = "stock:" + activityId;
        return redisService.stockDeductValidator(key);
    }

}
```

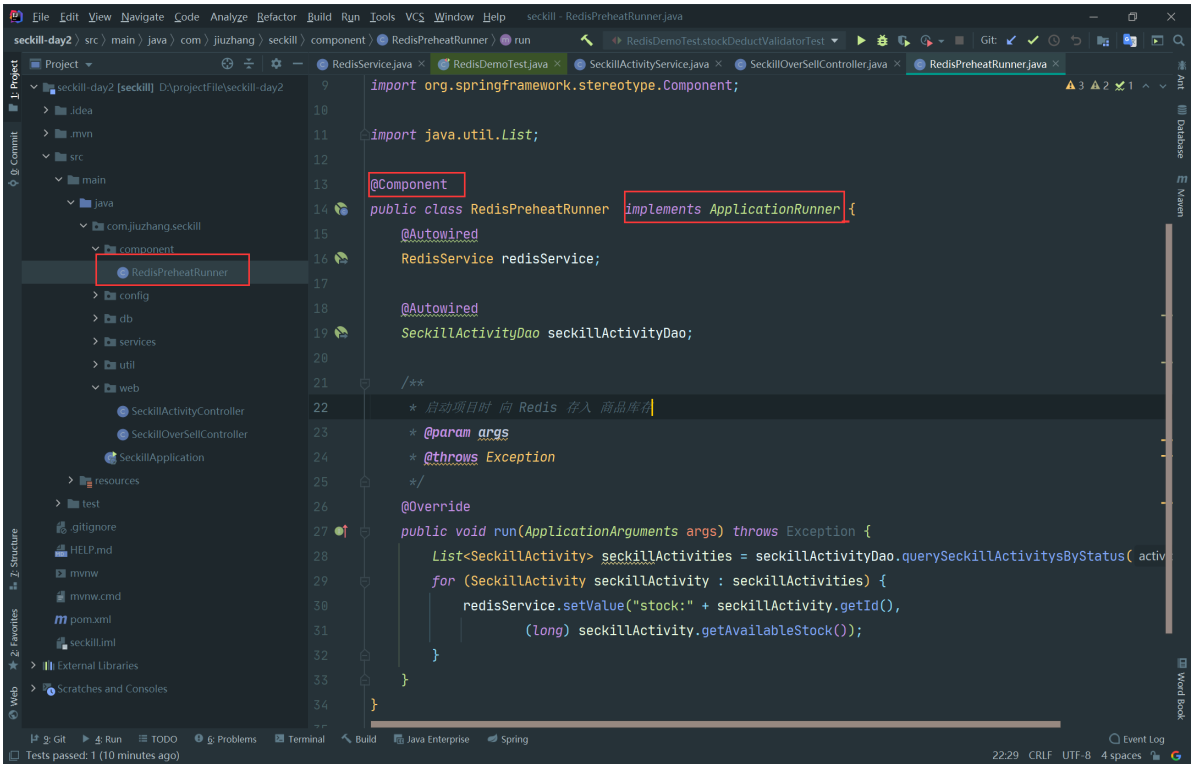
5. SeckillOverSellController 控制器编写 使用 lua 脚本处理抢购请求的方法




```
    @Autowired
    private SeckillActivityService seckillActivityService;

    /**
     * 使用 lua 脚本处理抢购请求
     * @param seckillActivityId
     * @return
     */
    @ResponseBody
    @RequestMapping("/seckill/{seckillActivityId}")
    public String seckillCommodity(@PathVariable long seckillActivityId) {
        boolean stockValidateResult =
seckillActivityService.seckillStockValidator(seckillActivityId);
        return stockValidateResult ? "恭喜你秒杀成功" : "商品已经售完，下次再来";
    }
```

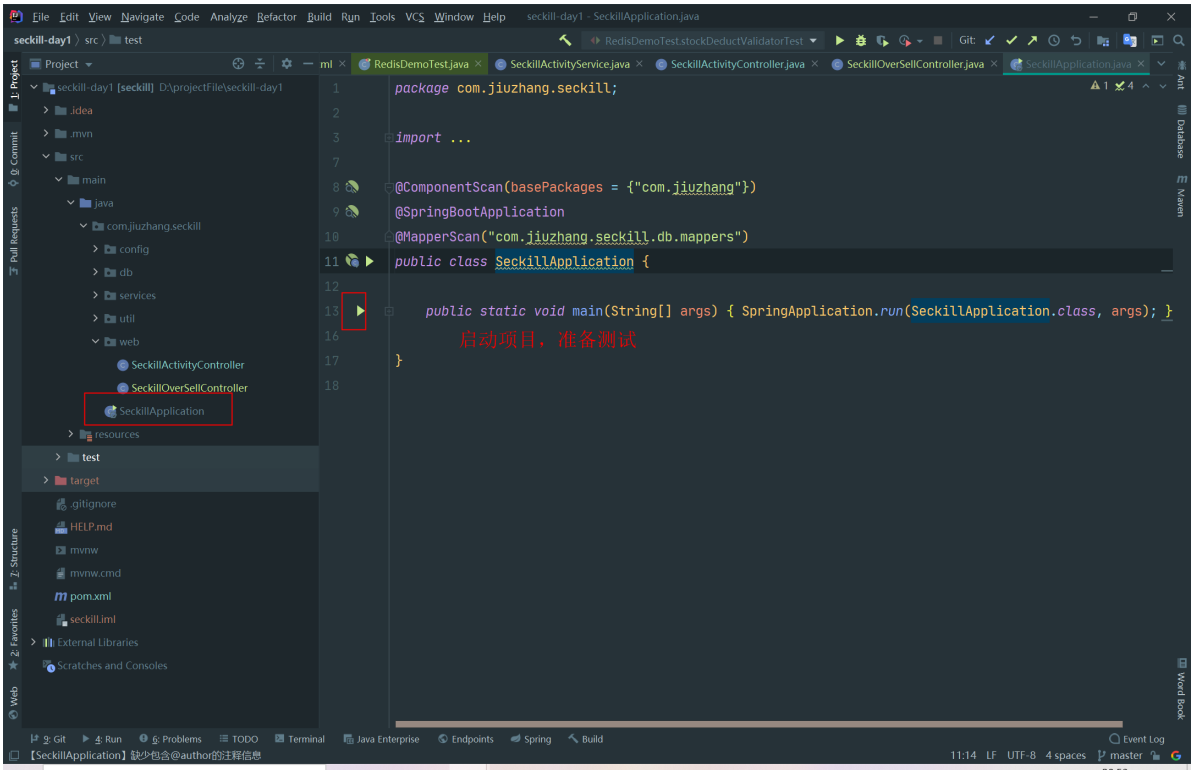
6. 启动项目时 向 Redis 存入 商品库存

> 创建 RedisPreheatRunner 类

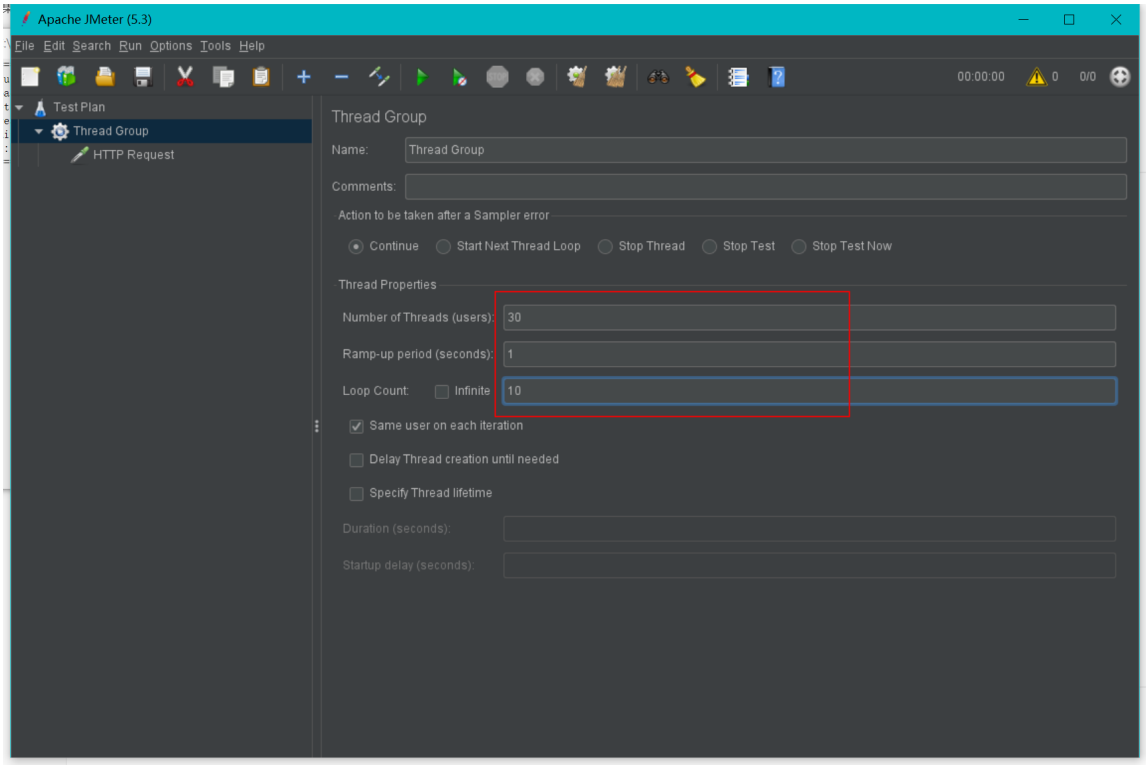


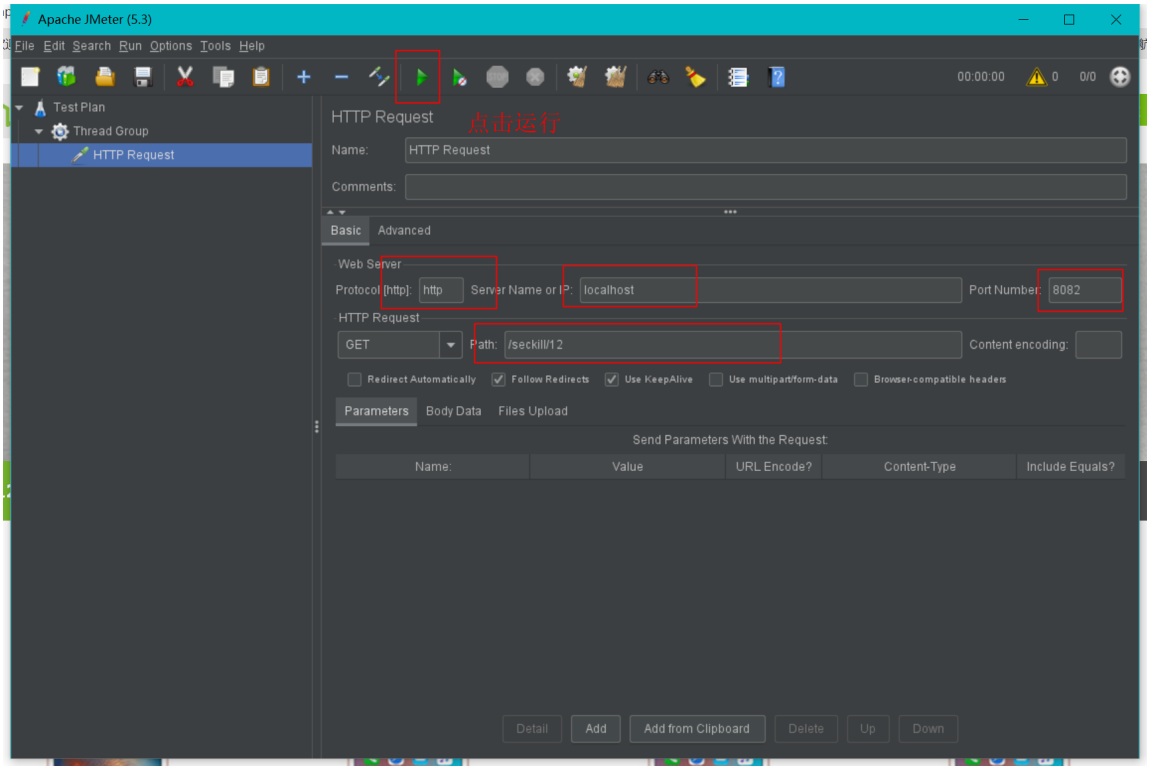

```
@Component
public class RedisPreheatRunner  implements ApplicationRunner {
    @Autowired
    RedisService redisService;

    @Autowired
    SeckillActivityDao seckillActivityDao;

    /**
     * 启动项目时 向 Redis 存入 商品库存
     * @param args
     * @throws Exception
     */
    @Override
    public void run(ApplicationArguments args) throws Exception {
        List<SeckillActivity> seckillActivities =
seckillActivityDao.querySeckillActivitysByStatus(1);
        for (SeckillActivity seckillActivity : seckillActivities) {
            redisService.setValue("stock:" + seckillActivity.getId(),
                    (long) seckillActivity.getAvailableStock());
        }
    }
}
```

7. 启动项目，准备测试

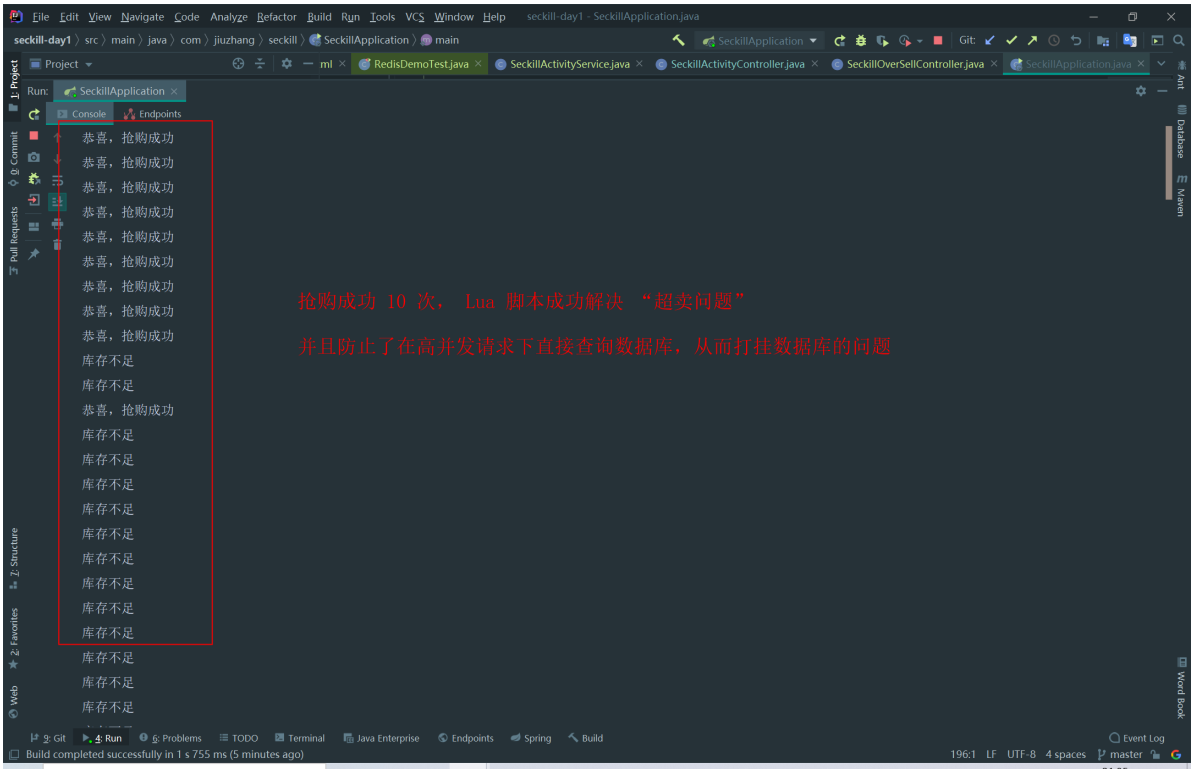


8. 启动 Jmeter 开始测试





9. 测试结果



第三章课程到此结束，恭喜同学进入下一章节。