

## 第五组-都队 Group Assignment

Option 2: [Group Assignment] Run the dataspread codes according to the tutorial below  
<https://github.com/dataspread/dataspread-web>

### 1、实验内容

## DataSpread: A Spreadsheet-Database Hybrid System [↗](#)



### Introduction [↗](#)

[DataSpread](#) is a *spreadsheet-database hybrid system*, with a spreadsheet frontend, and a database backend. Thus, DataSpread inherits the flexibility and ease-of-use of spreadsheets, as well as the scalability and power of databases. A paper describing DataSpread's architecture, design decisions, and optimization can be found [here](#). DataSpread is a multi-year project, supported by the National Science Foundation via award number 1633755.

Several key design innovations in DataSpread include, but are not limited to:

- A *flexible hybrid data model* to represent spreadsheet data within a database
- *Speculative fetching* to fetch additional data beyond the user's current spreadsheet window
- *Asynchronous formulae evaluation* thereby not requiring the users to wait for long running operations to complete
- A *navigation panel* which enables the users to explore tabular spreadsheet data and obtain additional details on demand via aggregation operations.

从中了解到DataSpread是一种将数据库和电子表格进行整体统一的 数据探查工具。它继续提供基于Microsoft Excel的电子表格前端，同时 并行管理后端数据库（特别是PostgreSQL）中的所有数据。

DataSpread 保留了电子表格的所有优点，包括易用性，即时分析和可视化功能以及无模式性质，同时还增加了传统关系数据库的优点，例如可伸缩性和使用任意SQL导入的能力、过滤或联接外部或内部表，并使结果显示在电子表格中。

### 2、实验过程

本次实验使用的是Docker方法，在Ubuntu 上完成项目的部署。

#### 1) 安装Docker

1. `curl -fsSL https://get.docker.com -o get-docker.sh`
2. `sudo sh get-docker.sh`
3. `sudo apt install docker-compose`

#### 2) 安装maven

4. `sudo apt install maven`

#### 3) 从github仓库使用clone命令一键下载到本地

4) 输入命令完成项目部署：

```
docker-compose up
```

部署过程较为顺利

5) 项目，启动！

在浏览器输入<http://localhost:8080>即可访问该项目：



修改数据会有记录

```
dataspread-web | WARNING: All illegal access operations will be denied in a future release
dataspread-web | Imported to book book1662
dataspread-web | Model Update ModelUpdate [type=REF, data=book1662:Sheet1!B3]
dataspread-web | Model Update ModelUpdate [type=REF, data=book1662:Sheet1!A1]
```

### 3、实验体会

- 1) 本实验主要难点在于环境的配置，例如对Docker的不熟悉、记得提前安装maven等。
- 2) DataSpread是个典型的WEB应用，与传统excel表格的优势在于在线操作，可直接管理数据库。