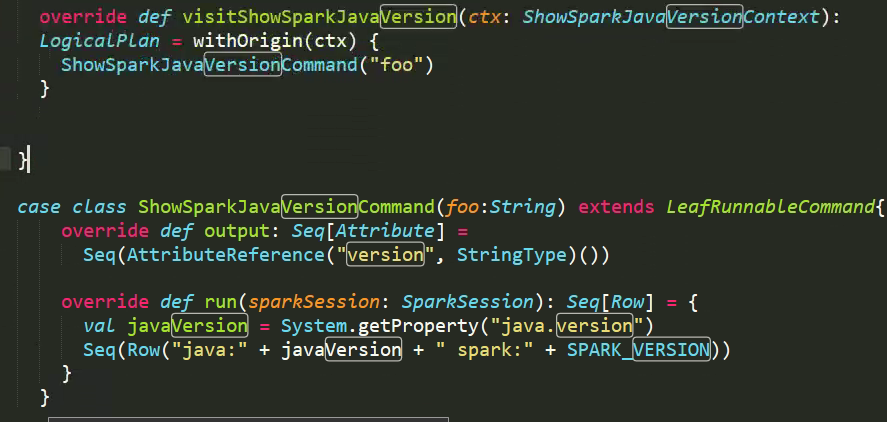
# 练习一、

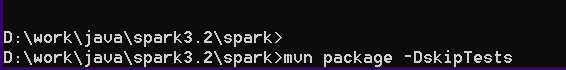
## 添加关键字并使用antlr插件生成代码



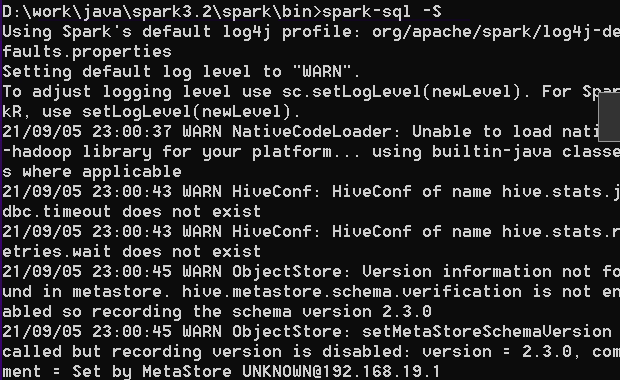
## 在SparkSqlParser.scala添加visitShowSparkJavaVersion方法与样例类ShowSparkJavaVersionCommand()



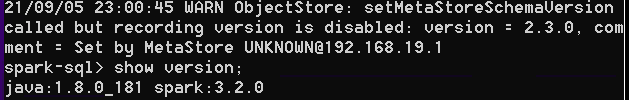
## 编译spark



## 运行spark-sql



## 执行show version



# 练习二、

HIVE建表语句：

CREATE TABLE user(

Id INT,

user\_name string

)

CREATE TABLE user\_2(

Id INT,

user\_name string

)

## 1. SQL1

### 1.1 规则说明

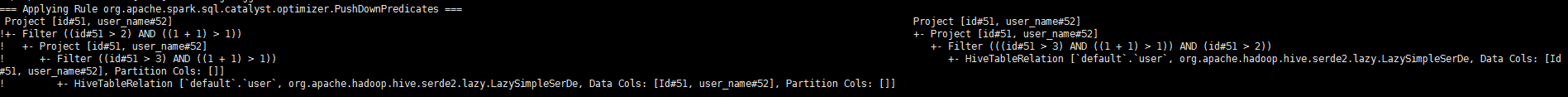
|  |  |
| --- | --- |
| CombineFilters | 合并两个相邻的filter |
| CollapseProject | 合并相邻的project |
| BooleanSimplification | 布尔值简化 |

### 1.2 SQL

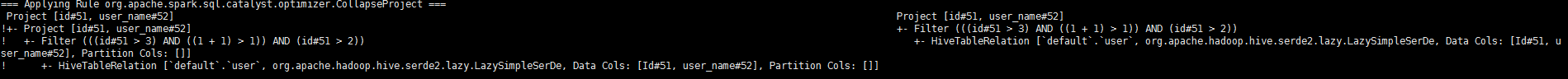
SELECT \* FROM ( SELECT id, user\_name FROM user WHERE id > 3 AND 1+1>1) WHERE (id > 2 AND 1+1>1) AND (2+2>2)

### 1.3 运行结果

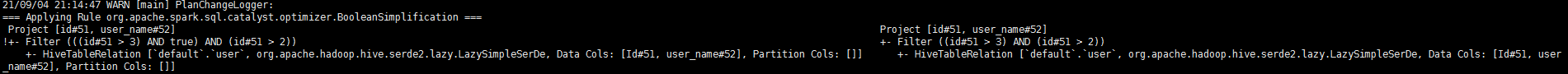
CombineFilters(2个filter合并为1个Filter，内含在谓词下推):



CollapseProject:



BooleanSimplification:



## 2. SQL2

### 2.1 规则说明

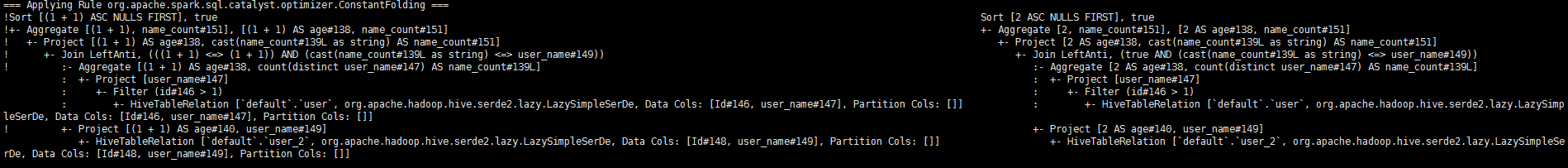
|  |  |
| --- | --- |
| ConstantFolding | 常量折叠 |
| PushDownPredicates | 谓词下推 |
| ReplaceDistinctWithAggregate | 将DISTINCT替换为聚合 |
| ReplaceExceptWithAntiJoin | 将EXCEPT替换为anti join |
| FoldablePropagation | 别名原始替换 |

### 2.2 SQL

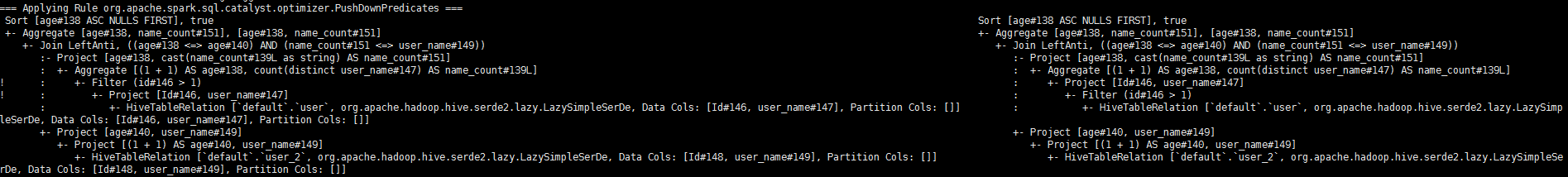
SELECT 1+1 AS age, COUNT(DISTINCT a.user\_name) AS name\_count FROM (SELECT \* FROM user) a WHERE a.id > 1 EXCEPT SELECT 1+1 as age, user\_name FROM user\_2 ORDER BY age

### 2.3 运行结果

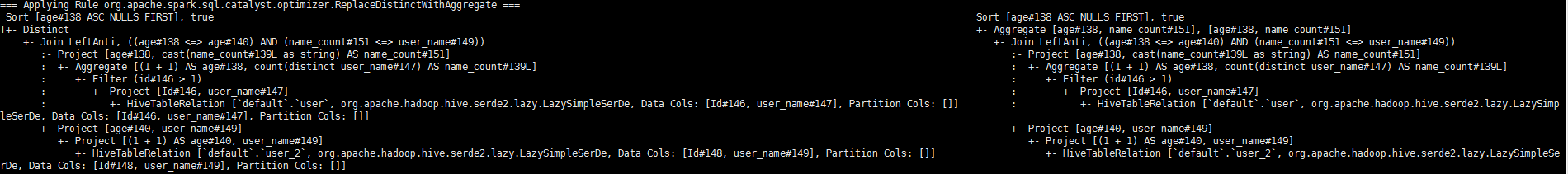
ConstantFolding:



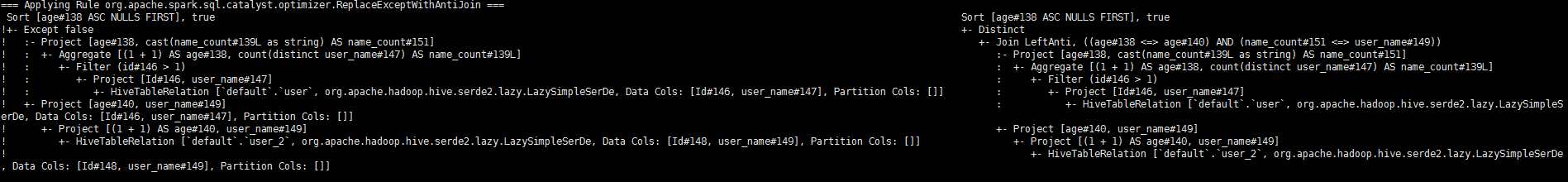
PushDownPredicates:



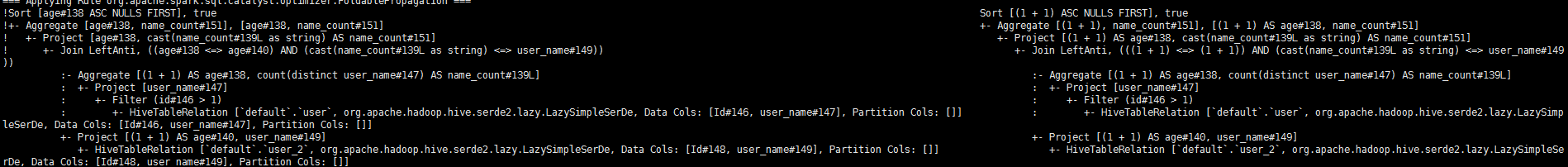
ReplaceDistinctWithAggregate:



ReplaceExceptWithAntiJoin:

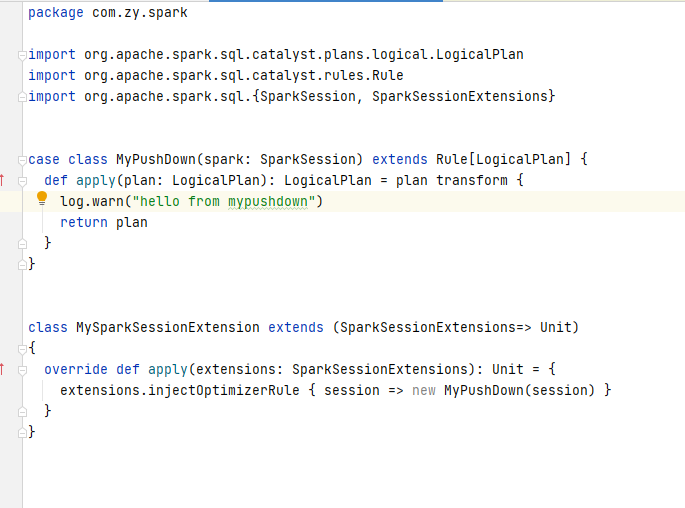


FoldablePropagation:



# 练习三、

## 编写工程代码



## 编译JAR包并在集群上注入扩展



## 执行测试语句

SELECT \* FROM user

## 可以看到扩展已经生效

