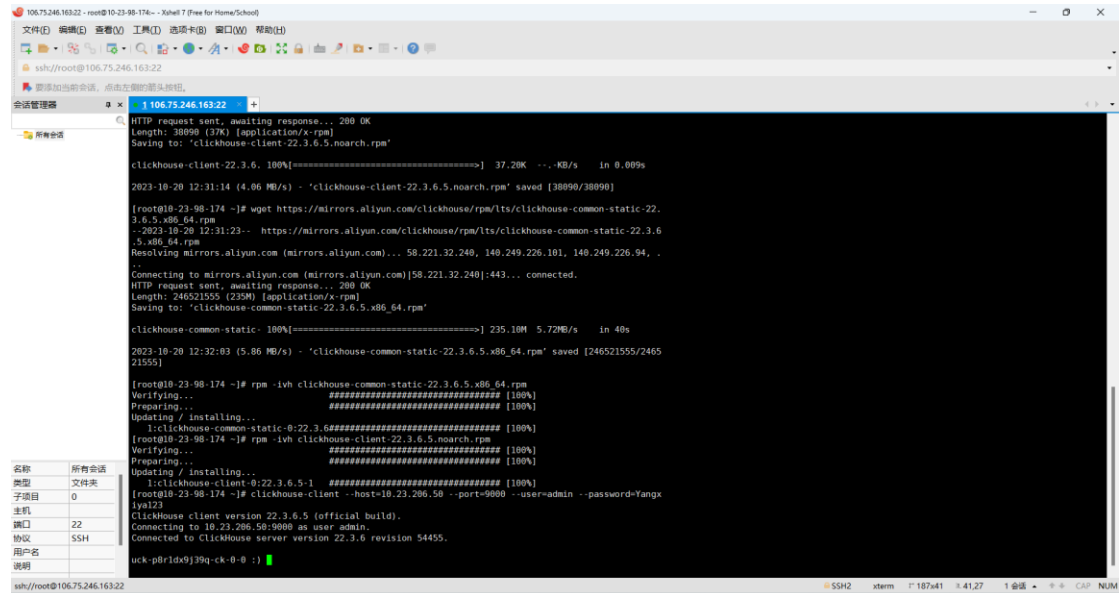


# 云计算实验五报告

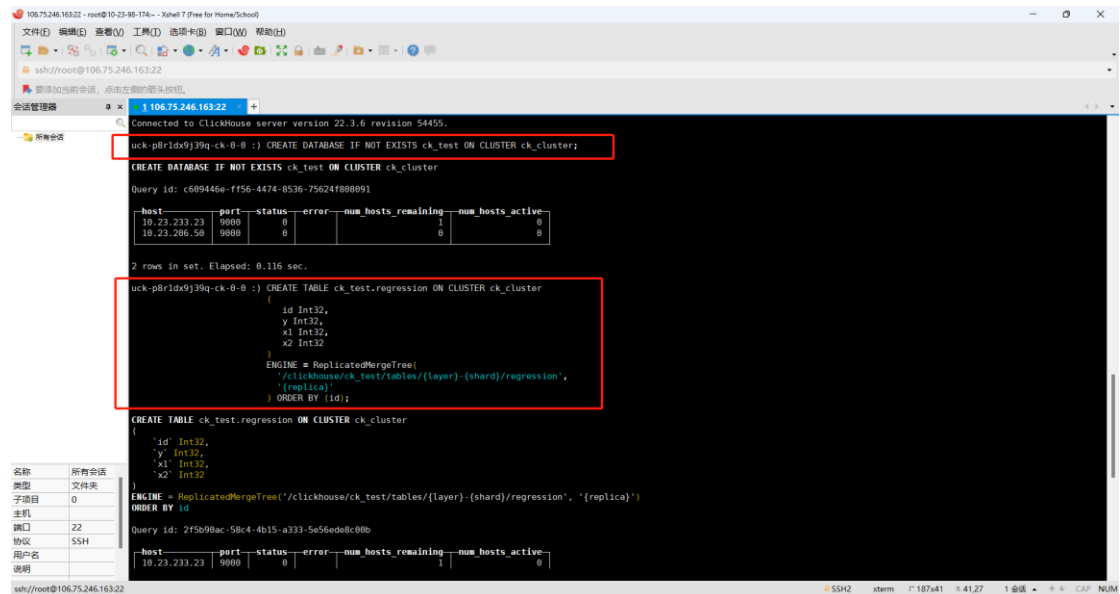
--10215501435 杨茜雅

## 作业 1:



```
106.75.246.163:22 - root@10-23-98-174: - XShell 7 (Free for Home/School)
ssh://root@106.75.246.163:22
会话管理器
106.75.246.163:22
所有会话
HTTP request sent, awaiting response... 200 OK
Length: 38090 (37K) [application/x-rpm]
Saving to: 'clickhouse-client-22.3.6.5.noarch.rpm'
clickhouse-client-22.3.6. 100%[=====] 37.20K  --KB/s  in 0.009s
2023-10-20 12:31:14 (4.86 MB/s) - 'clickhouse-client-22.3.6.5.noarch.rpm' saved [38090/38090]
[root@10-23-98-174 ~]# wget https://mirrors.aliyun.com/clickhouse/rpm/its/clickhouse-common-static-22.3.6.5.x86_64.rpm
--2023-10-20 12:31:23-- https://mirrors.aliyun.com/clickhouse/rpm/its/clickhouse-common-static-22.3.6.5.x86_64.rpm
Resolving mirrors.aliyun.com (mirrors.aliyun.com)... 58.221.32.240, 140.249.226.101, 140.249.226.94, ...
Connecting to mirrors.aliyun.com (mirrors.aliyun.com)[58.221.32.240]:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 246521555 (235M) [application/x-rpm]
Saving to: 'clickhouse-common-static-22.3.6.5.x86_64.rpm'
clickhouse-common-static- 100%[=====] 235.10M  5.72MB/s  in 49s
2023-10-20 12:32:03 (5.86 MB/s) - 'clickhouse-common-static-22.3.6.5.x86_64.rpm' saved [246521555/246521555]
[root@10-23-98-174 ~]# rpm -ivh clickhouse-common-static-22.3.6.5.x86_64.rpm
Verifying...
Preparing...
Updating / installing...
  clickhouse-common-static-0:22.3.6.5
  clickhouse-common-static-0:22.3.6.5
[root@10-23-98-174 ~]# rpm -ivh clickhouse-client-22.3.6.5.noarch.rpm
Verifying...
Preparing...
Updating / installing...
  clickhouse-client-0:22.3.6.5-1
  clickhouse-client-0:22.3.6.5-1
[root@10-23-98-174 ~]# clickhouse-client --host=10.23.206.50 --port=9000 --user=admin --password=YangeIya123
ClickHouse client version 22.3.6.5 (official build).
Connecting to 10.23.206.50:9000 as user admin.
Connected to ClickHouse server version 22.3.6 revision 54455.
uck-p8rldx9j39q-ck-0-0 :)
uck-p8rldx9j39q-ck-0-0 :)
名称 所有会话
类型 文件夹
子项目 0
主机
端口 22
协议 SSH
用户名
说明
```

## 作业 2:



```
106.75.246.163:22 - root@10-23-98-174: - XShell 7 (Free for Home/School)
ssh://root@106.75.246.163:22
会话管理器
106.75.246.163:22
所有会话
Connected to ClickHouse server version 22.3.6 revision 54455.
uck-p8rldx9j39q-ck-0-0 :) CREATE DATABASE IF NOT EXISTS ck_test ON CLUSTER ck_cluster;
CREATE DATABASE IF NOT EXISTS ck_test ON CLUSTER ck_cluster
Query id: c6b9446e-ff56-4474-8536-75624f880891
+----+-----+-----+-----+-----+-----+
| host | port | status | error | num_hosts_remaining | num_hosts_active |
+----+-----+-----+-----+-----+-----+
| 10.23.233.23 | 9000 | 0 | 0 | 1 | 0 |
| 10.23.206.50 | 9000 | 0 | 0 | 0 | 0 |
+----+-----+-----+-----+-----+-----+
2 rows in set. Elapsed: 0.116 sec.
uck-p8rldx9j39q-ck-0-0 :) CREATE TABLE ck_test_regression ON CLUSTER ck_cluster
(
  id Int32,
  y Int32,
  x1 Int32,
  x2 Int32
)
ENGINE = ReplicatedMergeTree(
  '/clickhouse/ck_test/tables/{layer}-{shard}/regression',
  '{replica}'
)
ORDER BY id;
CREATE TABLE ck_test_regression ON CLUSTER ck_cluster
(
  'id' Int32,
  'y' Int32,
  'x1' Int32,
  'x2' Int32
)
ENGINE = ReplicatedMergeTree('/clickhouse/ck_test/tables/{layer}-{shard}/regression', '{replica}')
ORDER BY id
Query id: 2f5b0bac-58c4-4b15-a333-5e56dedc080b
+----+-----+-----+-----+-----+-----+
| host | port | status | error | num_hosts_remaining | num_hosts_active |
+----+-----+-----+-----+-----+-----+
| 10.23.233.23 | 9000 | 0 | 0 | 1 | 0 |
+----+-----+-----+-----+-----+-----+
名称 所有会话
类型 文件夹
子项目 0
主机
端口 22
协议 SSH
用户名
说明
```

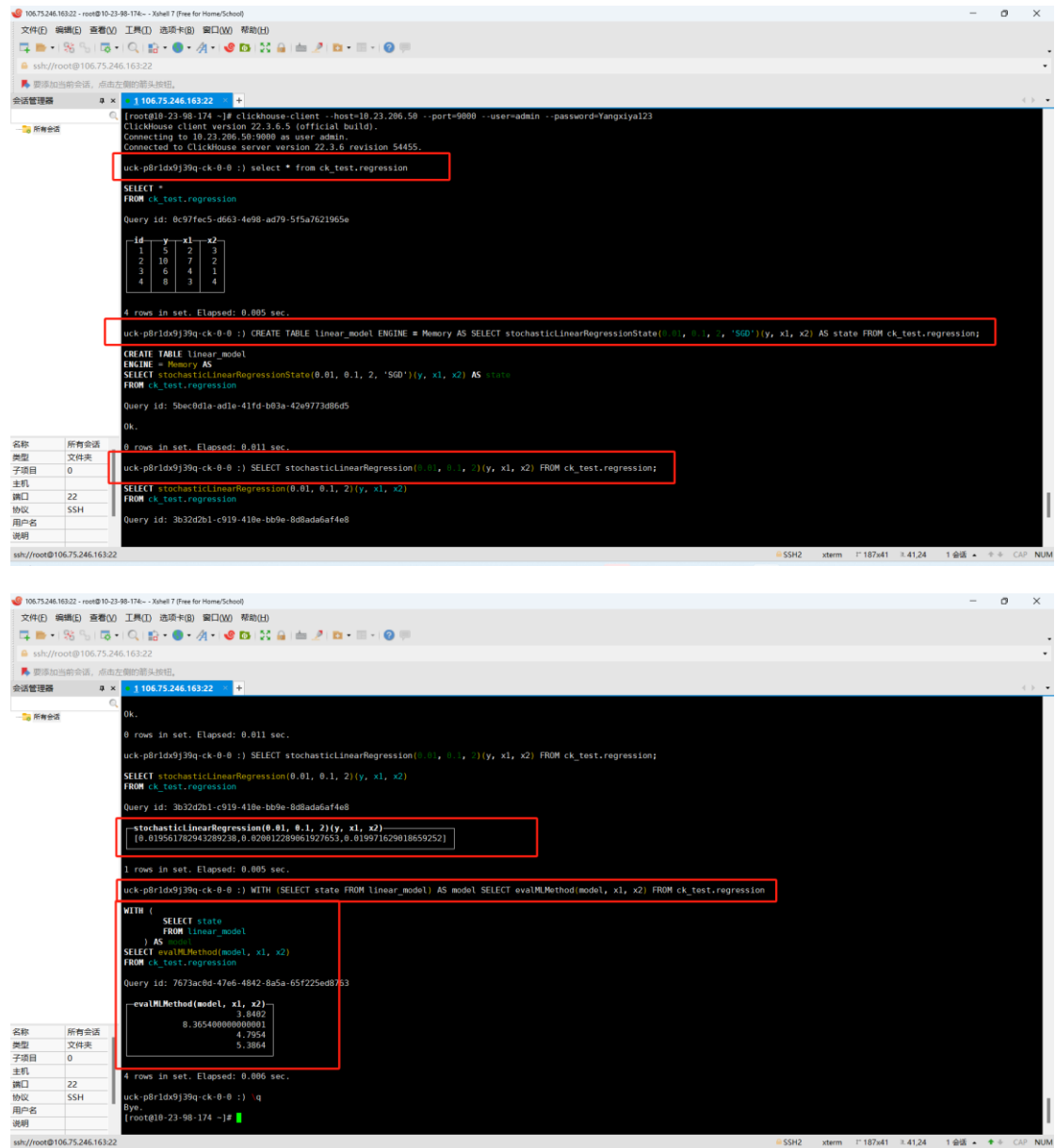
```
106.75.246.163:22 - root@10-23-98-174:~ - Xshell 7 (Free for Home/School)
文件(F) 编辑(E) 查看(V) 工具(T) 选项卡(B) 窗口(W) 帮助(H)
ssh://root@106.75.246.163:22
要添加当前会话，点击左侧的箭头按钮。
会话管理器
所有会话
名称 所有会话
类型 文件夹
子项目 0
主机
端口 22
协议 SSH
用户名
说明
ssh://root@106.75.246.163:22
-host
10.23.233.23 9080 0 0 1 0
10.23.206.50 9080 0 0 1 0
2 rows in set. Elapsed: 0.116 sec.
uck-p8rldx9j39q-ck-0-0 :) INSERT INTO ck_test.regression VALUES
((1, 5, 2, 3),
(2, 10, 7, 2),
(3, 6, 4, 1),
(4, 8, 3, 4))
INSERT INTO ck_test.regression FORMAT Values
Query id: 225cd87b-1c75-4744-8f2e-bdbad1ad3ef9
Ok.
4 rows in set. Elapsed: 0.015 sec.
uck-p8rldx9j39q-ck-0-0 :) SELECT * FROM ck_test.regression;
SELECT *
FROM ck_test.regression
Query id: edb95954-6f6d-4c2e-9a1e-8a388a2bc499
+----+-----+-----+-----+
| id | y | x1 | x2 |
+----+-----+-----+-----+
| 1 | 5 | 2 | 3 |
| 2 | 10 | 7 | 2 |
| 3 | 6 | 4 | 1 |
| 4 | 8 | 3 | 4 |
+----+-----+-----+-----+
4 rows in set. Elapsed: 0.006 sec.
uck-p8rldx9j39q-ck-0-0 :) q
root@10-23-98-174 ~#
```

作业 3:

```
106.75.246.163:22 - root@10-23-98-174:~ - Xshell 7 (Free for Home/School)
文件(F) 编辑(E) 查看(V) 工具(T) 选项卡(B) 窗口(W) 帮助(H)
ssh://root@106.75.246.163:22
要添加当前会话，点击左侧的箭头按钮。
会话管理器
所有会话
名称 所有会话
类型 文件夹
子项目 0
主机
端口 22
协议 SSH
用户名
说明
ssh://root@106.75.246.163:22
ocal->clickhouse-driver)
Requirement already satisfied: importlib-resources; python_version < "3.7" in ./local/lib/python3.6/s
ite-packages (from backports.zoneinfo; python_version < "3.9"->tzlocal->clickhouse-driver)
Requirement already satisfied: tzdata; python_version >= "3.6" in ./local/lib/python3.6/site-packages
(from pytz-deprecation-shim->tzlocal->clickhouse-driver)
Requirement already satisfied: zipp>=3.1.0; python_version < "3.10" in ./local/lib/python3.6/site-pac
kages (from importlib-resources; python_version < "3.7"->backports.zoneinfo; python_version < "3.9"->t
zlocal->clickhouse-driver)
Installing collected packages: clickhouse-driver
Running setup.py install for clickhouse-driver ... done
Successfully installed clickhouse-driver-0.2.5
[root@10-23-98-174 ~]# python3
Python 3.6.8 (default, Sep 10 2021, 09:13:53)
[GCC 8.5.0 20210514 (Red Hat 8.5.0-3)] on linux
Type "help", "copyright", "credits" or "license" for more information.
>>> import clickhouse_driver
>>>
```

```
106.75.246.163:22 - root@10-23-98-174:~ - Xshell 7 (Free for Home/School)
文件(F) 编辑(E) 查看(V) 工具(T) 选项卡(B) 窗口(W) 帮助(H)
ssh://root@106.75.246.163:22
要添加当前会话，点击左侧的箭头按钮。
会话管理器
所有会话
名称 所有会话
类型 文件夹
子项目 0
主机
端口 22
协议 SSH
用户名
说明
ssh://root@106.75.246.163:22
ur" instead.
Collecting clickhouse-driver
Using cached https://mirrors.aliyun.com/pypi/packages/83/6b/317e979d66961d277ba9ba368827c4947878784
29ce22f3f8944b2e50d/clickhouse-driver-0.2.5.tar.gz
Requirement already satisfied: pytz in /usr/lib/python3.6/site-packages (from clickhouse-driver)
Requirement already satisfied: tzlocal in ./local/lib/python3.6/site-packages [from clickhouse-driver
]
Requirement already satisfied: backports.zoneinfo; python_version < "3.9" in ./local/lib/python3.6/si
te-packages (from tzlocal->clickhouse-driver)
Requirement already satisfied: pytz-deprecation-shim in ./local/lib/python3.6/site-packages (from tzl
ocal->clickhouse-driver)
Requirement already satisfied: importlib-resources; python_version < "3.7" in ./local/lib/python3.6/s
ite-packages (from backports.zoneinfo; python_version < "3.9"->tzlocal->clickhouse-driver)
Requirement already satisfied: tzdata; python_version >= "3.6" in ./local/lib/python3.6/site-packages
(from pytz-deprecation-shim->tzlocal->clickhouse-driver)
Requirement already satisfied: zipp>=3.1.0; python_version < "3.10" in ./local/lib/python3.6/site-pac
kages (from importlib-resources; python_version < "3.7"->backports.zoneinfo; python_version < "3.9"->t
zlocal->clickhouse-driver)
Installing collected packages: clickhouse-driver
Running setup.py install for clickhouse-driver ... done
Successfully installed clickhouse-driver-0.2.5
[root@10-23-98-174 ~]# python3
Python 3.6.8 (default, Sep 10 2021, 09:13:53)
[GCC 8.5.0 20210514 (Red Hat 8.5.0-3)] on linux
Type "help", "copyright", "credits" or "license" for more information.
>>> import clickhouse_driver
>>> quit()
[root@10-23-98-174 ~]# ls
clickhouse-client-22.3.6.5.nosync.rpm clickhouse-common-static-22.3.6.5.x86_64.rpm
[root@10-23-98-174 ~]# ls
clickhouse-client-22.3.6.5.nosync.rpm clickhouse-common-static-22.3.6.5.x86_64.rpm
[root@10-23-98-174 ~]# ls
clickhouse-client-22.3.6.5.nosync.rpm clickhouse-common-static-22.3.6.5.x86_64.rpm createTable.py
[root@10-23-98-174 ~]# python3 createTable.py
[root@10-23-98-174 ~]# python3 insertTable.py
[root@10-23-98-174 ~]# python3 selectTable.py
+----+-----+-----+-----+
| ID | NAME | ADDRESS | SALARY |
+----+-----+-----+-----+
| 1 | Paul | California | 20000.0 |
| 2 | Allen | Texas | 15000.0 |
| 3 | Eric | Florida | 25000.0 |
+----+-----+-----+-----+
[root@10-23-98-174 ~]#
```

## 作业 4:



```
root@10-23-98-174 ~# clickhouse-client --host=10.23.206.58 --port=9000 --user=admin --password=Yangxiya123
ClickHouse client version 22.3.6.5 (official build).
Connecting to 10.23.206.58:9000 as user admin.
Connected to ClickHouse server version 22.3.6 revision 54455.

uck-p8rldx9j39q-ck-0-0 :) select * from ck_test.regression

SELECT *
FROM ck_test.regression

Query id: 0c97fec5-d663-4e98-ad79-5f5a773d965e

+----+----+----+----+
| id | y  | x1 | x2 |
+----+----+----+----+
| 1  | 5  | 2  | 3  |
| 2  | 10 | 7  | 2  |
| 3  | 6  | 4  | 1  |
| 4  | 8  | 3  | 4  |
+----+----+----+----+

4 rows in set. Elapsed: 0.005 sec.

uck-p8rldx9j39q-ck-0-0 :) CREATE TABLE linear_model ENGINE = Memory AS SELECT stochasticLinearRegressionState(0.01, 0.1, 2, 'SGD')(y, x1, x2) AS state FROM ck_test.regression;

CREATE TABLE linear_model
ENGINE = Memory AS
SELECT stochasticLinearRegressionState(0.01, 0.1, 2, 'SGD')(y, x1, x2) AS state
FROM ck_test.regression

Query id: 5bac0d1a-ad1e-41fd-b03a-42e9773d86d5

Ok.

0 rows in set. Elapsed: 0.011 sec.

uck-p8rldx9j39q-ck-0-0 :) SELECT stochasticLinearRegression(0.01, 0.1, 2)(y, x1, x2) FROM ck_test.regression;

SELECT stochasticLinearRegression(0.01, 0.1, 2)(y, x1, x2)
FROM ck_test.regression

Query id: 3632d2b1-c919-41be-bb9e-8d8ada6af4e8

Ok.

0 rows in set. Elapsed: 0.011 sec.

uck-p8rldx9j39q-ck-0-0 :) SELECT stochasticLinearRegression(0.01, 0.1, 2)(y, x1, x2) FROM ck_test.regression;

SELECT stochasticLinearRegression(0.01, 0.1, 2)(y, x1, x2)
FROM ck_test.regression

Query id: 3632d2b1-c919-41be-bb9e-8d8ada6af4e8

+-----+
| stochasticLinearRegression(0.01, 0.1, 2)(y, x1, x2) |
+-----+
| 0.019561782943289238,0.626012289061927653,0.019971629018659252 |
+-----+

1 rows in set. Elapsed: 0.005 sec.

uck-p8rldx9j39q-ck-0-0 :) WITH (SELECT state FROM linear_model) AS model SELECT evalMLMethod(model, x1, x2) FROM ck_test.regression

WITH (
  SELECT state
  FROM linear_model
) AS
SELECT evalMLMethod(model, x1, x2)
FROM ck_test.regression

Query id: 7673acbd-4766-4842-8a5a-65f225ed8703

+-----+
| evalMLMethod(model, x1, x2) |
+-----+
| 3.8402                       |
| 0.3654000000000001         |
| 4.7954                       |
| 5.3064                       |
+-----+

4 rows in set. Elapsed: 0.006 sec.

uck-p8rldx9j39q-ck-0-0 :) \q
bye.
root@10-23-98-174 ~#
```

名称	所有会话
类型	文件类
子项目	0
主机	
端口	22
协议	SSH
用户名	
说明	