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Phoenix Installation and Workouts

Install Phoenix :

```
cd /home/hduser/install
tar xvf phoenix-4.6.0-HBase-0.98-bin.tar.gz
sudo mv phoenix-4.6.0-HBase-0.98-bin /usr/local/phoenix
sudo chown -R hduser:hadoop /usr/local/phoenix
```

Add below Jar files to hbase lib folder

```
cd /usr/local/phoenix/

cp phoenix-4.6.0-HBase-0.98-client-minimal.jar /usr/local/hbase/lib/
cp phoenix-core-4.6.0-HBase-0.98.jar /usr/local/hbase/lib/
```

Before starting Phoenix, make sure HBASE and Zookeeper are running with the below quorums

```
[hduser@Infobliss ~]$ jps
5096 ResourceManager
5198 NodeManager
3166 SqlLine
5539 QuorumPeerMain
5690 HMaster
4624 NameNode
5809 HRegionServer
5892 Jps
4891 SecondaryNameNode
4739 DataNode
```

zkServer.sh start – to start zookeeper
start-hbase.sh – to start hbase

Phoenix shell

To start phoenix command line shell
sqlline.py localhost

to check tables - !tables

Phoenix Workouts:

```
CREATE TABLE IF NOT EXISTS STOCK_SYMBOL (SYMBOL VARCHAR NOT NULL PRIMARY KEY, COMPANY VARCHAR);
```

```
UPSERT INTO STOCK_SYMBOL VALUES ('CRM','SalesForce.com');
UPSERT INTO STOCK_SYMBOL VALUES ('AAPL','APPLE Inc. ');
UPSERT INTO STOCK_SYMBOL VALUES ('CRM','SALESFORCE');
UPSERT INTO STOCK_SYMBOL VALUES ('GOOG','Google');
UPSERT INTO STOCK_SYMBOL VALUES ('HOG','Harlet-Davidson Inc. ');
UPSERT INTO STOCK_SYMBOL VALUES ('HPQ','Hewlett Packard');
UPSERT INTO STOCK_SYMBOL VALUES ('INTC','Intel');
UPSERT INTO STOCK_SYMBOL VALUES ('MSFT','Microsoft');
UPSERT INTO STOCK_SYMBOL VALUES ('WAG','Walgreens');
UPSERT INTO STOCK_SYMBOL VALUES ('WMT','Walmart');
```

```
SELECT * FROM STOCK_SYMBOL;
```

```
CREATE TABLE STOCK_SYMBOL_BKP (SYMBOL VARCHAR NOT NULL PRIMARY KEY, COMPANY VARCHAR);
```

```
UPSERT INTO STOCK_SYMBOL_BKP SELECT * FROM STOCK_SYMBOL;
```

Create Updatable View:

```
create view STOCK_SYMBOL_VIEW (SYMBOL VARCHAR, CUR_DT DATE) AS
SELECT * FROM STOCK_SYMBOL
WHERE COMPANY LIKE 'W%';
```

Index Creation:

```
CREATE INDEX IDX_STOCK_SYMBOL ON STOCK_SYMBOL (SYMBOL) INCLUDE(COMPANY);
```

Index with Salt bucketing:

```
CREATE INDEX IDX_STOCK_SYMBOL1 ON STOCK_SYMBOL (SYMBOL DESC, COMPANY)
```

```
SALT_BUCKETS=3, DATA_BLOCK_ENCODING='NONE';
```

```
UPDATE STATISTICS STOCK_SYMBOL;
```

Joins:

```
select a.SYMBOL ,b. COMPANY
from STOCK_SYMBOL as a inner join STOCK_SYMBOL_BKP as b
on a.SYMBOL=b.SYMBOL;
```

```
SELECT D.SYMBOL,E.SYMBOL,E.COMPANY
```

```
FROM STOCK_SYMBOL d LEFT OUTER JOIN STOCK_SYMBOL_BKP e  
ON e.SYMBOL = d.SYMBOL;
```

```
SELECT D.SYMBOL,E.SYMBOL,E.COMPANY  
FROM STOCK_SYMBOL d RIGHT OUTER JOIN STOCK_SYMBOL_BKP e  
ON e.SYMBOL = d.SYMBOL;
```

Non interactive Query execution:

Table creation and Bulk loading:

```
psql.py localhost /home/hduser/phoenixdata/WEB_STAT.sql  
/home/hduser/phoenixdata/examples/WEB_STAT.csv
```

Perform Webdata analytics:

```
psql.py localhost /home/hduser/phoenixdata/WEB_STAT_QUERIES.sql
```