<u>Exp 2 - Basic Hadoop Commands</u>

Open Oracle Vm ware
Import Cloudera from downloads
Change settings - 2 cpu cores, 5GB RAM
Turn on the cloudera instance
Open terminal
Write following commands

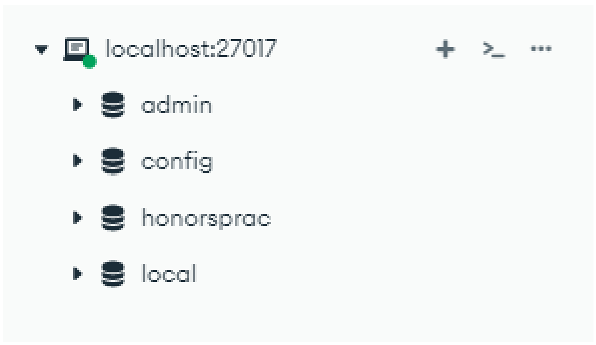
1. hadoop version
2. hadoop fs –ls
3. hadoop fs
4. hadoop fs –df hdfs:/
5. hadoop fs –count hdfs:/
6. hadoop fs –ls user
7. hadoop balancer
8. hadoop fs –mkdir/Qulthum
9. hadoop fs –ls /
10. gedit Qulthum.txt
11. ls *.txt
12. rm Qulthum.txt

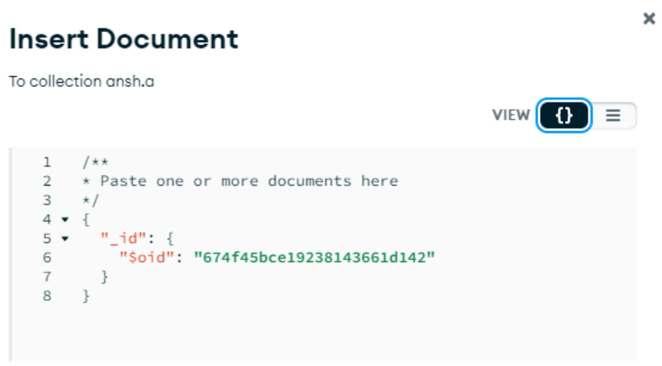
Exp 3: MongoDB Crud

Open mongodb://localhost:27017

Create a new database

Insert a field, update that, delete that

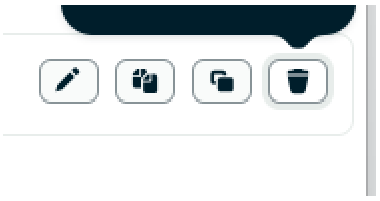




Insert Document

To collection ansh.a

```
/**
 * Paste one or more documents here
 */
{
  "_id": {
    "$oid": "674f45bce19238143661d142"
  }
}
```



Exp 4 : MongoDb queries

db.peaks.find({ "name": "Everest" }):
db.peaks.find({ "name": { $in: ["Everest", "K2"] } }):
db.peaks.find({ $and: [{"name": "Everest"}, {"height": 8848}] }):
db.peaks.find({ "location": "Nepal" }):
db.peaks.find({ "ascents.first_winter.year": { $gt: 2000 } }):
db.peaks.find({}, { "ascents": 0, "location": 0 }):
db.peaks.find().count()
db.peaks.find({}, { "_id": 0, "name": 1, "height": 1 }).limit(3).sort({ "height": 1 })

Exp 5 & 8: PIG

1. gedit customer17
2. gedit order17
3. hadoop fs -put /home/training/customer17 /agrawal17
4. hadoop fs -put /home/training/order17 /agrawal17a
5. hadoop fs -cat /agrawal17
6. hadoop fs -cat /agrawal17a
7. Pig
8. customer = LOAD '/agrawal17' USING PigStorage(',') AS (id:int, name:chararray,age:int,address:chararray, salary:int);
9. dump customer
10. order1 = LOAD '/agrawal17'a USING PigStorage(',') AS (oid:int, date:chararray, customer_id:int, amount:int);
11. dump order
12. customer1 = LOAD '/agrawal17' USING PigStorage(',') AS (id:int, name:chararray,age:int,address:chararray, salary:int);
13. customer2 = LOAD '/agrawal17' USING PigStorage(',') AS (id:int, name:chararray,age:int,address:chararray, salary:int);
14. customerself_join = JOIN customer1 BY id, customer2 BY id;
15. dump customerself_join
16. cross_data = CROSS customer1, order1
17. dump cross_data
18. customer_union = UNION customer1, customer2;
19. dump customer_union

<u>Exp 6: Social Network Analysis using R</u>

Open R Studio
Go to file - new - R script
There are 3 sections imp to us- code area, console and plot (bottom right)

Write the below code in code area:

1.

```
 install.packages("igraph")
library(igraph)
edge_list <- data.frame(
  from = c("Alice", "Bob", "Carol", "Dave", "Alice", "Eve"),
  to = c("Bob", "Carol", "Dave", "Eve", "Eve", "Carol")
)

# Print the edge list to ensure it's correct
print(edge_list)

# Convert the edge list to an igraph object
graph <- graph_from_data_frame(edge_list, directed = FALSE)

# Print the graph object to confirm its creation
print(graph)

# Plot the graph
plot(graph,
     vertex.color = "lightblue",  # Node color
     vertex.size = 30,            # Node size
     vertex.label.color = "black",  # Label color
     vertex.label.cex = 0.8,      # Label size
     edge.color = "gray",         # Edge color
     edge.width = 2,              # Edge thickness
     main = "Social Network Graph")
```

2.

```
# Create a ring graph with 10 nodes
ring_graph <- make_ring(10)

# Plot the ring graph
plot(ring_graph,
     vertex.color = "skyblue",
     vertex.size = 30,
```

```r
     vertex.label.color = "black",
     vertex.label.cex = 0.8,
     edge.color = "gray",
     main = "Ring Graph")
```

3.

```r
# Create a complete graph with 6 nodes
complete_graph <- make_full_graph(6)

# Plot the complete graph
plot(complete_graph,
     vertex.color = "lightgreen",
     vertex.size = 30,
     vertex.label.color = "black",
     vertex.label.cex = 0.8,
     edge.color = "gray",
     main = "Complete Graph (High Density)")
```

4.

```r
# Create a star graph with 7 nodes
star_graph <- make_star(7, mode = "undirected")

# Plot the star graph
plot(star_graph,
     vertex.color = "pink",
     vertex.size = 30,
     vertex.label.color = "black",
     vertex.label.cex = 0.8,
     edge.color = "gray",
     main = "Star Graph")
```

5.

```r
# Use an example graph with circular layout
circular_layout <- layout_in_circle(ring_graph)

# Plot using the circular layout
plot(ring_graph,
     layout = circular_layout,
     vertex.color = "cyan",
     vertex.size = 30,
     vertex.label.color = "black",
     vertex.label.cex = 0.8,
     edge.color = "gray",
     main = "Ring Graph with Circular Layout")
```

Exp 7: Tableau

Open Tableau
On bottom left select sample superstore

Drag and drop different rows and columns into top header
Select the chart u want to see from right