1.If 7TB is the available disk space per node (9 disks with 1 TB, 2 disk for operating system etc. were excluded.). Assuming initial data size is 600 TB. How will you estimate the number of data nodes (n)?

Answer:

The formula to estimate the number of data nodes (n) is given by,   
n= H/d = c\*r\*S/(1-i)\*d   
  
where d= disk space available per node.

GIVEN:

Disk space, d=7TB.

Data size, H=500TB.

Thus, the number of datanodes is

n=H/d

n= 600/7=85.7 or 86 data nodes needed

2.Imagine that you are uploading a file of 500MB into HDFS.100MB of data is successfully uploaded into HDFS and another client wants to read the uploaded data while the upload is still in progress. What will happen in such a scenario, will the 100 MB of data that is uploaded will it be displayed?

Answer:

Yes, the 100MB of data uploaded will be displayed and visible to the readers ,

* The no.of blocks needed will be 5 (since 500MB/100MB).
* Now, first the client will take Block 1 and will approach namenode for datanode location to store this block and the replicated copies.
* Once client is aware about the datanode information, it will directly reach out to datanode and start copying Block 1 which will be simultaneously replicated to other 2 datanodes. Once the block is copied and replicated to the datanodes, client will get the confirmation about the Block 1 storage and then, it will initiate the same process for next block say Block 2.
* So, during this process if 1st block of 100 MB is written to HDFS and the next block has been started by the client to store then 1st block will be visible to readers.