



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING (ARTIFICIAL INTELLIGENCE & MACHINE LEARNING)

Secondary Namenode - What it really does?

Secondary Namenode is one of the poorly named component in Hadoop. By its name, it gives a sense that its a backup for the Namenode. But in reality its not. Lot of beginners in Hadoop get confused about what exactly SecondaryNamenode does and why its present in HDFS.

Namenode

Namenode holds the meta data for the HDFS like Namespace information, block information etc. When in use, all this information is stored in main memory. But this information also stored in disk for persistence storage.

very similar to Windows Restore point, which will allow us to take snapshot of the OS so that if something goes wrong , we can fallback to the last restore point.

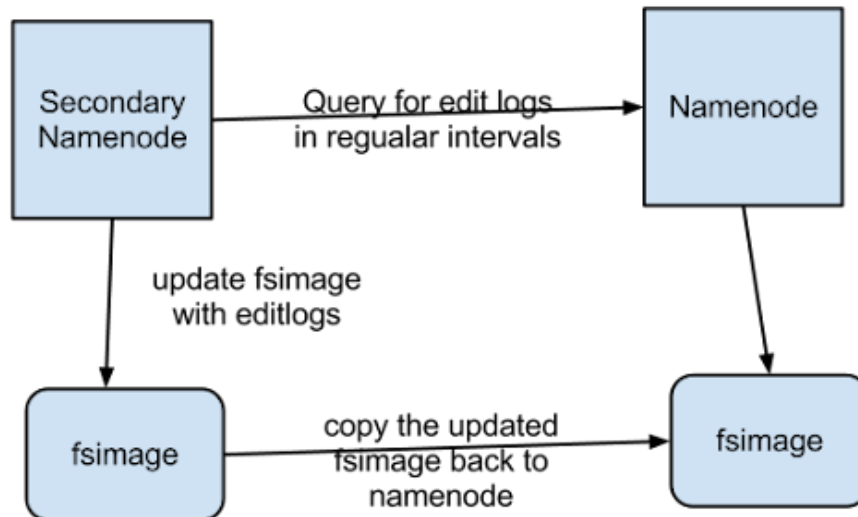
So now we understood NameNode functionality and challenges to keep the meta data up to date. So what is this all have to with Seconadary Namenode?

Secondary Namenode

Secondary Namenode helps to overcome the above issues by taking over responsibility of merging editlogs with fsimage from the namenode.



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The above figure shows the working of Secondary Namenode

1. It gets the edit logs from the namenode in regular intervals and applies to fsimage
2. Once it has new fsimage, it copies back to namenode
3. Namenode will use this fsimage for the next restart, which will reduce the startup time

Secondary Namenode whole purpose is to have a checkpoint in HDFS. Its just a helper node for namenode. That's why it is also known as checkpoint node inside the community.

So we now understood all Secondary Namenode does puts a checkpoint in filesystem which will help Namenode to function better. Its not the replacement or backup for the Namenode. So from now on make a habit of calling it as a checkpoint node.



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