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**Introduction of MongoDB**

MongoDB is a source-available cross-platform document-oriented database program. Classified as a NoSQL database program, MongoDB uses JSON-like documents with optional schemas. MongoDB is developed by MongoDB Inc. and licensed under the Server Side Public Licence (SSPL).

# Main features of MongoDB are:

* Indexing
  + Fields in a MongoDB document can be indexed with primary and secondary indices or indexes.
* Replication
  + MongoDB provides high availability with replica sets. A replica set consists of two or more copies of the data. Each replica-set member may act in the role of primary or secondary replica at any time. All writes and reads are done on the primary replica by default. Secondary replicas maintain a copy of the data of the primary using built-in replication. When a primary replica fails, the replica set automatically conducts an election process to determine which secondary should become the primary. Secondaries can optionally serve read operations, but that data is only eventually consistent by default.
* Load balancing
  + MongoDB scales horizontally using sharding. The user chooses a shard key, which determines how the data in a collection will be distributed. The data is split into ranges (based on the shard key) and distributed across multiple shards. (A shard is a master with one or more replicas.) Alternatively, the shard key can be hashed to map to a shard – enabling an even data distribution.MongoDB can run over multiple servers, balancing the load or duplicating data to keep the system up and running in case of hardware failure.
* File storage
  + MongoDB can be used as a file system, called GridFS, with load balancing and data replication features over multiple machines for storing files. This function, called grid file system, is included with MongoDB drivers. MongoDB exposes functions for file manipulation and content to developers. GridFS can be accessed using mongofiles utility or plugins for Nginx and lighttpd. GridFS divides a file into parts, or chunks, and stores each of those chunks as a separate document.

# The Architecture of MongoDB:

* Programming language accessibility
  + MongoDB has official drivers for major programming languages and development environments. There are also a large number of unofficial or community-supported drivers for other programming languages and frameworks
* Management and graphical front-ends
  + The primary interface to the database has been the mongo shell. Since MongoDB 3.2, MongoDB Compass has been introduced as the native GUI. There are products and third-party projects that offer user interfaces for administration and data viewing.

You can learn more about MongoDB and its uses from the following links:

* <https://en.wikipedia.org/wiki/MongoDB>
* <https://www.mongodb.com/cloud/atlas/lp/try2?utm_source=google&utm_campaign=gs_apac_india_search_core_brand_atlas_desktop&utm_term=mongodb&utm_medium=cpc_paid_search&utm_ad=e&utm_ad_campaign_id=12212624347&adgroup=115749713423&gclid=Cj0KCQiAi9mPBhCJARIsAHchl1xtFKoPlXxBlMfR83wc6vlW9AVBRyNsdhNJnc_f2_iJ9hWuI30N1vIaAq6VEALw_wcB>
* <https://www.mongodb.com/try/download/community>

**Installation Process of MongoDB**

* Check and install express by using the following command. Express is used to set middlewares to respond to HTTP requests
  + **npm install express --save**
* Setup the "body-parser" node module for reading the HTTP POST data.
  + **npm install body-parser --save**
* Setup "mongoose", as it sits on top of Node's MongoDB driver.
  + **npm install mongoose --save**
* Now, run the commands to run the application program.