

MongoDB Installation Options

- Firoj Atar

Supported (OS) Platform

Platform	Community Edition	Enterprise Edition
Linux	Red Hat or CentOS	Red Hat or CentOS
	Ubuntu	Ubuntu
	Debian	Debian
	SUSE	SUSE
	Amazon Linux	Amazon Linux
macOS	macOS	macOS
Windows	Windows	Windows
Docker		Docker

Starting v3.4, MongoDB does not support 32-bit x86 platforms

Supported Platforms

<https://www.mongodb.com/try/download>

DEMO

MongoDB Installation: Windows

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MongoDB v6.0 Installation Guide

- ❖ MongoDB v6.0 only supports -
 - Windows 10 / Windows Server 2016
 - Windows Server 2019
- ❖ Supports the 64-bit versions of OS platforms
- ❖ MongoDB Shell is separated MongoDB Server Binary
- ❖ Download the installer from [MongoDB Download Center](#)
 - MongoDB Community Server
 - MongoDB Shell

Summary

- ❖ MongoDB Server Installation
- ❖ MongoDB Compass Installation (Optional)
- ❖ MongoDB Shell Installation
- ❖ Confirm whether “MongoDB as a Service” is setup

DEMO

MongoDB Installation: Linux (Ubuntu)

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MongoDB v6.0 Installation: Linux (Ubuntu)

- Supports 64-bit Ubuntu LTS (long-term support) releases on x86_64 architecture
- Use of the apt package manager (Recommended)

MongoDB v6.0 Installation: Linux (Ubuntu)

- Import the public key
- Create a list file for MongoDB
List file is - `/etc/apt/sources.list.d/mongodb-org-6.0.list`
- Reload local package database
- Install the latest MongoDB version
- Make Ubuntu stop unwanted upgrades

MongoDB v6.0 Installation: Linux (Ubuntu)

- Start MongoDB service
- Connect MongoDB Shell

MongoDB v6.0 Installation: Linux (Ubuntu)

- Run MongoDB

- Set Ulimit to 64000

- `ulimit -n 64000`

- Data directory: `/var/lib/mongodb`
- Log directory: `/var/log/mongodb`
- Configuration file: `/etc/mongod.conf`
- Choose Init system, either `systemctl` or `System V Init`
`ps --no-headers -o comm 1`

References

- Ubuntu 20.04 LTS (Focal Fossa) Download Link –
 - <https://releases.ubuntu.com/focal/>
- How to run Ubuntu Desktop on a virtual machine using VirtualBox –
 - <https://ubuntu.com/tutorials/how-to-run-ubuntu-desktop-on-a-virtual-machine-using-virtualbox>
- Install Ubuntu desktop
 - <https://ubuntu.com/tutorials/install-ubuntu-desktop>
- Install MongoDB on Ubuntu OS
 - <https://www.mongodb.com/docs/manual/tutorial/install-mongodb-on-ubuntu/>

DEMO

MongoDB Installation: Linux (Tarball)

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MongoDB v6.0 Installation: Linux (Tarball)

- .tgz tarball is manual Installation process
- Good for Customization
- MongoDB Server and MongoDB Shell to be installed separately

MongoDB v6.0 Installation Process

- Download the MongoDB Server tarball from [MongoDB Download Center](#)
 - Select 6.0.1 as Version
 - Select OS and architecture
 - Select tgz package
 - And Click Download

- Extract the files from the tarball
`tar -zxvf mongodb-linux-*-6.0.1.tgz`

- Create data and log directory
`sudo mkdir -p /var/lib/mongo`
`sudo mkdir -p /var/log/mongodb`

MongoDB v4.4 Installation Process

- Change directory ownership

```
sudo chown `whoami` /var/lib/mongo    # Or substitute another user
```

```
sudo chown `whoami` /var/log/mongodb  # Or substitute another user
```

- Run MongoDB Server

```
mongod --dbpath /var/lib/mongo --logpath /var/log/mongodb/mongod.log --fork
```


MongoDB v6.0 Installation Process

- Download the MongoDB Shell tarball from [MongoDB Download Center](#)
 - Select 1.5.4 as Version
 - Select OS and architecture
 - Select tgz package
 - And Click Download

- Extract the files from the tarball
`tar -zxvf mongosh-1.5.4-linux-x64.tgz`

- Start using MongoDB
`mongosh` OR
`mongosh --port 27017 --host localhost`

References

- Ubuntu 20.04 LTS (Focal Fossa) Download Link –
 - <https://releases.ubuntu.com/focal/>
- How to run Ubuntu Desktop on a virtual machine using VirtualBox –
 - <https://ubuntu.com/tutorials/how-to-run-ubuntu-desktop-on-a-virtual-machine-using-virtualbox>
- Install Ubuntu desktop
 - <https://ubuntu.com/tutorials/install-ubuntu-desktop>

MongoDB

Databases and Collections

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- **Collections**

- Documents store
- Collections == RDBMS Tables
- Creates the collection when you write data into the collection

- **Databases**

- Holds one or more collections
- Databases == RDBMS Databases
- Creates the database when you first store data for that database

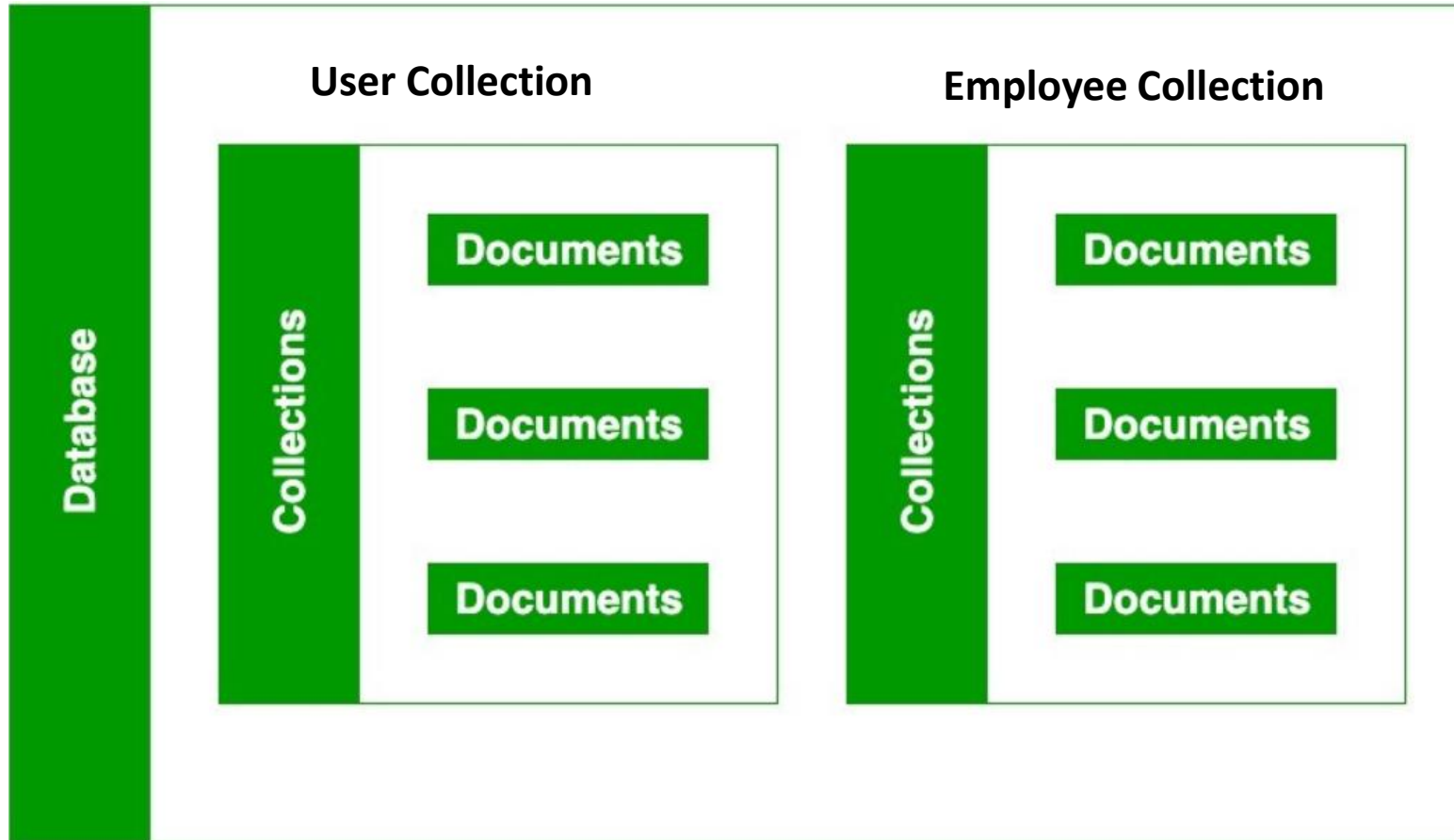
MongoDB Collection

Collection

<code>{ name: "al", age: 18, ... }</code>
<code>{ name: "lee", age: 28, ... }</code>
<code>{ name: "jan", age: 21, ... }</code>
<code>{ name: "kai", age: 38, ... }</code>
<code>{ name: "sam", age: 18, ... }</code>
<code>{ name: "mel", age: 38, ... }</code>
<code>{ name: "ryan", age: 31, ... }</code>
<code>{ name: "sue", age: 26, ... }</code>

users

MongoDB Database



MongoDB

Views and Capped Collections

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- **MongoDB Views**

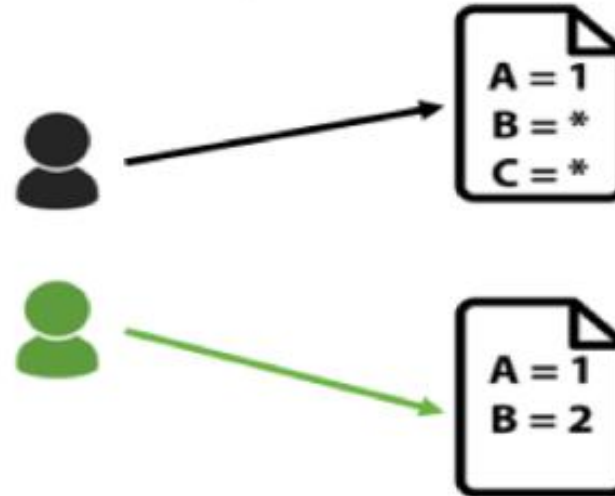
- RDBMS views Concept
- Its Queryable object whose contents are defined by an aggregation pipeline
- A view's content is computed on-demand
- Does not persist the view contents to disk
- Read-only
- Does not support write operations
- Cannot rename views
- Created in the same database as the source collection
- To understand views, you must know MongoDB aggregation

- MongoDB Views

Standard way to access to the document



Views usage to access to a document



- **Capped Collections**

- Fixed-size collections
- Supports high-throughput operations
- Faster insert and retrieval of data
- Works as circular queue or buffers
- Makes room for new documents by overwriting the oldest documents
- Convert normal collection to Capped collection
- Can specify the maximum number of documents

Capped Collection

Green and Yellow space is currently used space

Grey space is unused space

Once Grey space fills out, oldest documents space made available. i.e. Yellow space

