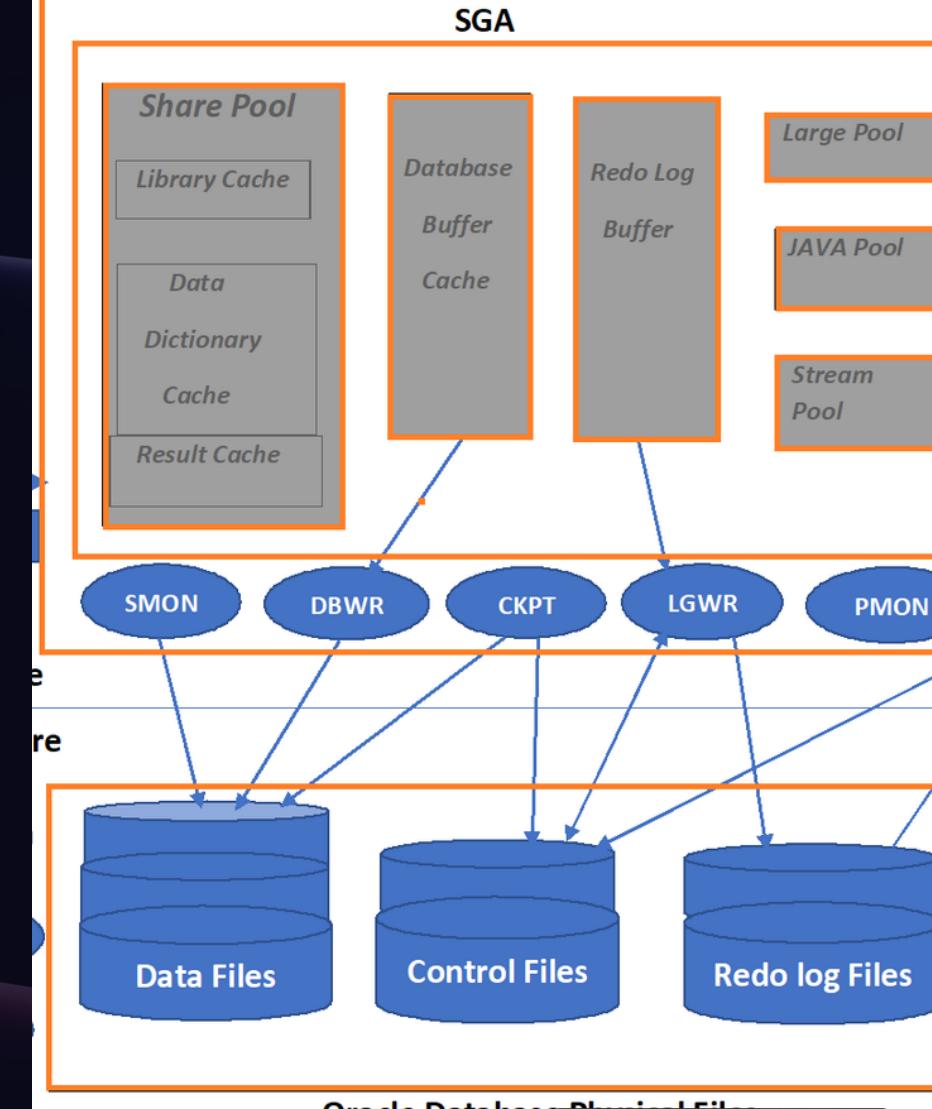


# MongoDB: The Ultimate Database

Imagine storing your data in a way that allows you to move beyond just simple data storage—and make better data-driven decisions. Introducing MongoDB.

R by RHYTHEM SHARMA (RA2111003030333)

## Oracle Instance : Memory Architecture



# History of MongoDB

1

## The Beginning

Developed 2007-2009 by Dwight Merriman, Eliot Horowitz, and Kevin Ryan at DoubleClick.

2

## The Release

First released on February 11, 2009, and is now maintained by MongoDB Inc.

3

## The Popularity

Ranked the fifth most popular database in the world as of 2021-2022.



# What is MongoDB?

## Document-Oriented Database

Stores data in JSON-like documents with dynamic schemas that enable flexible and speedy data models.

## Distributed Database

Stores data across a cluster of machines to provide high availability, horizontal scalability, and geographic distribution of data.

## NoSQL Database

Uses non-relational data structures, unlike traditional relational databases, allowing for more flexible data modeling and fewer constraints.

# Express.js: Building a Better Backend



## Fast and Minimalist

Aims to provide a robust set of features to develop web and mobile applications easily and quickly.

## Powerful Routing

Allows for setting up middleware to respond to HTTP requests and define a series of routing rules for mapping requests to appropriate handlers.

## Efficient Handling of HTTP Requests

Enables routing of HTTP requests, handling dynamic content, and generating responses back to clients.

# React.js: The Cutting-Edge Frontend Library

1

## Introduction to React.js

A JavaScript library for building user interfaces.

2

## Declarative

Makes it easy to reason about your app's state and updates by building a modular UI component.

3

## Virtual DOM

Manages your app's state and updates in a single activity instead of the whole application.



# Node.js: The Future of Runtime Environments

1

## Easy to Use

Makes it easy to build scalable server-side applications with JavaScript.

2

## Fast & Scalable

Doesn't block the request-response loop, making it an efficient, powerful solution for data-heavy, real-time web apps.

3

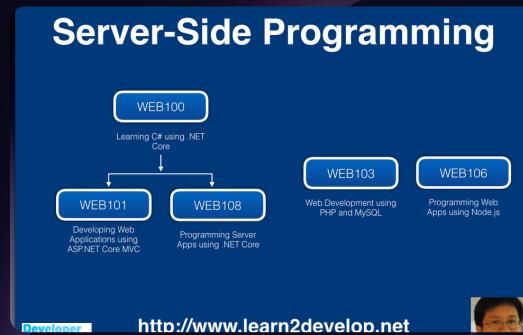
## Open Source

Provides access to a large number of open-source packages, adding to the list and helping to continuously improve the entire ecosystem.



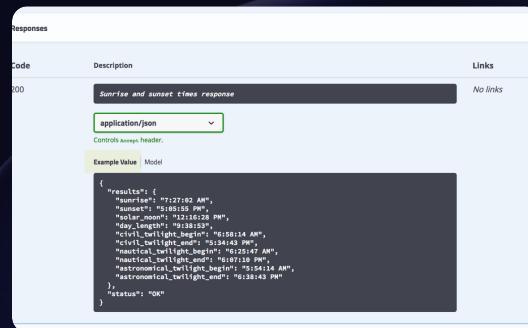
Made with Gamma

# Backend (Node.js + Express)



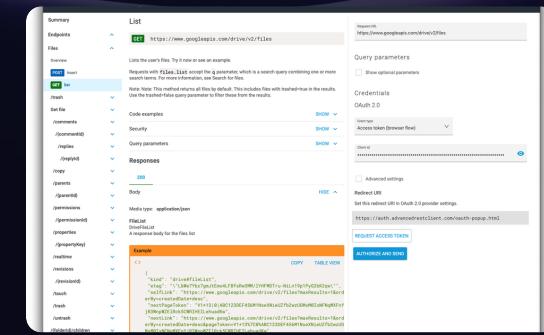
# API Development

The Node.js environment allows us to build scalable APIs with efficient data processing abilities.



# JSON-based Architecture

Express.js supports JSON data,  
useful in transporting data  
between the client and server.



# Easy Documentation

An extensive Express.js API simplifies the process of handling testing and documentation.

# Database (MongoDB)

## Type: Document Database

MongoDB is a document-oriented database that stores its data in a JSON-like format called BSON (Binary JSON).

## Collections

Stores documents in collections rather than tables. Which makes pulling related documents and data faster and easier than in traditional database systems.

## Scalability

Horizontal scalability problems, which are prevalent in relational databases, are resolved with sharding.