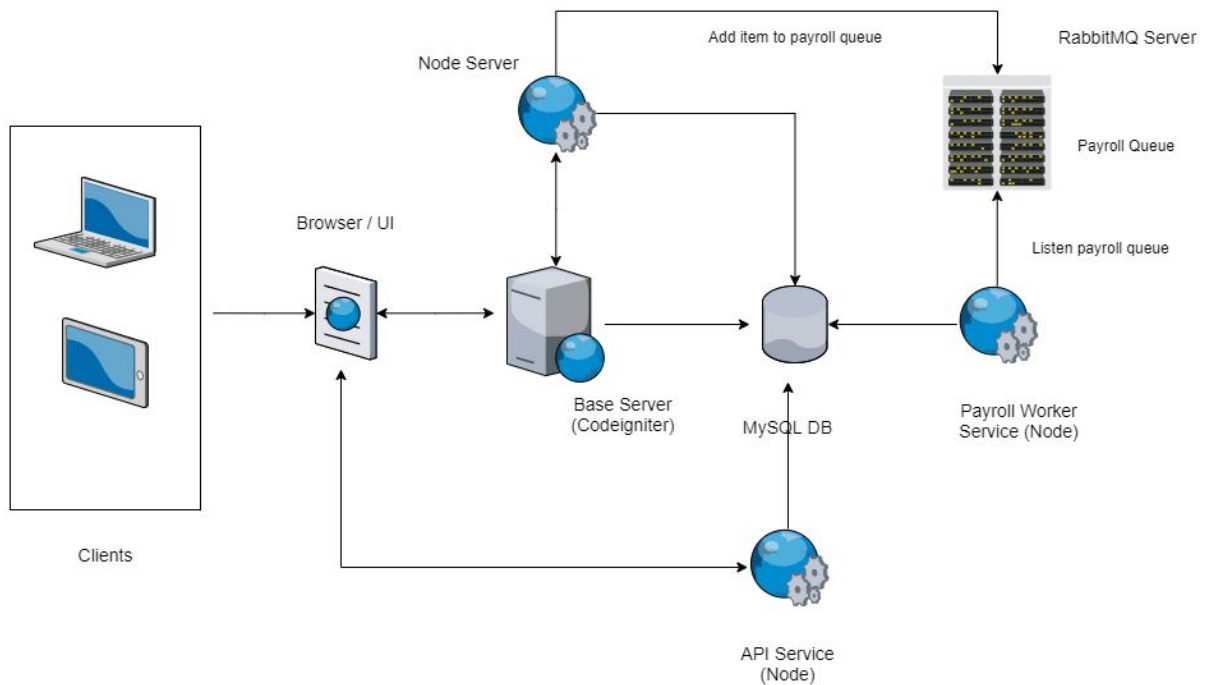


## Base System Architecture



Base Frontend	
Server	Apache
Languages	
PHP	Version : 7+ Framework : Codeigniter 3
Javascript	Framework : Angular JS Version : 1

Base API	
Server	Nginx
Languages	
Node.js	Version : Node 8+ Framework : Express
Javascript	Javascript ES6

Storage	
Database	MySQL Version : 8 Engine: InnoDB Provider : AWS RDS
Database	MongoDB Version : 8
Data Structure Storage	Redis

Message Broker	
Rabbit MQ	RabbitMQ is one of the most popular open source message brokers, it is lightweight and easy to deploy on premises and in the cloud

Securities
Redis based JWT token authentication
Nginx reverse proxy
Swagger router for api validation
All communications between services are through message broker

Deployment Tools	
Jenkins	Jenkins is an open source automation tool written in Java with plugins built for Continuous Integration purpose.
Ansible	Ansible is an open source IT configuration management (CM) and automation platform, provided by Red Hat. It uses human-readable YAML templates so that users can program repetitive tasks to occur automatically, without learning an advanced language.

Plugins	
Express JS	Express is a minimal and flexible Node.js web application framework that provides a robust set of features for web and mobile applications.
Redis JWT	This library completely repeats the entire functionality of the library jsonwebtoken, with one important addition. Jwt-redis allows you to store the token label in redis to verify validity. The absence of a token label in redis makes the token not valid
Mongoose	Mongoose is an Object Data Modeling (ODM) library for MongoDB and Node.js. It manages relationships between data, provides schema validation, and is used to translate between objects in code and the representation of those objects in MongoDB
Sequelize JS	Sequelize.js is an ORM (Object/Relational Mapper) which provides easy access to MySQL, MariaDB, SQLite or PostgreSQL databases by mapping database entries to objects and vice versa.
Passport JS	Passport is authentication middleware for Node. js
Swagger JS	Swagger allows you to describe the structure of your APIs so that machines can read them. The ability of APIs to describe their own structure is the root of all awesomeness in Swagger.
Socket IO	Socket.IO enables real-time bidirectional event-based communication. It works on every platform, browser or device, focusing equally on reliability and speed.
AMQP Library	Advanced Message Queuing Protocol (AMQP) is created as an open standard protocol that allows messaging interoperability between systems, regardless of message broker vendor or platform used

Development Tools	
Git	Git is a free and open source distributed version control system designed to handle everything from small to very large projects with speed and efficiency
Babel	Babel is a toolchain that is mainly used to convert ECMAScript 2015+ code into a backwards compatible version of JavaScript in current and older browsers or environments.
ES Lint	ESLint statically analyzes the code to quickly find problems
Gulp	Gulp is a cross-platform, streaming task runner that lets developers automate many development tasks. At a high level, gulp reads files as streams and pipes the streams to different tasks.
Mocha	Mocha is a feature-rich JavaScript test framework running on Node.js and in the browser, making asynchronous testing simple.
Nodemon	nodemon is a tool that helps develop node. js based applications by automatically restarting the node application when file changes in the directory are detected.
PM2	PM2 is a production process manager for Node.js applications with a built-in load balancer. It allows you to keep applications alive forever, to reload them without downtime and to facilitate common system admin tasks