

Tech Stack

Various tech stacks used for software development, such as

- MEAN (MongoDB, ExpressJS, AngularJS, Node.js), MERN (MongoDB, ExpressJS, React, Node.js), LAMP (Linux, Apache, MySQL, PHP), and many more.
- Front-end: HTML, CSS, JavaScript, React, Angular, Vue.js
- Back-end: Node.js, Express, Django, Flask, Ruby on Rails, ASP.NET, Java (Spring), PHP (Laravel)
- Databases: SQL (PostgreSQL, MySQL, SQL Server), NoSQL (MongoDB, Redis, Cassandra), GraphQL
- Mobile: React Native, Flutter, Swift, Kotlin
- Cloud & DevOps: AWS, Google Cloud, Azure, Docker, Kubernetes, CI/CD

Data Types

A data type is a classification that specifies which type of value a variable can hold. Some common data types include:

- Integer: A whole number, can be positive or negative. Examples: -42, 0, 100.
- Floating-point: A number that can have a fractional part. Examples: 3.14, -0.99, 0.0.
- Boolean: Represents true or false values.
- Character: A single Unicode character. Examples: 'A', 'b', '9', '@'.
- String: A sequence of characters. Examples: "Hello, World!", "OpenAI".
- Array: A collection of elements, each identified by an index. Example: [3, 5, 1, 9].
- Object: A collection of key-value pairs. Example: { "name": "John", "age": 30 }.

Different programming languages may have additional or slightly different data types.

Git

Git is a distributed version control system designed to manage source code and track changes over time. To clone a Git repository to your local machine, use the following command:

```
git clone https://github.com/username/repository.git
```

Replace `username` and `repository` with the appropriate values for the repository you want to clone.

HTTP Status Codes

HTTP status codes are three-digit numbers that indicate the outcome of an HTTP request. Some frequently used status codes include:

- 200 OK: The request was successful, and the server has returned the requested data.
- 201 Created: The request was successful, and the server has created a new resource as a result.
- 204 No Content: The request was successful, but there's no data to return.
- 400 Bad Request: The request was malformed or invalid.
- 401 Unauthorized: The request requires authentication, and the client has not provided valid credentials.
- 403 Forbidden: The client does not have permission to access the requested resource.

- 404 Not Found: The requested resource could not be found on the server.
- 500 Internal Server Error: The server encountered an error while processing the request.

Relational Databases

A relational database is a type of database that organizes data into tables with rows and columns. These tables can be related to one another through keys (foreign and primary keys), enabling efficient querying and data organization.

- One-to-One
In a one-to-one relationship, each row in one table is related to exactly one row in another table. For example, a user table and a user profile table can have a one-to-one relationship, where each user has exactly one profile.
- One-to-Many
In a one-to-many relationship, a row in one table can be related to multiple rows in another table. For example, a blog author can have multiple blog posts, but each blog post is written by only one author.
- Many-to-Many:
In a many-to-many relationship, multiple rows in one table can be related to multiple rows in another table. For example, a book can have multiple authors, and an author can write multiple books. This type of relationship is typically implemented using a junction table that contains foreign keys for both related tables.