**Class: UNHCR x Alterra Academy : BackEnd** **Introduction Algorithm  
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1. Back-End programming Lanugages:  
     
   Back-end languages include   
   1) Python   
   2) Java   
   3) C#  
   4) PHP  
   5) JavaScript   
   6) Golang   
   7) C++   
   8) SQL   
   9) Kotlin   
   10) Ruby  
   And many more
2. Some of the key components and technologies commonly used in backend development include:

Programming Languages: Such as Python, JavaScript (Node.js), Ruby, PHP, Java, and others, used to write the backend logic.

Frameworks: These are pre-written, reusable code libraries that help streamline development. Examples include Express.js (for Node.js), Django (for Python), Ruby on Rails (for Ruby), Laravel (for PHP), and Spring (for Java).

Databases: Storage systems for data, including relational databases like MySQL, PostgreSQL, and SQL Server, as well as NoSQL databases such as MongoDB, Cassandra, and Redis.

Server: Backend technologies are deployed and managed on servers, which can be physical or cloud-based. Examples include Apache, Nginx, and Microsoft IIS.

APIs (Application Programming Interfaces): Backend systems often use APIs to communicate with other services or allow external access to their functionalities.

Authentication and Authorization: Technologies like JSON Web Tokens (JWT), OAuth, and OpenID Connect manage user authentication and authorization.

Caching Mechanisms: Tools like Redis or Memcached are used for caching frequently accessed data, improving application performance.

Containers and Orchestration: Technologies like Docker and Kubernetes help manage and deploy backend applications efficiently in containerized environments.

Messaging Systems: Such as RabbitMQ, Kafka, or Amazon SQS are used for handling asynchronous tasks or inter-service communication in distributed systems.  
  
  
  
  
Resources:  
<https://www.deazy.com/knowledge-hub/top-6-back-end-languages#:~:text=Back%2Dend%20languages%20include%20Python,a%20web%20or%20mobile%20app>.

<https://www.almabetter.com/bytes/articles/backend-technologies>