

API QUICK REFERENCE

★ HTTP Verbs

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NOTES GALLERY/CODING BUGS(TELEGRAM)

- GET :- Retrieve data from the Server
- POST :- Send data to the server to create a resource.
- PUT :- Send data to the Server to Update a resource.
- PATCH :- Send data to the server to update a resource Partially.
- DELETE :- Delete a resource from the Server.
- TRACE :- Returns the full HTTP request received by the server for debugging and diagnostic purposes.
- OPTIONS :- Returns the HTTP methods supported by the server for the request URL.
- CONNECT :- Converts the request connection to a transparent TCP/IP tunnel for secure communication.

- PURGE :- Invalidates a cached resource.
- LOCK :- Locks the resource for exclusive use by the client.
- UNLOCK :- Unlock the resource Previously Locked by the client.
- MKCOL :- Creates a new collection resource.
- COPY :- Copies the resource identified by the Request-URI to the destination URI.

★ HTTP Status Codes

- 1xx :- Informational
- 2xx :- Success
- 3xx :- Redirection
- 4xx :- Client Errors
- 5xx :- Server Errors

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Response Headers

- Content-type :- Specifies the MIME type of the data in the response body.
- Content-Length :- Specifies the length of the response body in bytes.
- Cache-Control :- Specifies the caching behavior of the response.
- Location :- Specifies the URI of a resource that can be used to retrieve the requested resource.
- Server :- Specifies the name and version of the server software that generated the response.
- Access-Control-Allow-Origin :- Specifies which Origins are allowed to access the resource.
- Set-Cookie :- Specifies a cookie that should be stored by the client and sent back to the server with future requests.

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- Expires :- Specifies the date and time after which the response is considered stale.
- Last-Modified :- Specifies the date and time the resource was last modified.

API Design

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- Rest :- Representational State Transfer, a design pattern for building web services.
- SOAP :- Simple Object Access Protocol, a messaging protocol for exchanging structured data.
- GraphQL :- A query language and runtime for building APIs
- API Gateway :- A service that manages, protects, and scales APIs.

API Architectures

- SOA :- Service-Oriented Architectures, an architectures style for building distributed system.

- Microservices :- An architectural style for building complex applications as a suite of small, independent services.
- Serverless :- A cloud computing execution model where the cloud provider manages the infrastructure and automatically allocates resources as needed.
- Event-Driven :- An architectural style where the flow of data between components is triggered by events.
- RESTful API :- An architectural style that uses HTTP requests to GET, POST, PUT, and DELETE data.

API Design Patterns

- Adapter Pattern :- A pattern that converts the interface of a class into another interface that clients expect.
- Decorator Pattern :- A pattern that adds behaviour to an individual object dynamically.

- Proxy Pattern :- A pattern that provides a surrogate or placeholder for another object to control access to it.
- Chain of Responsibility Pattern :- A pattern that delegates commands to a chain of processing objects.
- Observer Pattern :- A pattern that defines a one-to-many dependency between objects so that when one object changes state, all its dependents are notified and updated automatically.

API Security

- OAuth :- An open standard for authorization used for protecting APIs
- JWT :- JSON Web Tokens, a standard for securely transmitting information between parties as a JSON object.
- SSL/TLS :- Secure Sockets Layer / Transport Layer Security, a protocol for establishing a secure connection between a client and a server.

- API Key :- A Secret token used to limit the number of requests that can be made to an API over a specific period of time.
- OpenID Connect :- An authentication layer built on top of OAuth that allows users to be authenticated across multiple domains.
- Cross-Origin Resource Sharing (CORS) :- A mechanism that allows many resources (eg., fonts, javascript, etc.) on a web page to be requested from another domain outside the domain from which the resource originated.

API Testing

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- Postman :- A popular tool for testing and debugging APIs
- SoapUI :- A tool for testing SOAP and REST Web services.
- Swagger :- A tool for designing, building, and testing APIs
- JMeter :- A tool for testing the Performance of APIs.

- TestRail :- A test management tool for planning , executing , and tracking API tests.
- Dreed :- A command - line tool for testing API documentation against its backend implementation.
- REST Assured :- A Java - based library for testing RESTful APIs .
- Karate DSL :- A testing framework for API testing using Gherkin Syntax .
- HTTPMaster :- A tool for testing and debugging APIs .
- Assertible :- A tool for testing and monitoring APIs with automated tests.

API Development

- Node.js :- A JavaScript runtime for building Server - side applications .
- Express :- A popular frameworks for building Web applications and APIs with Node.js .

- Django :- A Python web framework for building web applications and APIs.
- Flask :- A lightweight python web framework for building web applications and APIs.
- Spring :- A java framework for building enterprise-level web applications and APIs .
- Swagger Editor :- A tool for designing and documenting APIs using the OpenAPI specification.
- Postman :- A tool for testing and debugging APIs .
- Insomnia :- A tool for designing, testing , and debugging APIs.
- Paw :- A tool for designing and testing APIs on Mac OS .
- API Blueprint :- A high-level API description language for building RESTful APIs .

API Implementation Platforms

- Firebase :- A mobile and web application development platform developed by Google.
- Backendless :- A mobile and web application development platform that allows developers to build and deploy applications without backend coding.
- Parse Server :- A open - Source version of the Parse backend that can be deployed to any infrastructure.
- Amazon API Gateway :- A fully managed service that makes it easy for developers to create , publish , maintain , monitor , and secure APIs .
- Microsoft Azure API Management :- A fully managed service that enables users to publish , secure , transform , maintain , and monitor APIs .

API Performance

- Caching :- A technique for improving API performance by storing responses in a cache .