

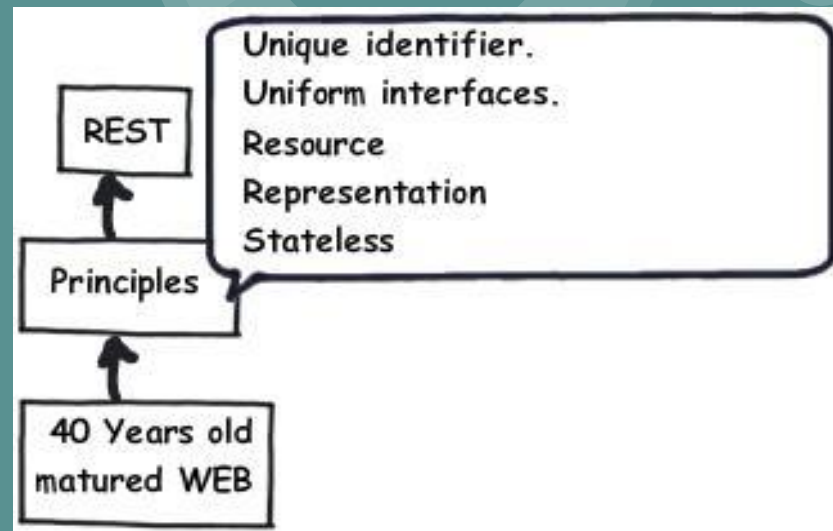
REST API

Best Practices



What is REST?

- **RE**presentational **S**tate **T**ransfer
- Architectural style
- A set of constraints
- **API**



CONSTRAINTS OF REST ARCHITECTURE

Uniform Interface

01

02

Stateless

Client-server

03

04

Layered System

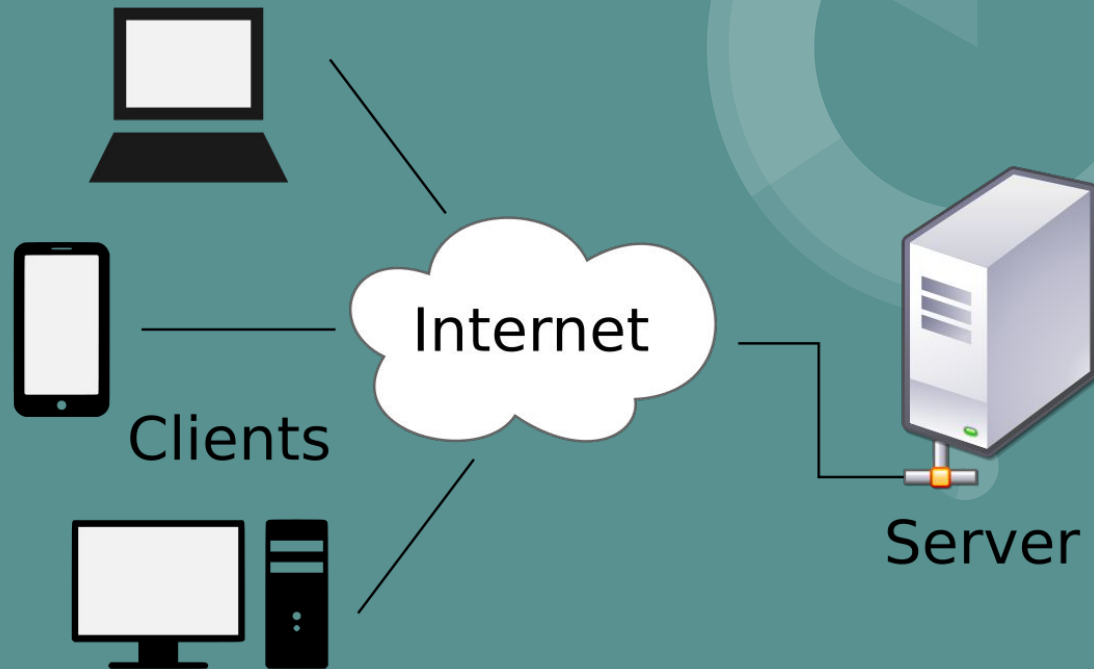
Cacheable

05

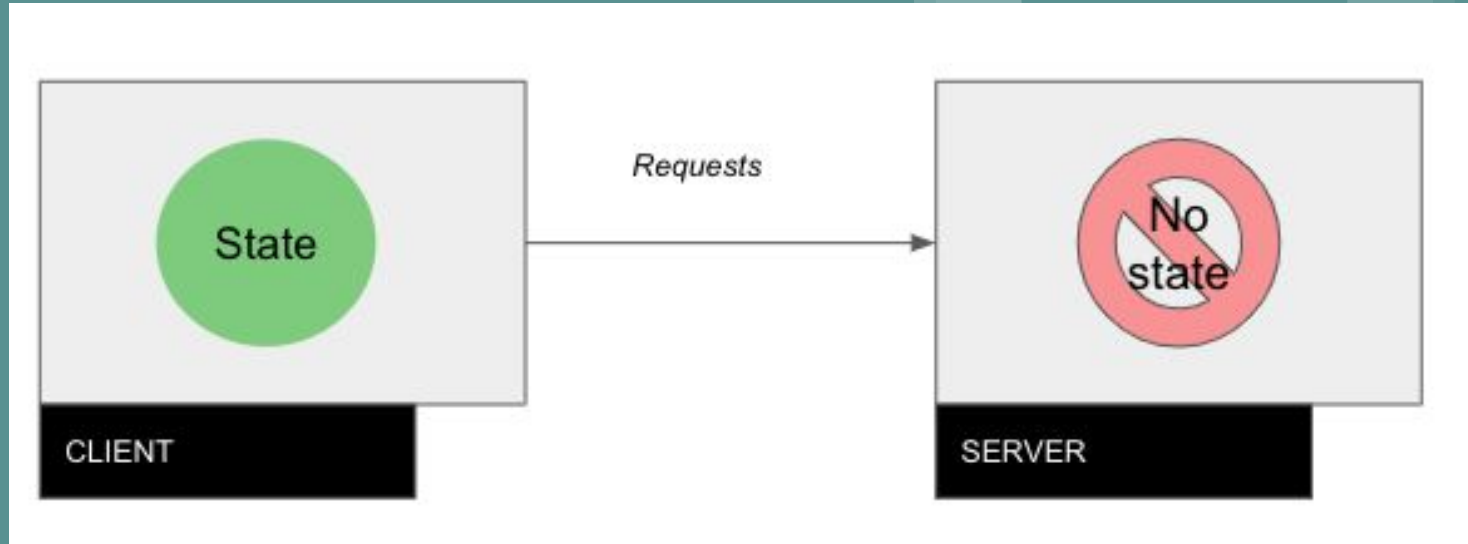
06

Code on demand
(optional)

Client-Server Architecture

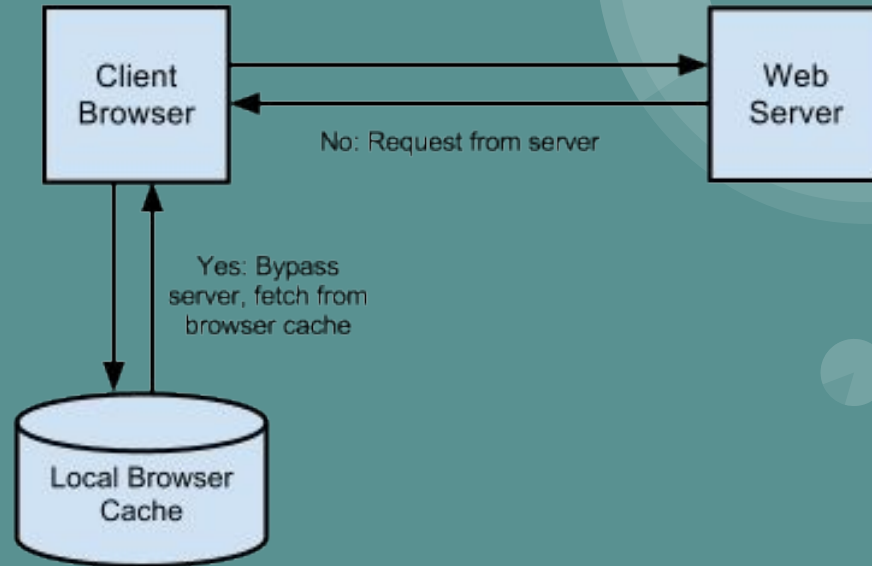


Stateless

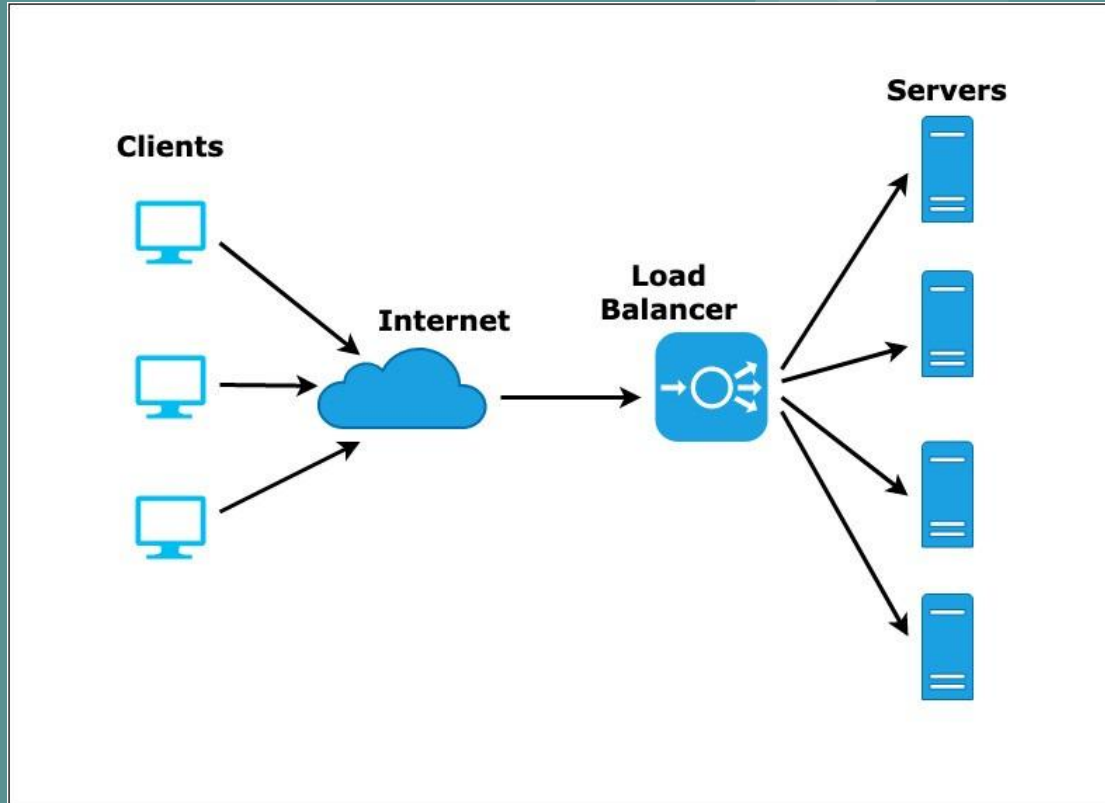


Cacheable

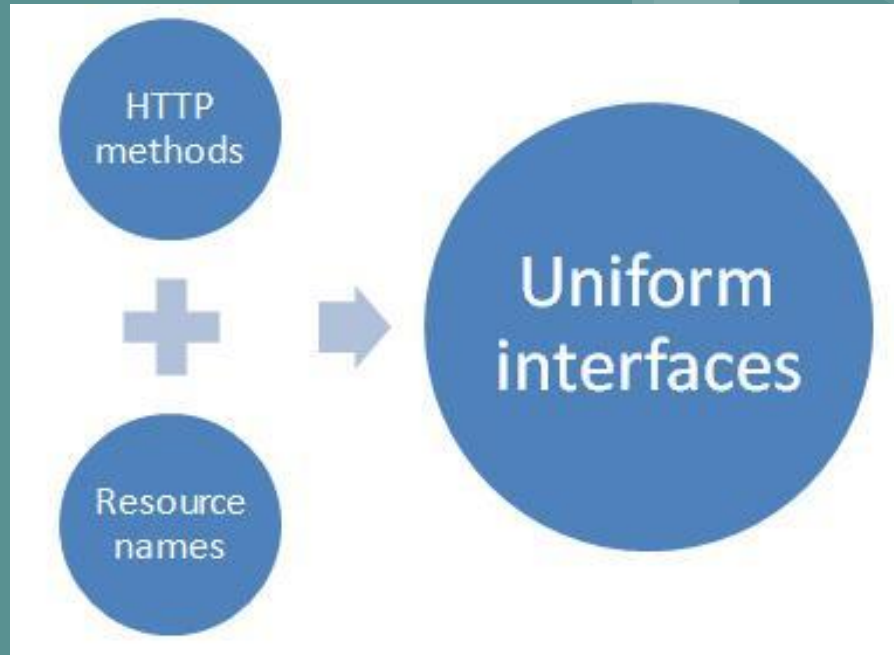
Is resource cached
and not stale?



Layered System




Uniform Interface



Best Practices



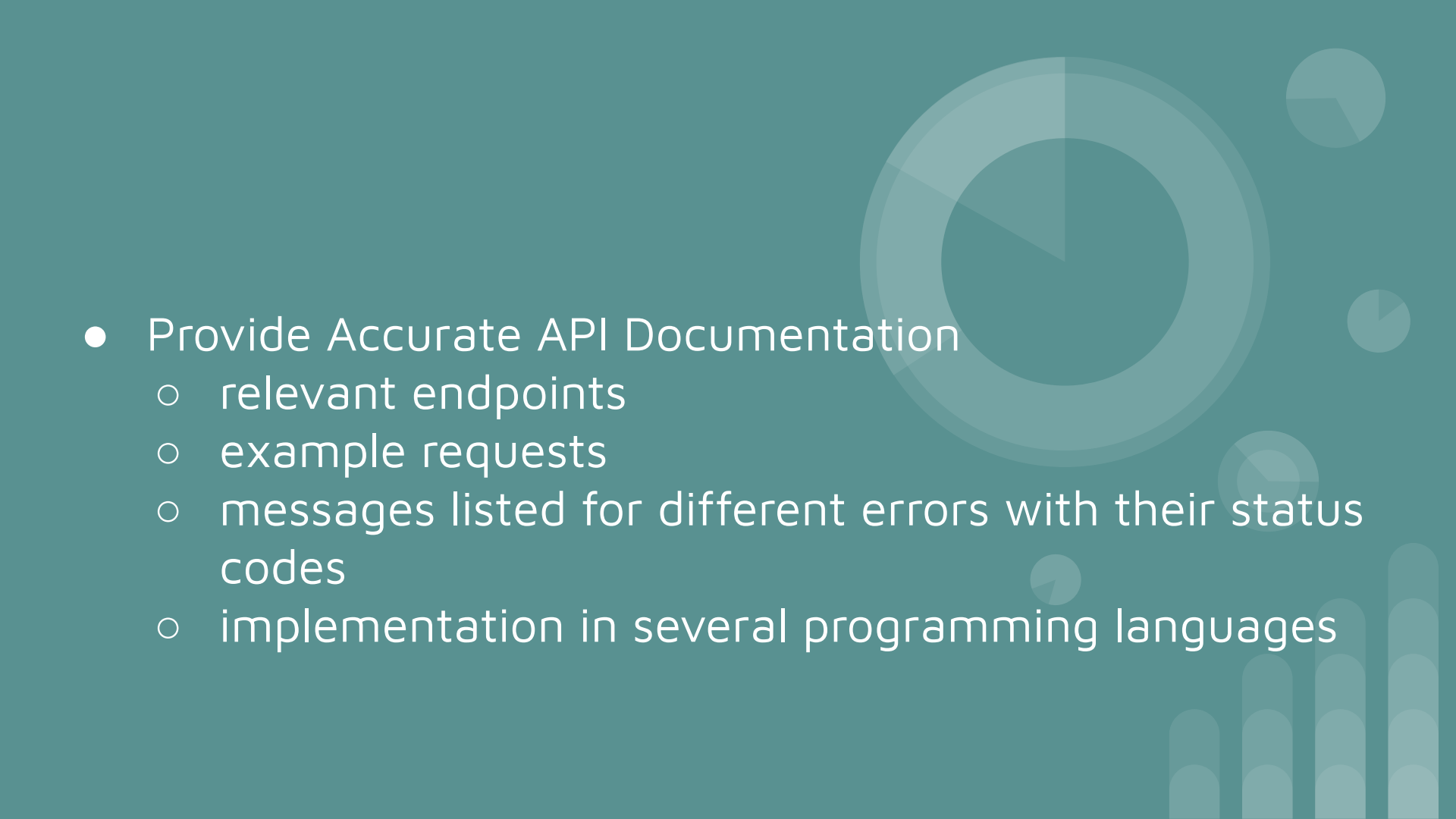
- Use JSON format for Sending and Receiving Data
 - Use Nouns Instead of Verbs in Endpoints
 - Name Collections with Plural Nouns
 - Use Nesting on Endpoints to Show Relationships
- 


HTTP Methods

- GET
- POST
- PUT
- PATCH
- DELETE

- OPTIONS
- HEAD



- 
- Provide Accurate API Documentation
 - relevant endpoints
 - example requests
 - messages listed for different errors with their status codes
 - implementation in several programming languages

- Rate Limiting
 - X-Rate-Limit-Limit
 - X-Rate-Limit-Remaining
 - X-Rate-Limit-Reset
 - Result filtering, sorting & searching
 - GET /tickets?state=open
 - GET /tickets?sort=-priority
 - GET /tickets?q=return
 - Aliases for common queries
 - GET /tickets/recently_closed
 - Limiting fields returned by the API
 - GET /tickets?embed=customer&fields=id,customer.id,customer.name
- 

- Use Status Codes in Error Handling
 - 200, 201, 204, 304, 400, 401, 403, 404, 405, 429, 500, etc
- Use SSL, CORS for Security
- Be Clear with Versioning
 - Path based
 - Query string based
 - Header based
- Headers and Accept parameters
- Revisit HEAD & OPTIONS, Idempotency

HATEOS

- **H**ypermedia **a**s **t**he **E**ngine **o**f Application **S**tate
- RFC 5988
 - Target URI
(represented by the **href** attribute)
 - Link relation type
(represented by the **rel** attribute)
 - Attributes for target
(represented by **type** attribute)

References

- <https://jsonapi.org>
- <https://www.freecodecamp.org/news/rest-api-best-practices-rest-endpoint-design-examples/>
- <https://www.vinaysahni.com/best-practices-for-a-pragmatic-restful-api>





THANK
You! 😊