

REST

History

Doctoral thesis of Dr. Roy Fielding (late '90s, early '2000)

REST Definition

- **R**e presentational
- **S**tate
- **T**ransfer

Common mistake

REST vs RESTful

HTTP methods (aka verbs)

- GET (Read)
- POST (Create)
- PUT (Replace)
- PATCH (Update)
- DELETE (Delete)
- HEAD (used by proxy)
- OPTION
- CONNECT
- TRACE

HTTP History

Purpose: Transport Hypertext Markup Language Documents, created for exchange of academic papers

Sir Tim Berners Lee

CERN Institute

REST vs RPCs etc.

Richardson Maturity Model

- 0 Swamp of POX
- 1 URIs (remote procedure calls)
- 2 HTTP (leverage HTTP methods)
- 3 Hypermedia (HAL, HATEOAS)

REST API Design

→ APIGee

- /api/albums
- /api/albums/{key}

HTTP methods	/api/albums	/api/albums/{key}
GET	Read Album[]	Read Album
POST	Create	n/a
PUT	? (n/a)	Replace*
PATCH	n/a	Update
DELETE	? (n/a)	Delete*

- Idempotency

Complexity of Queries (e.g. Criteria) → QueryString

QueryString: everything behind ?

Resource names: nouns, plural Operation names: verbs

Operations should be mapped to routes with verbs

- /api/currency/USD
- /api/currency/convert?source=USD&target=EUR&amount=100.50&date=20231115
- /api/currency/convert?source=USD&target=EUR&amount=100.50 // now
- /api/currency/convert?source=USD&target=EUR // 1 = ExchangeRate now
- /api/currency/convert?source=USD // 1 = ExchangeRate, now, target from account preferences

HTTP Status Codes

- 100er ... informal
- 200er ... OKish
- 300er ... redirects temp/perm
- 400er ... Client errors
- 500er ... Server errors
- 900er ... custom

[see Details as MDN](#)

The ones you should know

- 200 OK
- 201 Created
- 204 No Content
- 301 Moved permanently (SEO)
- 307 Redirect temporarily
- 308 Redirect permanently
- 401 Unauthorized
- 403 Forbidden (→ 404)
- 404 Not Found
- 405 Method not allowed
- 500 Internal Server Error (no stacktrace has to be exposed) → RFC 7807 (Problem Details)