REST

History

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

REST Definition

- **Re** 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/books
- /api/books/{key}

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

- Idempotency

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

QueryString: everything behind ?

Resource names: nouns, plural Operation names: verbs

Operations should be mapped to routes with verbs

/api/bookStatus/AVL /api/bookStatus/convert?source=AVL&target=BRW

HTTP Status Codes

- 100s ... informal
- 200s ... OKish
- 300s ... redirects temp/perm

- 400s … Client errors

- 500s … Server errors

- 900s … custom

See Details as MDN

The ones to remember

- 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)