

REST

Feliz Gouveia
fribeiro@ufp.edu.pt
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What is REST ?

- REpresentational State Transfer
- A term and architectural approach for the web coined in Roy Fielding's thesis (2000)
- It proposes that accesses to a web site be represented uniformly
- **State Transfer** because a user goes from one page to another by following links
- It helps to design “good” URIs

REST

- Uses a combination of URI and HTTP methods
 - GET means “read”
 - PUT means “edit”
 - DELETE means “delete”
 - POST means “create”

What is good URI design ?

- Uniform and consistent
 - Is `/listproduct.php?id=2` or `/show_product.jsp?pid=5` consistent?
- Readable
- Use nouns, not verbs
- Meaningful: users can guess what the resource is
- Stackable: remove a piece from the url and should also get a resource
- Query args (after the `?`) should be used for queries

Tips for good URIs

- Do not mix lower and upper case (prefer lower case)
- Use hyphens rather than underscores (more readable, but that's your choice)
- Do not use extensions (php, aspx, jsp, pl, py,...), be technology independent
- Avoid spaces and “illegal” URI characters, because they get URL-encoded (with lots of %)
- Do not change an URI over time

Some examples

- /students GET lists students
- /students POST creates a student
- /students/25 GET lists, PUT edits it, DELETE
- /students/25/courses GET
- /students/25/courses/3 GET, PUT, DELETE
- /students?name=john GET does a search
- The same URI can have different operations depending on the HTTP method

More examples

- Getting forms to edit/create
 - GET / students/25/edit
 - GET / students/new
- Alternative way
 - GET /students/form/33/data/25 the edit form
 - GET /students/form/33 same, but empty
- Sorting data
 - GET /students?sort=ascending&page=2

Specifying data formats

- When the client needs a specific format it must specify it
- /students/23.json
- /students/23.xml
- Useful for web services, Ajax calls
- A default format can be HTML

Responses

- Response to a REST request should specify a HTTP response code
 - 200 OK
 - ...