Improving Performance with Partial Updates

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Coming Up

Http PATCH and Json Patch

Advanced Scenarios

Introducing JSON Patch

PUT is only intended for full updates

Today's best practice is to use PATCH instead of PUT when updating

Introducing JSON Patch

The Json Patch standard describes the request body of a PATCH request

- https://bit.ly/2zgYCBp

- Array of operations (= a change set)

Preferred Content-Type header value: "application/json-patch+json"

```
[

    {

        "op": "replace",
        "path": "/title",
        "value": "new title"

    }
    ,
    {

        "op": "remove",
        "path": "/description"

    }
]
```

◄ array of operations

◄ "replace" operation

◄ "title" property gets value "new title"

◄ "remove" operation

◄ "description" property is removed (set to its default value)

JSON Patch Operations

Add

```
{"op": "add",

"path": "/a/b",

"value": "foo"}
```

Remove

```
{"op": "remove",

"path": "/a/b"}
```

Replace

```
{"op": "replace",

"path": "/a/b",

"value": "foo"}
```

JSON Patch Operations

Copy

```
{"op": "copy",
"from": "/a/b",
"path": "/a/c"}
```

Move

```
{"op": "move",
"from": "a/b",
"path": "/a/c"}
```

Test

```
{"op": "test",
"path": "/a/b",
"value": "foo"}
```

Demo

Partially Updating Resources

Demo

Partially Updating Resources with PatchAsync

```
[{   "op": "add",
     "path": "/actors/3",
     "value": {
                "name" : "Jeff Bridges"
              }
 },
 {   "op": "replace",
     "path": "/actors/3/nationality",
     "value": "American"
 }]
```
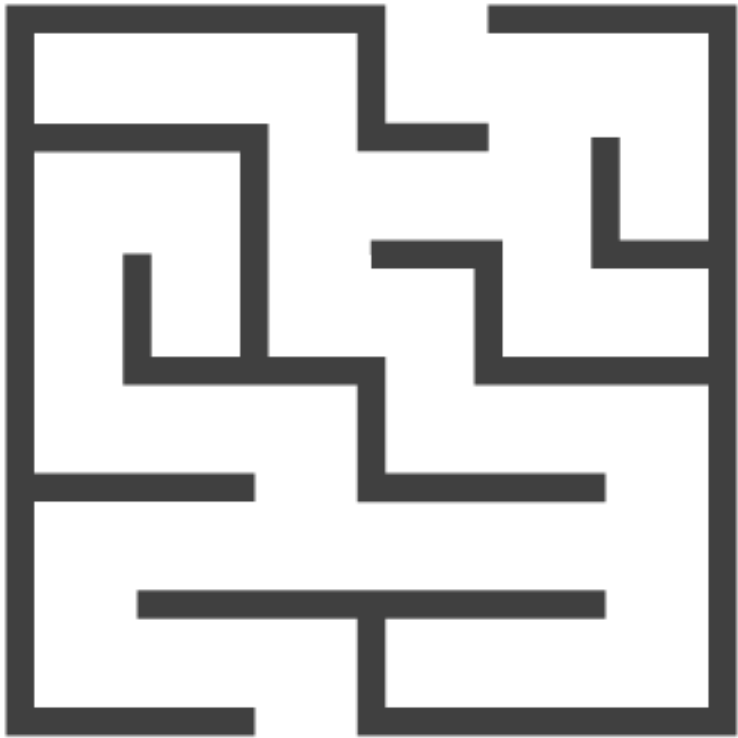
Advanced Patch Scenarios

Add an actor at position 3 (with the name filled out)

Replace the value of the nationality of the actor at position 3 with a new value

Advanced Partial Update Scenarios

From an API POV, implementing support for this can be complex

Due to this, APIs often stop supporting it after one level deep

Summary

PATCH is preferred over PUT

The JSON Patch standard describes the body of a PATCH request

Implement it on the client via JsonPatchDocument

Don't assume an API will support advanced PATCH scenarios