# Working with Partial Updates

**Kevin Dockx**

ARCHITECT

@KevinDockx   www.kevindockx.com

# Coming Up

**Updating Resources with PUT**

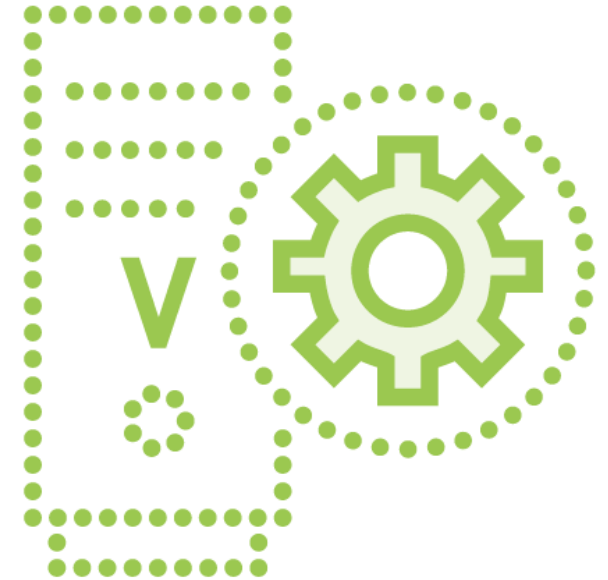**Working with Partial Updates**

**Advanced Partial Update Scenarios**

# Updating Resources with PUT

```
{
    "title": "Villains World Tour",
    "description": "Updated description",
    "band": "Queens of the Stone Age"
}
```
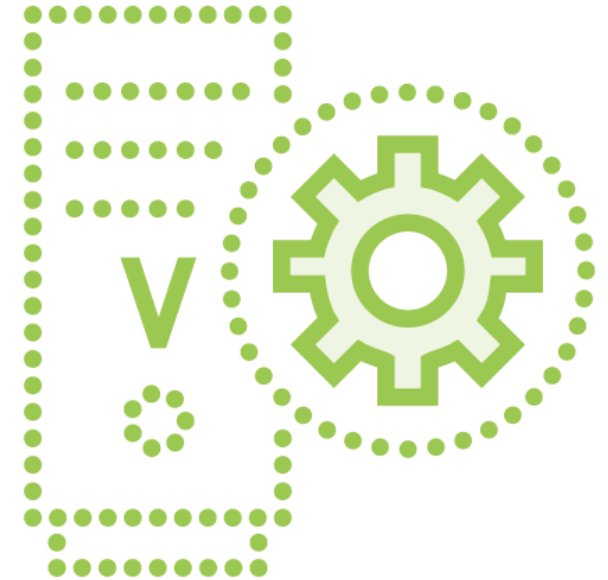
**PUT api/tours/{id}**

```
{
    "title": "Villains World Tour",
    "description": "Updated description",
    "band": "Queens of the Stone Age"
}
```

# Updating Resources with PUT

```
{
  "description": "Updated description"
}
```

**PUT api/tours/{id}**

```
{
  "title": <default>,
  "description": "Updated description",
  "band": <default>
}
```

# Updating Resources with PUT

**Partial updates with PUT**

- Ignore the other fields?
- Results in issues with missing differentiator

**PUT is great for full updates**

- ... but how often do we really want to do that?

# Updating Resources with PATCH

**Http Patch is intended for partial updates**

**Use the Json Patch standard to describe the set of changes**

- RFC 6902 (Json Patch) https://tools.ietf.org/html/rfc6902

- application/json-patch+json

```
[
  {
    "op": "replace",
    "path": "/title",
    "value": "new tour title"
  }
  ,
  {

    "op": "add",
    "path": "/description",
    "value": "updated description"
  }
]
```

◄ array of operations

◄ "replace" operation

◄ "title" property gets value "new tour title"

◄ "add" operation

◄ "description" property is added (or updated) to "updated description"

# JSON Patch Operations

## Add

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

## Replace

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

## Remove

```
{"op": "remove",
"path": "/a/b"}
```

# 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

Creating a Partial Update Request

# Demo

**Handling a Partial Update Request**

```
[{   "op": "add",
     "path": "/shows/5",
     "value": {
                 "venue" : "Sportpaleis",
                 "city" : "Antwerp"
               }
 },
 {  "op": "replace",
    "path": "/shows/2/venue",
    "value": "O2 Arena"
 }]
```

# Advanced Partial Update Scenarios

**Add a show at position 5 (with two fields filled out)**

**Replace the value of the venue of the show at position 2 with a new value**

# Advanced Partial Update Scenarios

Implementing support for advanced scenarios is complicated

Regardless, often deep updates are not a use case you *want* to support

Support partial updates one level deep

# Summary

**PUT should only be used for full updates**

**PATCH replaces PUT, allowing for partial updates**

- Json Patch standard describes the body of such a request

**Support partial updates one level deep**