

REST makeover

REpresentational State Transfer

All endpoints are either

Objects

or

Collections of objects

Objects or Collections



Canonical URI

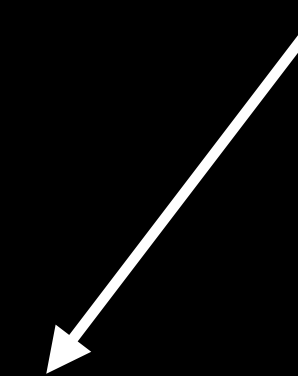
/r/persons

/r/persons/12345

/r/persons/12345/addresses

/r/persons/12345/addresses/1

Link or reference



/r/addresses

/r/addresses/98765

/r/addresses/98765/persons

/r/addresses/98765/persons/1

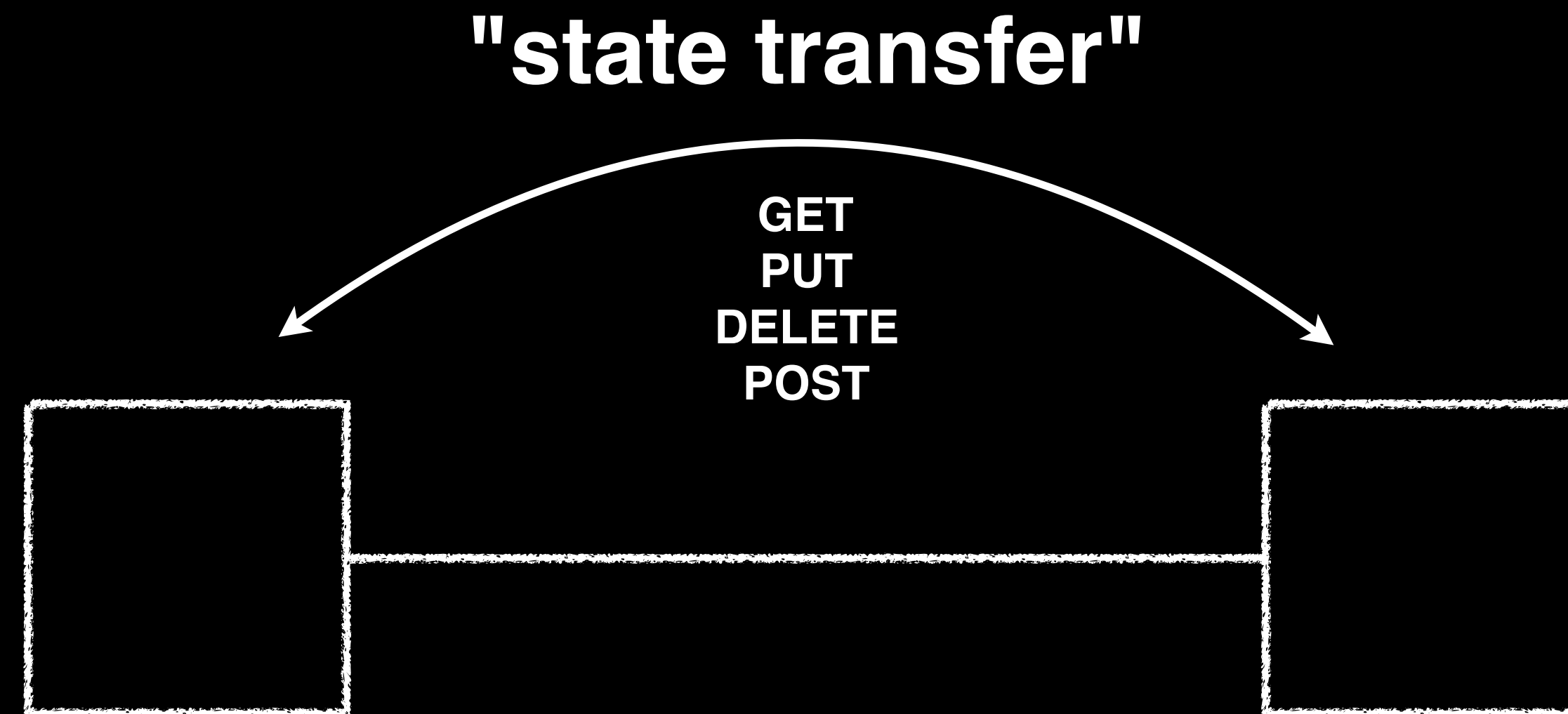
Primary URL
with unique ID



JAX-RS

- Standard API
- Annotation
- Content-Type and marshaling
- URL parameters and body content

HTTP verbs



How to send commands?

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How do we tell the server to i.e. "start re-indexing"

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Answer:

Don't do that. Change the state and let the server figure it out by itself.

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Secret trick:

Make a "command queue" and post the command to the queue.

HTTP errorcodes

Use HTTP error codes correctly

4XX - client did something wrong

5XX - server did something wrong

Requires explicit error handling

200 OK

201 Created

202 Accepted

302 Found

303 See other

400 Bad Request

401 Unauthorized

404 Not Found

405 Method Not Allowed

412 Precondition Failed

413 Payload Too Large

415 Unsupported Media Type

500 Internal Server Error

Caching

- Server decides when and what to cache
- Don't just assume that you may cache, ask the server
- Add support for efficient caching in your data model

Pagination, sorting, fields, filtering

Define your standard syntax

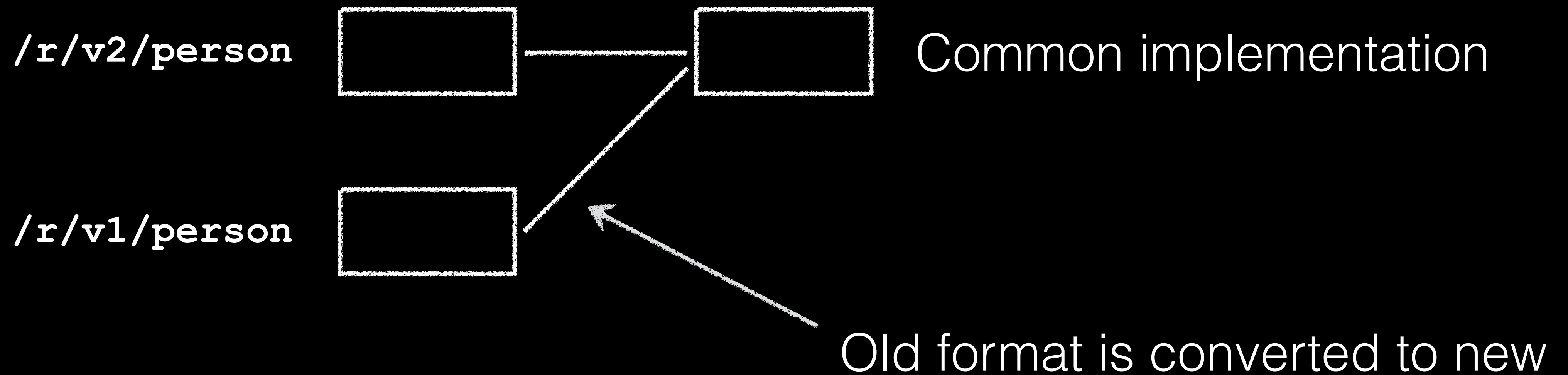
```
/r/persons?sort=+lastname,+firstname
```

```
/r/persons?fields=firstname,lastname,age
```

```
/r/persons?firstname=Hans
```

```
/r/persons?skip=10&limit=10
```

Versioning



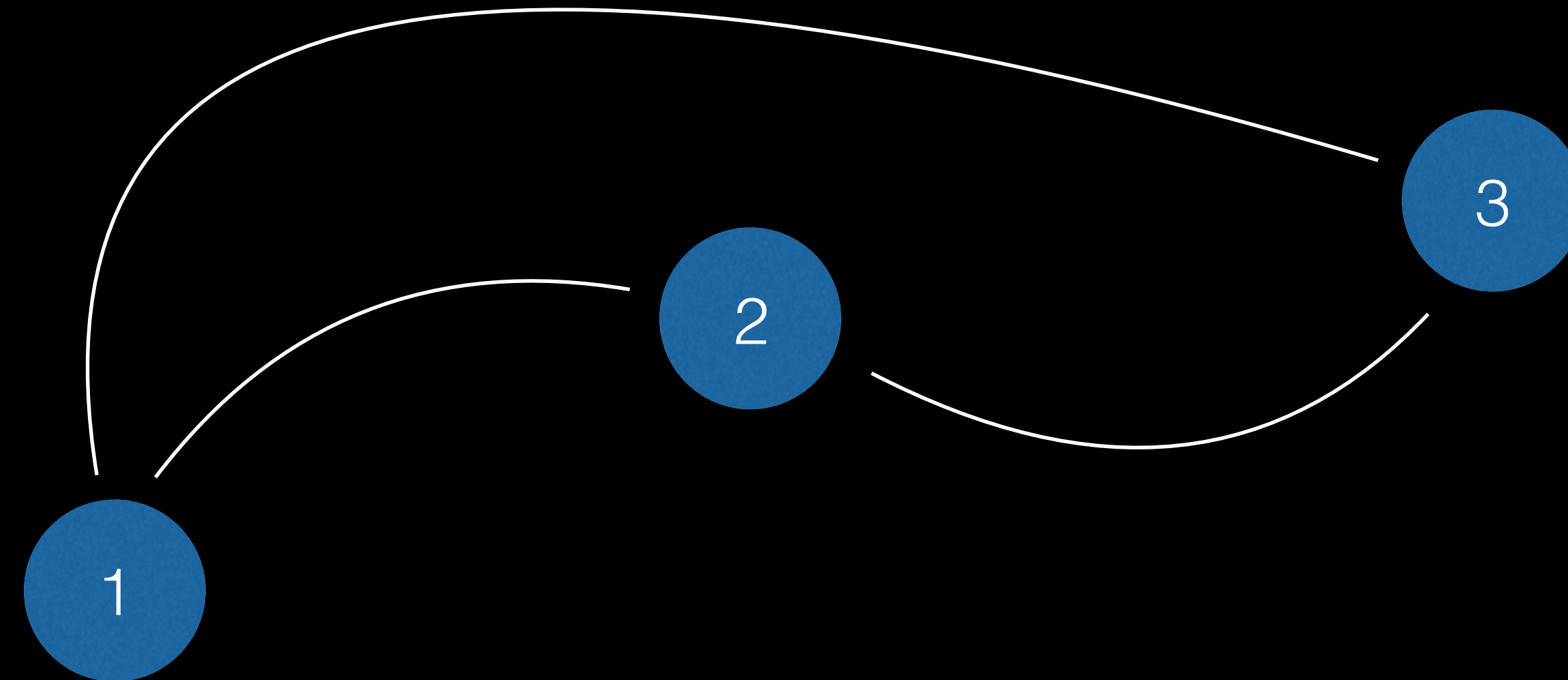
Separate endpoints and datamodel for each version

HATEOAS

HATEOAS

Hypermedia As The Engine Of Application State ???

Nettsted som en tilstandsmaskin



Hver webside er en tilstand. Lenker viser mulige tilstandsoverganger.

Ressurser med lenker

GET /account/12345 HTTP/1.1

HTTP/1.1 200 OK

```
<?xml version="1.0"?>
```

```
<account>
```

```
  <account_number>12345</account_number>
```

```
  <balance currency="usd">100.00</balance>
```

```
  <link rel="deposit" href="/account/12345/deposit" />
```

```
  <link rel="withdraw" href="/account/12345/withdraw" />
```

```
  <link rel="transfer" href="/account/12345/transfer" />
```

```
  <link rel="close" href="/account/12345/close" />
```

```
</account>
```

Hver ressurs har lenker som viser mulige tilstandsoverganger.