

# NETWORKING WITH URLSESSION



PART 2: HTTP 101



RESTed-POST\_json-server

http://localhost:3000/posts/

POST

Authorization

Advanced

☒ Follow Redirects

	Header Field	Header Value

+ -

	Parameter Name	Parameter Value
<input checked="" type="checkbox"/>	author	audrey
<input checked="" type="checkbox"/>	title	HTTP 101

JSON-encoded

+ -

```
{
  "author": "audrey",
  "title": "HTTP 101"
}
```

☐ Use Custom HTTP Body

UTF8

Parameters

HTTP Body

Send Request

POST /posts

Response time: 53 ms

Request Headers & Body

Accept: \*/\*  
Accept-Encoding: gzip, deflate  
Content-Type: application/json  
Accept-Language: en-au  
  
{  
 "author": "audrey",  
 "title": "HTTP 101"  
}

Response Headers

HTTP/1.1 201 Created  
  
Content-Type: application/json; charset=utf-8  
Pragma: no-cache  
X-Powered-By: Express  
Expires: -1  
Cache-Control: no-cache  
Date: Tue, 24 Jan 2017 03:23:58 GMT  
Access-Control-Allow-Credentials: true  
Content-Length: 59  
Connection: keep-alive  
X-Content-Type-Options: nosniff  
Etag: W/"3b-T0TTHfa0aYJN0WN+yBhEjw"  
Vary: Origin, X-HTTP-Method-Override, Accept-Encoding

Response Body

Display Options

```
{
  "author": "audrey",
  "title": "HTTP 101",
  "id": 21
}
```

# URL & HTTP

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# URL & HTTP

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► Uniform Resource Locator



# URL & HTTP

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- ▶ Uniform Resource Locator
- ▶ HyperText Transfer Protocol



# URL & HTTP

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- ▶ Uniform Resource Locator
- ▶ HyperText Transfer Protocol
  - ▶ POST: Create



# URL & HTTP

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- ▶ Uniform Resource Locator
- ▶ HyperText Transfer Protocol
  - ▶ POST: Create
  - ▶ GET: Read



# URL & HTTP

---

- ▶ Uniform Resource Locator
- ▶ HyperText Transfer Protocol
  - ▶ POST: Create
  - ▶ GET: Read
  - ▶ PUT: Update





# URL & HTTP

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- ▶ Uniform Resource Locator
- ▶ HyperText Transfer Protocol
  - ▶ POST: Create
  - ▶ GET: Read
  - ▶ PUT: Update
  - ▶ DELETE: Delete



# URL & HTTP

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- ▶ Uniform Resource Locator
- ▶ HyperText Transfer Protocol
  - ▶ POST: Create
  - ▶ GET: Read
  - ▶ PUT: Update
  - ▶ DELETE: Delete
  - ▶ HEAD: GET headers only





Server

messages

Client



Server

messages

Client

## Request Headers

```
Accept: */*
Accept-Encoding: gzip, deflate
Content-Type: application/json
Accept-Language: en-au
```

## Request Body

```
{
  "author": "audrey",
  "title": "HTTP 101"
}
```

Server

messages

Client

## Response Headers

```
HTTP/1.1 201 Created
Content-Type: application/json; charset=utf-8
Pragma: no-cache
X-Powered-By: Express
Expires: -1
Cache-Control: no-cache
Date: Tue, 24 Jan 2017 03:23:58 GMT
Access-Control-Allow-Credentials: true
Content-Length: 59
Connection: keep-alive
X-Content-Type-Options: nosniff
Etag: W/"3b-T0TTHfa0aYJN0WN+yBhEjw"
Vary: Origin, X-HTTP-Method-Override, Accept-Encoding
```

## Request Headers

```
Accept: */*
Accept-Encoding: gzip, deflate
Content-Type: application/json
Accept-Language: en-au
```

## Request Body

```
{
  "author": "audrey",
  "title": "HTTP 101"
}
```

## Response Body

```
{
  "author": "audrey",
  "title": "HTTP 101",
  "id": 2
}
```

Server

messages

Client

HTTP/1.1 201 Created

Content-Type: application/json; charset=utf-8

Pragma: no-cache

X-Powered-By: Express

Expires: -1

Cache-Control: no-cache

Date: Tue, 24 Jan 2017 03:23:58 GMT

Access-Control-Allow-Credentials: true

Content-Length: 59

Connection: keep-alive

X-Content-Type-Options: nosniff

Etag: W/"3b-T0TTHfa0aYJN0WN+yBhEjw"

Vary: Origin, X-HTTP-Method-Override, Accept-Encoding

## Response Headers

Accept: \*/\*

Accept-Encoding: gzip, deflate

Content-Type: application/json

Accept-Language: en-au

## Request Headers

{

"author": "audrey",

"title": "HTTP 101"

}

## Request Body

{

"author": "audrey",

"title": "HTTP 101",

"id": 2

}

## Response Body

Server

messages

Client

HTTP/1.1 201 Created

Content-Type: application/json; charset=utf-8

Pragma: no-cache

X-Powered-By: Express

Expires: -1

Cache-Control: no-cache

Date: Tue, 24 Jan 2017 03:23:58 GMT

Access-Control-Allow-Credentials: true

Content-Length: 59

Connection: keep-alive

X-Content-Type-Options: nosniff

Etag: W/"3b-T0TTHfa0aYJN0WN+yBhEjw"

Vary: Origin, X-HTTP-Method-Override, Accept-Encoding

## Response Headers

Accept: \*/\*

Accept-Encoding: gzip, deflate

Content-Type: application/json

Accept-Language: en-au

## Request Headers

## Request Body

```
{
  "author": "audrey",
  "title": "HTTP 101"
}
```

## Response Body

```
{
  "author": "audrey",
  "title": "HTTP 101",
  "id": 2
}
```



Server

messages

Client

HTTP/1.1 201 Created

Content-Type: application/json; charset=utf-8

Pragma: no-cache

X-Powered-By: Express

Expires: -1

Cache-Control: no-cache

Date: Tue, 24 Jan 2017 03:23:58 GMT

Access-Control-Allow-Credentials: true

Content-Length: 59

Connection: keep-alive

X-Content-Type-Options: nosniff

Etag: W/"3b-T0TTHfa0aYJN0WN+yBhEjw"

Vary: Origin, X-HTTP-Method-Override, Accept-Encoding

## Response Headers

Accept: \*/\*

Accept-Encoding: gzip, deflate

Content-Type: application/json

Accept-Language: en-au

## Request Headers

## Request Body

```
{
  "author": "audrey",
  "title": "HTTP 101"
}
```

## Response Body

```
{
  "author": "audrey",
  "title": "HTTP 101",
  "id": 2
}
```

# CONTENT TYPES

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# CONTENT TYPES

---

▶ application/json



# CONTENT TYPES

---

- ▶ application/json
- ▶ application/x-www-form-urlencoded



# CONTENT TYPES

---

- ▶ application/json
- ▶ application/x-www-form-urlencoded
- ▶ text/html



# CONTENT TYPES

---

- ▶ application/json
- ▶ application/x-www-form-urlencoded
- ▶ text/html
- ▶ application/pdf



# CONTENT TYPES

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- ▶ application/json
- ▶ application/x-www-form-urlencoded
- ▶ text/html
- ▶ application/pdf
- ▶ image/png, image/jpeg, image/gif



# CONTENT TYPES

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- ▶ application/json
- ▶ application/x-www-form-urlencoded
- ▶ text/html
- ▶ application/pdf
- ▶ image/png, image/jpeg, image/gif
- ▶ multipart/form-data





# DEMO



# HTTP/2

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# HTTP/2

---

- ▶ No code changes needed!



# HTTP/2

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- ▶ No code changes needed!
  - ▶ Negotiate with your web people



# HTTP/2

---

- ▶ No code changes needed!
  - ▶ Negotiate with your web people
- ▶ Multiplexing and concurrency



# HTTP/2

---

- ▶ No code changes needed!
  - ▶ Negotiate with your web people
- ▶ Multiplexing and concurrency
- ▶ Header compression



# HTTP/2

---

- ▶ No code changes needed!
  - ▶ Negotiate with your web people
- ▶ Multiplexing and concurrency
- ▶ Header compression
- ▶ Stream priorities



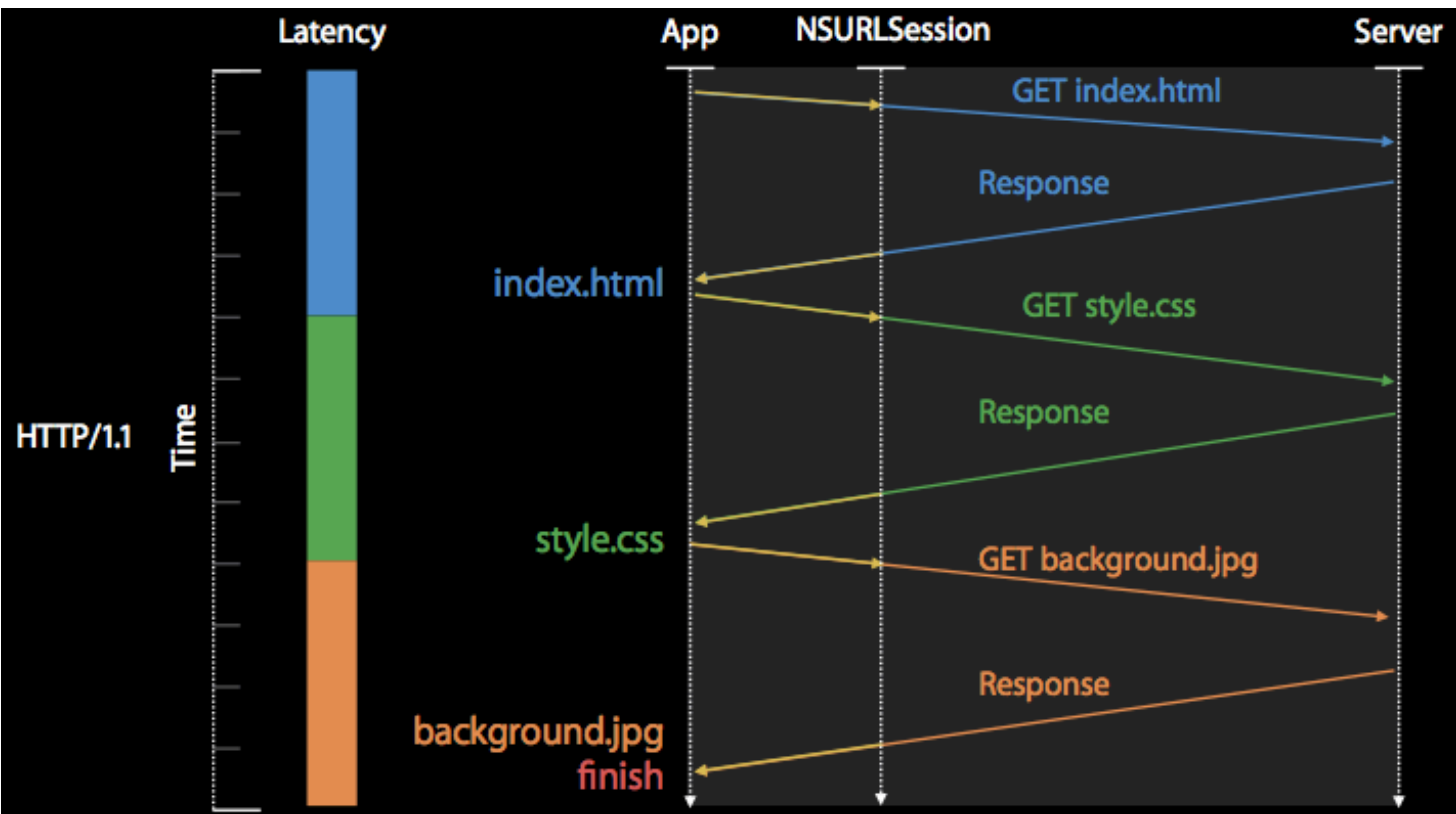
# HTTP/2

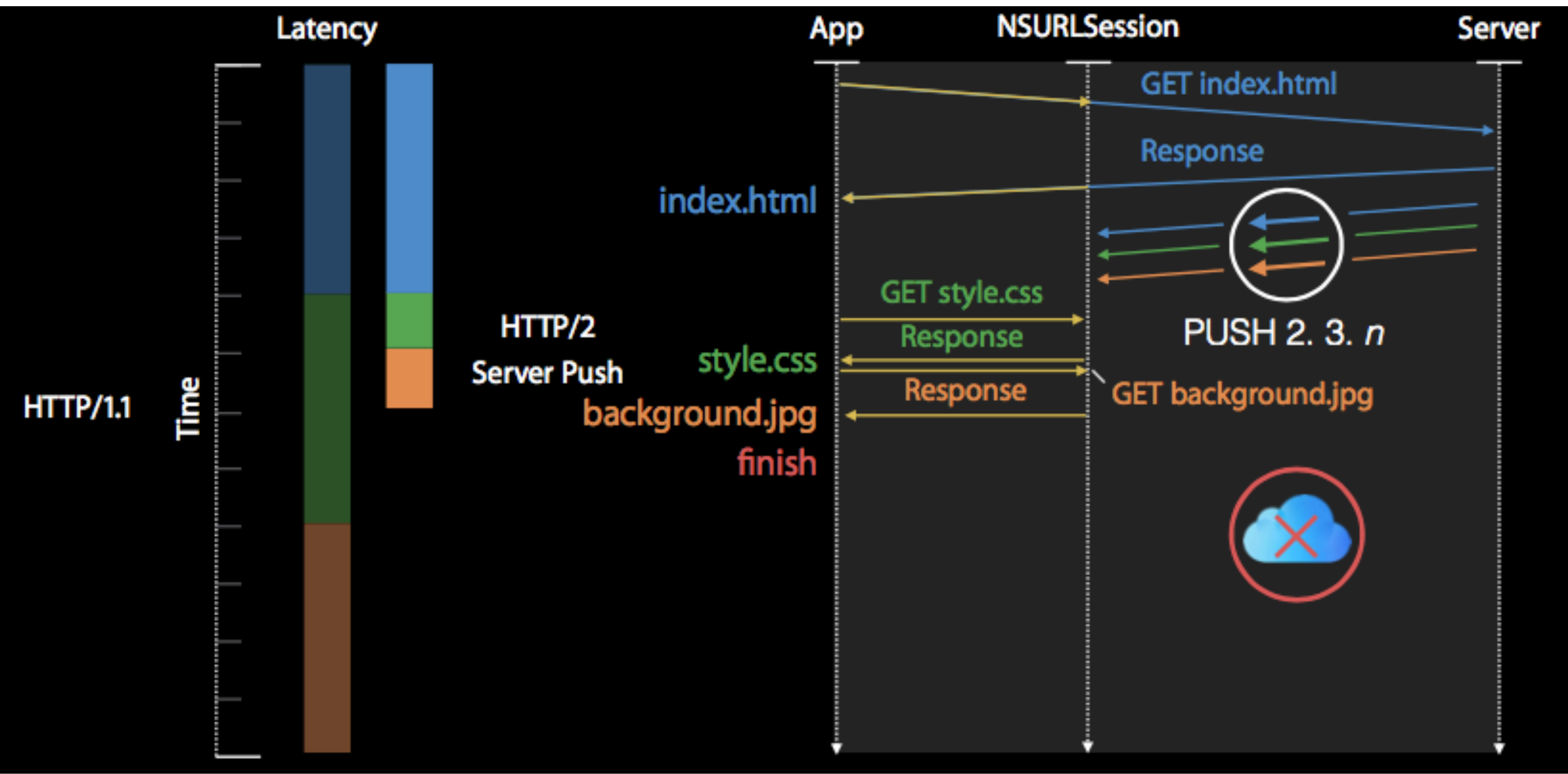
---

- ▶ No code changes needed!
  - ▶ Negotiate with your web people
- ▶ Multiplexing and concurrency
- ▶ Header compression
- ▶ Stream priorities
- ▶ Server push









# CHALLENGE TIME!

RESTed-PUT\_json-server

http://localhost:3000/posts/2

PUT

Authorization

Advanced

☒ Follow Redirects

Header Field	Header Value

+ -

Parameter Name	Parameter Value
<input checked="" type="checkbox"/> author	someone else
<input checked="" type="checkbox"/> title	a different title

JSON-encoded

+ -

```
{  "author": "someone else",  "title": "a different title"}  
```

☐ Use Custom HTTP Body

UTF8

Parameters

HTTP Body

Send Request

PUT /posts/2

Response time: 52 ms

Request Headers & Body

Accept: \*/\*  
Accept-Encoding: gzip, deflate  
Content-Type: application/json  
Accept-Language: en-au  
  
{ "author": "someone else", "title": "a different title"}

Response Headers

HTTP/1.1 200 OK  
  
Content-Type: application/json; charset=utf-8  
Pragma: no-cache  
X-Powered-By: Express  
Expires: -1  
Cache-Control: no-cache  
Date: Tue, 24 Jan 2017 03:35:00 GMT  
Access-Control-Allow-Credentials: true  
Content-Length: 73  
Connection: keep-alive  
X-Content-Type-Options: nosniff  
Etag: W/"49-VyX/oKw3+cwVltWdL920dA"  
Vary: Origin, Accept-Encoding

Response Body

Display Options

{ "author": "someone else", "title": "a different title", "id": 2}