RESTful Web API Design with Node.js

Saleh Hamadeh

Section 2

Consuming a RESTful API

In this Section, we are going to take a look at...

- Authentication in REST APIs

- Twitter's REST API

- Accessing MongoDB from Node.js

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Video 2.1

A Look at OAuth 1.0a ▶

In this Video, we are going to take a look at...

- What is OAuth

- Parties involved in OAuth
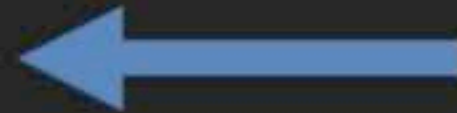
- The authentication flow

- A real-world example

What Is OAuth?

- OAuth is an open standard for interacting with protected data

- It is used for:

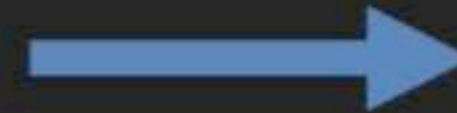   o Sharing data between services

    o Signing in
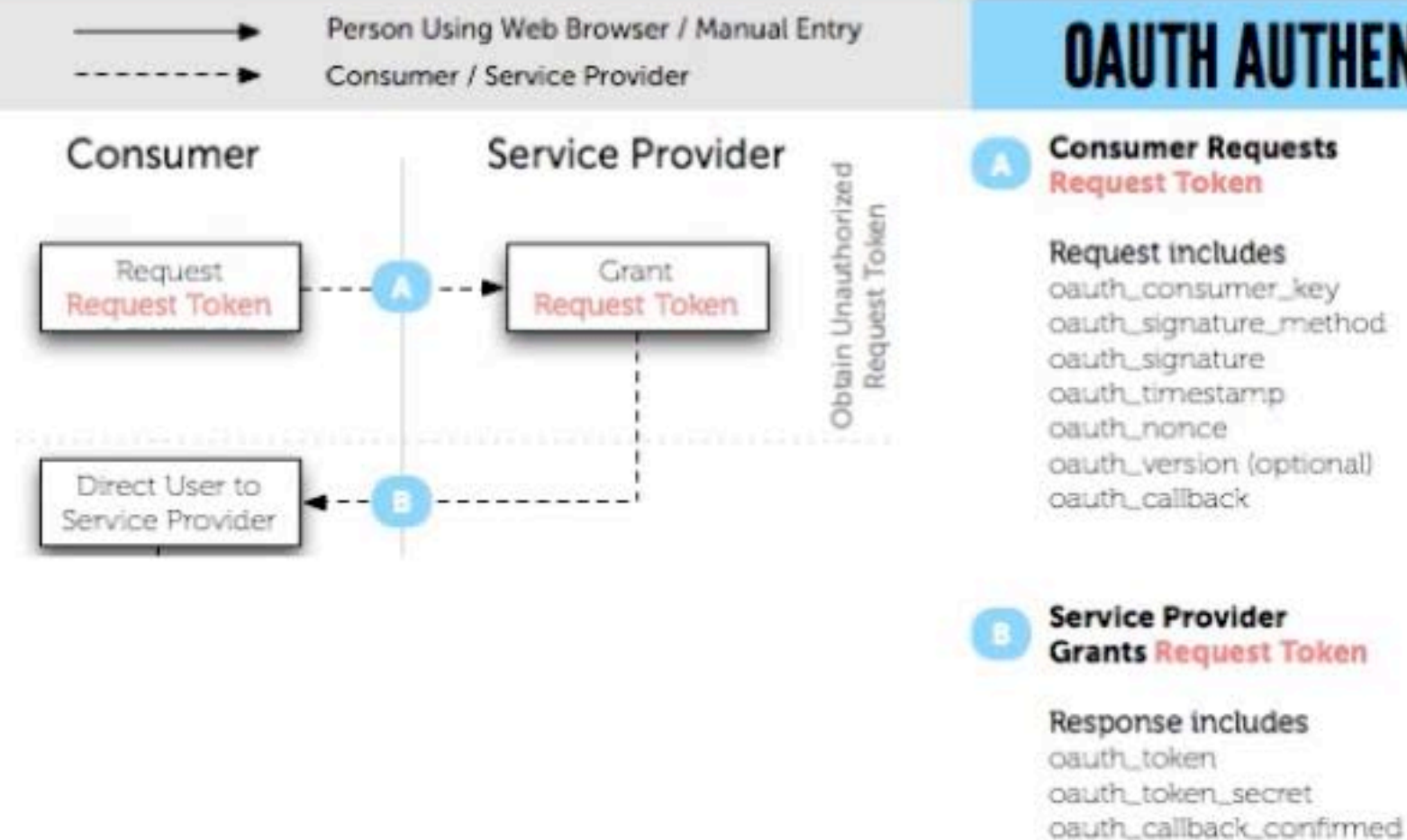
Parties Involved in OAuth

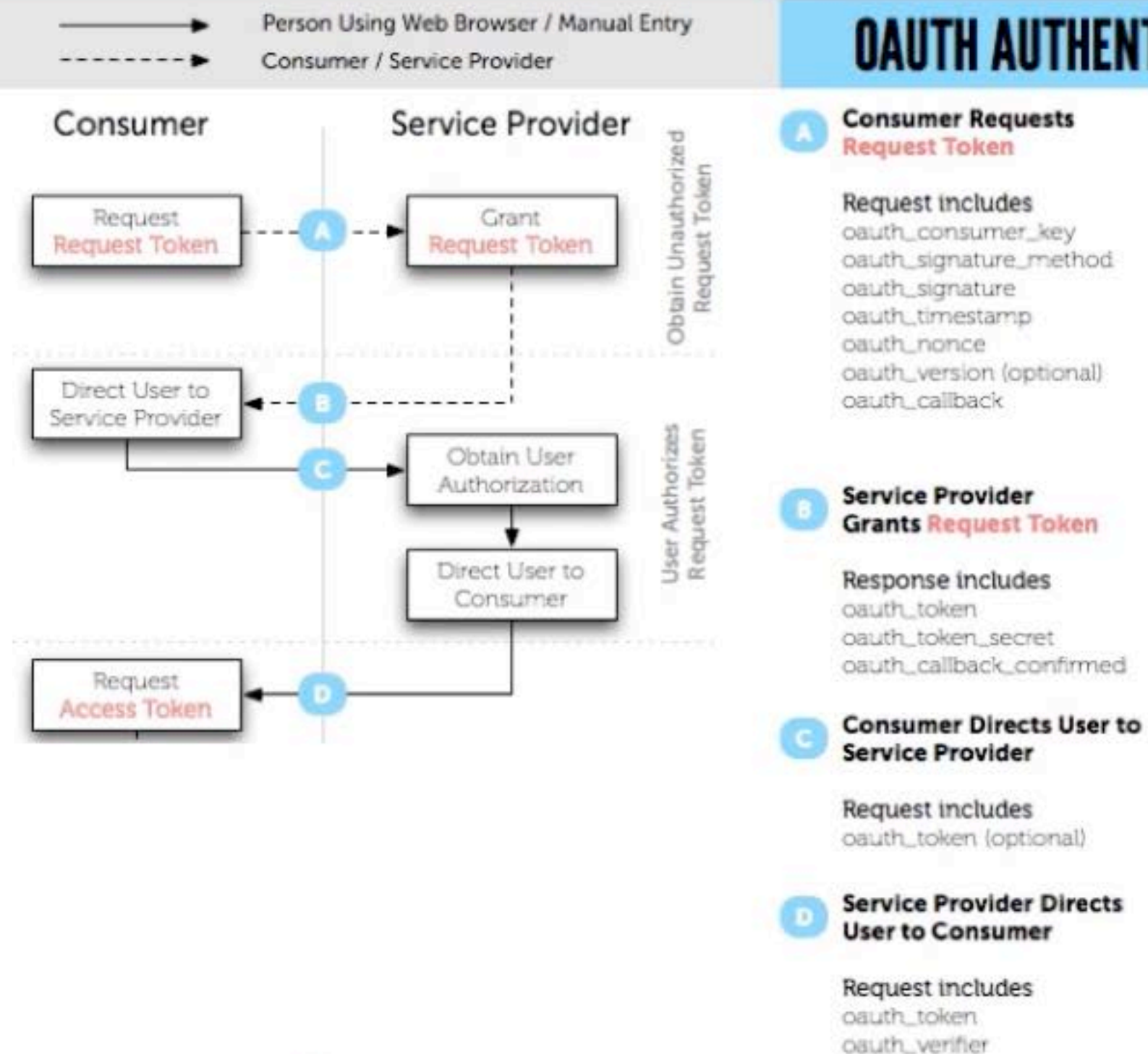Client

Resource Owner

Server

Parties Involved in OAuth

Client   Resource Owner   Server

The Authentication Flow

OAUTH AUTHENTICATION FLOW v1.0a

Person Using Web Browser / Manual Entry
Consumer / Service Provider

Consumer   **Service Provider**

Request
Request Token

Grant
Request Token

Obtain Unauthorized Request Token

Direct User to
Service Provider

A Consumer Requests
Request Token

Request includes
oauth_consumer_key
oauth_signature_method
oauth_signature
oauth_timestamp
oauth_nonce
oauth_version (optional)
oauth_callback

B Service Provider
Grants **Request Token**

Response includes
oauth_token
oauth_token_secret
oauth_callback_confirmed

The 3 main steps:

1. Ask for request token

The Authentication Flow

OAUTH AUTHENTICATION FLOW v1.0a

Consumer   **Service Provider**

Request
Request Token

A

Grant
Request Token

Direct User to
Service Provider

B

Obtain User
Authorization

C

Direct User to
Consumer

Request
Access Token

D

Obtain Unauthorized
Request Token

User Authorizes
Request Token

A **Consumer Requests**
Request Token

Request includes
oauth_consumer_key
oauth_signature_method
oauth_signature
oauth_timestamp
oauth_nonce
oauth_version (optional)
oauth_callback

B **Service Provider**
**Grants** Request Token

Response includes
oauth_token
oauth_token_secret
oauth_callback_confirmed

C **Consumer Directs User to**
Service Provider

Request includes
oauth_token (optional)

D **Service Provider Directs**
User to Consumer

Request includes
oauth_token
oauth_verifier

The 3 main steps:

1. Ask for request token

2. Get temporary credentials

The Authentication Flow

The 3 main steps:

1. Ask for request token

2. Get temporary credentials

3. Exchange for access token
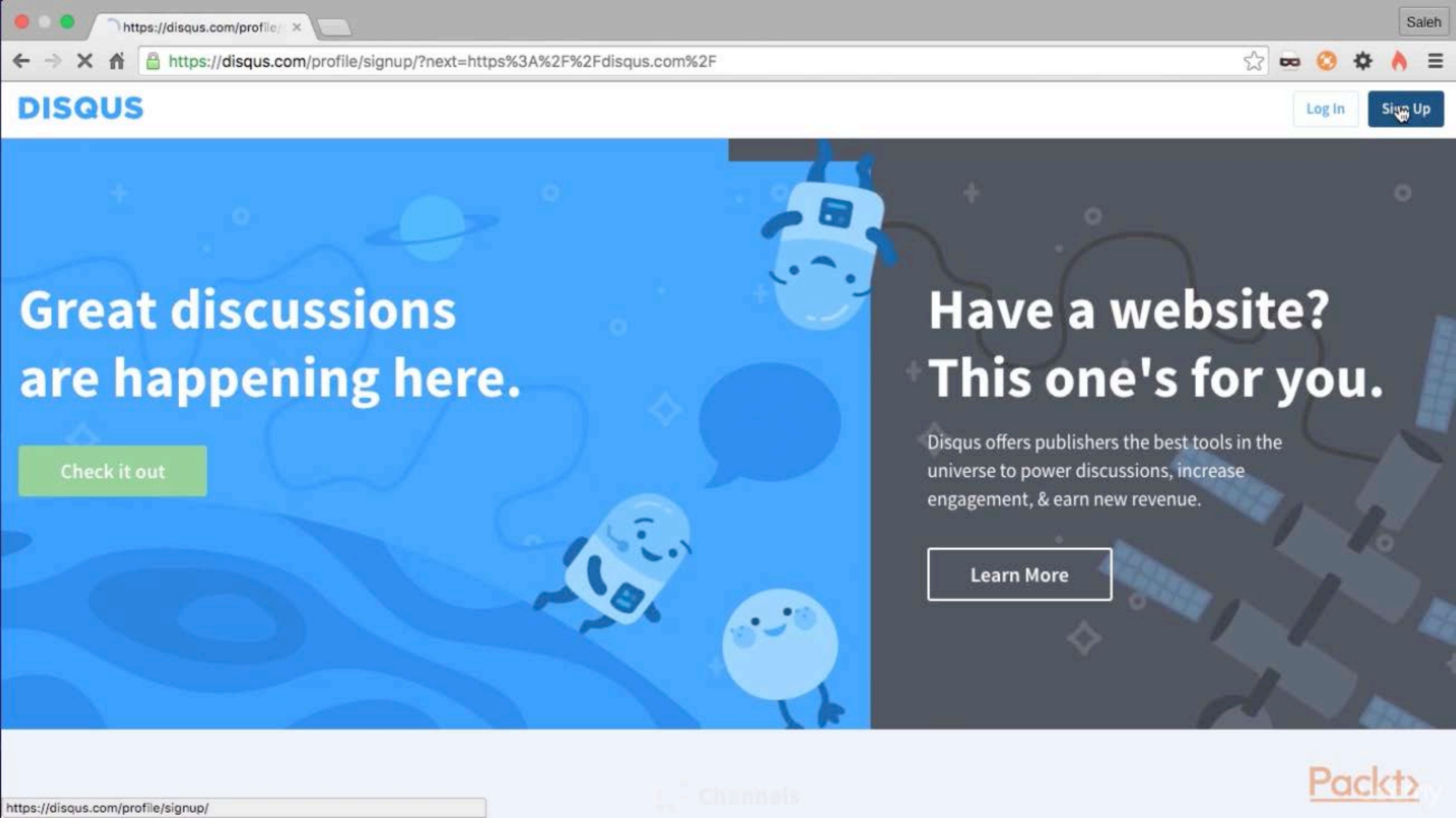
DISQUS

Log In   Sign Up
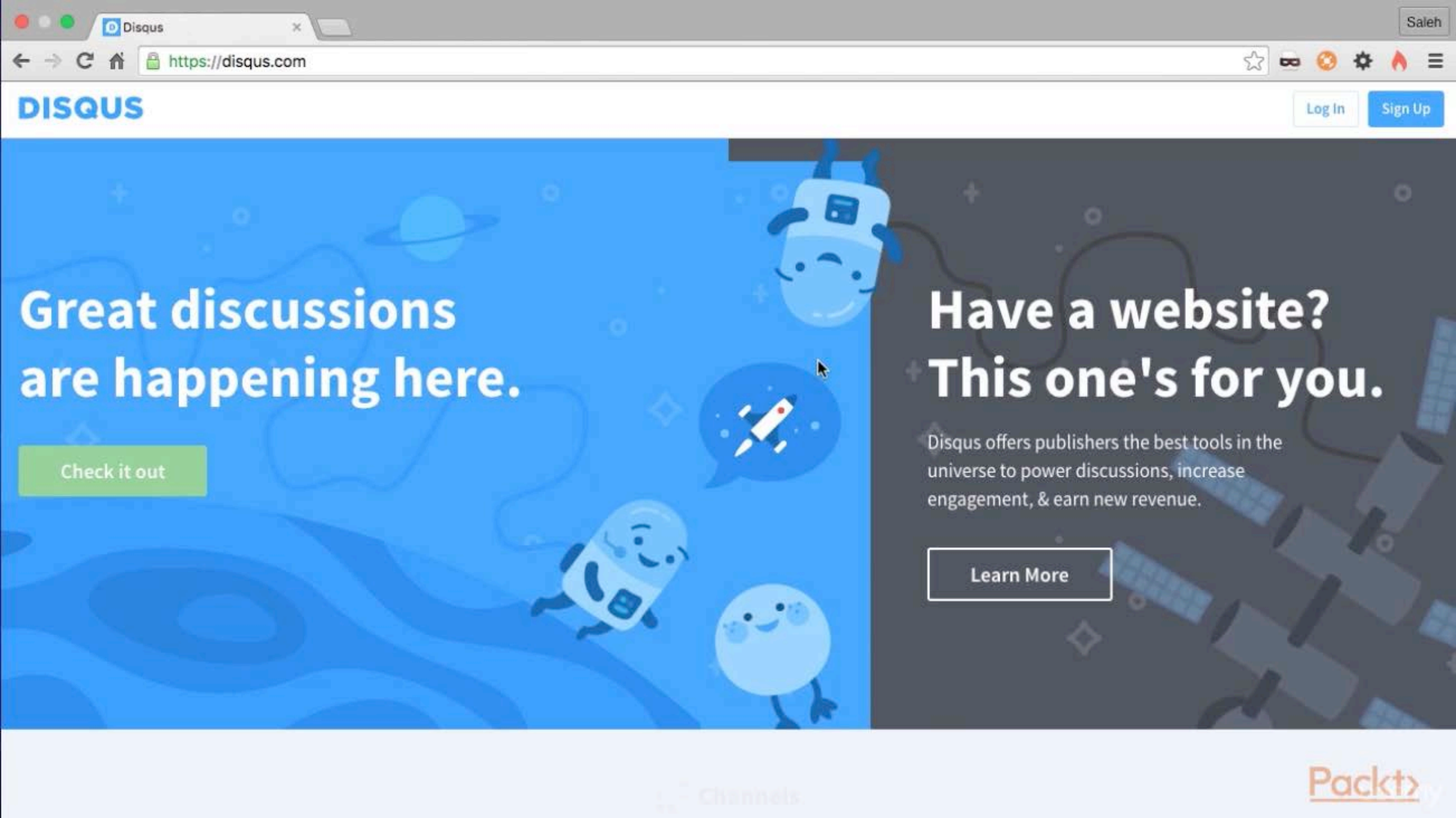
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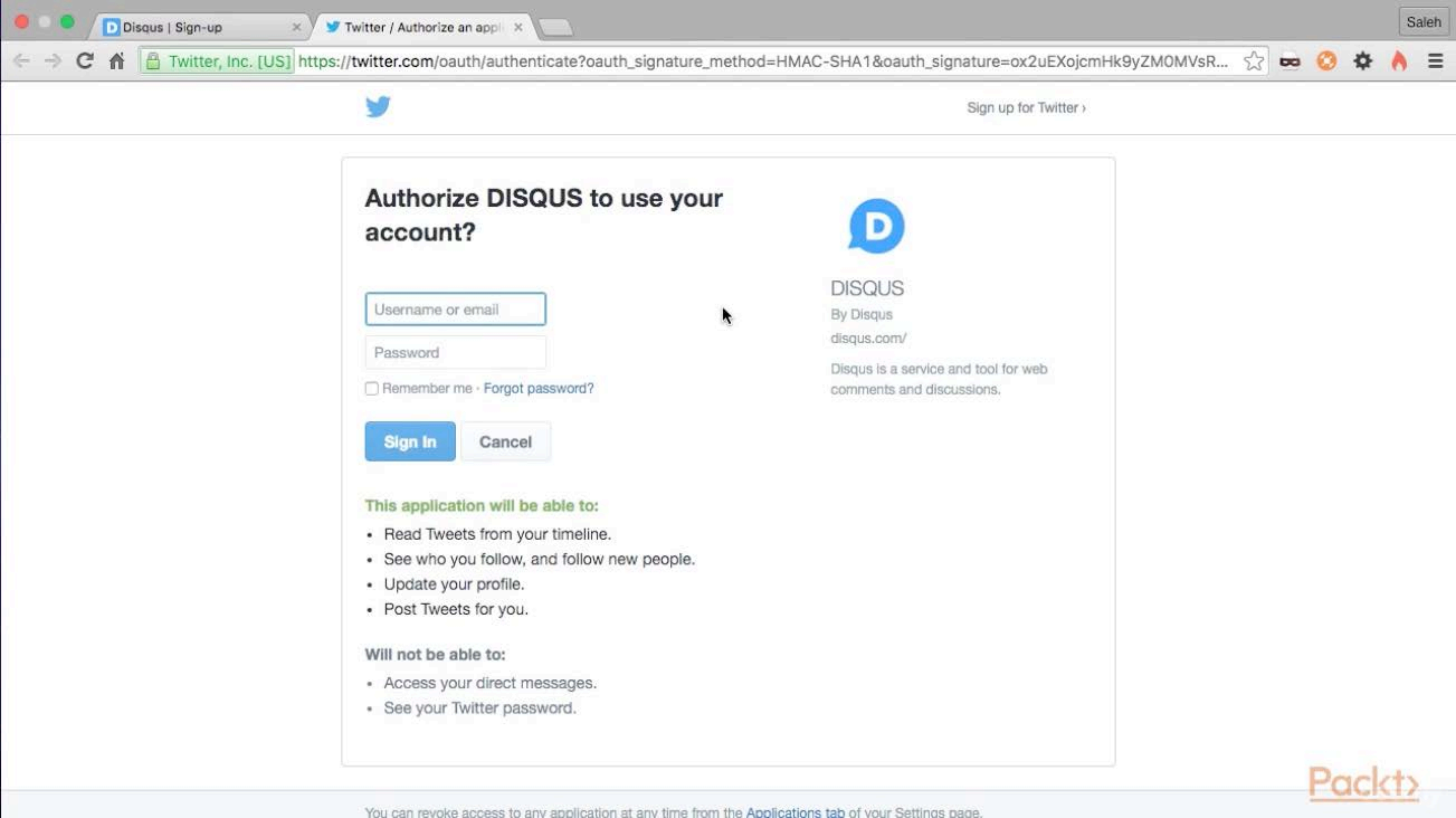
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Email

Password

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Sign Up   Have an account?

Sign up for Twitter ›

Authorize DISQUS to use your account?

Username or email

Password

☐ Remember me · Forgot password?

Sign In   Cancel
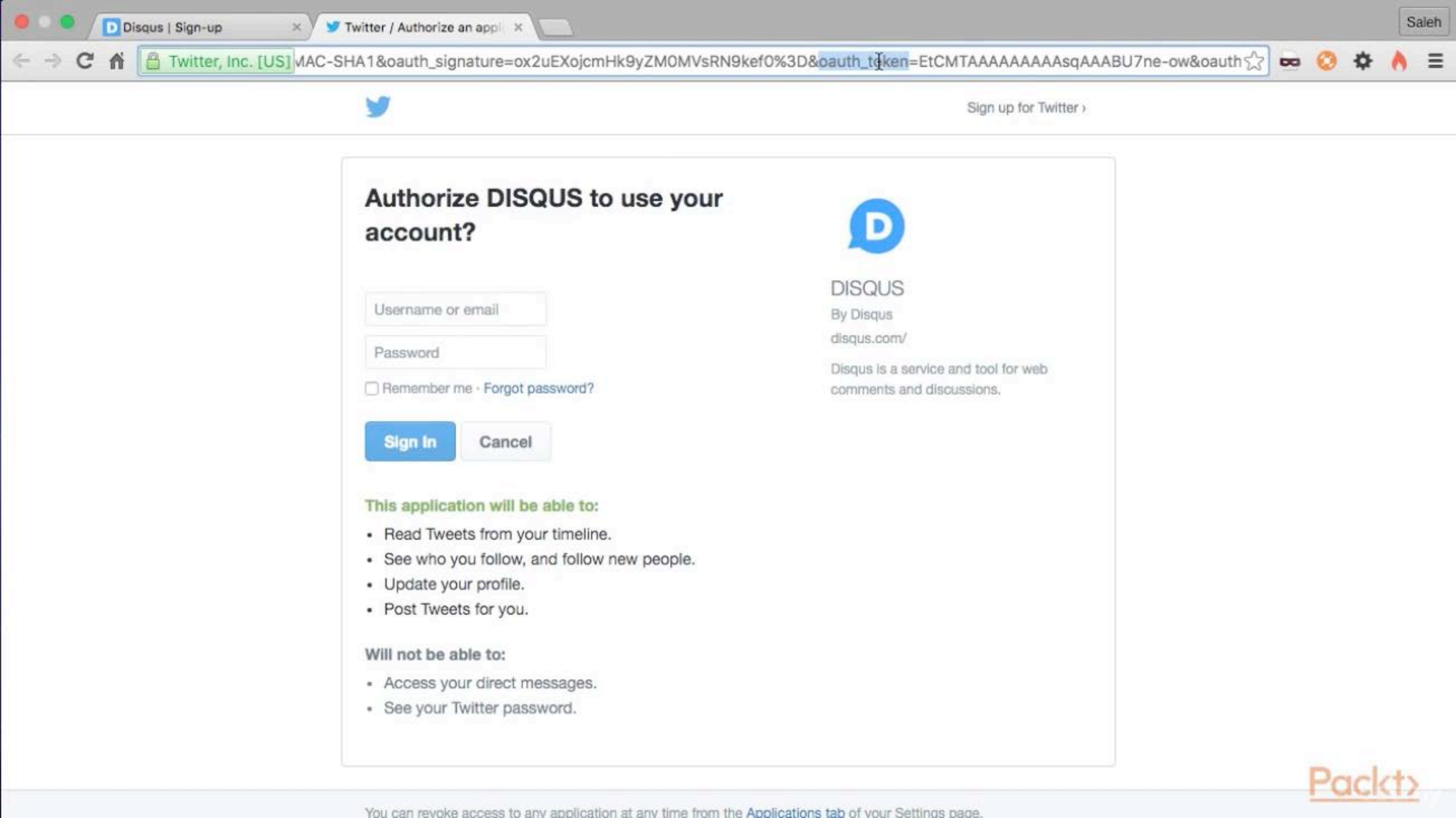
DISQUS

By Disqus

disqus.com/

Disqus is a service and tool for web comments and discussions.

This application will be able to:

- Read Tweets from your timeline.
- See who you follow, and follow new people.
- Update your profile.
- Post Tweets for you.

Will not be able to:

- Access your direct messages.
- See your Twitter password.

You can revoke access to any application at any time from the **Applications tab** of your Settings page.

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🔒 Twitter, Inc. [US] MAC-SHA1&oauth_signature=ox2uEXojcmHk9yZM0MVsRN9kef0%3D&oauth_token=EtCMTAAAAAAAAAsqAAABU7ne-ow&oauth

Sign up for Twitter ›

Authorize DISQUS to use your account?

| Username or email |
| Password |

☐ Remember me · Forgot password?

Sign In   **Cancel**

DISQUS
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This application will be able to:

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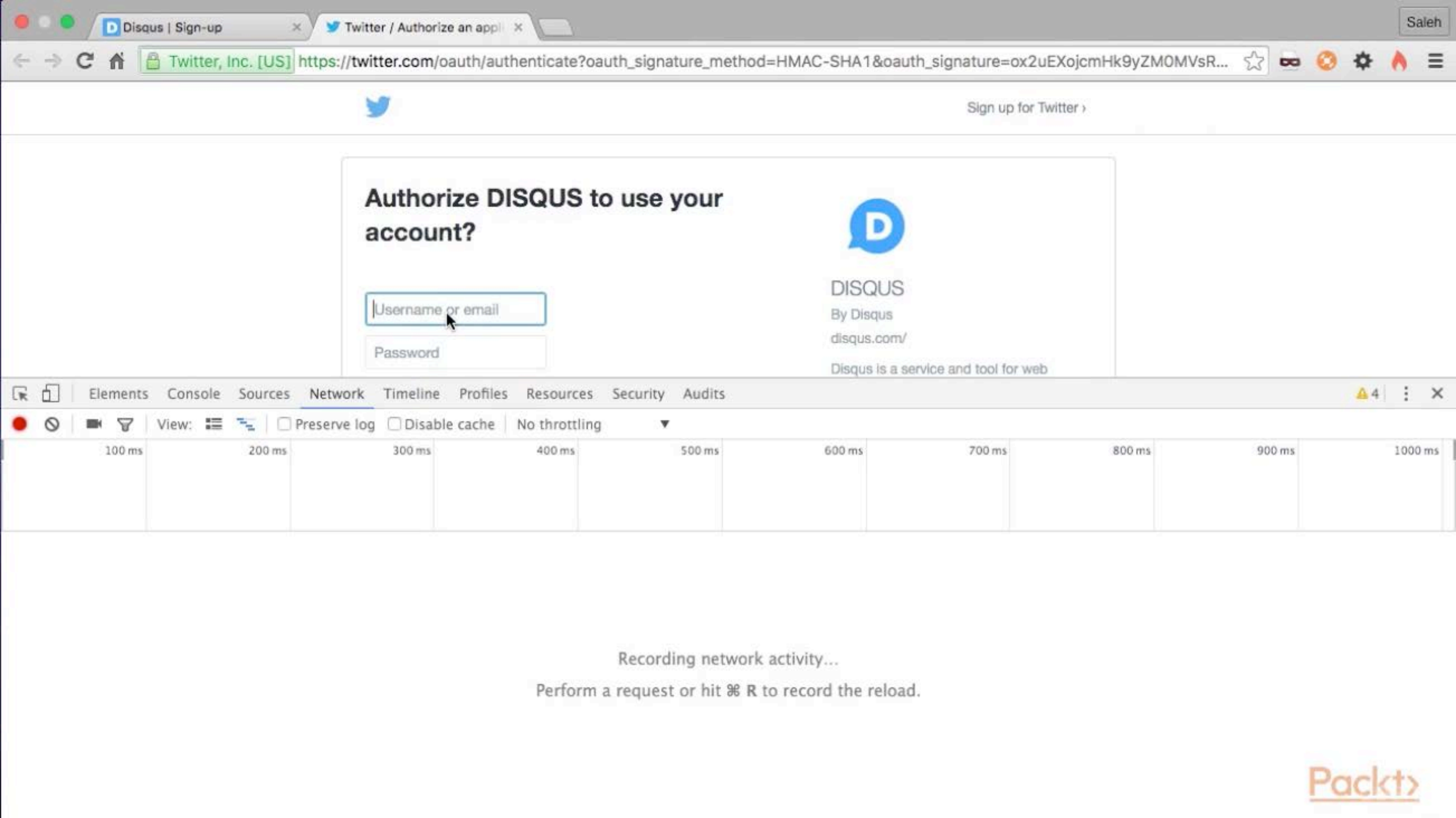- Update your profile.
- Post Tweets for you.

Will not be able to:

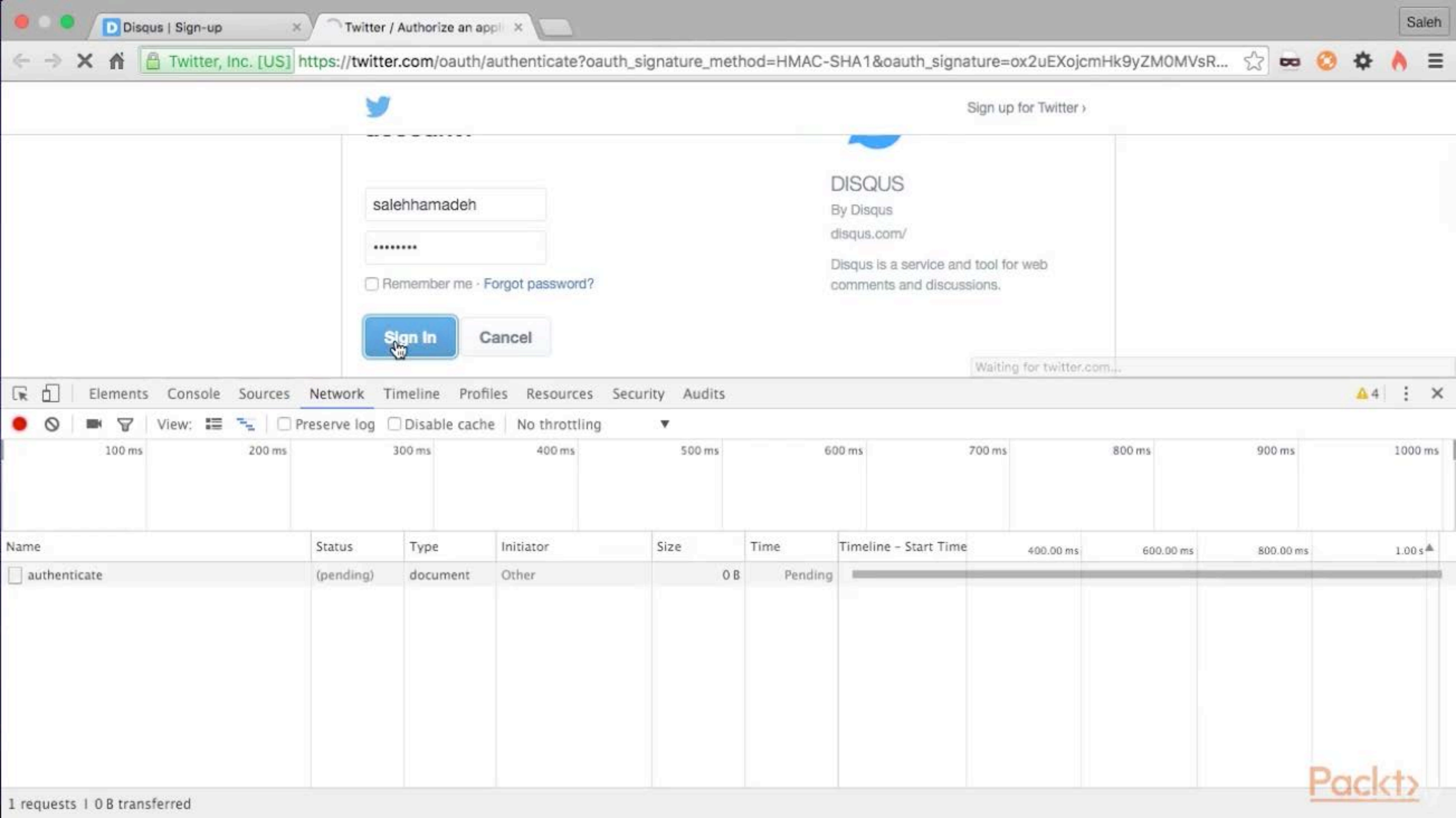- Access your direct messages.
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🔒 Twitter, Inc. [US] https://twitter.com/oauth/authenticate?oauth_signature_method=HMAC-SHA1&oauth_signature=ox2uEXojcmHk9yZM0MVsR...

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Username or email

Password

DISQUS
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disqus.com/

Disqus is a service and tool for web

| Elements | Console | Sources | Network | Timeline | Profiles | Resources | Security | Audits | ⚠ 4 ⋮ ✕ |

View: ☰ ☴ ☐ Preserve log ☐ Disable cache No throttling ▼

| 100 ms | 200 ms | 300 ms | 400 ms | 500 ms | 600 ms | 700 ms | 800 ms | 900 ms | 1000 ms |

Recording network activity...

Perform a request or hit ⌘ R to record the reload.

Twitter, Inc. [US] https://twitter.com/oauth/authenticate?oauth_signature_method=HMAC-SHA1&oauth_signature=ox2uEXojcmHk9yZM0MVsR...

Sign up for Twitter ›

salehhamadeh

••••••••

☐ Remember me · Forgot password?

DISQUS

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Disqus is a service and tool for web comments and discussions.

Sign In   Cancel

Waiting for twitter.com...

Elements   Console   Sources   **Network**   Timeline   Profiles   Resources   Security   Audits   ⚠ 4

View: ☰ ≣   ☐ Preserve log ☐ Disable cache   No throttling ▼

	100 ms	200 ms	300 ms	400 ms	500 ms	600 ms	700 ms	800 ms	900 ms	1000 ms

Name	Status	Type	Initiator	Size	Time	Timeline – Start Time	400.00 ms	600.00 ms	800.00 ms	1.00 s ▲
☐ authenticate	(pending)	document	Other	0 B	Pending					

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Next Video

Sample Application Code Architecture