



The bridge to possible

The Making of Vanilla ISE

A Simplified ISE UI

Oren Brigg, Systems Engineering Manager
@OrenBrigg



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The Making of Vanilla ISE

A Simplified ISE UI

Oren Brigg, ~~Systems Engineering Manager~~
Product Manager, Meraki's Developer Platform and Ecosystem

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DEVNET-2106

Cisco Webex App

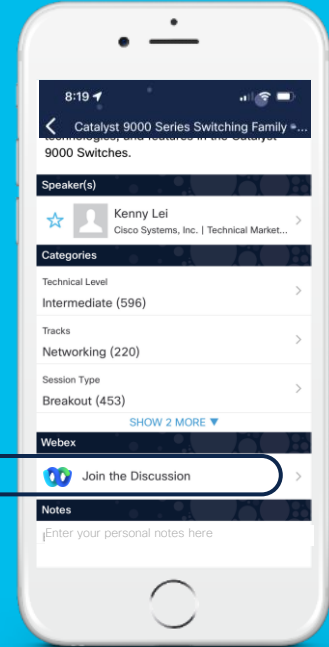
Questions?

Use Cisco Webex App to chat with the speaker after the session

How

- 1 Find this session in the Cisco Live Mobile App
- 2 Click “Join the Discussion”
- 3 Install the Webex App or go directly to the Webex space
- 4 Enter messages/questions in the Webex space

Webex spaces will be moderated until February 24, 2023.





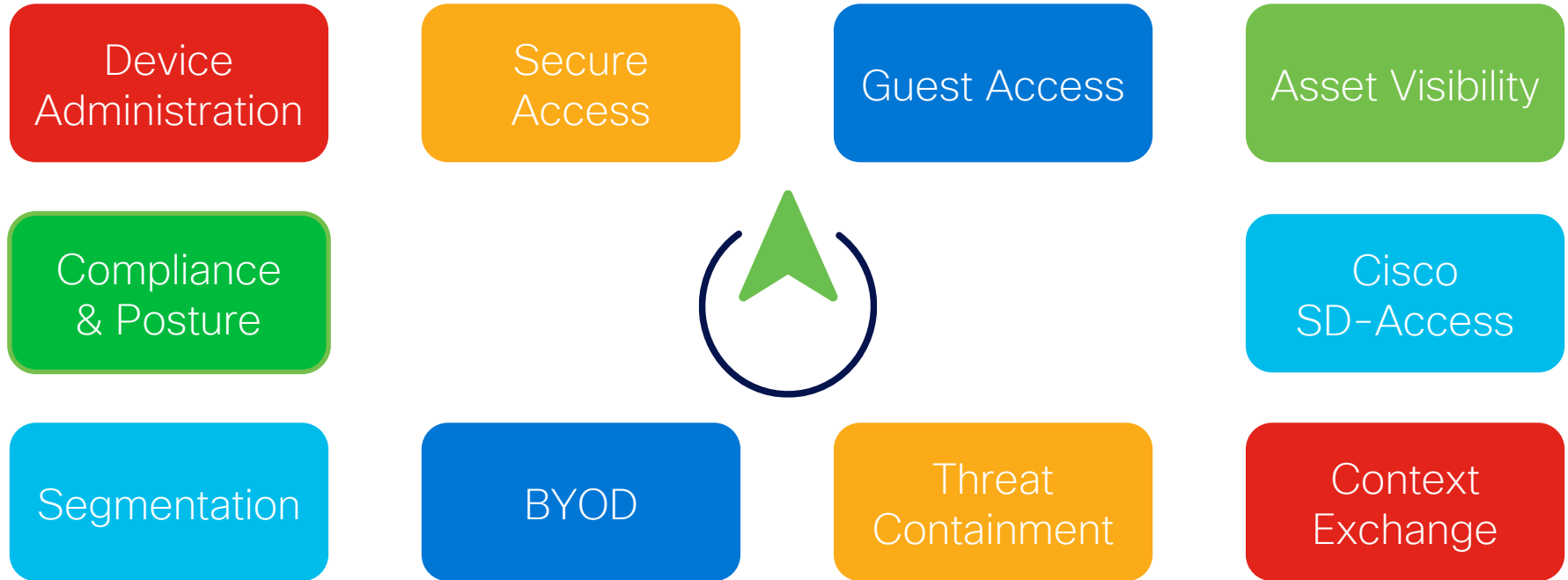
Agenda

- Start with the “why?”
- Quick demo
- The “how?”
- Frontend vs. backend
- Conclusion

Start with the
"why?"



One Cisco ISE, many use-cases



One Cisco ISE, different users

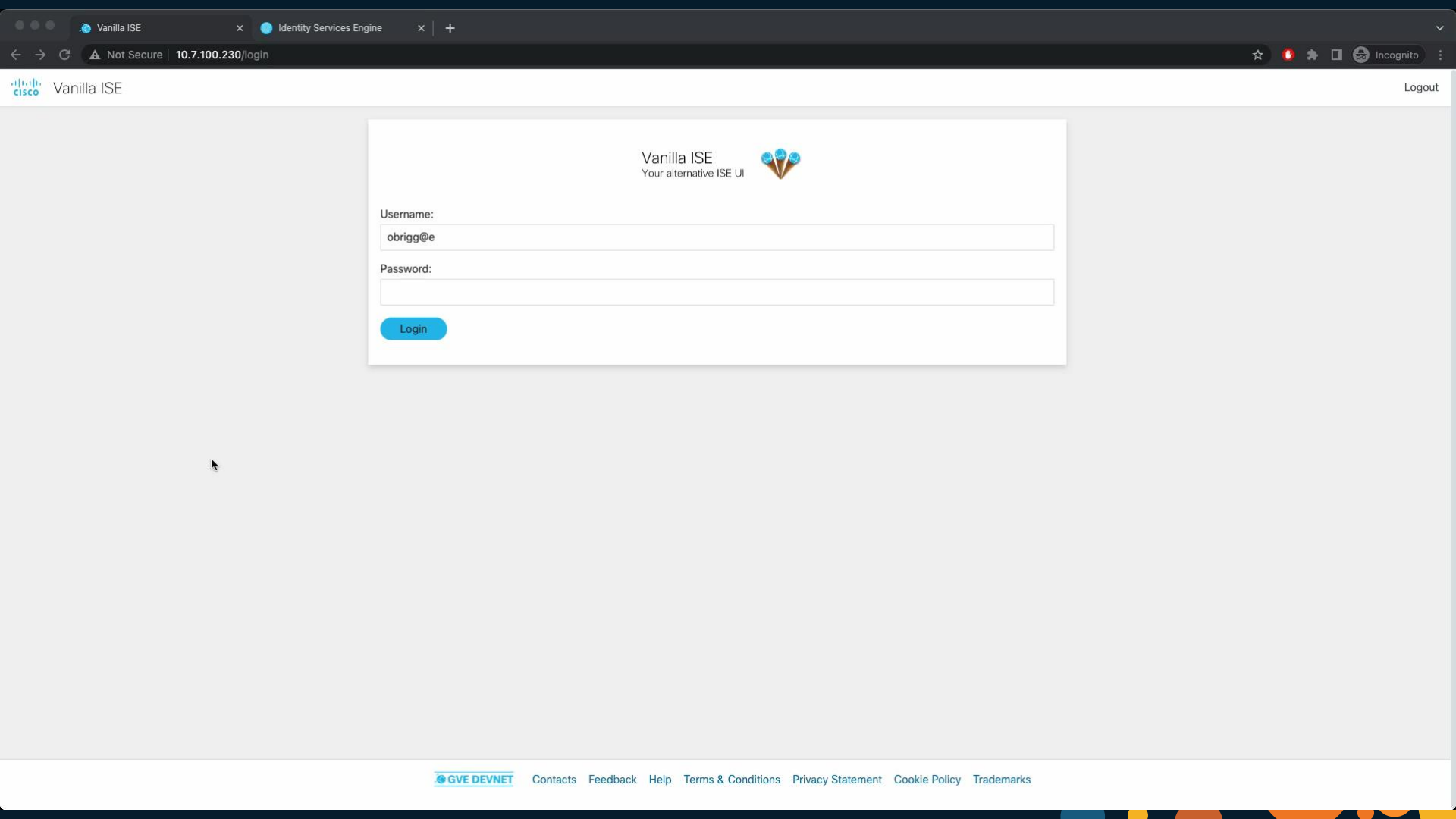
The Engineer



The (part-time) Student



Demo time!



Vanilla ISE
Your alternative ISE UI

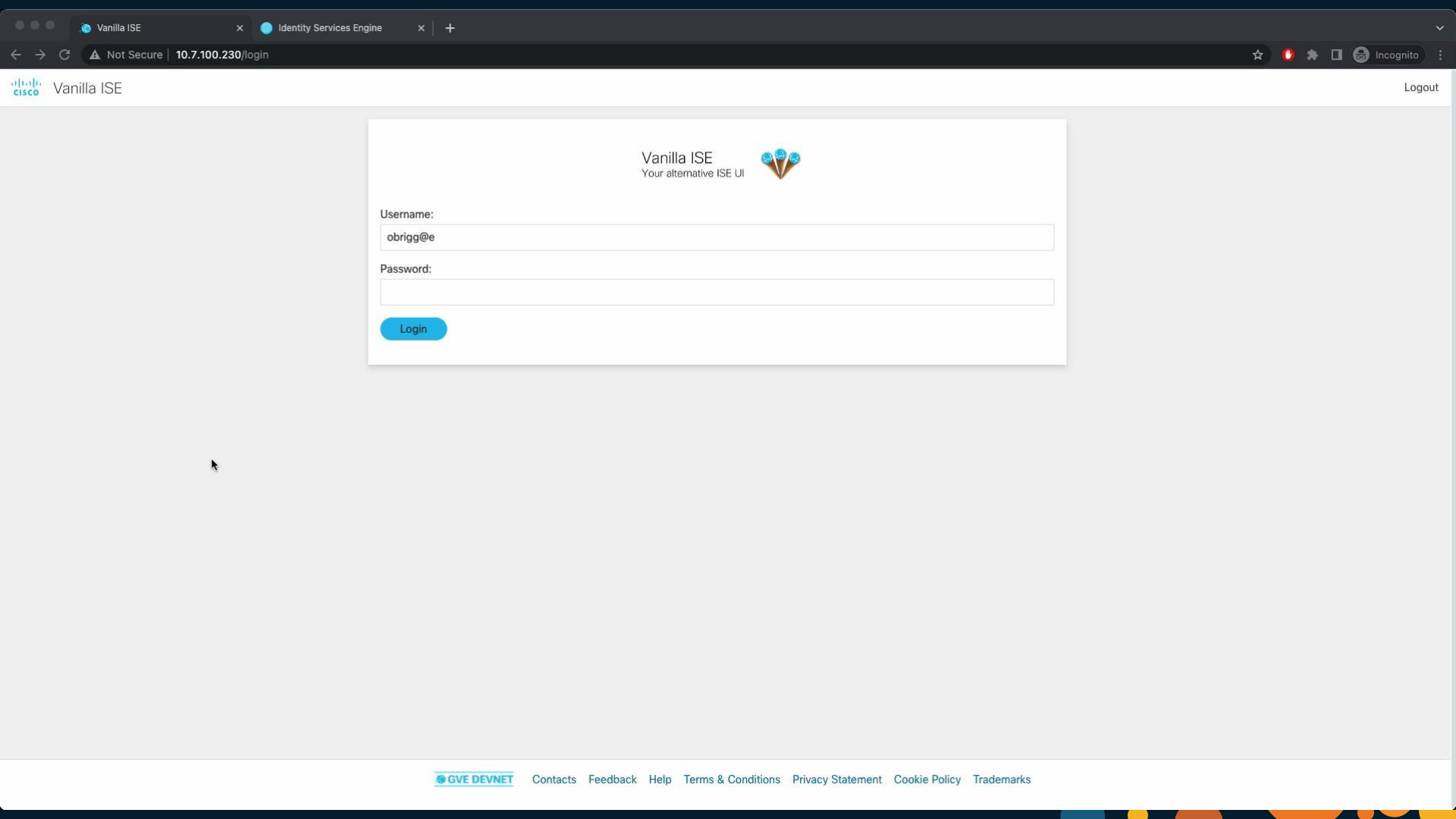


Username:

obrigg@e

Password:

Login



Vanilla ISE
Your alternative ISE UI

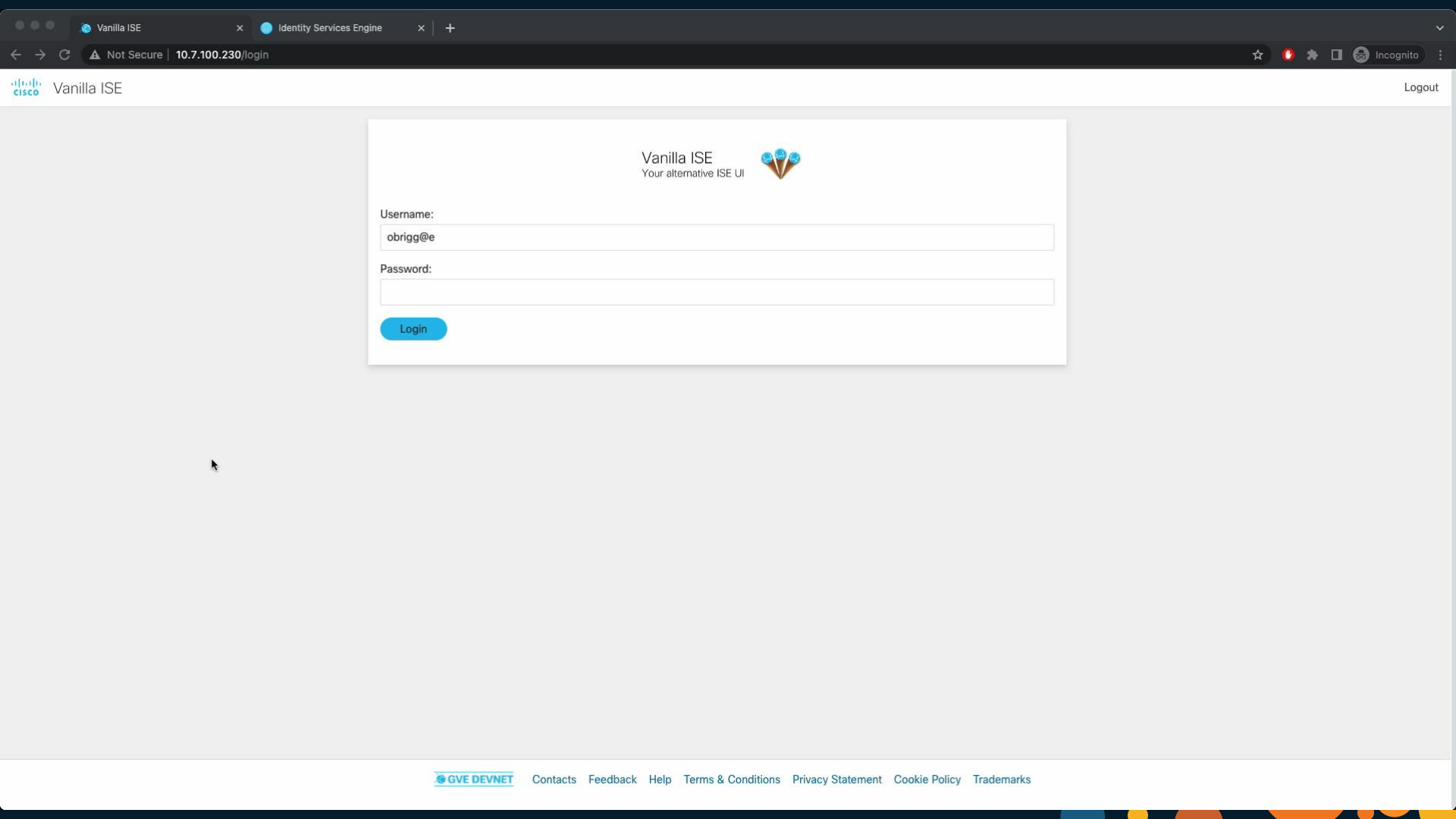


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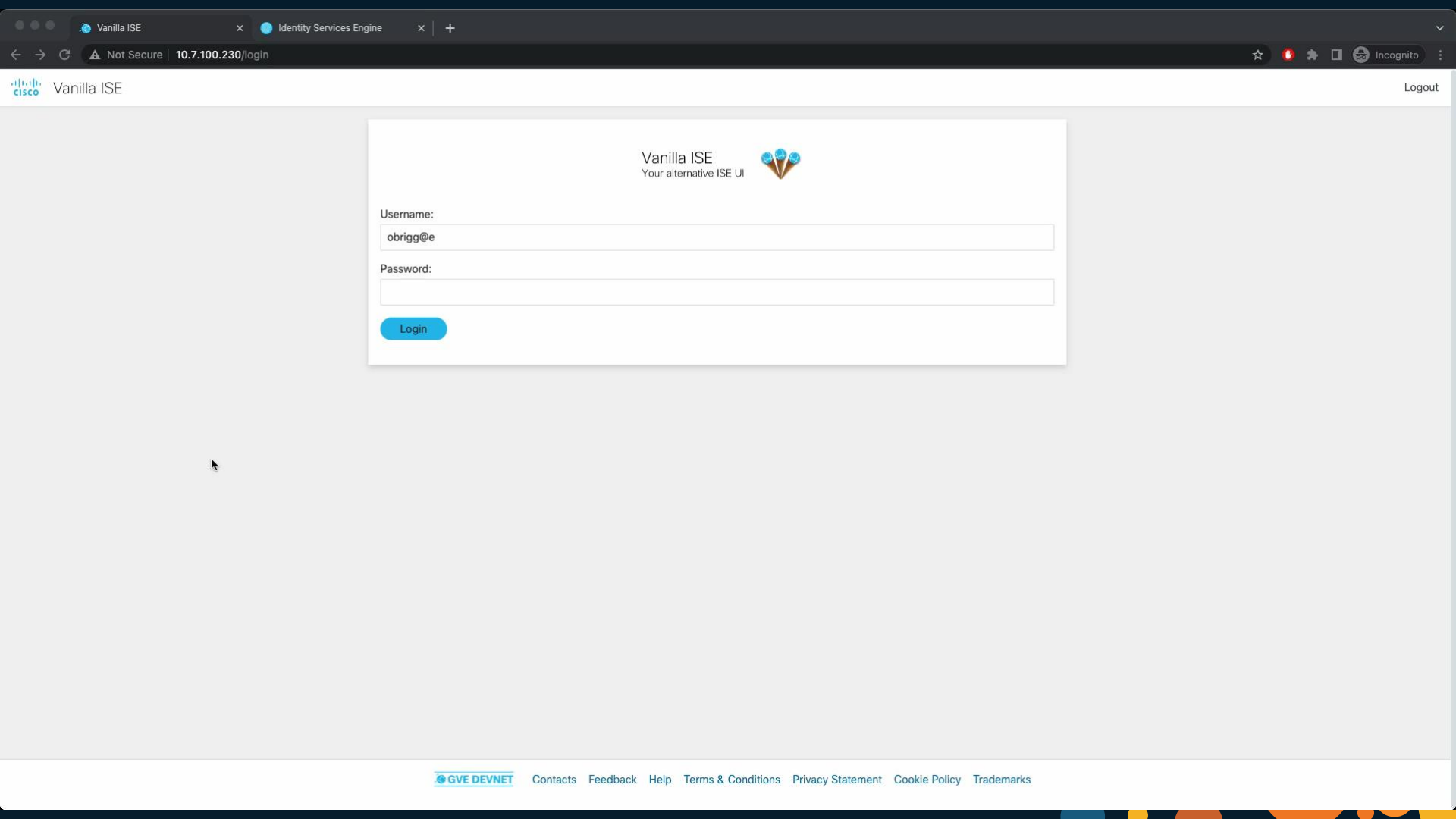


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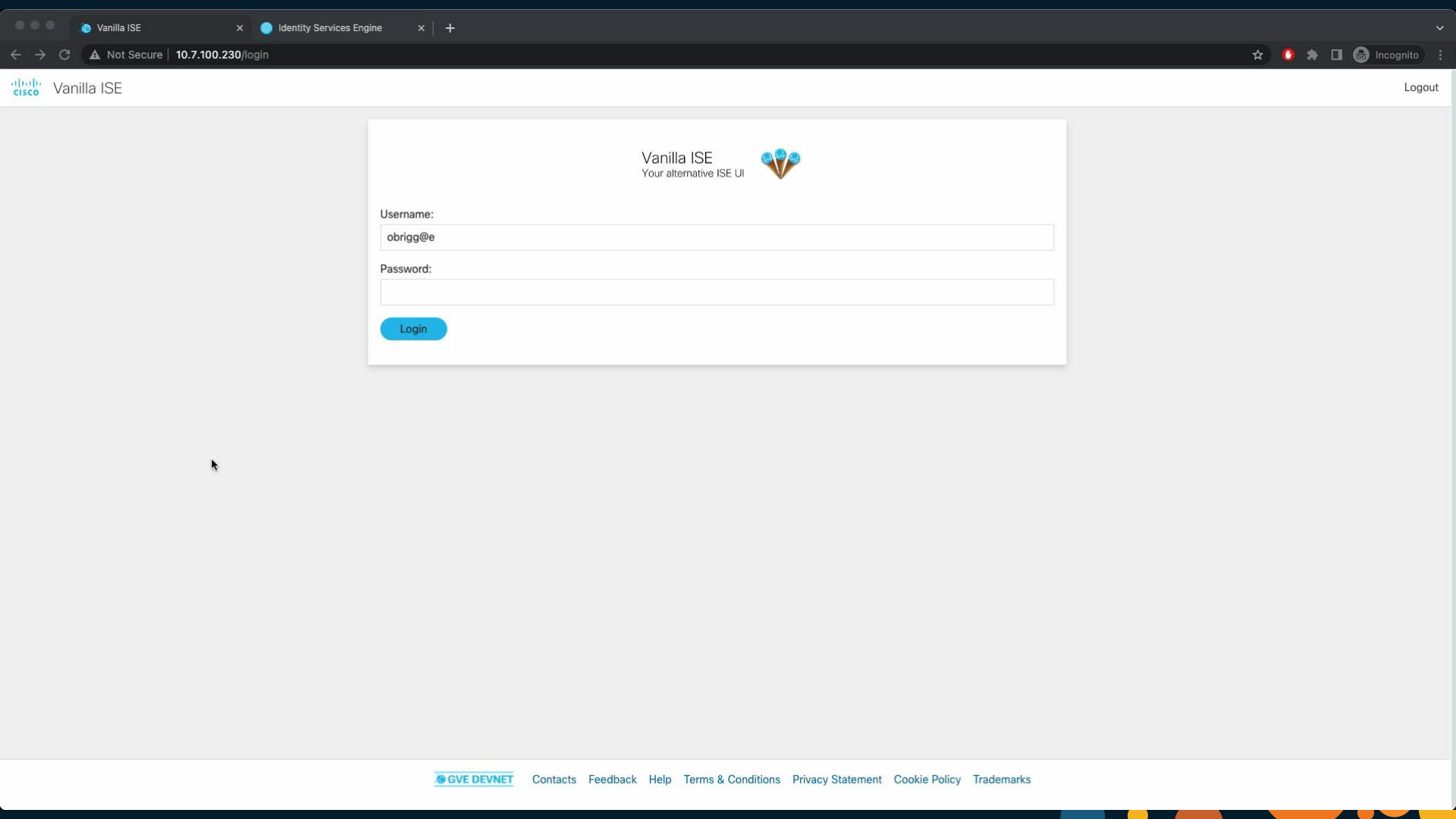


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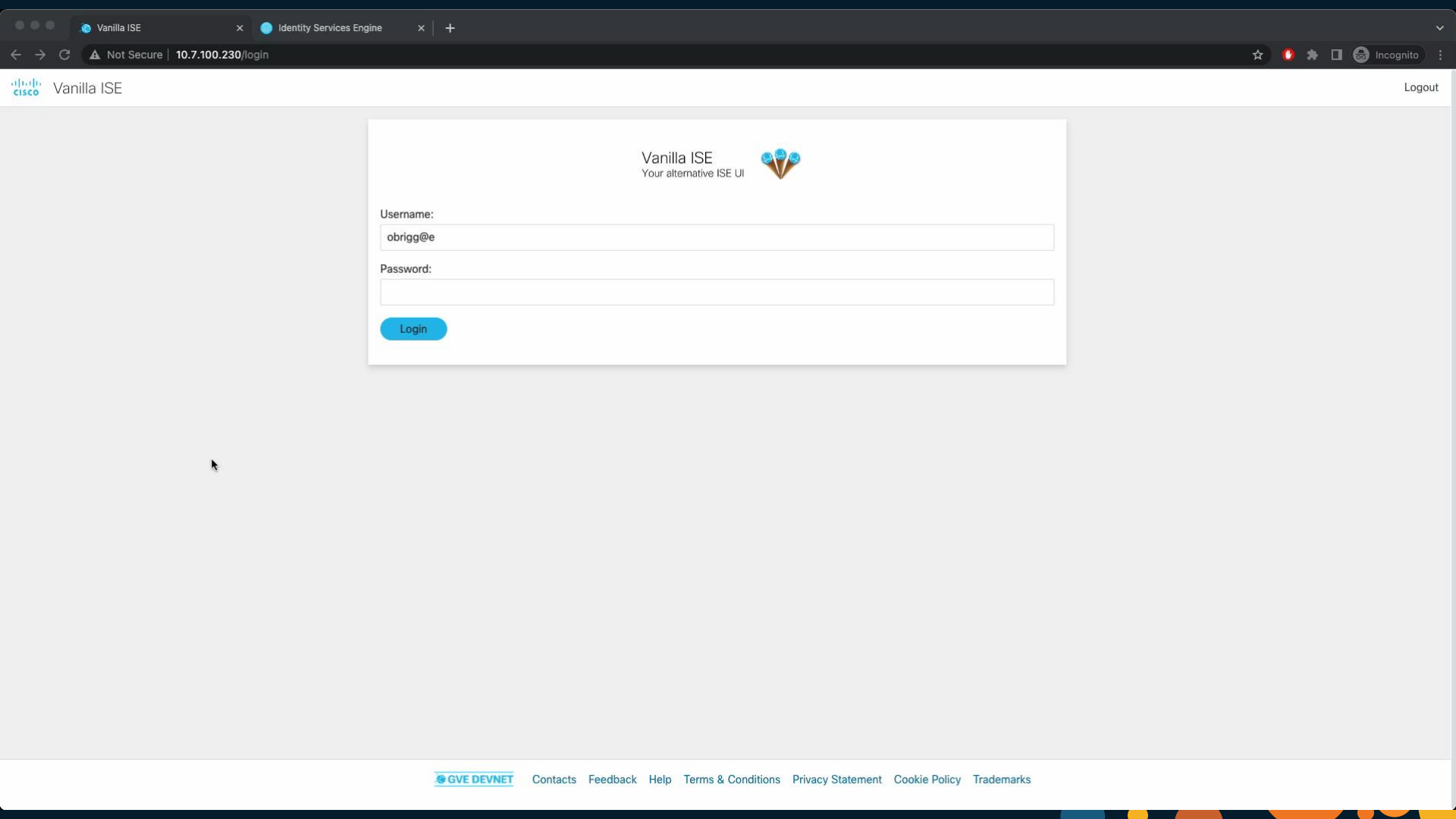


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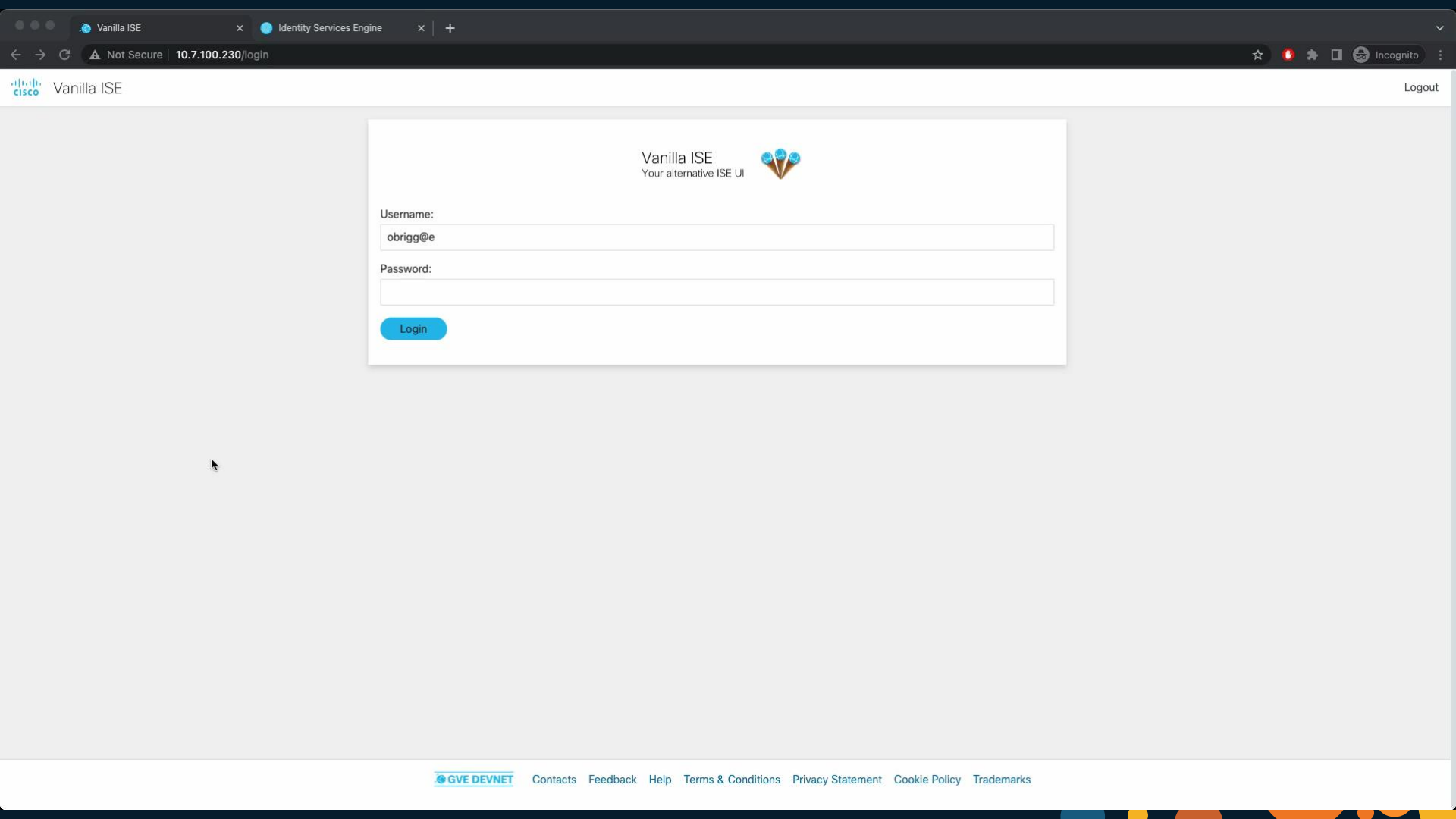


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Vanilla ISE
Your alternative ISE UI

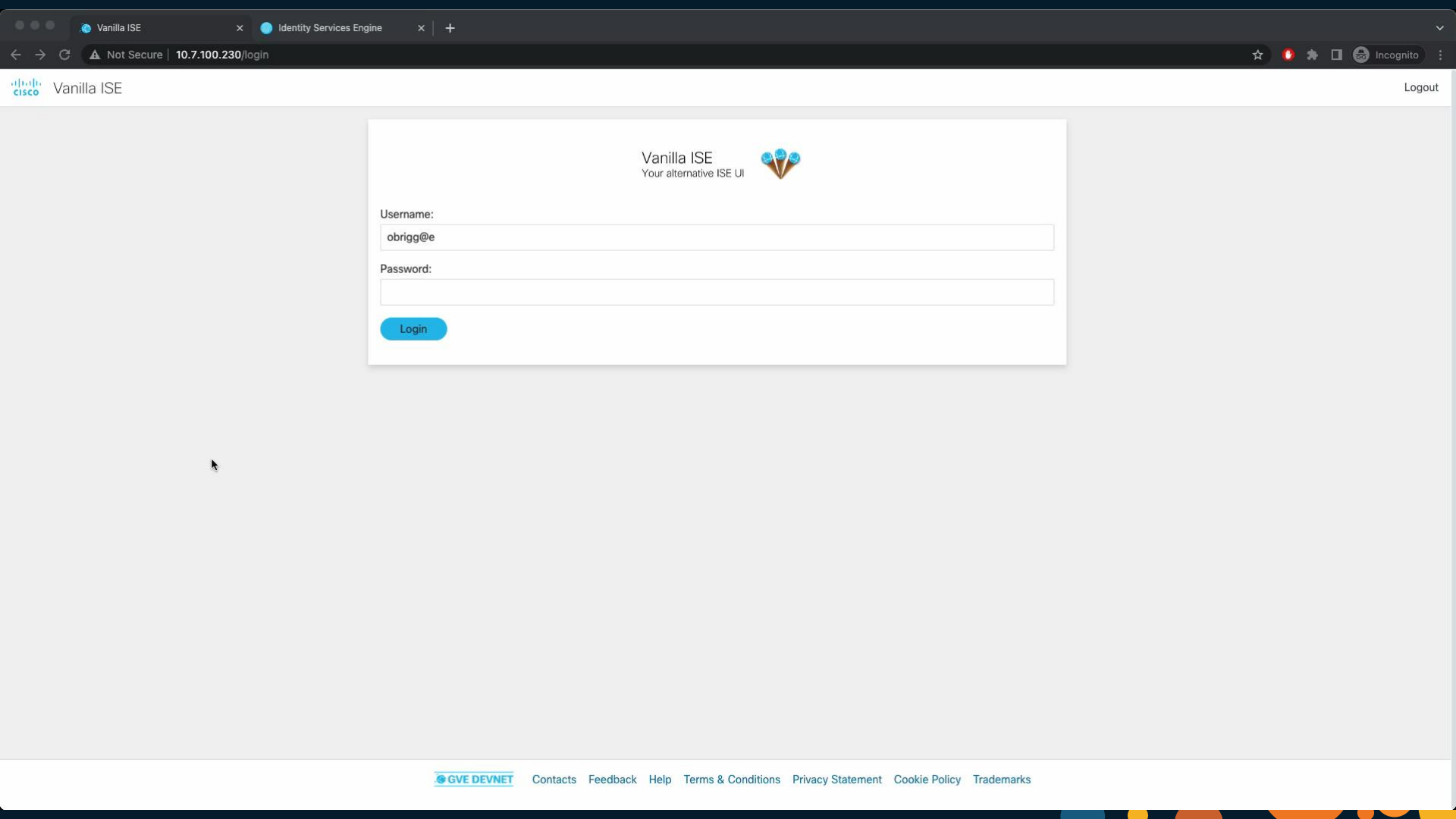


Username:

obrigg@e

Password:

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Vanilla ISE
Your alternative ISE UI



Username:

obrigg@e

Password:

Login

And now, the
“how?”

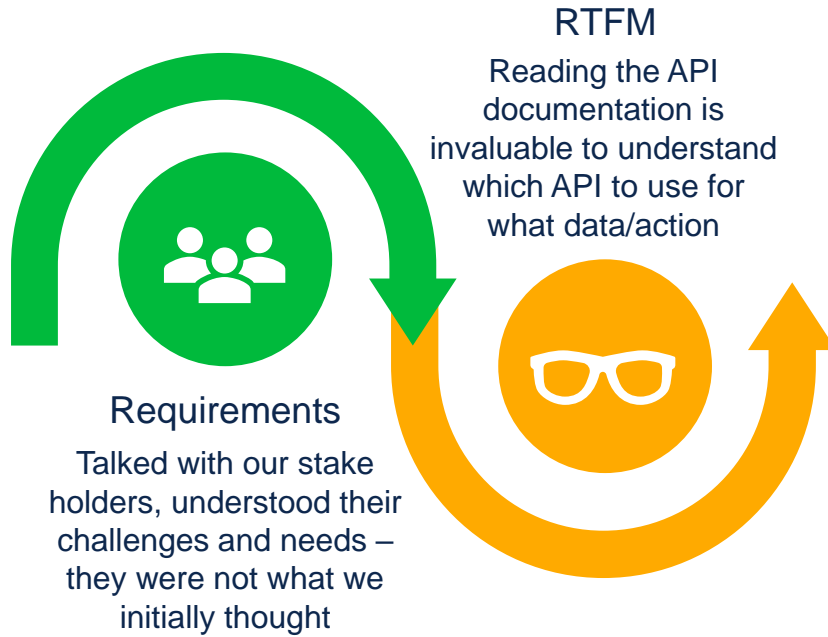
How did we do it?



Requirements

Talked with our stake
holders, understood their
challenges and needs –
they were not what we
initially thought

How did we do it?



Cisco Identity Services Engine (ISE)

ISE is the centerpiece in your zero-trust security for the workplace. ISE enables a dynamic and automated approach to policy enforcement that simplifies the delivery of highly secure network access control. ISE empowers software-defined access and automates network segmentation within IT and OT environments. ISE bridges traditional enterprise access control with the latest security services from Cisco and our security technology partners for context-based policy decisions and rapid threat control.

[Read the docs](#)



What can you do with Identity Services Engine APIs?



External RESTful Services (ERS) APIs



Monitoring REST APIs

ISE 3.1 and above (API v1)

Introduction

Cisco ISE API Framework

Introduction

Use Cases

Cisco ISE API Service

Cisco ISE API Gateway

APIs to manage the API service >

Authentication

Changelog

Getting Started >

API Reference >

Guides >

Developer Resources >

Community and Support >

Note: The documentation set for this product strives to use bias-free language. For purposes of this documentation set, bias-free is defined as language that does not imply discrimination based on age, disability, gender, racial identity, ethnic identity, sexual orientation, socioeconomic status, and intersectionality. Exceptions may be present in the documentation due to language that is hardcoded in the user interfaces of the product software, language used based on RFP documentation, or language that is used by a referenced third-party product.

Introduction

Cisco Identity Services Engine (ISE) is a security policy management platform that provides secure access to network resources. Cisco ISE allows enterprises to gather real-time contextual information from networks, users, and devices. An administrator can then use this information to make proactive governance decisions by creating access control policies for the various network elements, including access switches, Cisco Wireless Controllers, Virtual Private Network (VPN) gateways, and data center switches. Cisco ISE acts as the policy manager in the Cisco TrustSec solution and supports TrustSec software-defined segmentation.

Cisco ISE is available on Secure Network Server appliances with different performance characterizations, and also as software that can be run on a virtual machine (VM). Note that you can add more appliances to a deployment for better performance.

Cisco ISE has a scalable architecture that supports standalone and distributed deployments, but with centralized configuration and management. It also enables the configuration and management of distinct personas and services, thereby giving you the ability to create and apply services where needed, in a network, but operate the Cisco ISE deployment as a complete and coordinated system.

Use Cases

A Cisco ISE administrator can gather real-time contextual data for a network, including users and user groups (who?), device type (what?), access time (when?), access location (where?), access type (wired, wireless, or VPN) (how?), and network threats and vulnerabilities.

For more information about the features that are supported by Cisco ISE, see the [Cisco Identity Services Engine Administrator Guide](#).

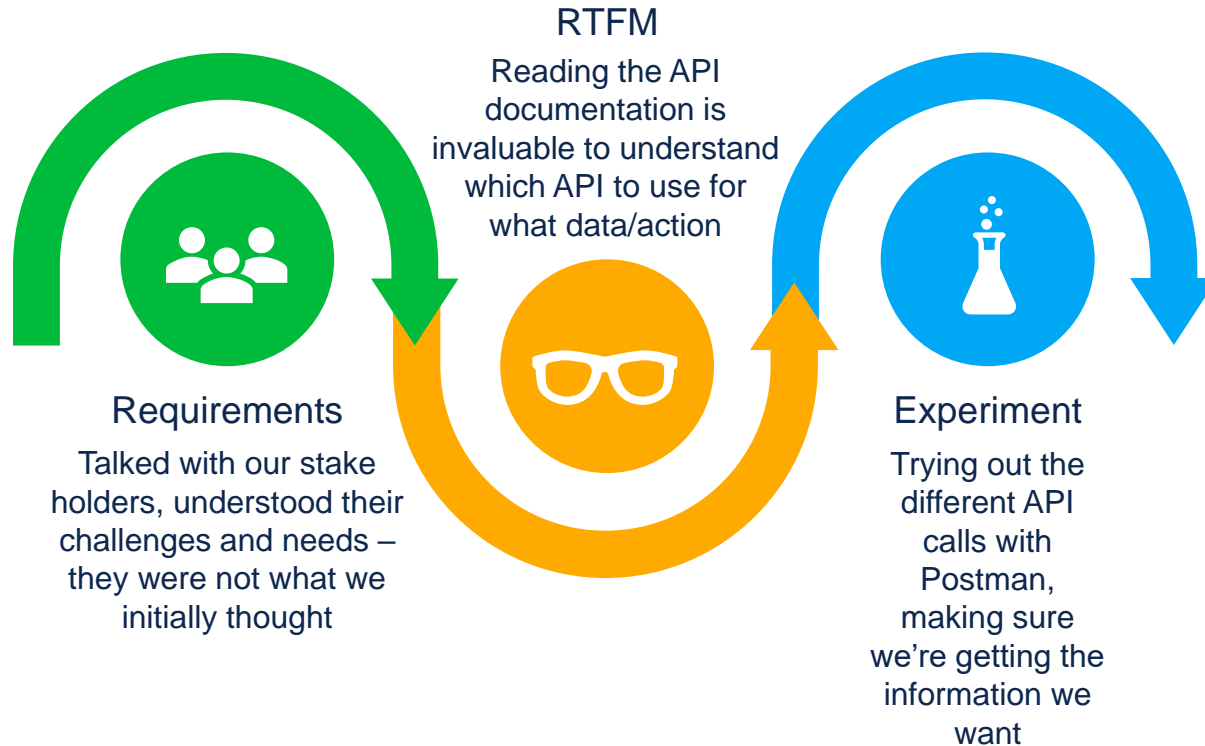
To access documentation on [cisco.com](#), go to [End-User Documentation](#).

Relevant CLEUR Sessions:

- Intro to Python - DEWVKS-1175/6
- Intro to REST APIs - DEWVKS-1185
- Infrastructure as Code Tools to automated ISE deployment - DEVLIT-1428



How did we do it?



HomeWorkspaces ▾API Network ▾Explore

🔍 Search Postman

👤 Invite

⚙️

🔔

🔥

Upgrade ▾

👤 My Workspace

NewImport

Collections

ISE

PxGrid

POST 1. Account Create

POST 2. Account Activate

POST 3. Service Lookup for R...

POST 4. Access Secret for RA...

POST 5. Get RADIUS failures

GET Get endpoint groups

GET Get endpoint details

GET Get network devices (all)

GET Get network devices (spe...

GET Get endpoints (all)

GET Get endpoints (specific)

PUT Associate (specific) endp...

DEL Remove (specific) endpoi...

GET Get endpoint group's id b...

POST Create an endpoints

GET Get session details (by en...

GET Get session details (by en...

Meraki

GET Get endpoints (all)

GET Get network device...

GET Get endpoint group

+

...

NTN ISE

▾

📄

Oren / ISE / Get endpoint groups

Save ▾

...

🔗

💬

📄

GET ▾

https://{{ise_host}}:9060/ers/config/endpointgroup

Send ▾

Params

Auth ●

Headers (10)

Body

Pre-req.

Tests

Settings

Cookies

</>

Query Params

	KEY	VALUE	DESCRIPTION	...	Bulk Edit
	Key	Value	Description		

Body ▾

🚫 200 OK 1567 ms 8.34 KB

Save Response ▾

Pretty

Raw

Preview

Visualize

JSON ▾

🔍

```
1
2  "SearchResult": {
3    "total": 25,
4    "resources": [
5      {
6        "id": "5fbf36d0-61f9-11eb-adb5-c2c2c4652c66",
7        "name": "AAA-Vouchers",
8        "description": "Endpoint group A for temporary access vouchers",
9        "link": {
10         "rel": "self",
11         "href": "https://172.30.101.11:9060/ers/config/endpointgroup/5fbf36d0-61f9-11eb-adb5-c2c2c4652c66",
12         "type": "application/json"
13       }
14     ]
15   }
16 }
```

📄

🔍

🔗

🔍

📄

🔍 Online

🔍 Find and Replace

📄 Console

🍪 Cookies

🔗 Capture requests

🏃 Runner

🗑️ Trash

🔧

📄

?

Home Workspaces API Network Explore Search Postman Invite Upgrade

My Workspace

Collections

APIs

Environments

Mock Servers

Monitors

Flows

History

My Workspace

New Import

GET Get endpoints (all)

ISE

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DEL Remove (specific) endpoi...

GET Get endpoint group's id b...

POST Create an endpoints

GET Get session details (by en...

GET Get session details (by en...

Meraki

GET

https://(ise_host):9060/ers/config/endpoint

Send

Params Auth Headers (10) Body Pre-req. Tests Settings Cookies

Query Params

KEY	VALUE	DESCRIPTION	...	Bulk Edit
Key	Value	Description		

Body

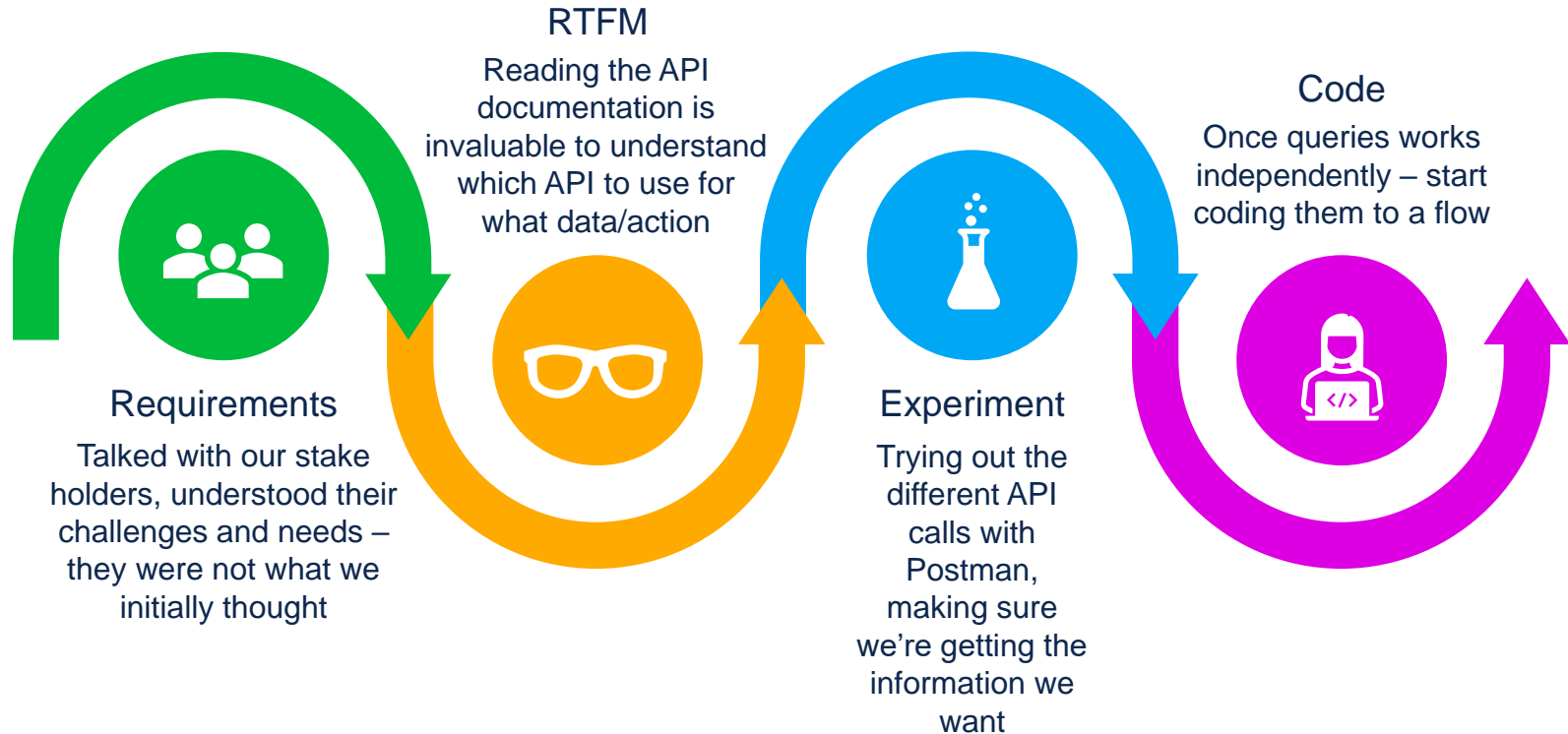
200 OK 1279 ms 6.88 KB Save Response

Pretty Raw Preview Visualize JSON

```
1
2 "SearchResult": {
3   "total": 412,
4   "resources": [
5     {
6       "id": "01b28230-e679-11ec-b1ea-121a6f6f9e97",
7       "name": "00:25:B5:BB:00:3A",
8       "link": {
9         "rel": "self",
10        "href": "https://172.30.101.11:9060/ers/config/endpoint/01b28230-e679-11ec-b1ea-121a6f6f9e97",
11        "type": "application/json"
12      }
13    }
14  ]
15 }
```

Online Find and Replace Console Cookies Capture requests Runner Trash

How did we do it?



Frontend

Frontend vs. Backend

Backend

Frontend vs. Backend



Ramona Renner
Technical Solutions Specialist
(and CSS/HTML5 wizard)



Oren Brigg
A man on a mission
(And Python knowledge from DevNet)

Relevant CLEUR Sessions:

- Cisco Community: The Developer Connection... The Coders, the Dreamers, and Me - DEVLIT-2791



Vanilla ISE Architecture



Collaborating with Mock-ups

Device List		
Device Name	Device IP	Query
CSR1Kv.ebc.iseslab.cisco.com	10.7.250.222	[link to query]
Cat9K-1.lab.cisco.com	10.255.7.15	[link to query]
Cat9K-2.lab.cisco.com	10.255.7.15	[link to query]

Collaborating with Mock-ups

Device List

Device Query

Vouchers

Endpoint Query

Device List

Device Query

Vouchers

Endpoint Query

Device List

Device Query

Vouchers

Endpoint Query

Device Query

Device to query:

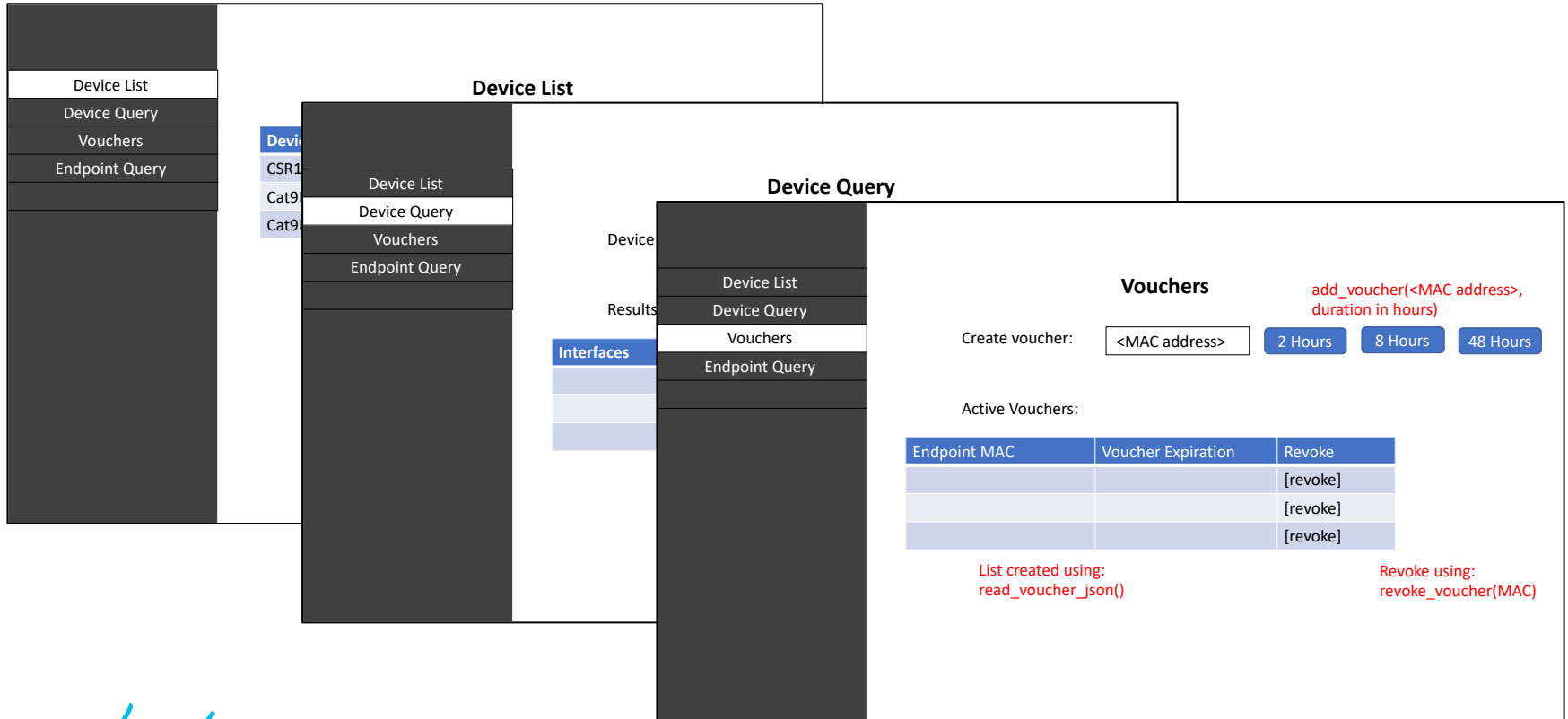
Submit

Results for device <ip address>:

Interfaces	Endpoint MAC	NIC Vendor	Status	Method

List created using:
get_device_auth_sessions(<ip address>)

Collaborating with Mock-ups





Agenda

- Start with the “why?”
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- The “how?”
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Conclusion

- You don't need to settle for off-the-shelf solutions
- You can tailor you own workflows
- Don't reinvent the wheel – check the DevNet Code Exchange first!
- You're not alone – join Cisco's communities

Complete your Session Survey

- Please complete your session survey after each session. Your feedback is important.
- All surveys can be taken in the Cisco Events Mobile App or by logging in to the Session Catalog and clicking the "Attendee Dashboard" at <https://www.ciscolive.com/emea/learn/sessions/session-catalog.html>





The bridge to possible

Thank you

CISCO *Live!*

CISCO *Live!*

ALL IN

Links, resources and references

- [Vanilla ISE @ DevNet Code Exchange](#)
- [ISE Resources @ DevNet](#)
- [pyATS @ DevNet](#)
- [Cisco UI Kit](#)
- [Flask Documentation](#)