

Modern Identity Management

in the era of Serverless and Microservices

VERSION 1.3



AMERICAN EQUIFAX



Had Been Uploaded



38,000
Driver's Licenses



3,200
Passport Details

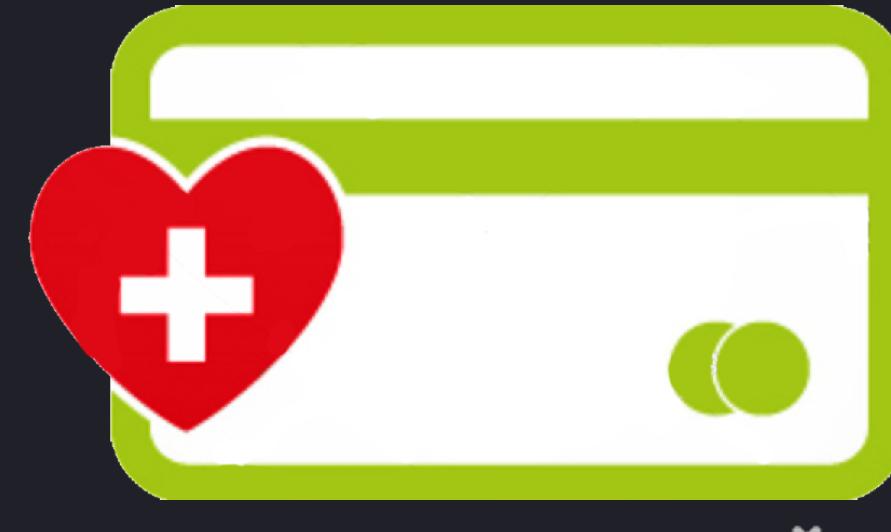
@itrjwyss

 Oracle
Groundbreaker
Ambassador

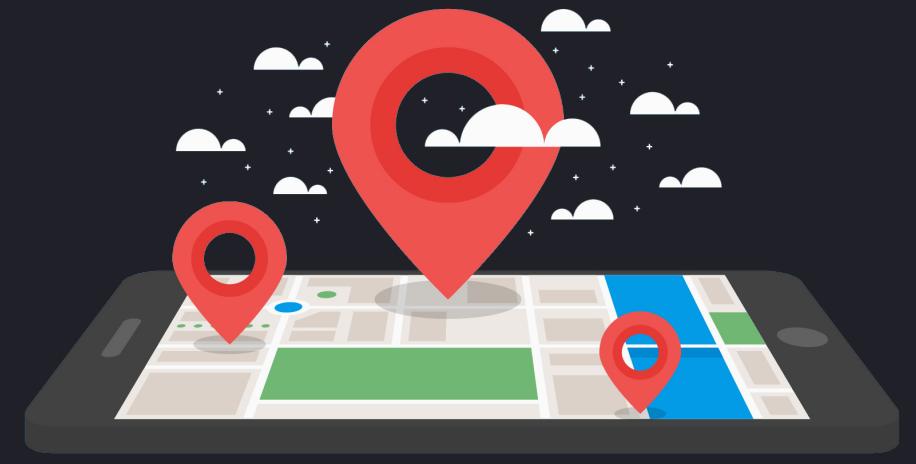
Had Stolen



146.6 million
Names and Dates
of Birth



145.5 million
Social Security
Numbers



99 million
Address



209,000 Payment
Card Numbers and
Expiration Dates

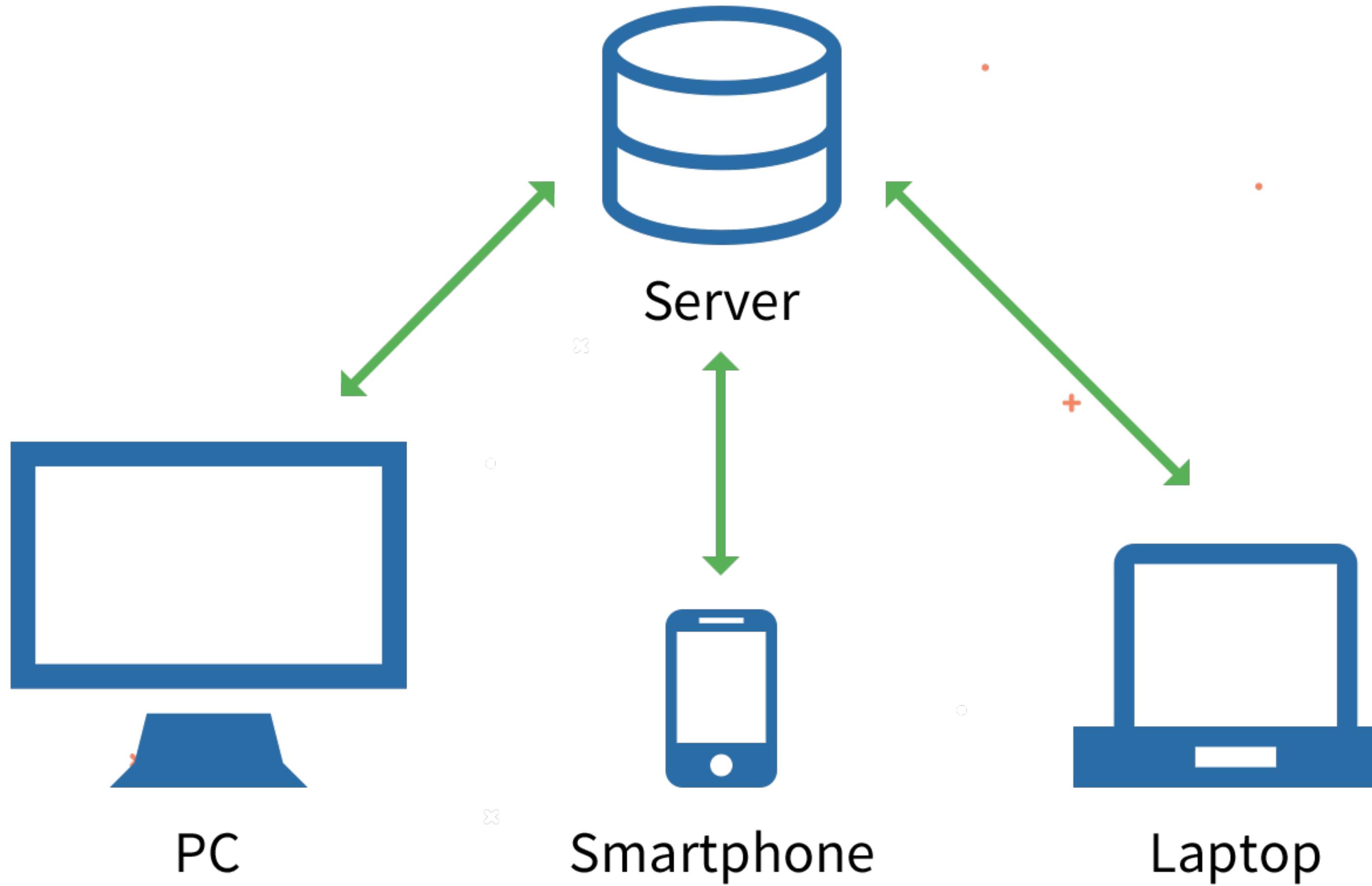


EU General Data
Protection Regulation
25 May 2018



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Ambassador.

Security is a Team Effort



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Agenda

- Rest API Design / OAuth
- JWT
- User Credentials Problem
- Identity Management (IdM)
- Identity and Access Management (IAM)
- How to have a successful Identity Management Project
- IdM in Serverless and Microservices Architectures
- Identity as a Service (IDaaS)

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Mercedes Wyss
@itrjwyss



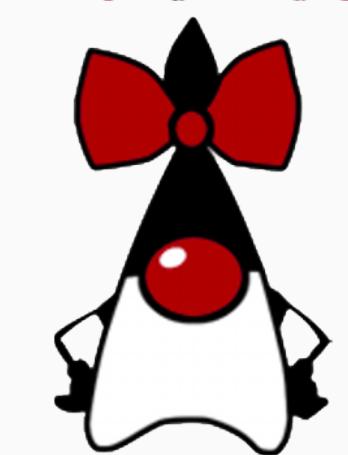
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Ambassador

<Devs>
+502

Comunidad Desarrolladores en Tecnologías
<Google> en Guatemala

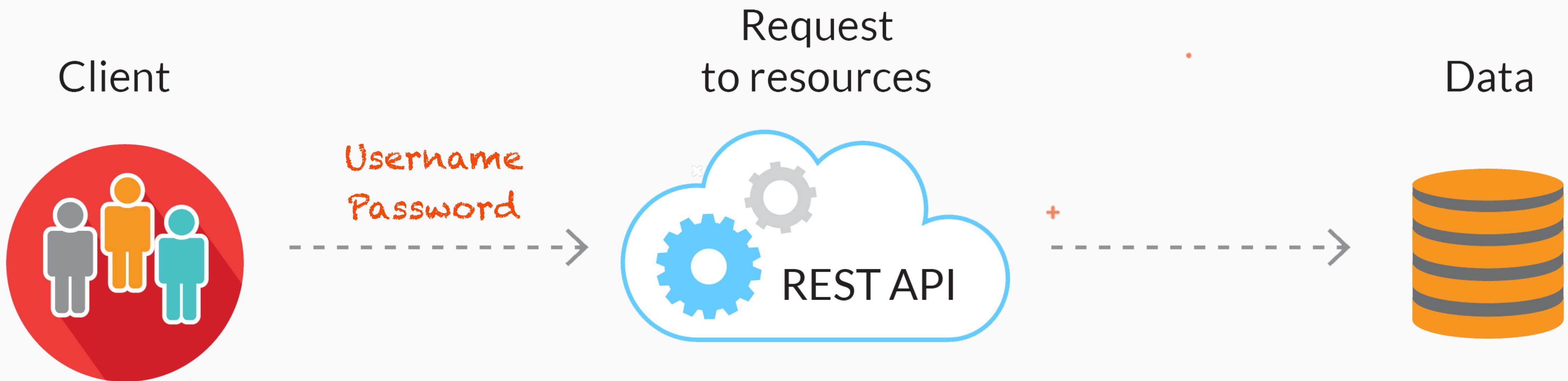


JDuchess



Guatemala

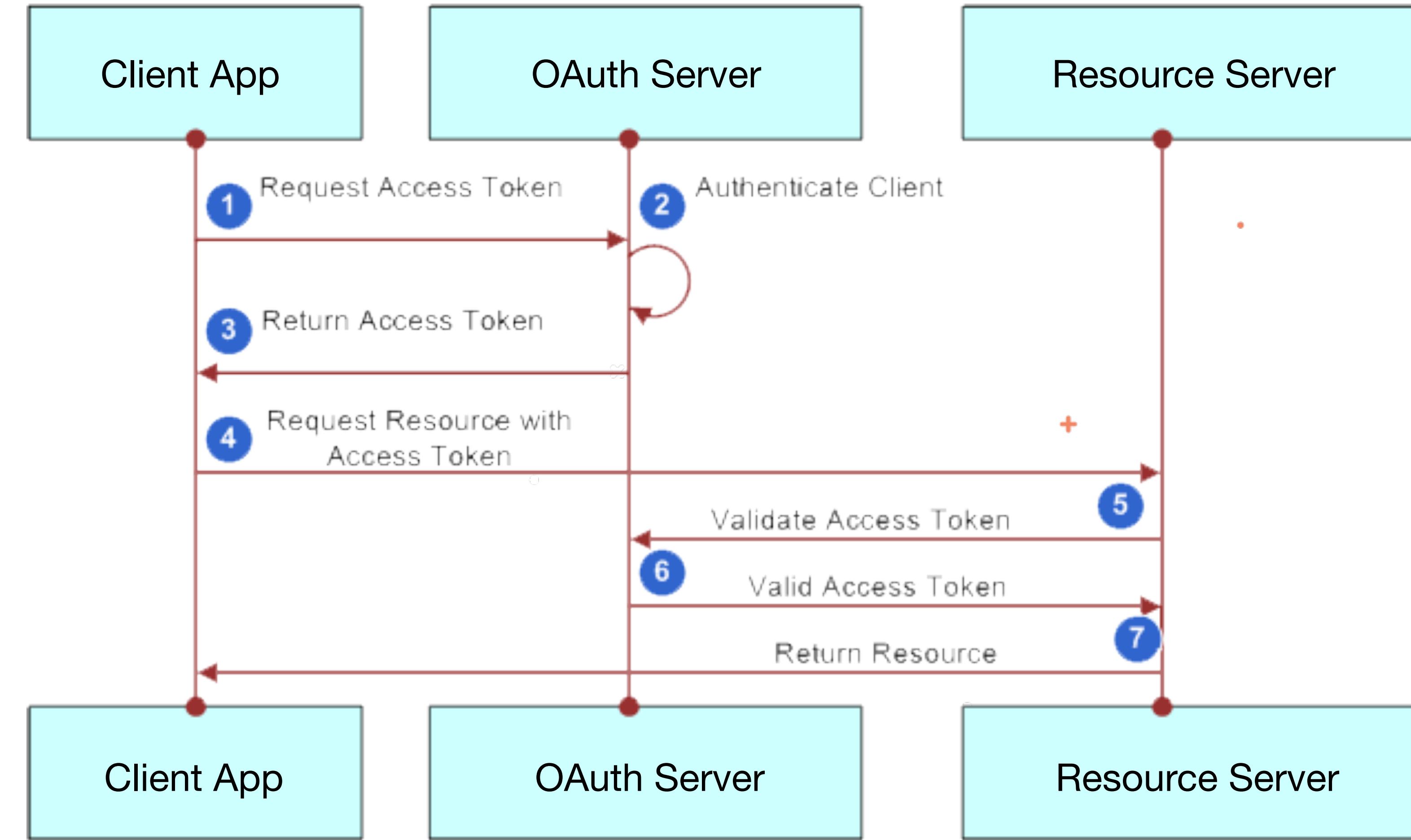
Bad API Design



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OAuth



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J

W

T



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Is an open standard (RFC 7519) that defines a compact and self-contained way for securely transmitting information between parties as a JSON object.

Header

eyJhbGciOiJIUzI1NilsInR5cCI6IkpXVCJ
9eyJzdWliOilxMjM0NTY3ODkwliwibmF
tZSI6Ikpvag4gRG9IliwiYWRtaW4iOnRy
dWV9

Claims

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JSON Web Signature

JWT + JWS

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Signature Algorithms

JWS	Algorithm	Description
HS256	HMAC256	HMAC with SHA-256
HS384	HMAC384	HMAC with SHA-384
HS512	HMAC512	HMAC with SHA-512
RS256	RSA256	RSASSA-PKCS1-v1_5 with SHA-256
RS384	RSA384	RSASSA-PKCS1-v1_5 with SHA-384
RS512	RSA512	RSASSA-PKCS1-v1_5 with SHA-512
ES256	ECDSA256	ECDSA with curve P-256 and SHA-256
ES384	ECDSA384	ECDSA with curve P-384 and SHA-384
ES512	ECDSA512	ECDSA with curve P-521 and SHA-512

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Exploring JWT

eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCj9

- eyJqdGkiOiI1MWQ4NGFjMS1kYjMxLTRjM2It0TQw0S1lNjMwZWJiYj
gZZGYiLCJ1c2VybmtZSI6Imh1bnRlcjIiLCJzY29wZXMi0lsicmVw
bzpyZWFKIiwiZ2lzdDp3cm10ZSJdLCJpc3Mi0iIxNDUyMzQzMzcyIi
wiZXhwIjoiMTQ1MjM00TM3MiJ9

- cS5KkPxtEJ9eonvsGvJBZFIamDnJA7gSz3HZBWv6S1Q

Exploring JWT

eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCj9 **Header**
▪
eyJqdGkiOiI1MWQ4NGFjMS1kYjMxLTRjM2It0TQwOS1lNjMwZWJiYj
gZZGYiLCJ1c2VybmtZSI6Imh1bnRlcjIiLCJzY29wZXMiOlsicmVw
bzpyZWFKIiwiZ2lzdDp3cm10ZSJdLCJpc3Mi0iIxNDUyMzQzMzcyIi
wiZXhwIjoiMTQ1MjM00TM3MiJ9 **Claims**
▪
cS5KkPxtEJ9eonvsGvJBZFIamDnJA7gSz3HZBWv6S1Q **Signature**

How Works the Signature

```
{  
  "alg": "HS256",  
  "typ": "JWT"  
}  
  
{  
  "jti": "51d84ac1-db31-4c3b-9409-e630ebbb83df",  
  "sub": "hunter2",  
  "scopes": ["repo:read", "gist:write"],  
  "iss": "1452343372",  
  "exp": "1452349372"  
}  
  
HMACSHA256(  
  base64UrlEncode(header) + "." +  
  base64UrlEncode(payload),  
  secret  
)
```



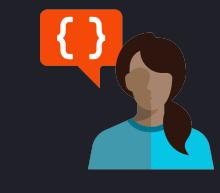
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  base64UrlEncode(payload),  
  secret  
)
```



Registered Claims

iss	The issuer of the token
sub	The subject of the token
aud	The audience of the token
exp	The expiration in NumericDate value
nbf	sbt configuration files
iat	The time the JWT was issued
jti	Unique identifier for the JWT

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What problems does JWT solve?

- Authentication
- Authorization
- Federated Identity
- Information Exchange
- Client-side Sessions (“stateless” sessions)
- Client-side Secrets

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Client

Server

1. POST /users/login with username and password

3. Returns the JWT to the Browser

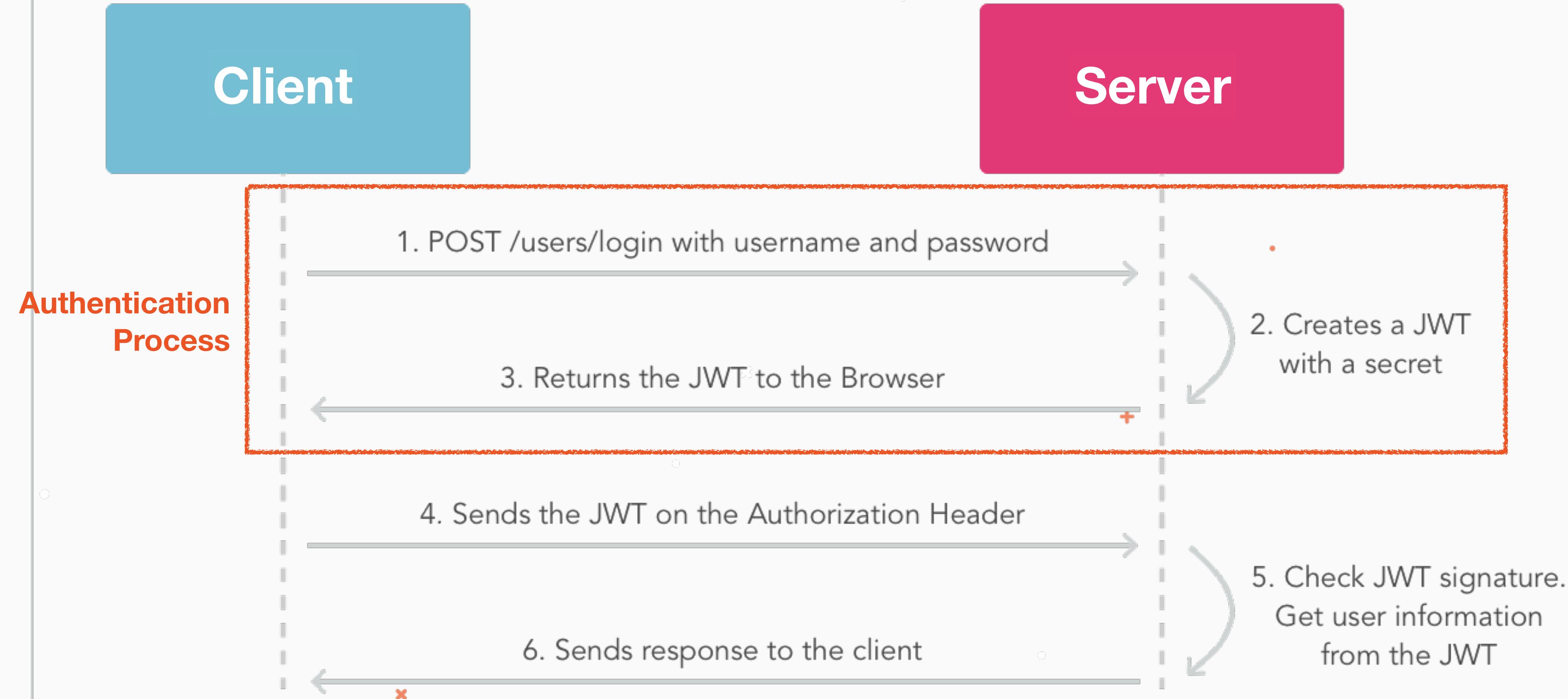
4. Sends the JWT on the Authorization Header

6. Sends response to the client

2. Creates a JWT with a secret

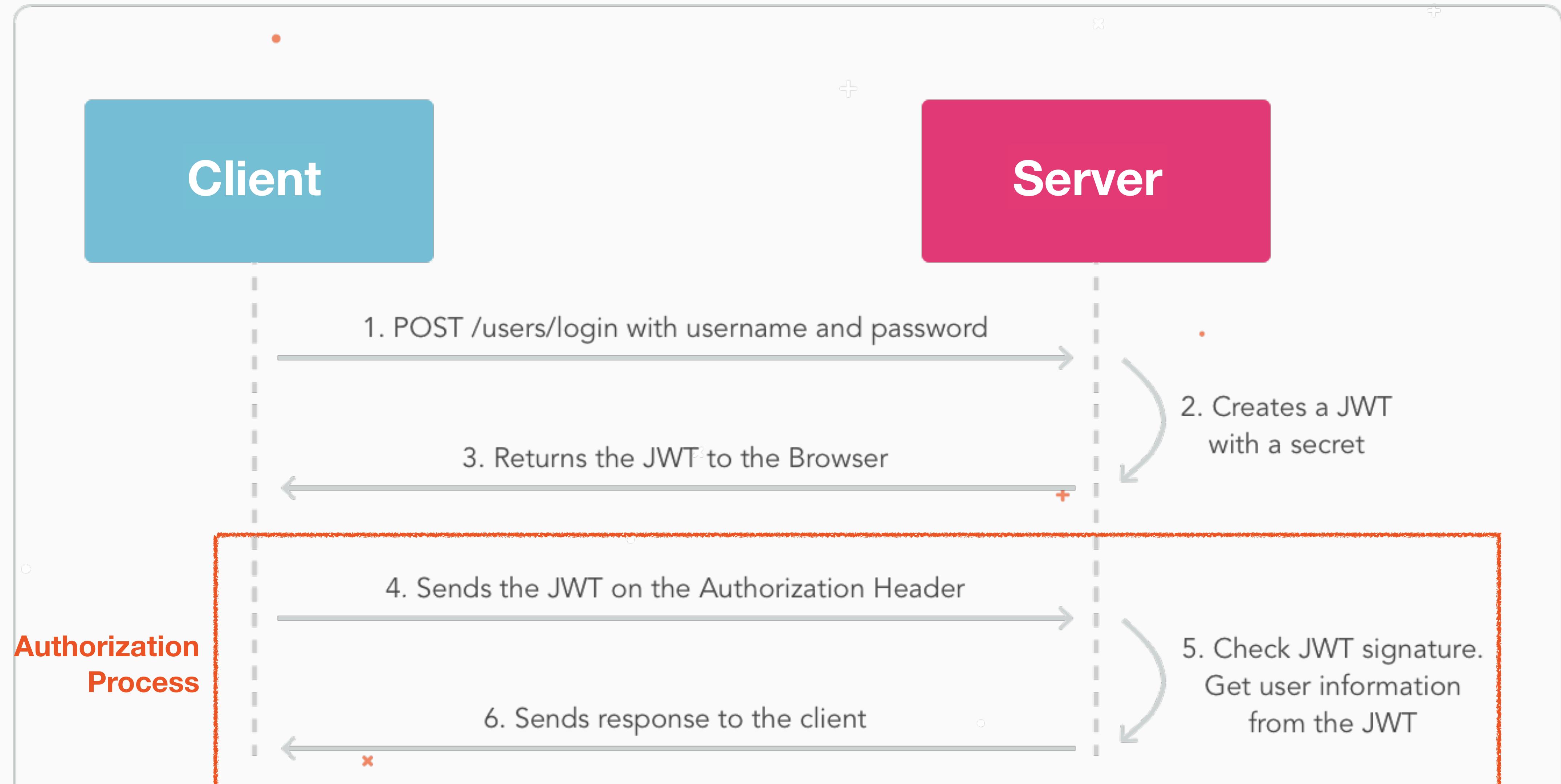
5. Check JWT signature.
Get user information from the JWT

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Auth0 (June 2017) <https://cdn.auth0.com/content/jwt/jwt-diagram.png>





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Auth0 (June 2017) <https://cdn.auth0.com/content/jwt/jwt-diagram.png>





[Debugger](#) [Libraries](#) [Introduction](#) [Ask](#) [Get a T-shirt!](#)

Crafted by Auth0

Debugger

ALGORITHM

HS256

Encoded

PASTE A TOKEN HERE

eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJzdW
Ii0iIxMjM0NTY3ODkwIiwibmFtZSI6IkpvaG4gRG9I:
iwiYWRtaW4iOnRydWV9.TJVA950rM7E2cBab30RMHrH
DcEfjoYZgeF0NFh7HgQ

Decoded

EDIT THE PAYLOAD AND SECRET (ONLY HS256 SUPPORTED)

HEADER: ALGORITHM & TOKEN TYPE

```
{  
  "alg": "HS256",  
  "typ": "JWT"  
}
```

PAYLOAD: DATA

```
{  
    "sub": "1234567890",
```



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• Improve API Design



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User Credentials Problem



Username : admin
Password : admin

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SSO

Single Sign On

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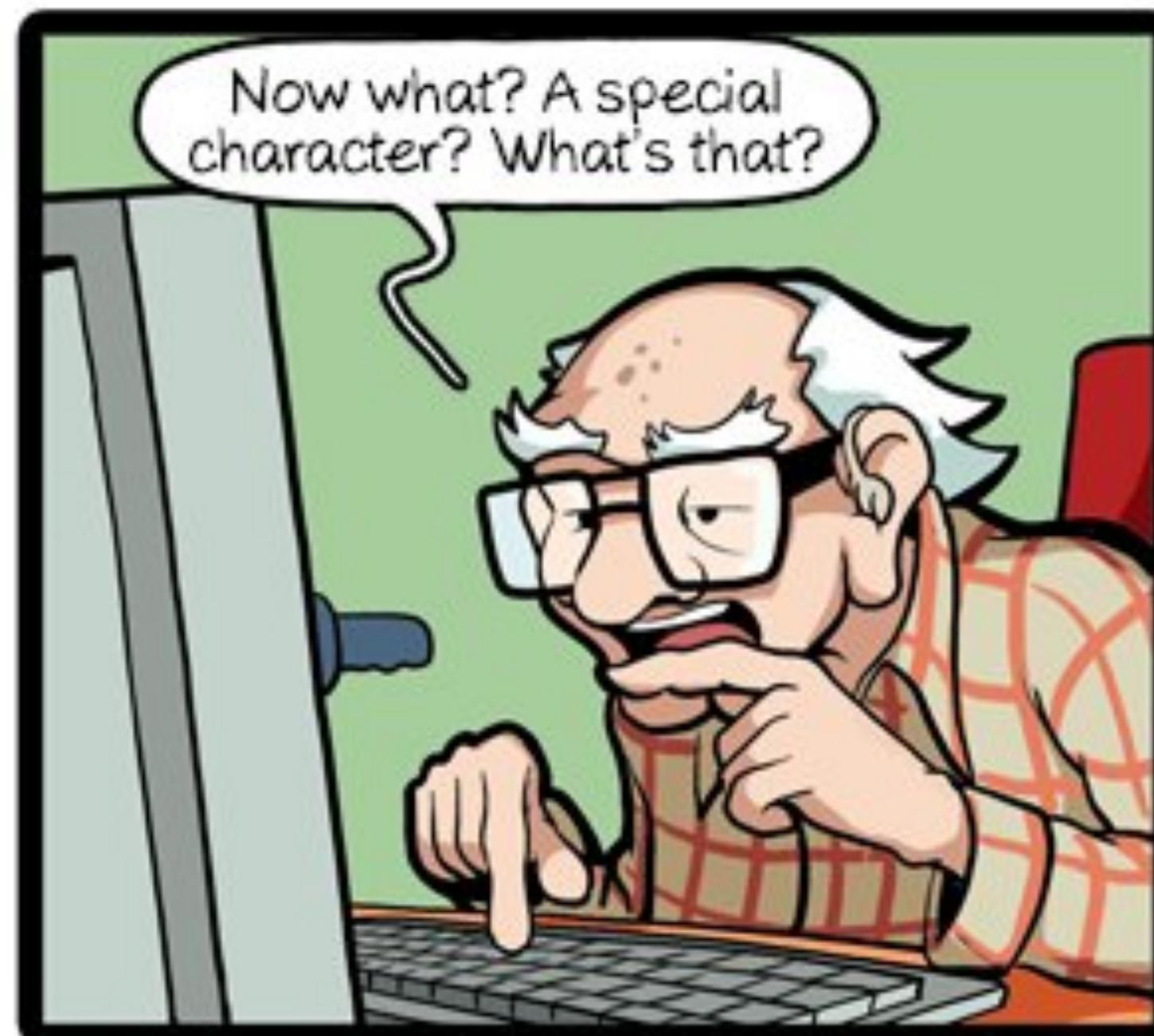
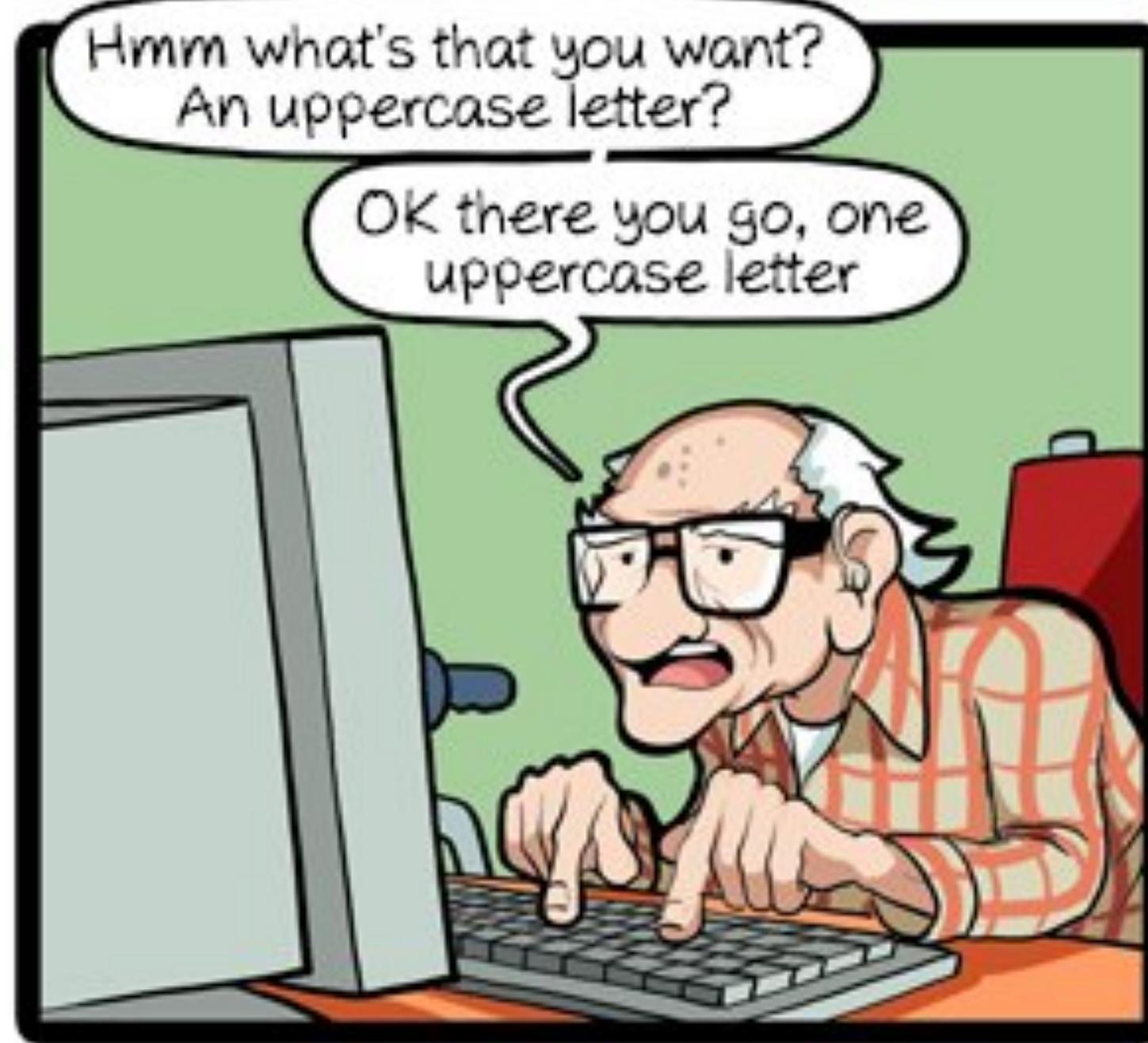


PASSWORD

IRULES!

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Sorry, but your password
must contain an uppercase
letter, a number, a
hieroglyph, a feather
from a hawk and
the blood of a
unicom.



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What we can do to improve this process?
Making it safer and easier.

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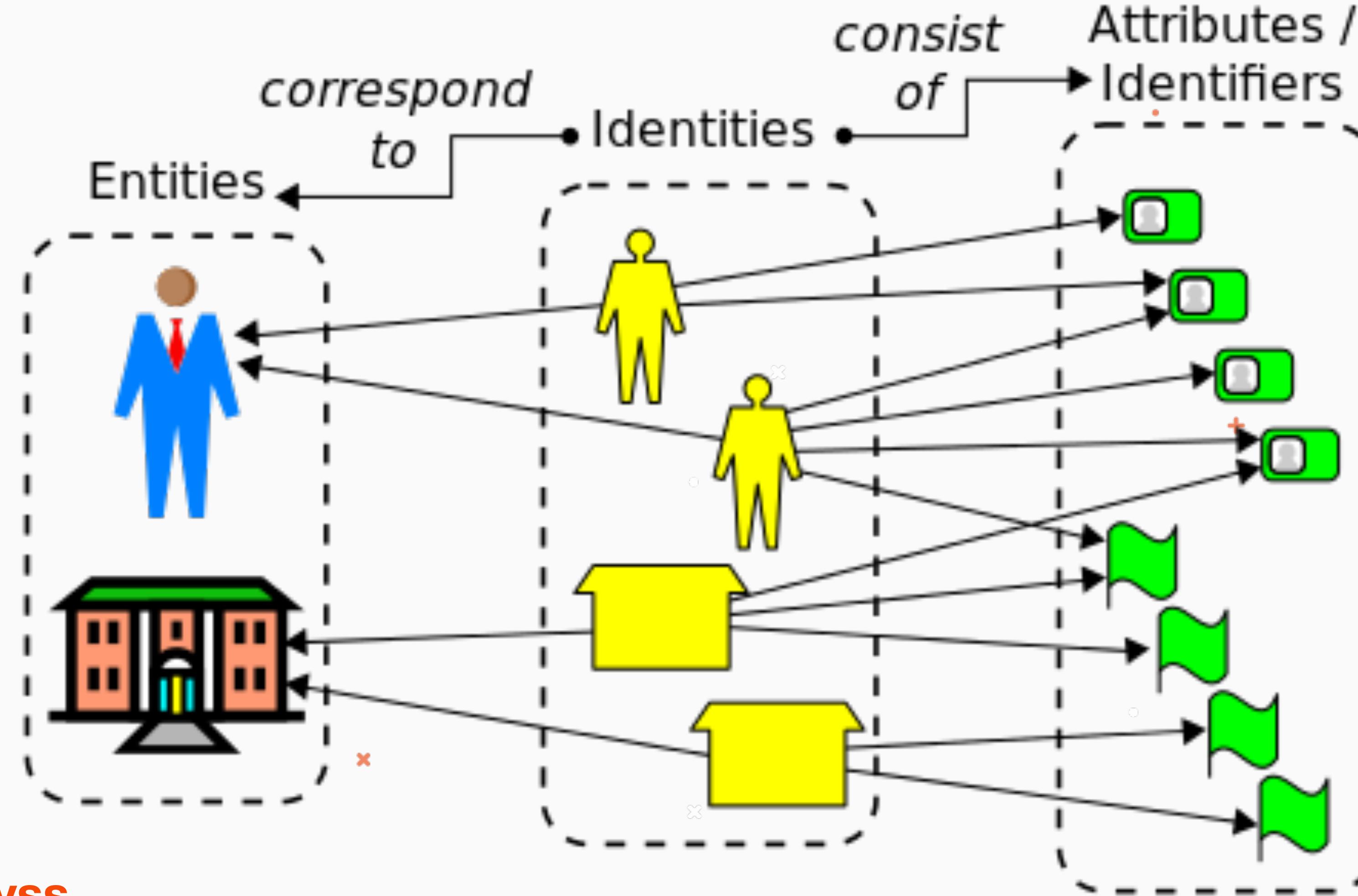
Identity Management (IdM)

- Is an umbrella term for all of the core logic around identity in a corporate environment.
 - Provisioning
 - Account management
 - Identity governance

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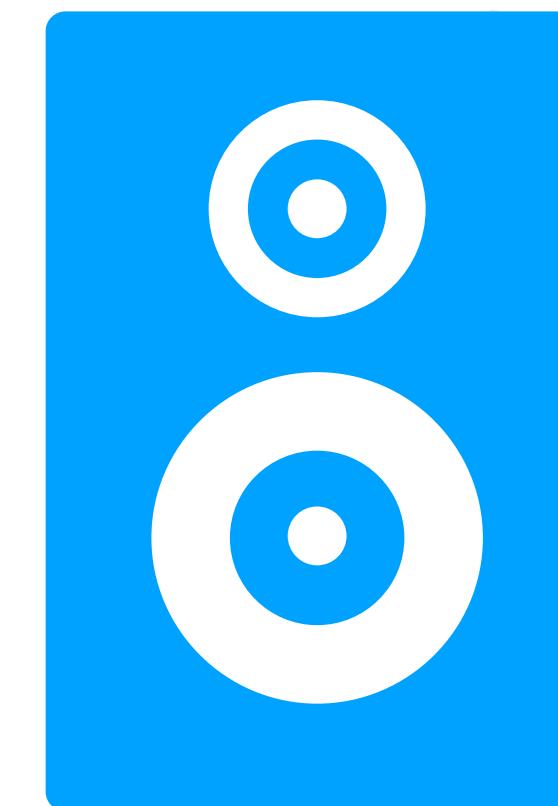
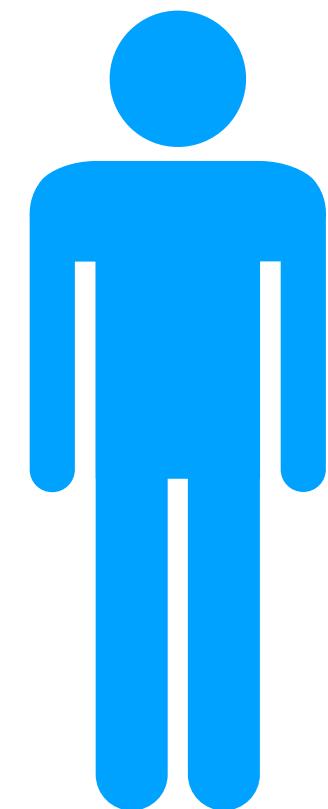
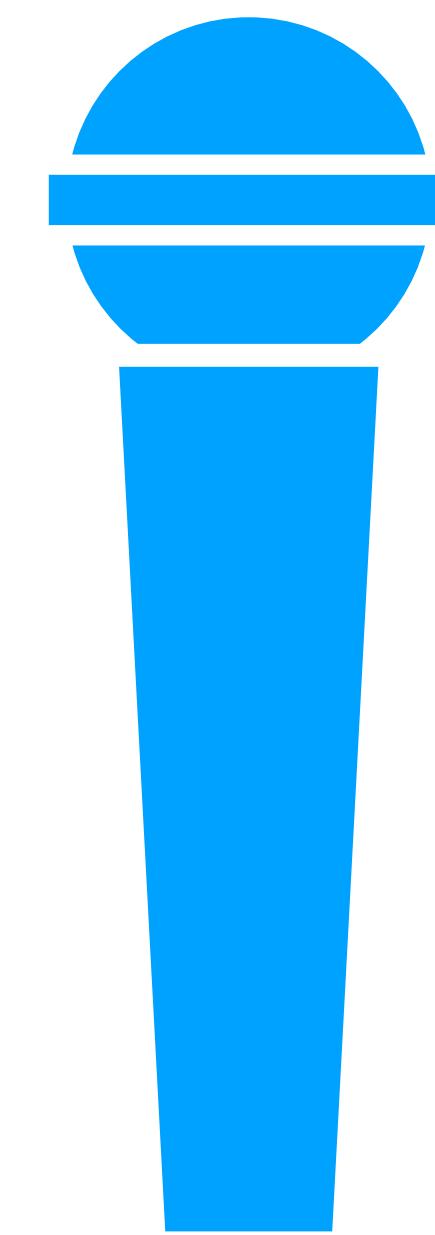
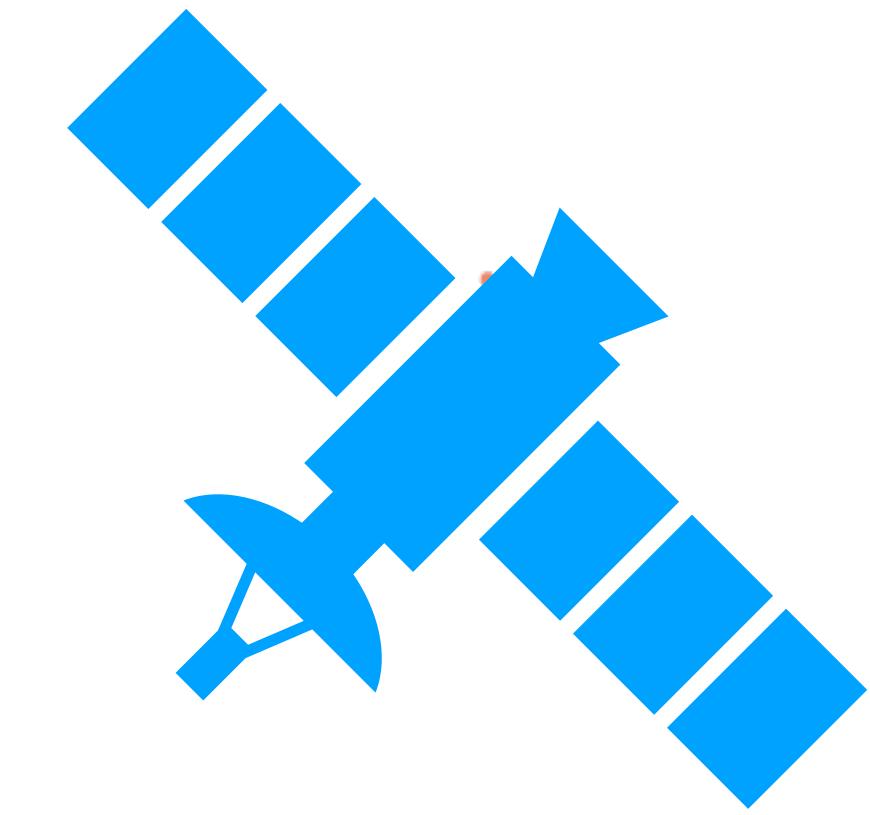
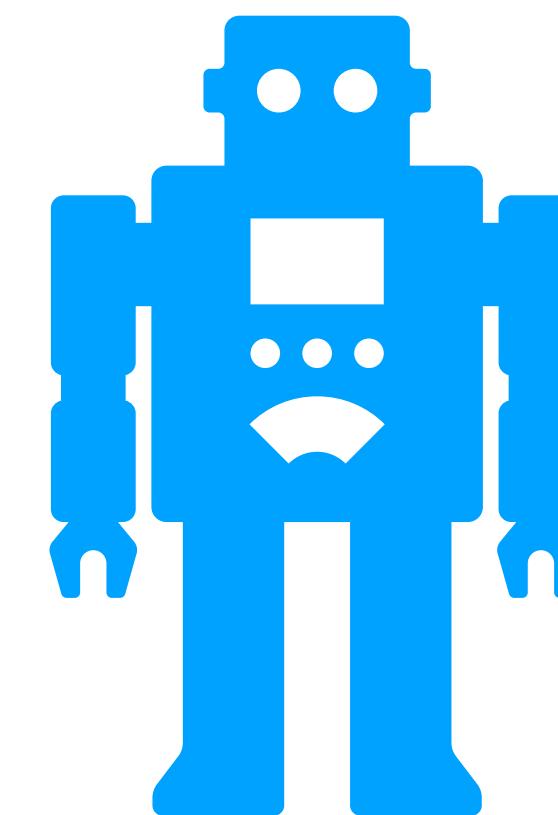
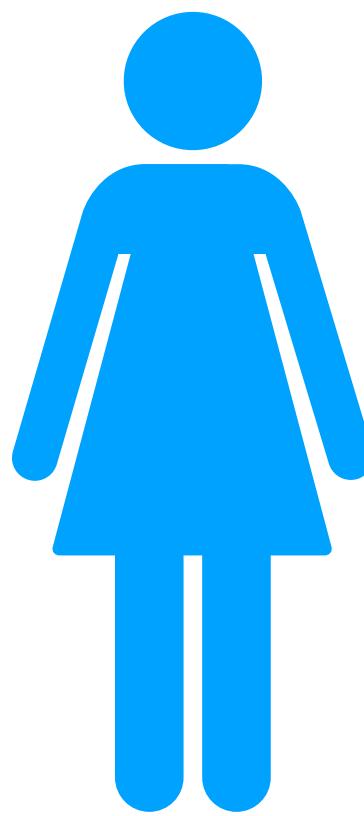
IdM: Provisioning



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IdM: Provisioning



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IdM: Account Management

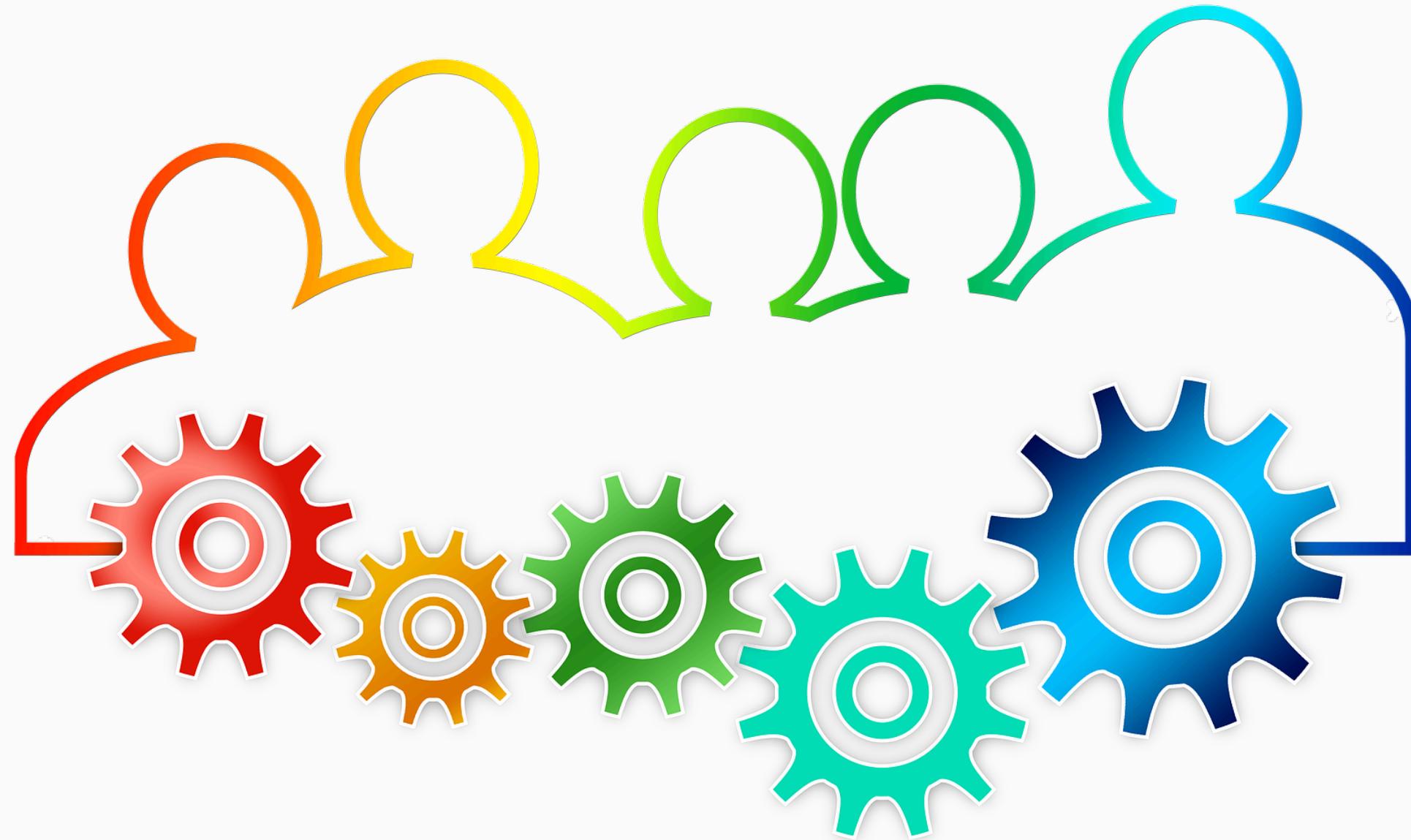
- Maintain those identities
- How safe those data?
- Encryption, Which one, which keys?
- What happens when an Entity erase their account?
- What happens when an Entity is longer inactive?

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IdM: Identity Governance

- Assigning them to groups and roles and adjusting permissions as needed



Identity and Access Management (IAM)

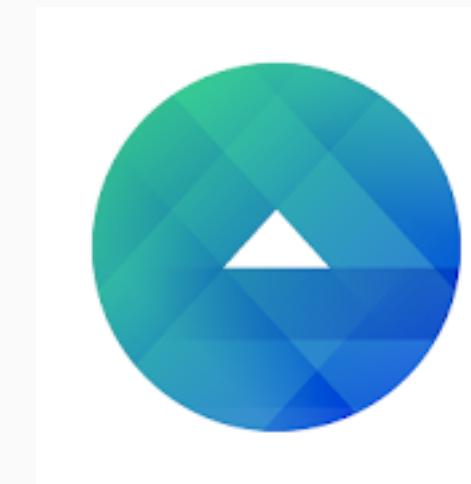
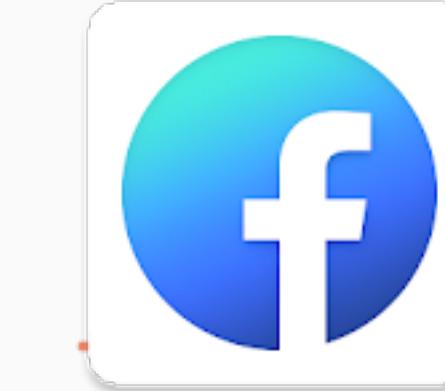
- Is most often used to refer not just to identification, but to the whole suite of practices that a corporation needs to manage their users and data:
 - Authentication
 - Authorization
 - Identity Federation

IAM: Authorization

- Ensuring the given user has the proper ***permissions to access*** a certain piece of data.

IAM: Identity Federation

- Ensuring users can use the same identification data to access resources on related domains.

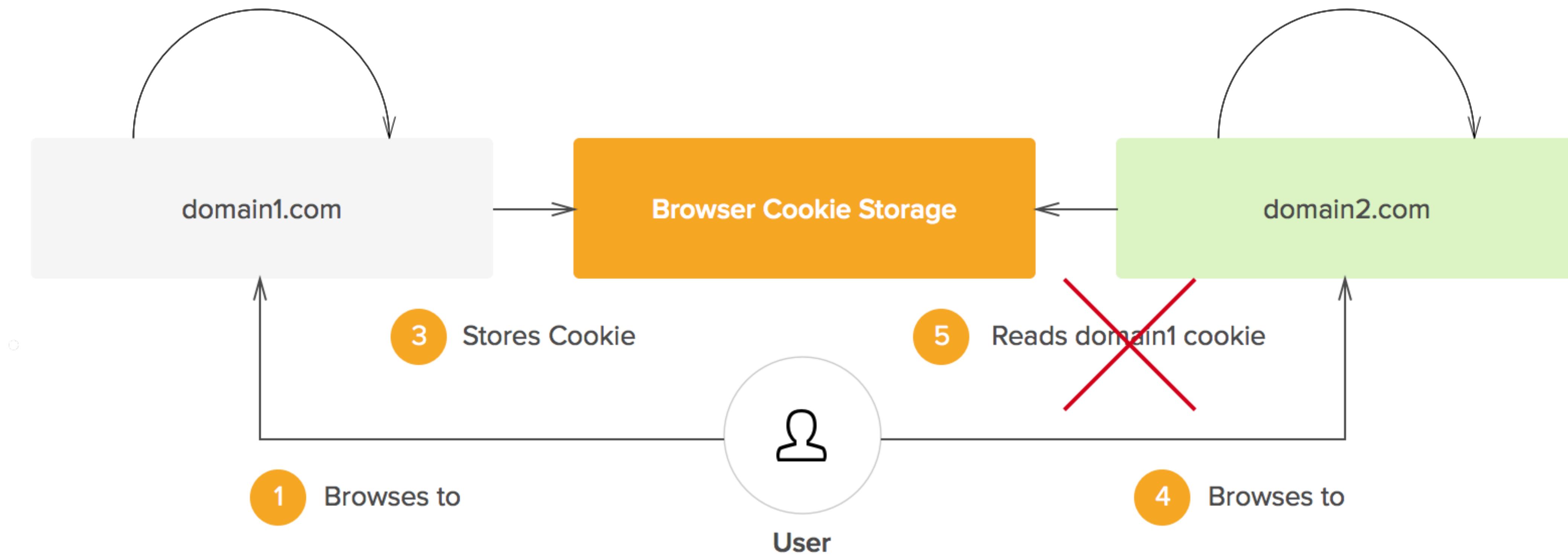


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SAME-ORIGIN-POLICY FORBIDS THIS

- 2 Ask for login info, authenticates user
- 6 Uses cookie domain1, authenticates user

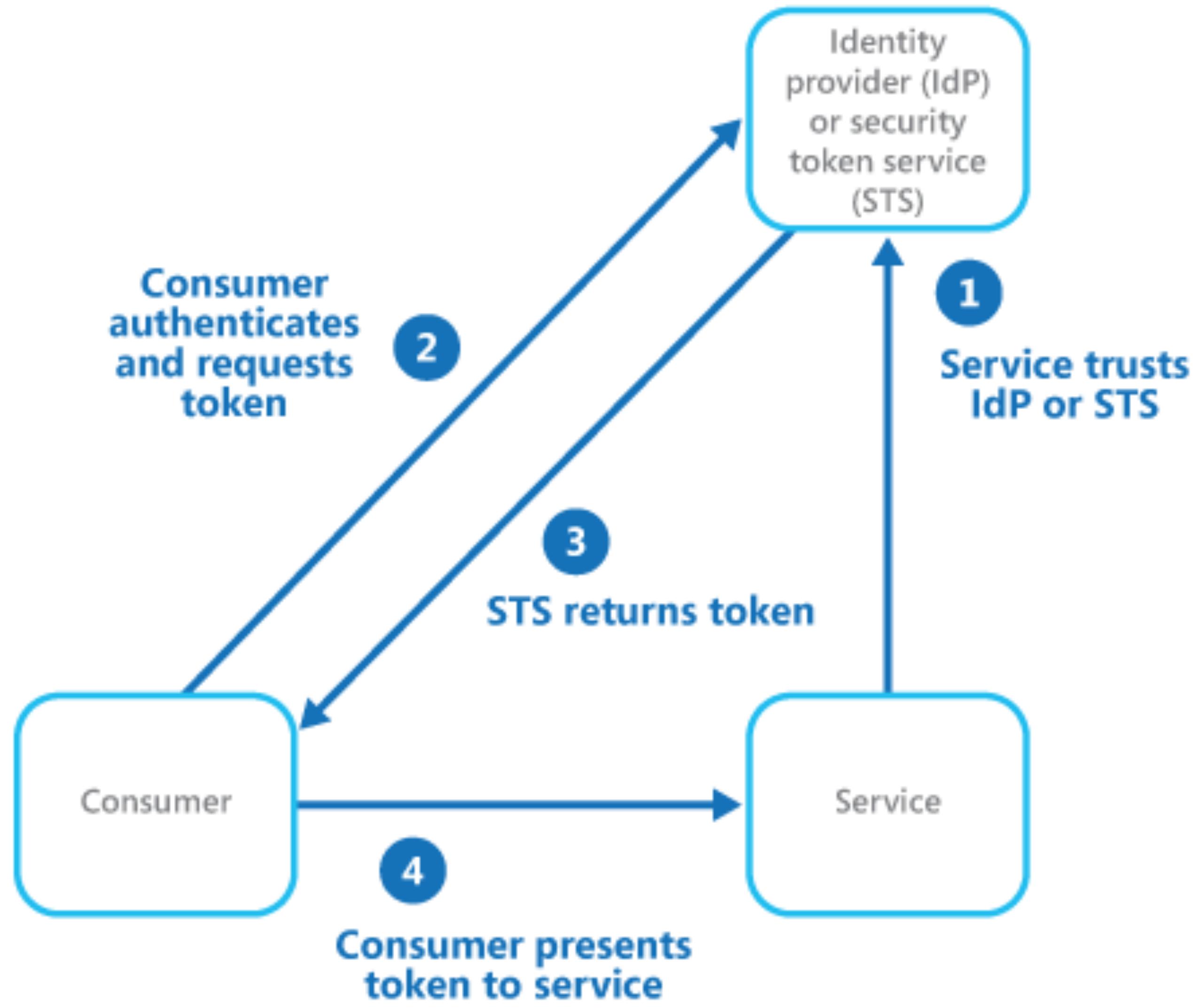


Federated Identity

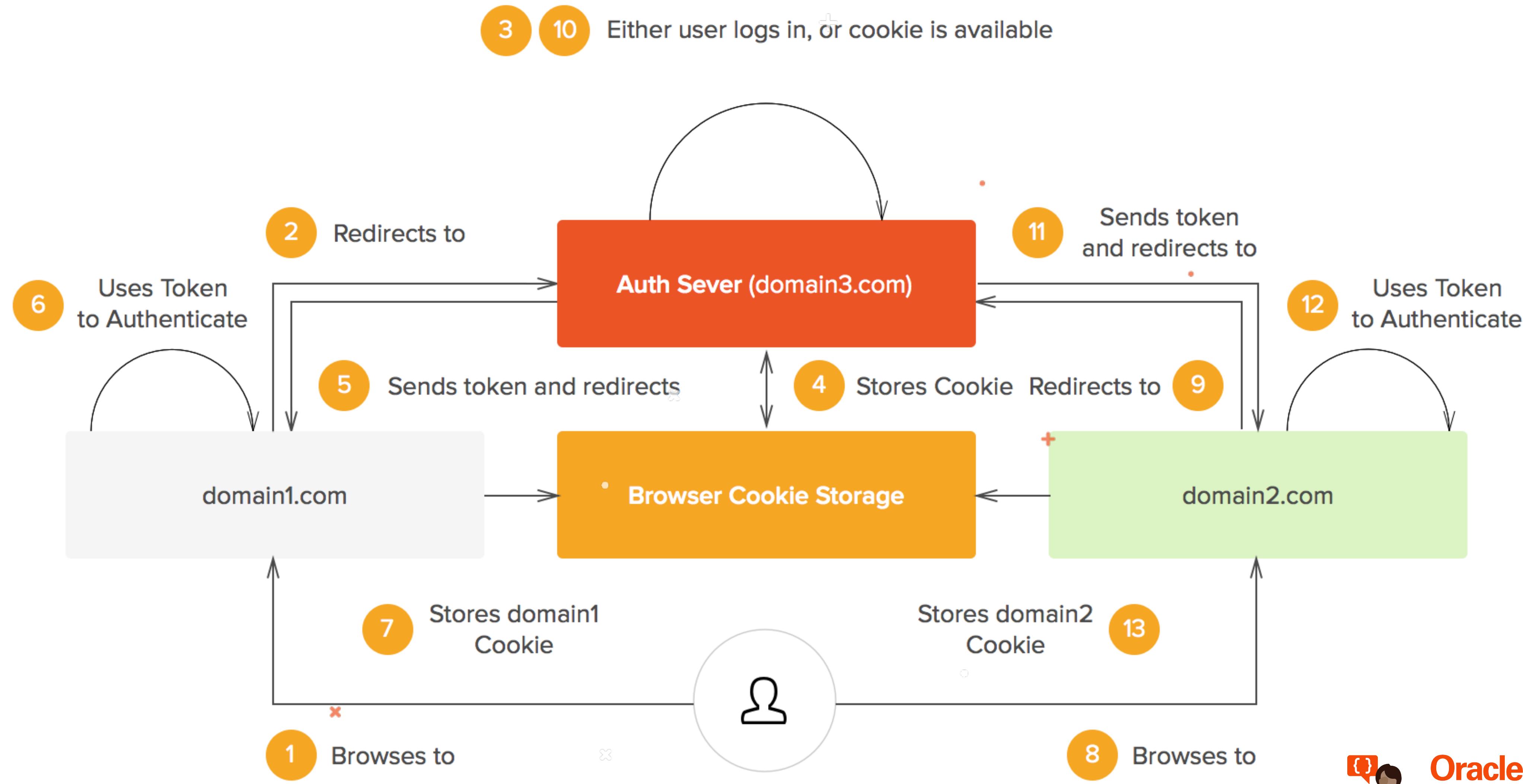
- In some way, are methods of transferring data without violating the same origin policy.
- This way, if domain X and Y are related, and their⁺owners want users to move freely between the two, they can simply triangulate around an external authorization server.

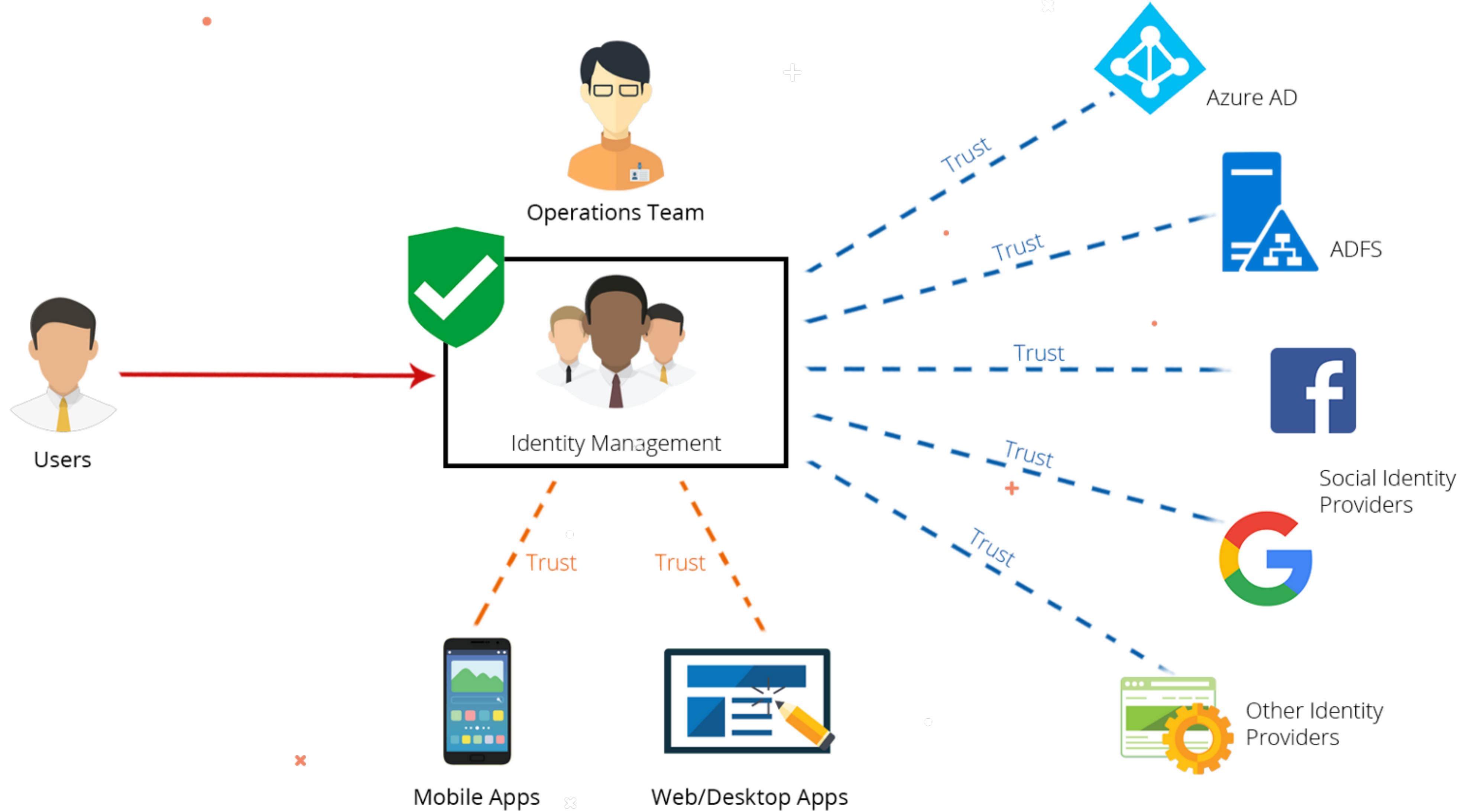
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TYPICAL SSO





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IAM: Authentication

- Ensuring that a given user is the user they identify as
 - Single Sing On (SSO)
 - Multi-factor Authentication (MFA)
 - Passwordless

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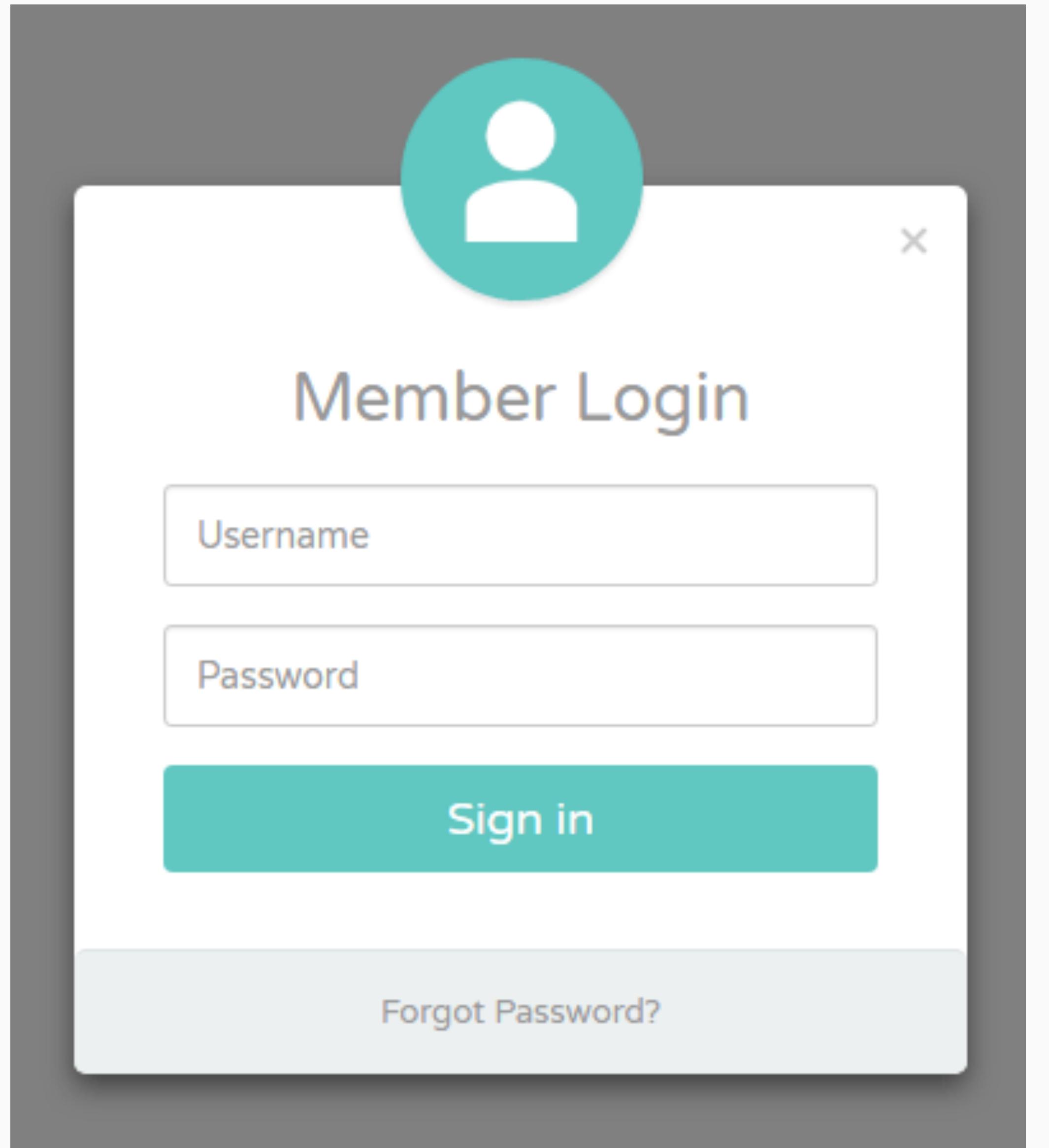
Knowledge



Possession



Biometric



A screenshot of a Member Login interface. At the top is a teal circular icon containing a white user silhouette. Below it is the title "Member Login". There are two input fields: "Username" and "Password", both with placeholder text. A large teal "Sign in" button is centered below the inputs. At the bottom is a light gray bar with the text "Forgot Password?".

Member Login

Username

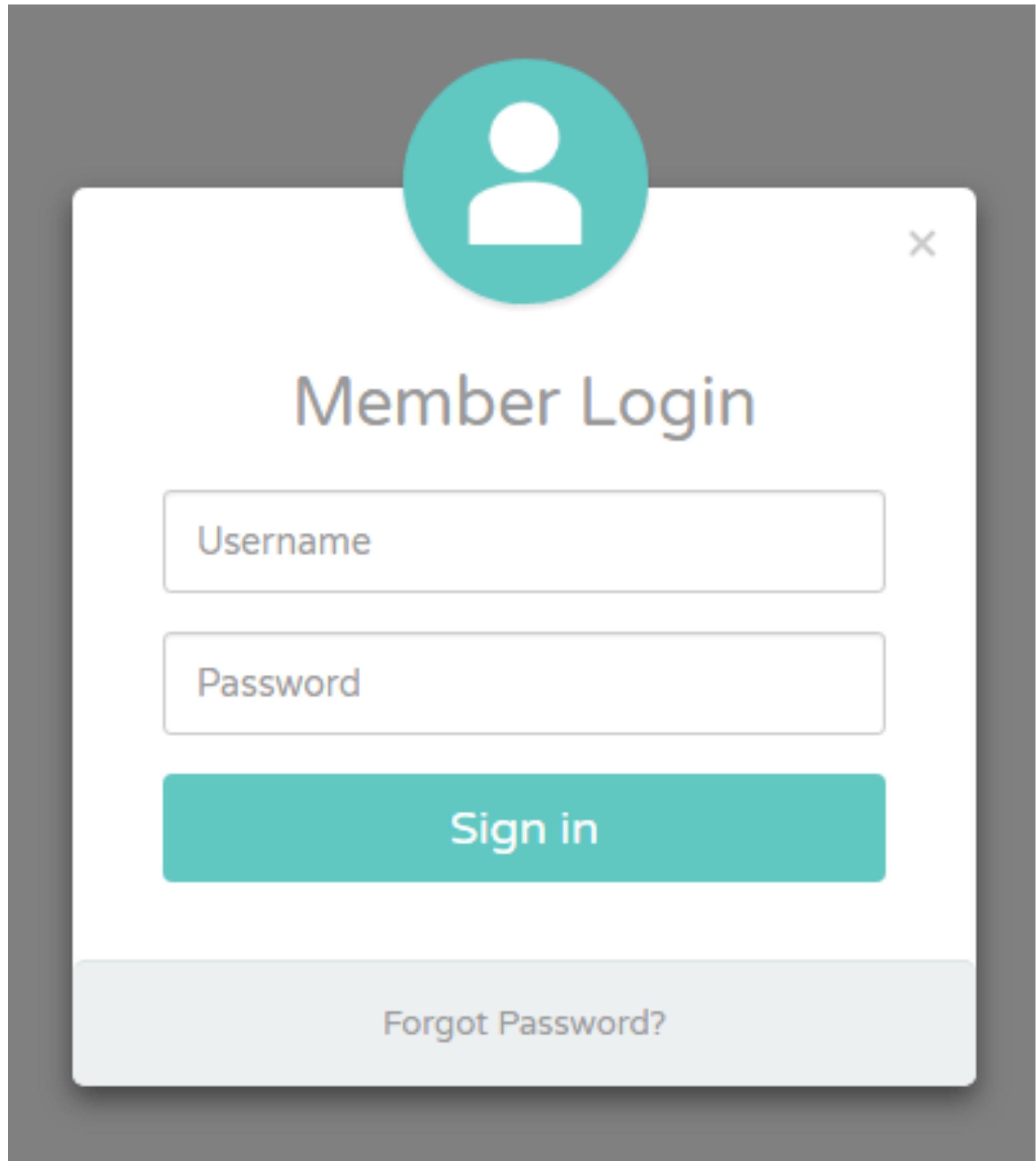
Password

Sign in

Forgot Password?

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A screenshot of a member login interface. At the top is a teal circular icon containing a white user silhouette. To its right is a small gray 'X' button. Below the icon is the text "Member Login". The main area contains two input fields: "Username" and "Password", both with placeholder text "Username" and "Password" respectively. Below these fields is a large teal "Sign in" button with white text. At the bottom is a light gray bar with the text "Forgot Password?".

Member Login

Username

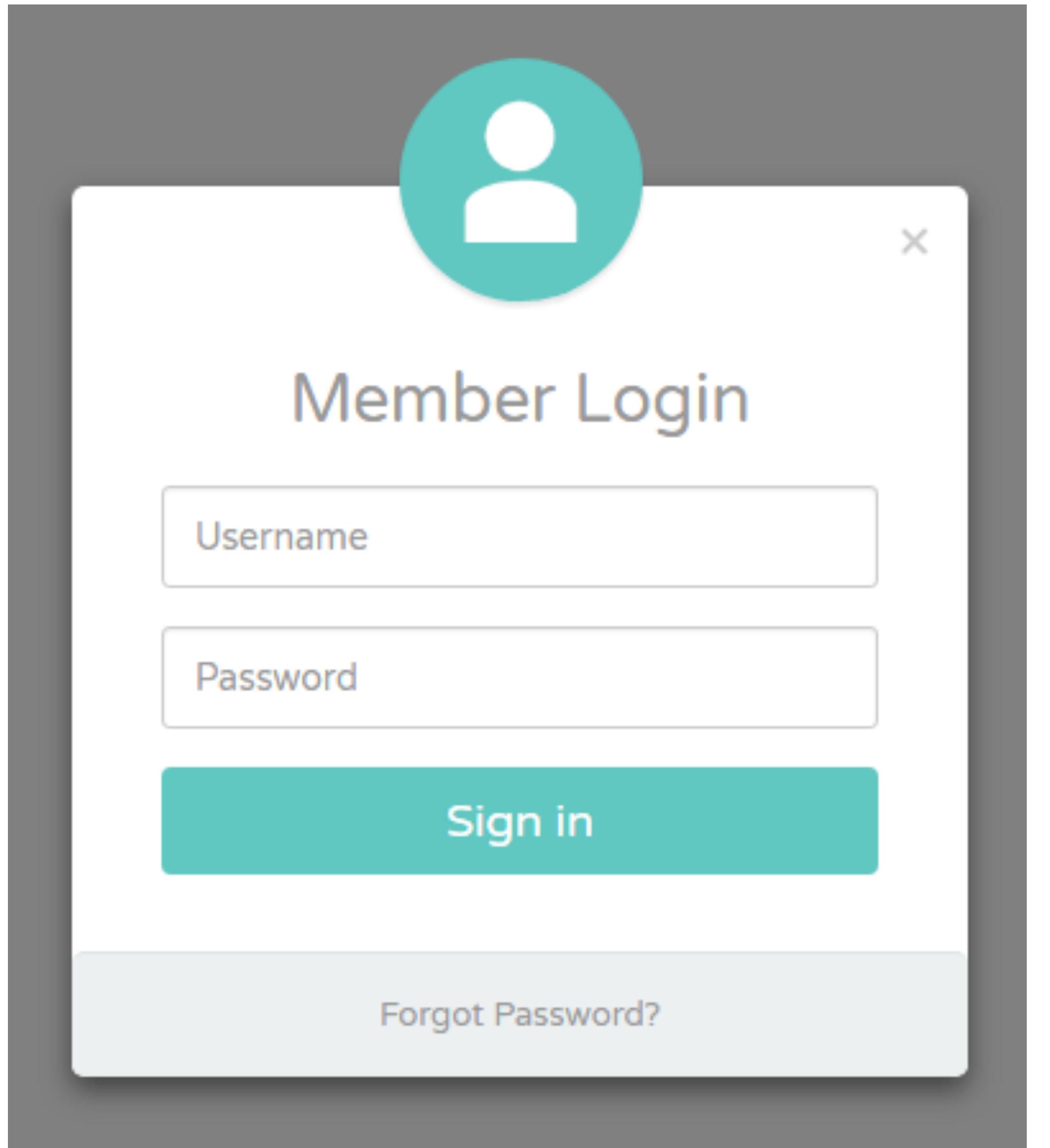
Password

Sign in

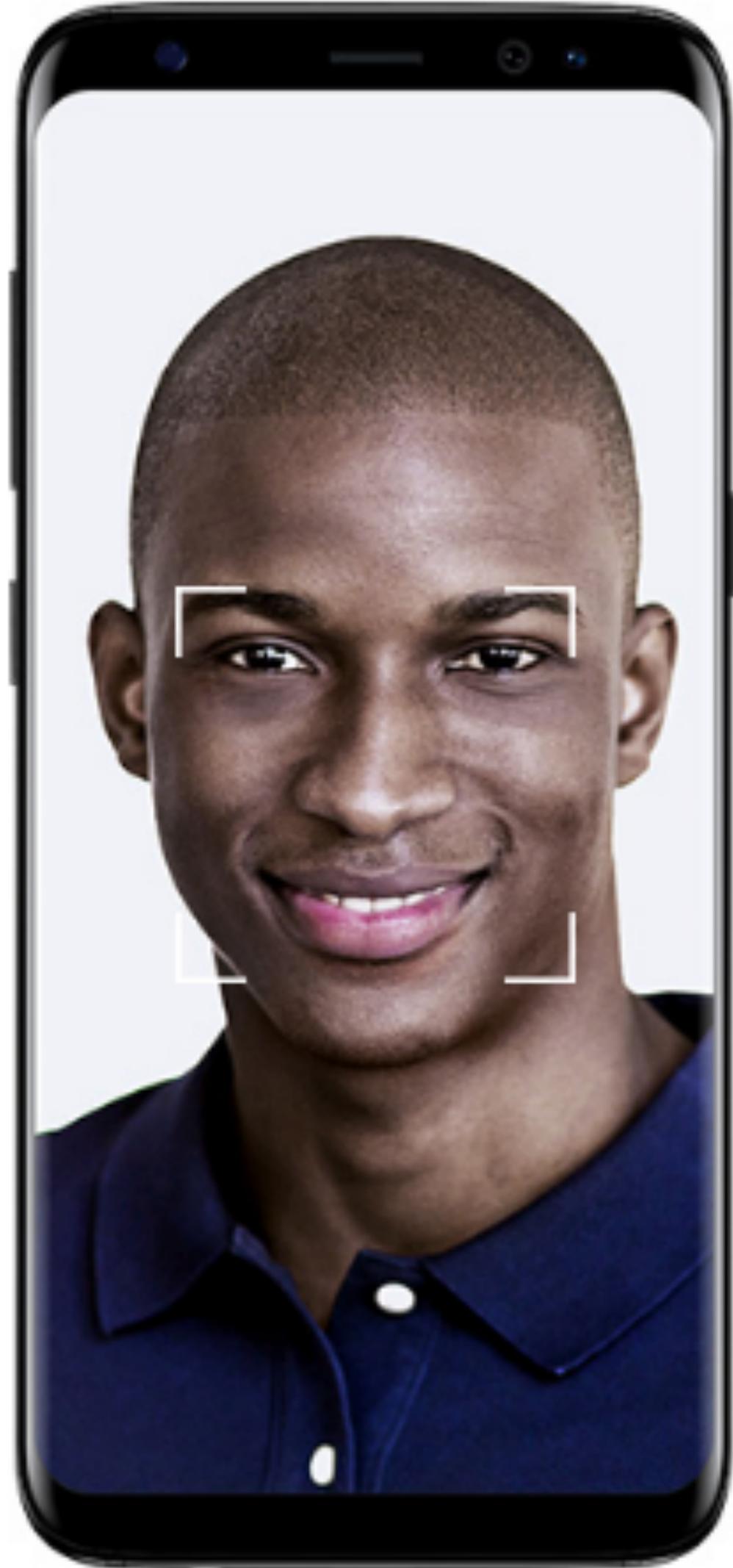
Forgot Password?



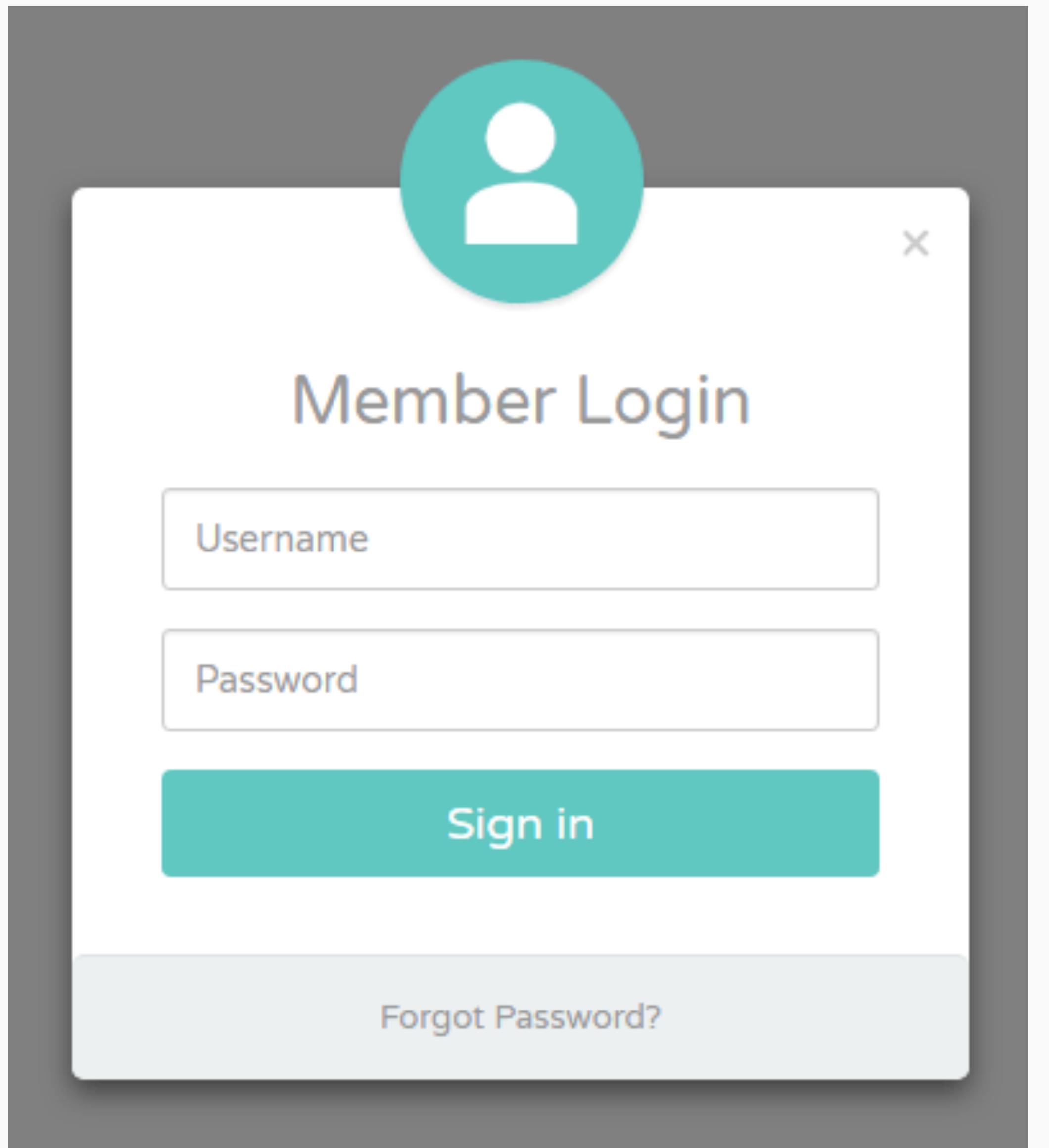
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A screenshot of a Member Login interface. At the top is a teal circular icon containing a white user silhouette. Below it, the text "Member Login" is displayed in a dark blue font. The form contains two input fields: "Username" and "Password", both with placeholder text in a light gray font. A large teal button labeled "Sign in" is centered below the inputs. At the bottom of the form is a link labeled "Forgot Password?".

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MFA

Multi-Factor
Authentication

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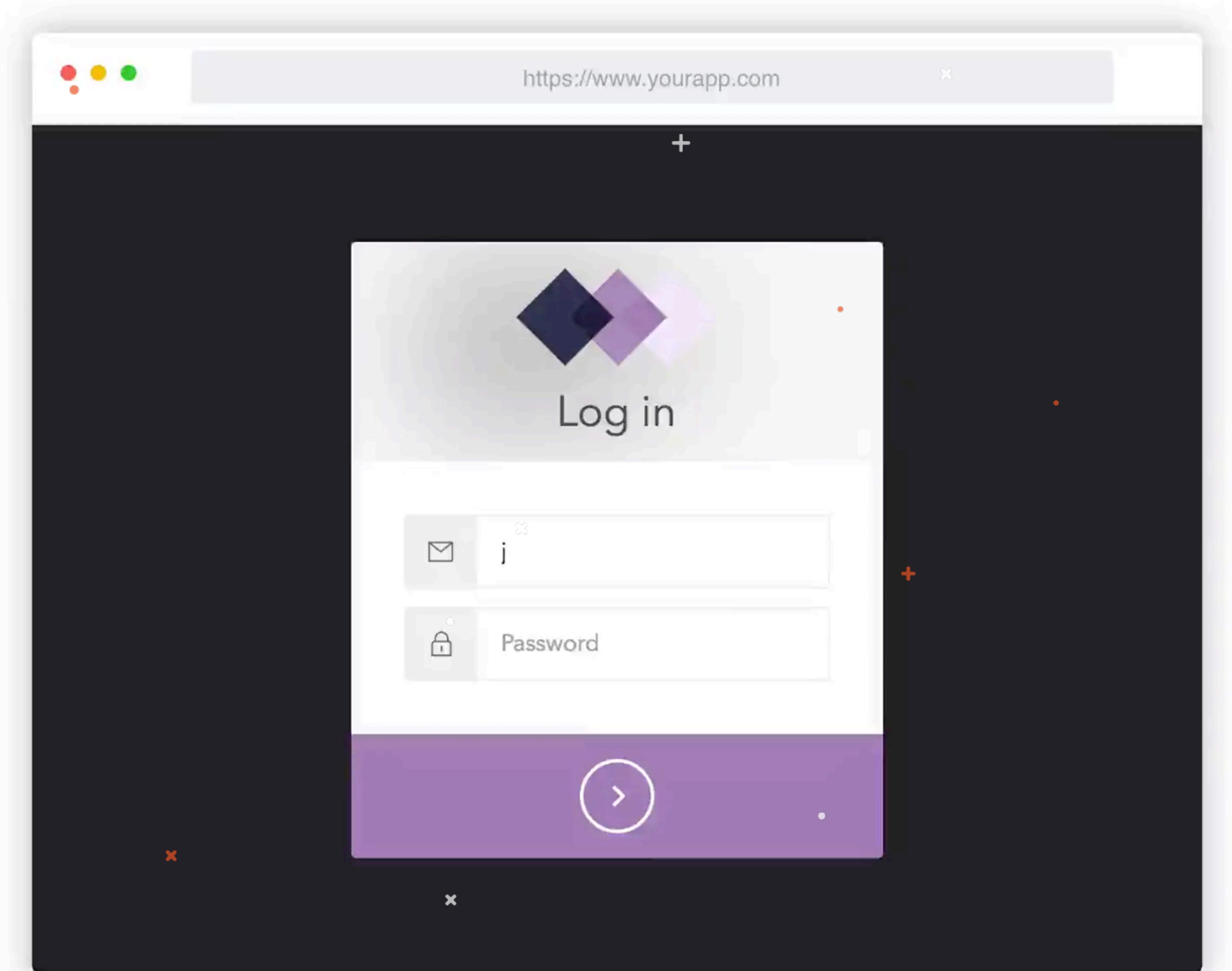




User logs into an account using their primary password

An authentication code (OTP) is sent to the user's mobile phone

User enters the OTP as the secondary password and is granted access to their online account



MFA: Biometrics

- Common methods are touch ID (fingerprint), SMS, facial recognition.
- We can have other ones:
 - Iris or retina recognition
 - Voice recognition (Twilio)
 - Typing recognition
 - DNA usage

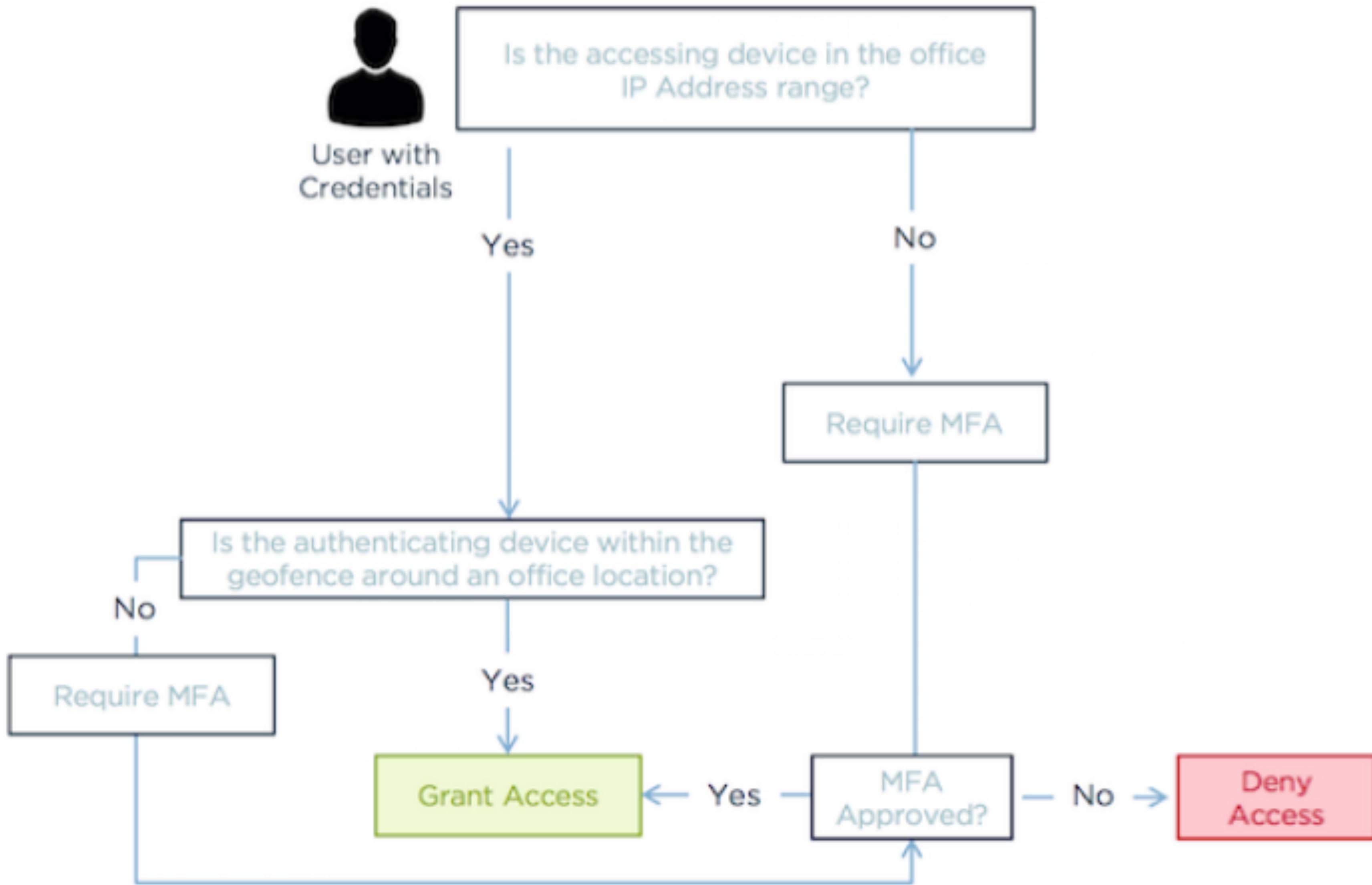
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Passwordless

- It means authenticating a user by means other than having them type in a password
- Can also evaluate user and device contexts to provide authentication methods.

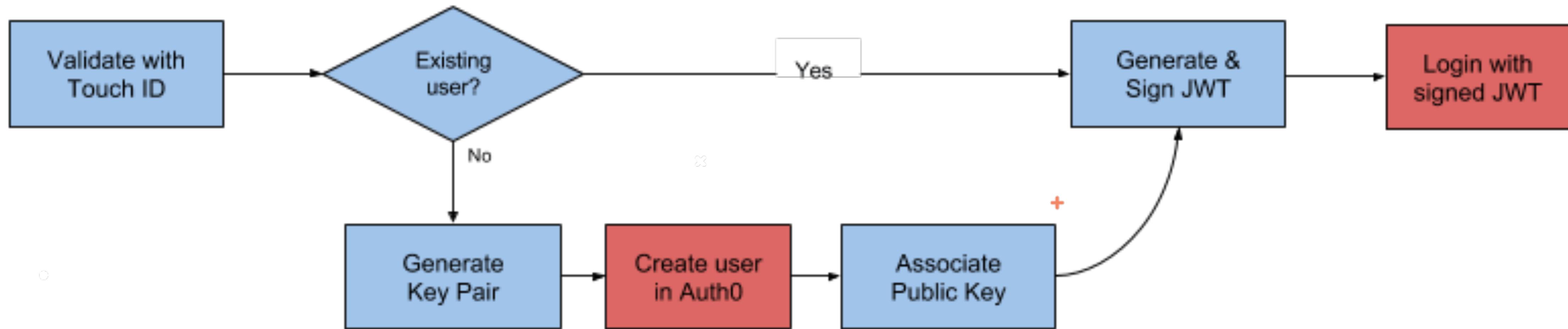
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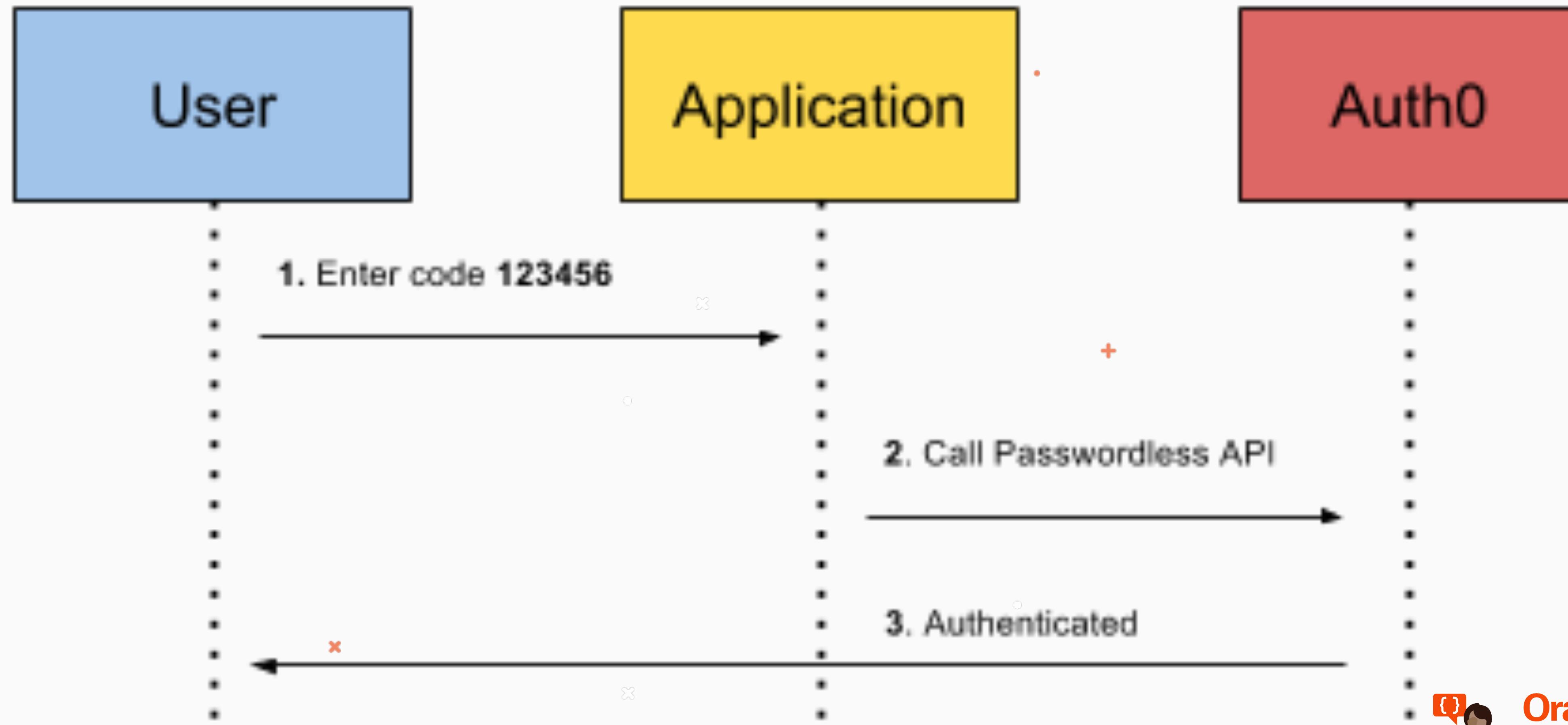
Touch ID



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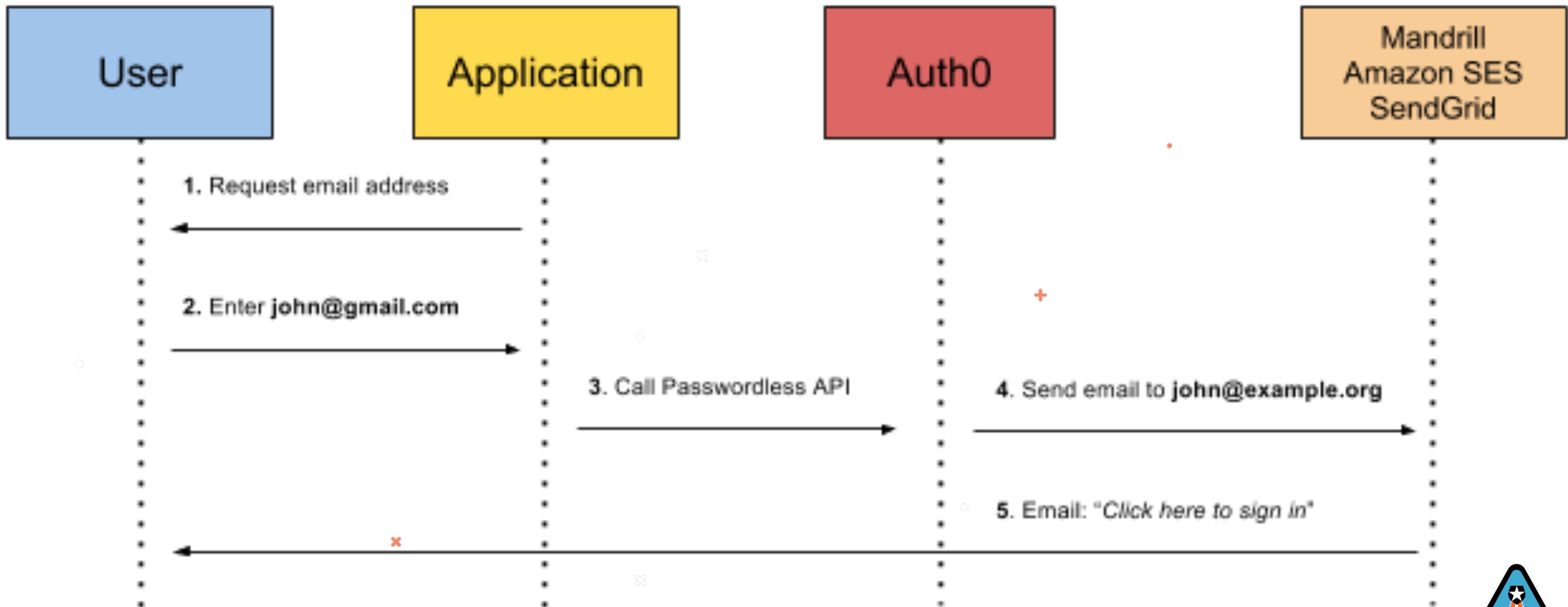
SMS Code



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Magic Link



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Hello!

You asked us to send you a magic link
for quickly signing in to
raywenderlich.com, using the app.
Your wish is our command! ✨

Sign in to Slack

You may copy/paste this link into your browser:

[https://app.slack.com/t/raywenderlich/login/z-app-2702402525-227951624851-ZuEuoyDoA8?
s=slack&x=x-207503661156-229118386967](https://app.slack.com/t/raywenderlich/login/z-app-2702402525-227951624851-ZuEuoyDoA8?s=slack&x=x-207503661156-229118386967)

Note: Your magic link will expire in 24
hours, and can only be used one time.

See you soon!

Cheers,
The team at Slack

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Social Federated Identity

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Basecamp



Amazon Web
Services



AOL Reader



Auth0
OpenIDConnect



Baidu



Bitbucket



Box



docomo
Docomo

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Dropbox



Dwolla



Evernote



Exact



Facebook



Fitbit



Github



Goodreads

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Google



Instagram



LinkedIn



Microsoft
Account



miiCard



Generic OAuth2
Provider



PayPal



Planning
Center

@itrjwyss





RenRen



Salesforce



Shopify



SoundCloud



The City



Twitter



vKontakte



Weibo

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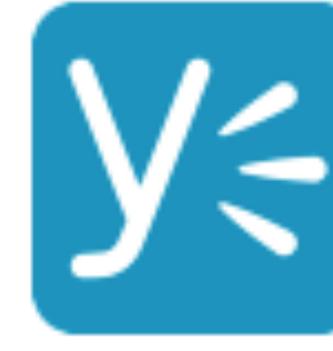
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WordPress



Yahoo!



Yammer



Yandex

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Enterprise Federated Identity

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Active
Directory



ADFS



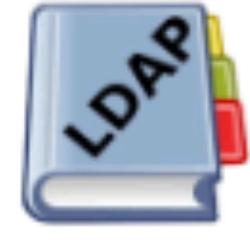
Azure Active
Directory
Native



Google Apps



IP Address
Authentication



LDAP



Office 365
(Deprecated)



PingFederate



SharePoint
Apps



WS-Federation



Azure Active
Directory

Legal Federated Identity

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 bankID

Norwegian
BankID



Swedish
BankID

NEM ID

Danish NemID

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How to have a successful Identity Management Project

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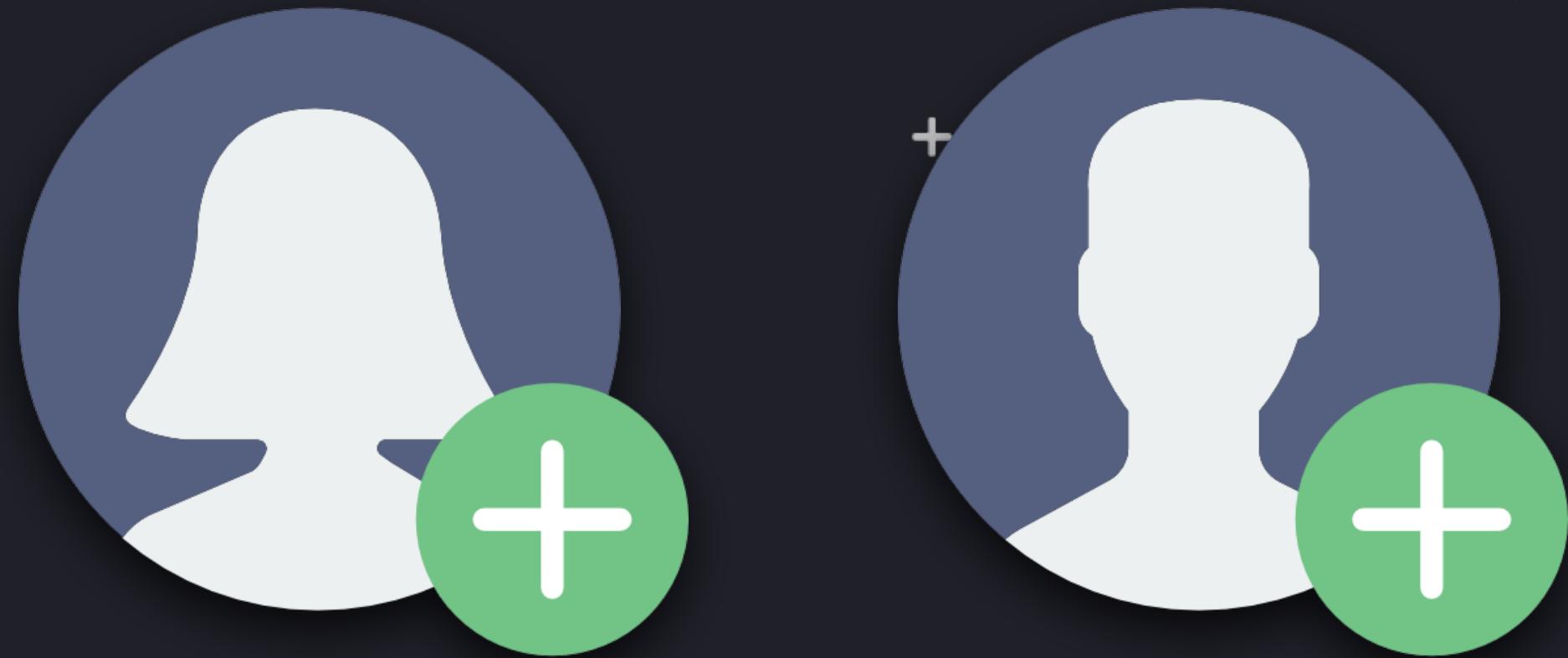


Common Oversights and Pitfalls

- Identify requirements for the *entire identity management lifecycle*, not just logging in
- Plan for identity failure and change, so you are ready for such events
- Address security and compliance requirements

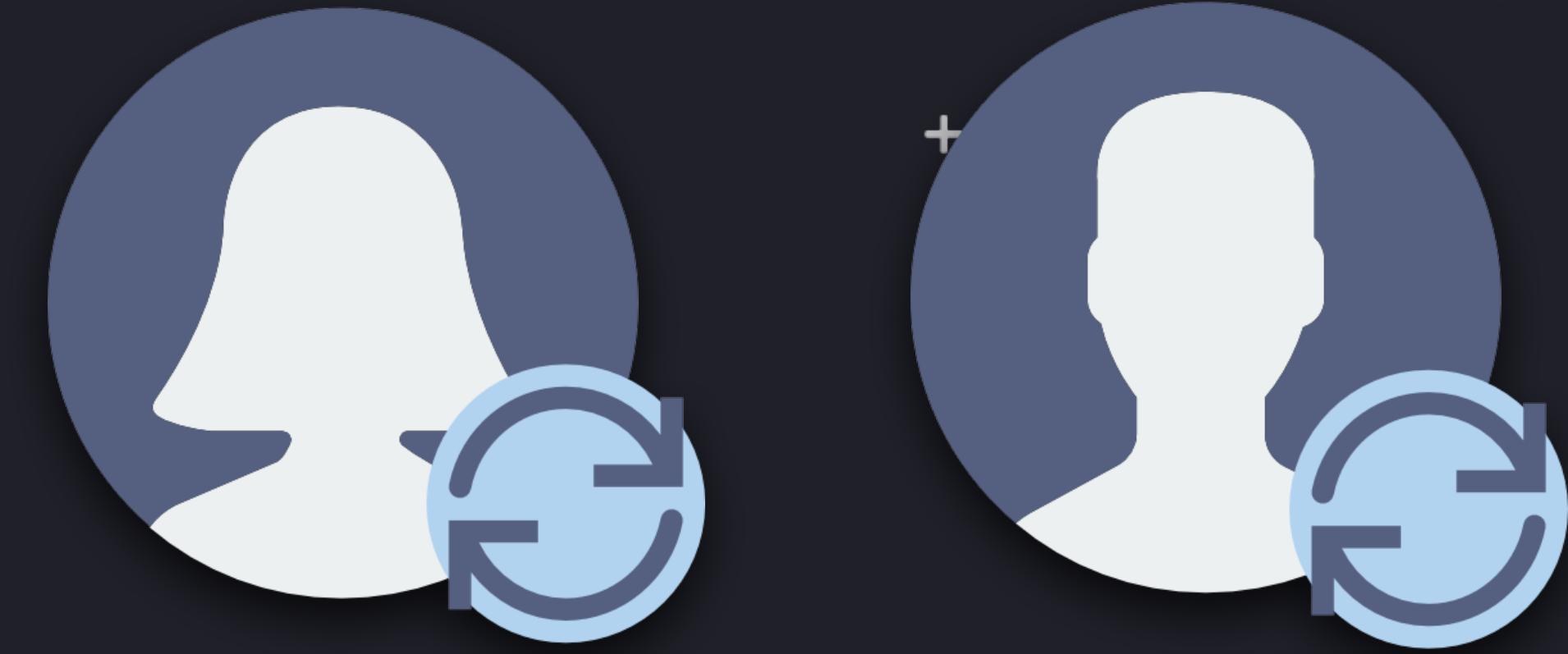
@itrjwyss





1. How will user accounts be created?

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2. Will user profiles need to be synchronized?



3. Username uniqueness

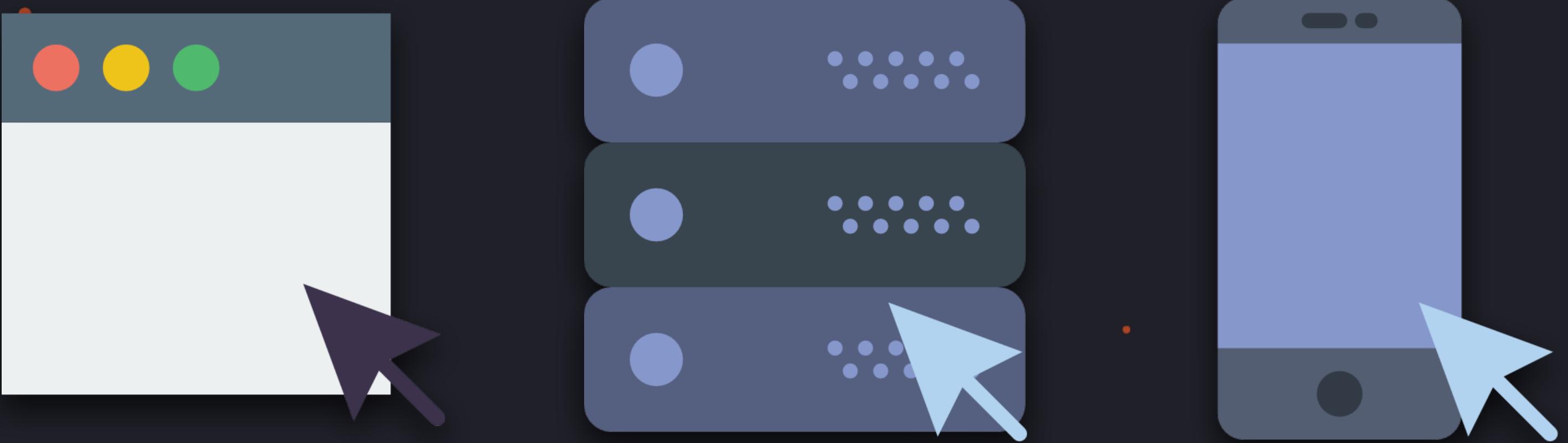
@itrjwyss



4. How will users Log In?

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5. What devices will be used?

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6. Is single Sing-On needed?

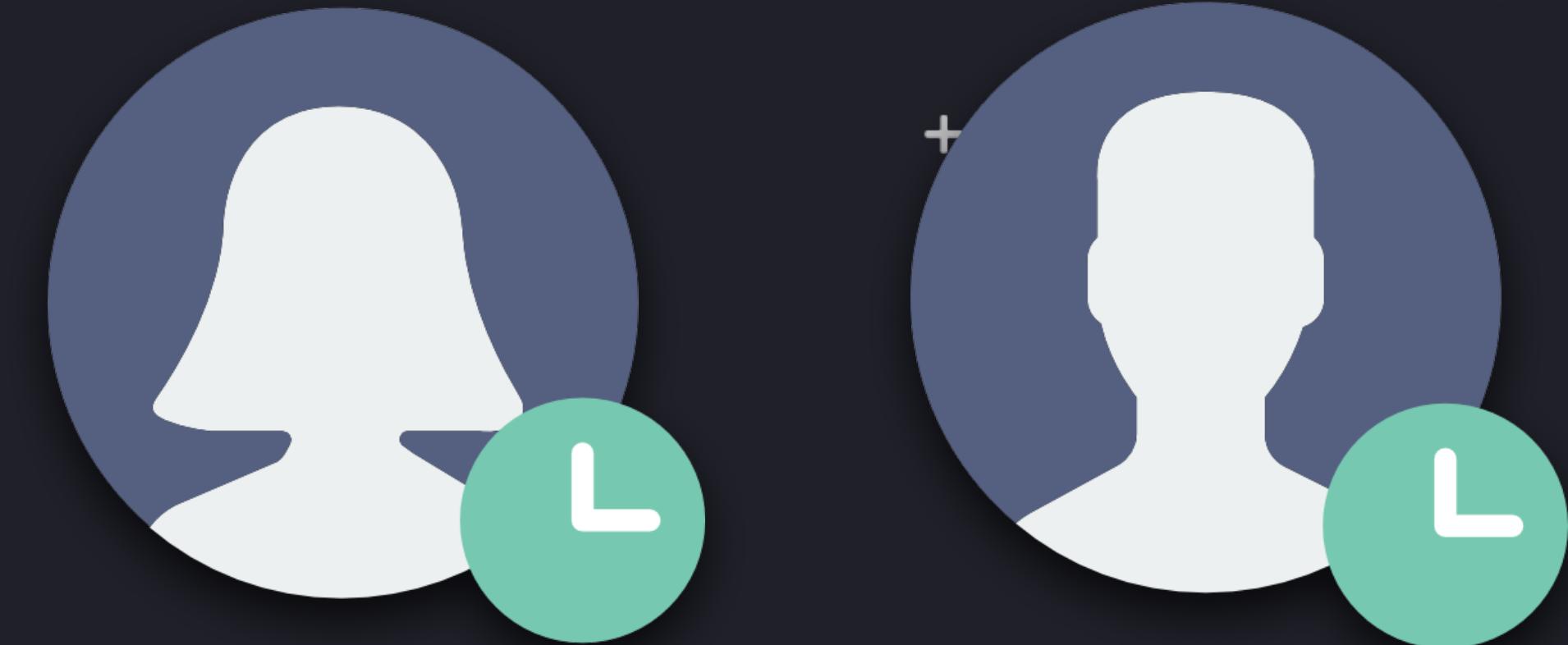
@itrjwyss





7. Should Multi-Factor Authentication (MFA) be used and if so, When?

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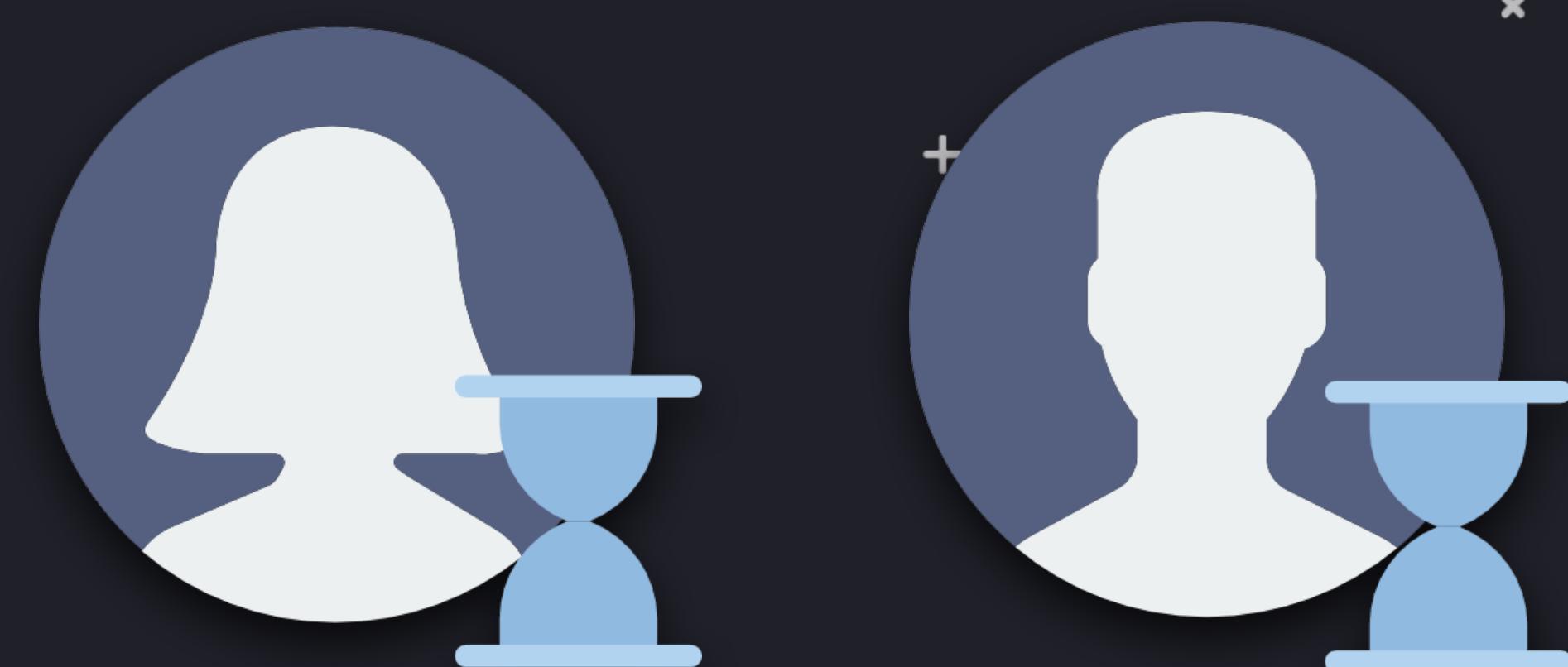


8. What should happen when the User decides to Log Out?



9. How will browser configuration influence Sessions?

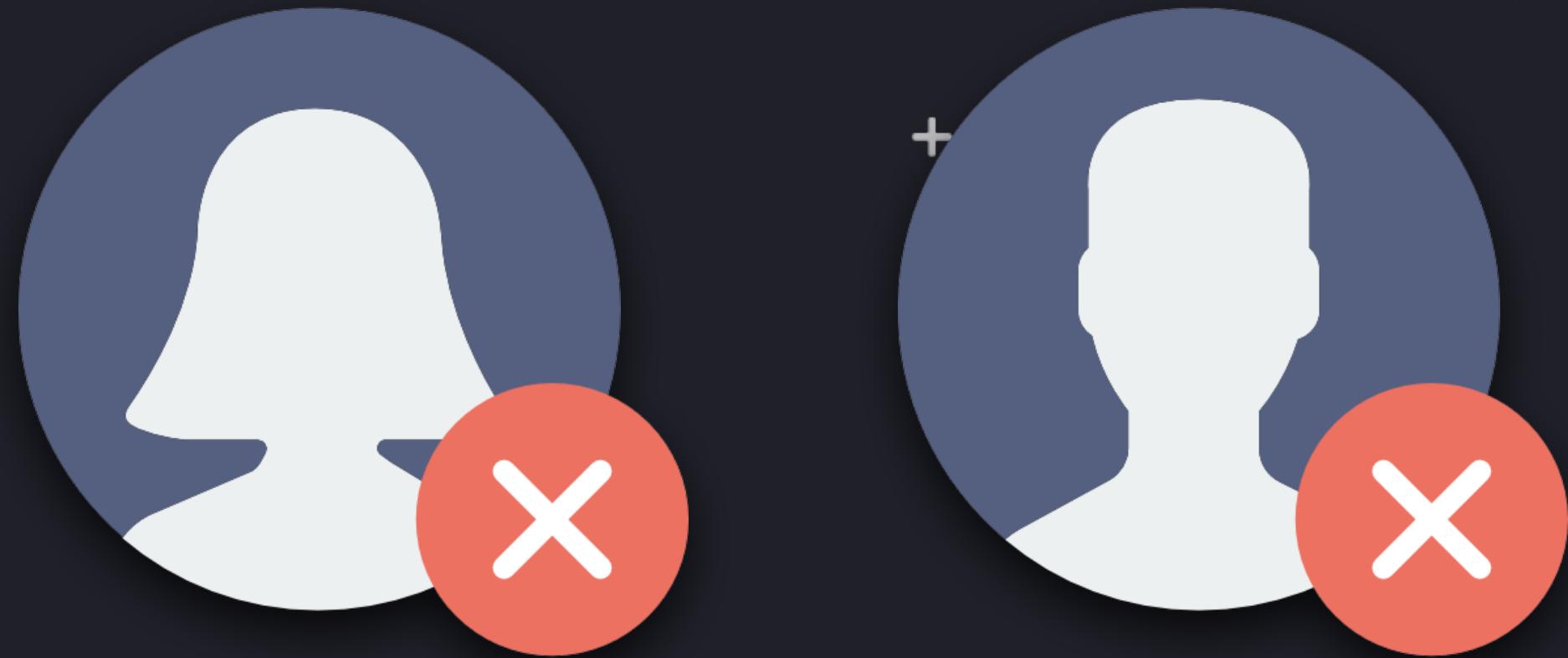
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10. Session Timeouts

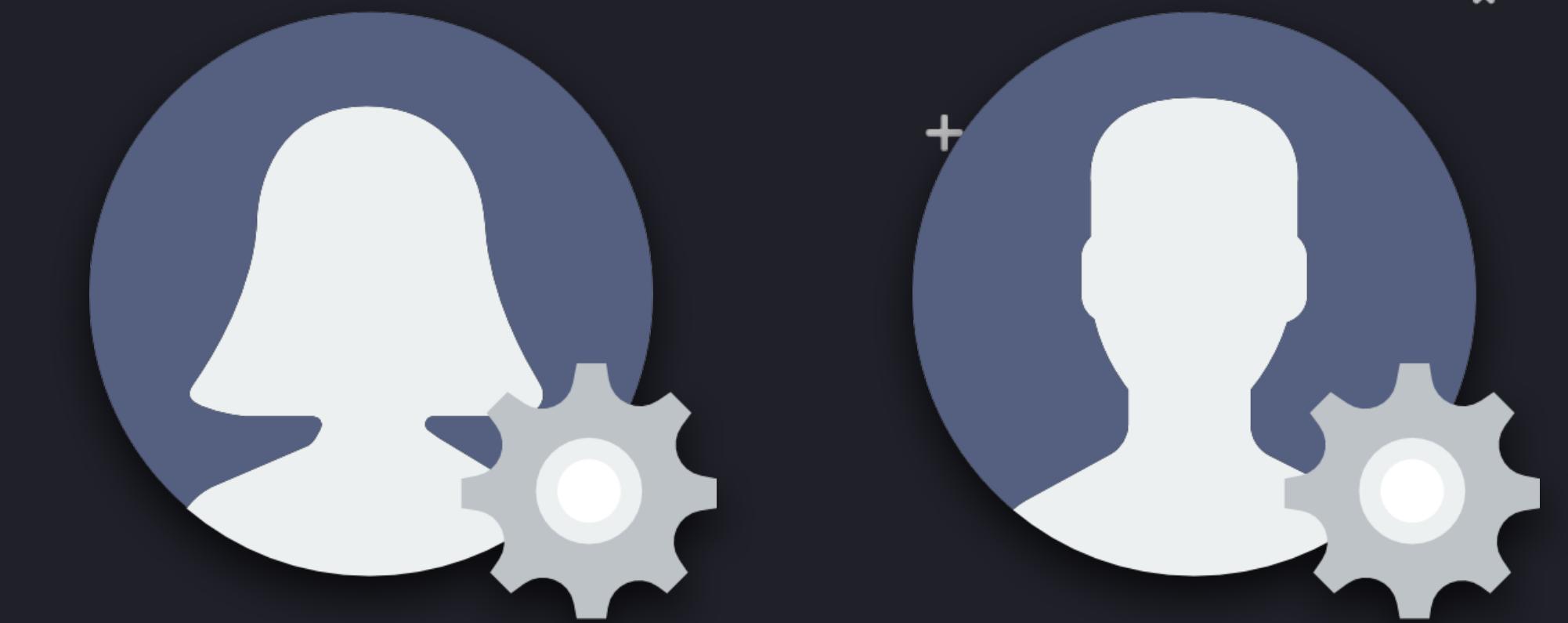
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11. Deprovisioning: What happens when it's over?

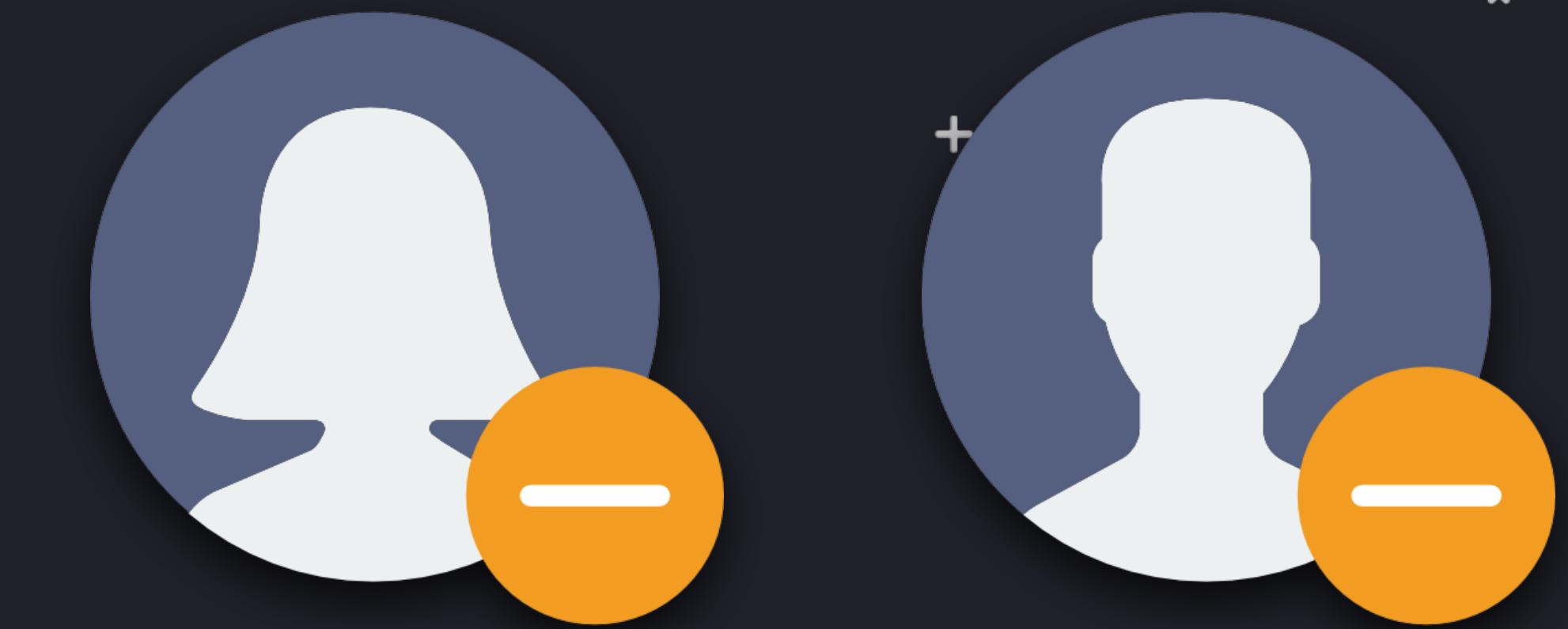
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12. Password Reset

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13. Blocked Users

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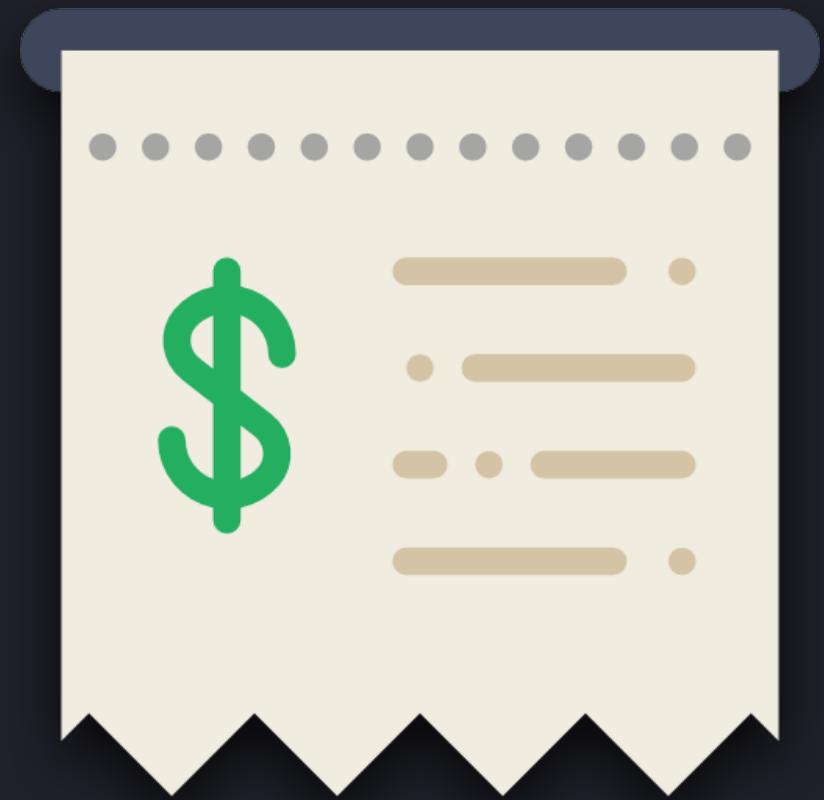
14. Anomaly Detection

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14. Anomaly Detection

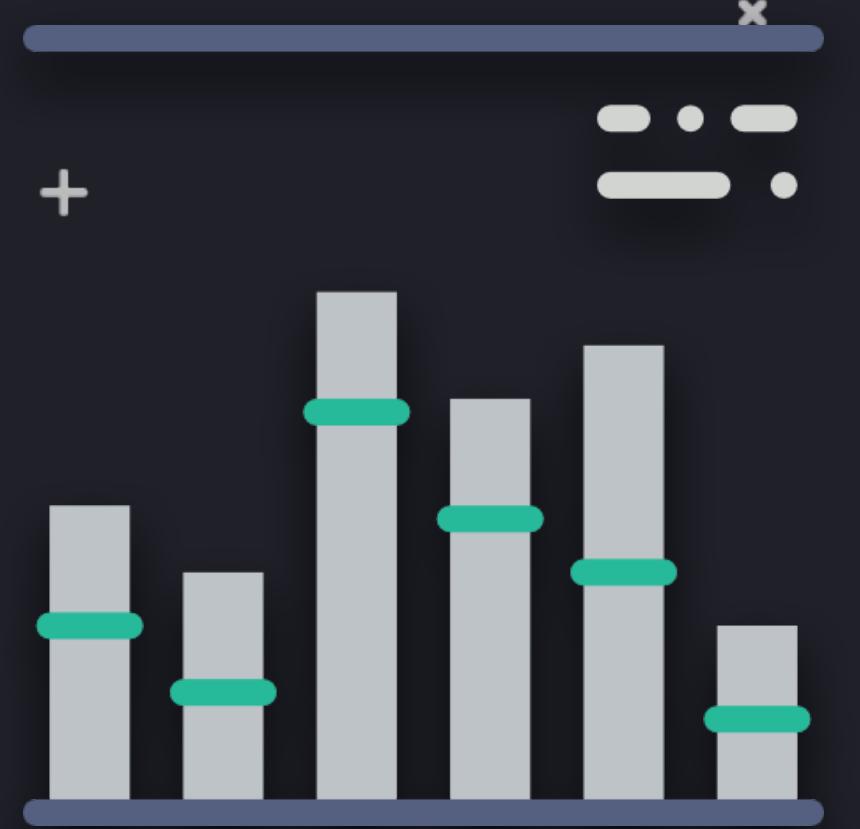
- A particular user having a large number of failed logins.
- A user logging in from two widely separated geographic locations within a short amount of time.
- Users whose credentials have been compromised and published on the internet in databases of hacked passwords, such as Troy Hunt's haveibeenpwned.



15. Privacy/Compliance requirements

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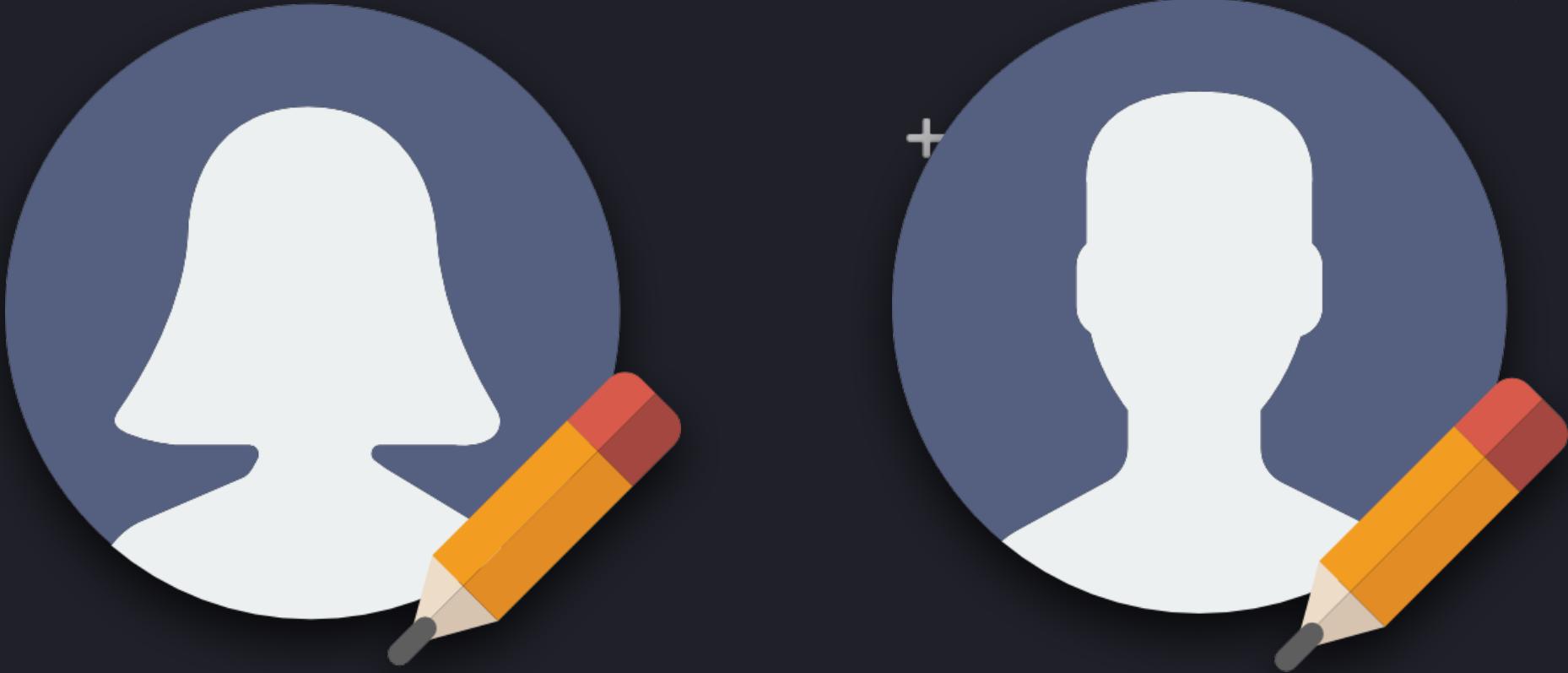




16. Audit Logs

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 Oracle
Groundbreaker
Ambassador



17. Consider how Identity
Information might change over time

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What does this have to do with Serverless and Microservices?

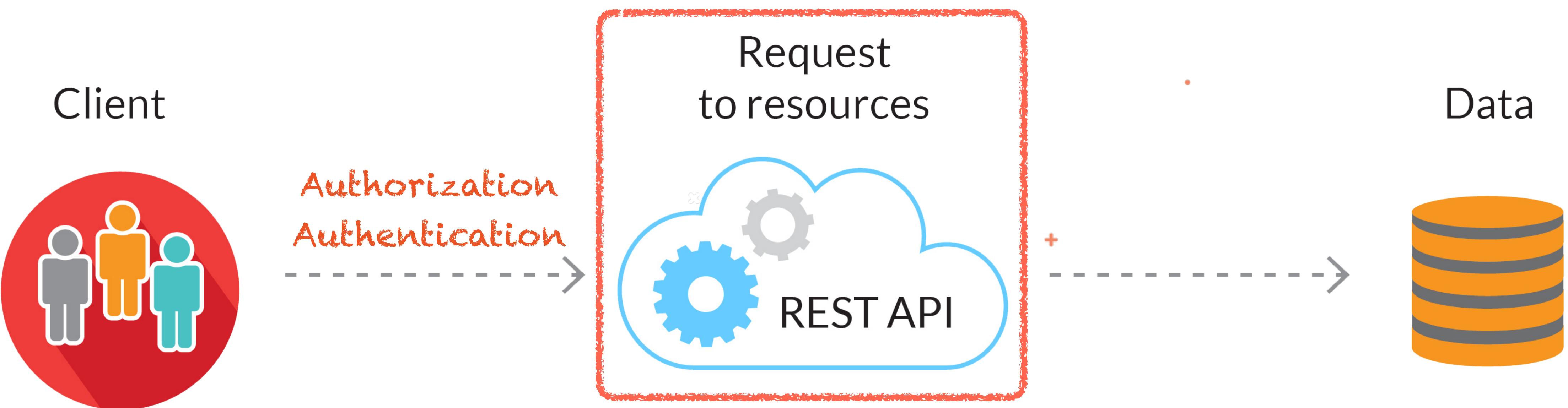
@itrjwyss

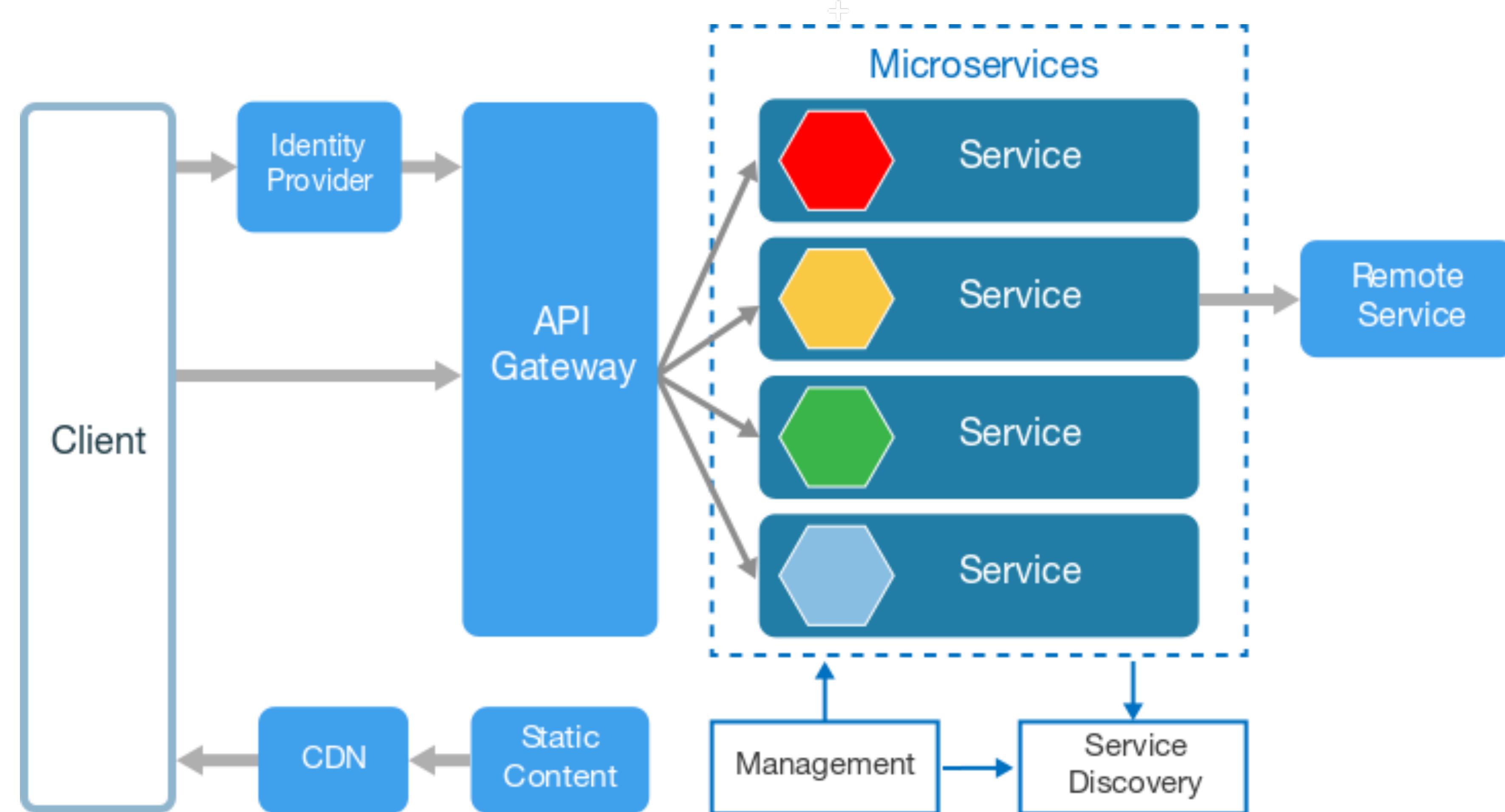


Developing REST APIs

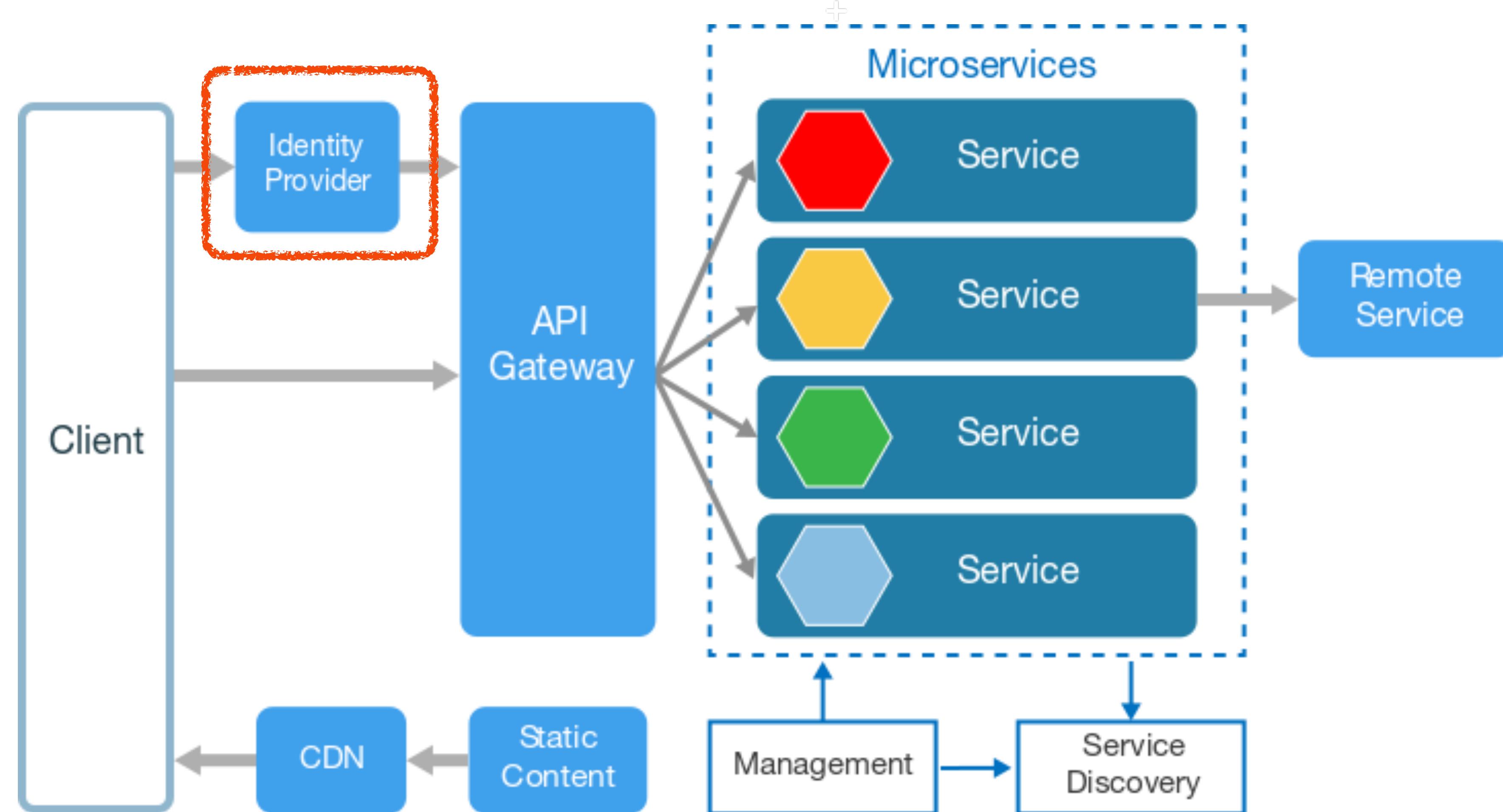


Developing REST APIs

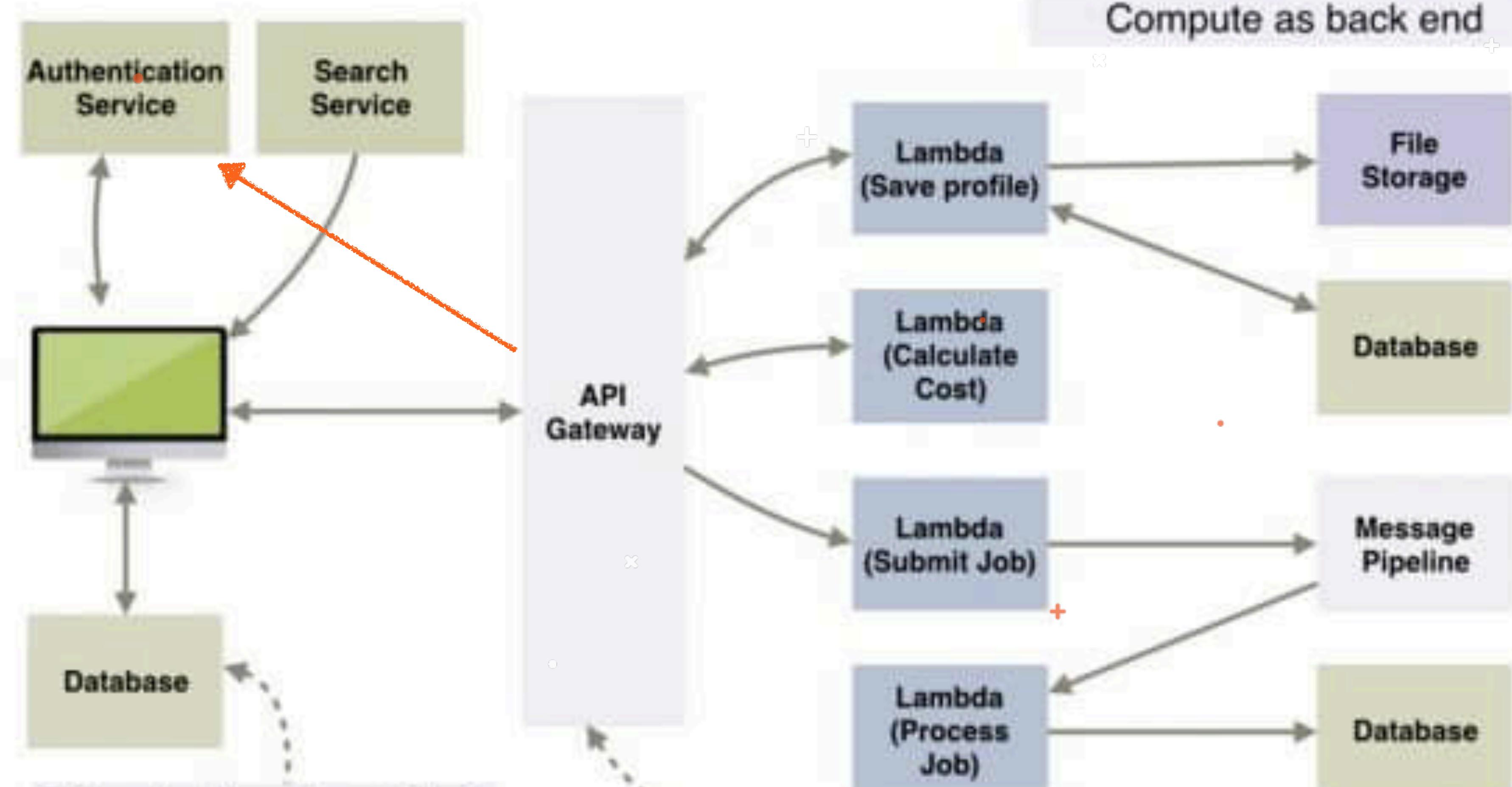




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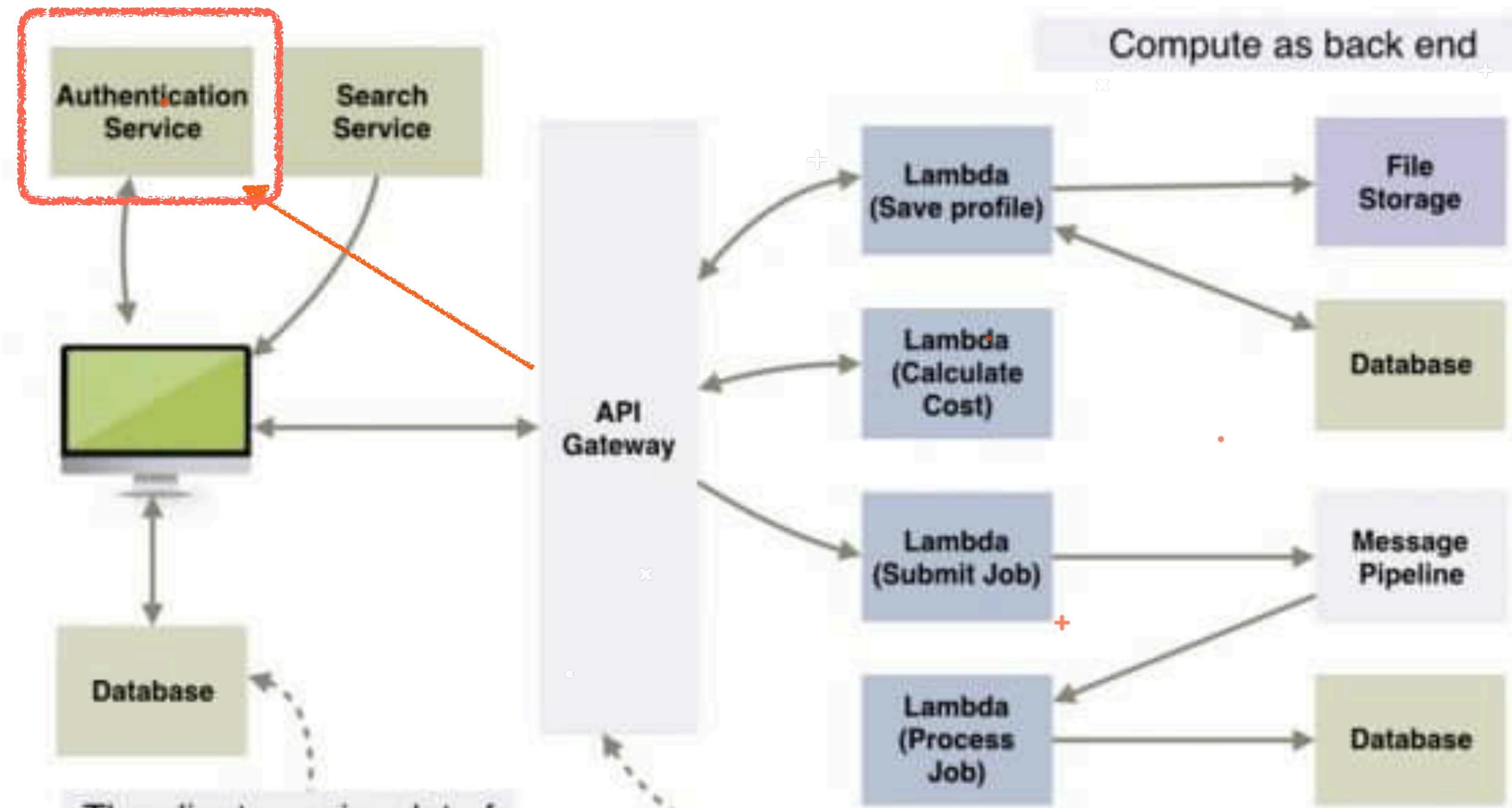


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The client can, in a lot of cases, communicate with services **directly** rather than relaying through the API Gateway.

The API Gateway creates a RESTful interface and hides Lambda functions and other services behind it. Lambda functions can carry out custom tasks and communicate with other services.



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Identity as a Service

.IDaaS

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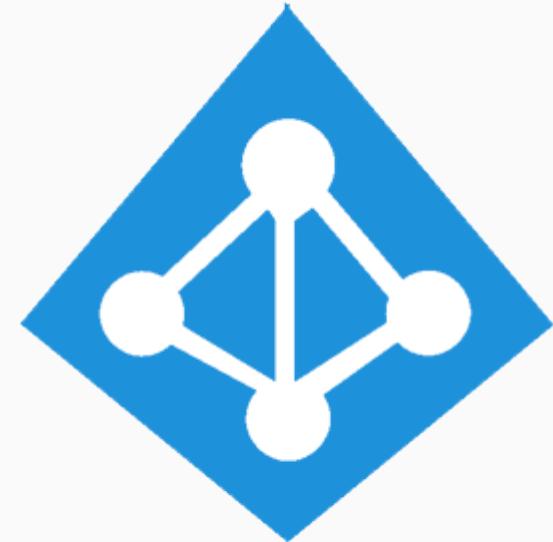
IDaaS

- Comprises cloud-based solutions for IdM and IAM functions.
- Also means collecting intelligence to better understand, monitor, and improve their behaviors.

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Popular Clouds



Azure Active Directory

ORACLE
IDENTITY MANAGEMENT



Firebase
Authentication

 **amazon**
web services



Auth0

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 Oracle
Groundbreaker
Ambassador

Other Popular IDaaS

okta

WSO2

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RSA SecurID

The screenshot shows the RSA Security Console interface. At the top, there's a navigation bar with links for Home, Identity, Authentication, Access, Reporting, RADIUS, Administration, Setup, and Help. The 'Identity' link is currently selected. On the right of the top bar, it says 'Logged on as: admin' with options for My Permissions, My Preferences, and Log Off. Below the navigation bar is a search bar with a placeholder 'All Identity Sources'. To the left of the search bar is a 'User Dashboard: Quick Search' section. On the far left, there's a 'Quick Links' sidebar with several links: Manage Users, System Settings, Assigned Tokens, View Token Statistics, Completed Reports, License Status, Software Version Information, and Authentication Activity Monitor. At the bottom of the page, a copyright notice reads 'Copyright ©1994 - 2013 EMC Corporation. All Rights Reserved.'

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Forefront Identity Manager⁺

Microsoft Identity Manager

Welcome, Administrator

Distribution Groups (DGs)

- ▶ Create a new DG
- ▶ Manage my DGs
- ▶ See my DG memberships
- ▶ Join a DG

Distribution Groups (DGs) provide an easy way to send email to a group of users. When you send email to a DG, the email will be delivered to all its members.

Security Groups (SGs)

- ▶ Create a new SG
- ▶ Manage my SGs
- ▶ See my SG memberships
- ▶ Join a SG

Security groups (SGs) are used to secure network resources. When permissions to a resource are assigned to a SG, all members of the group can access that resource.

Users, Profiles, and Passwords

- ▶ Edit my profile
- ▶ Register for password reset

Profiles allow you to see information about users in your organization. You can also update certain information in your profile, such as your phone number, or register to reset your password.

Requests

- ▶ Approve requests
- ▶ See requests I've made

See requests you've made, or approve requests that others have made to you.

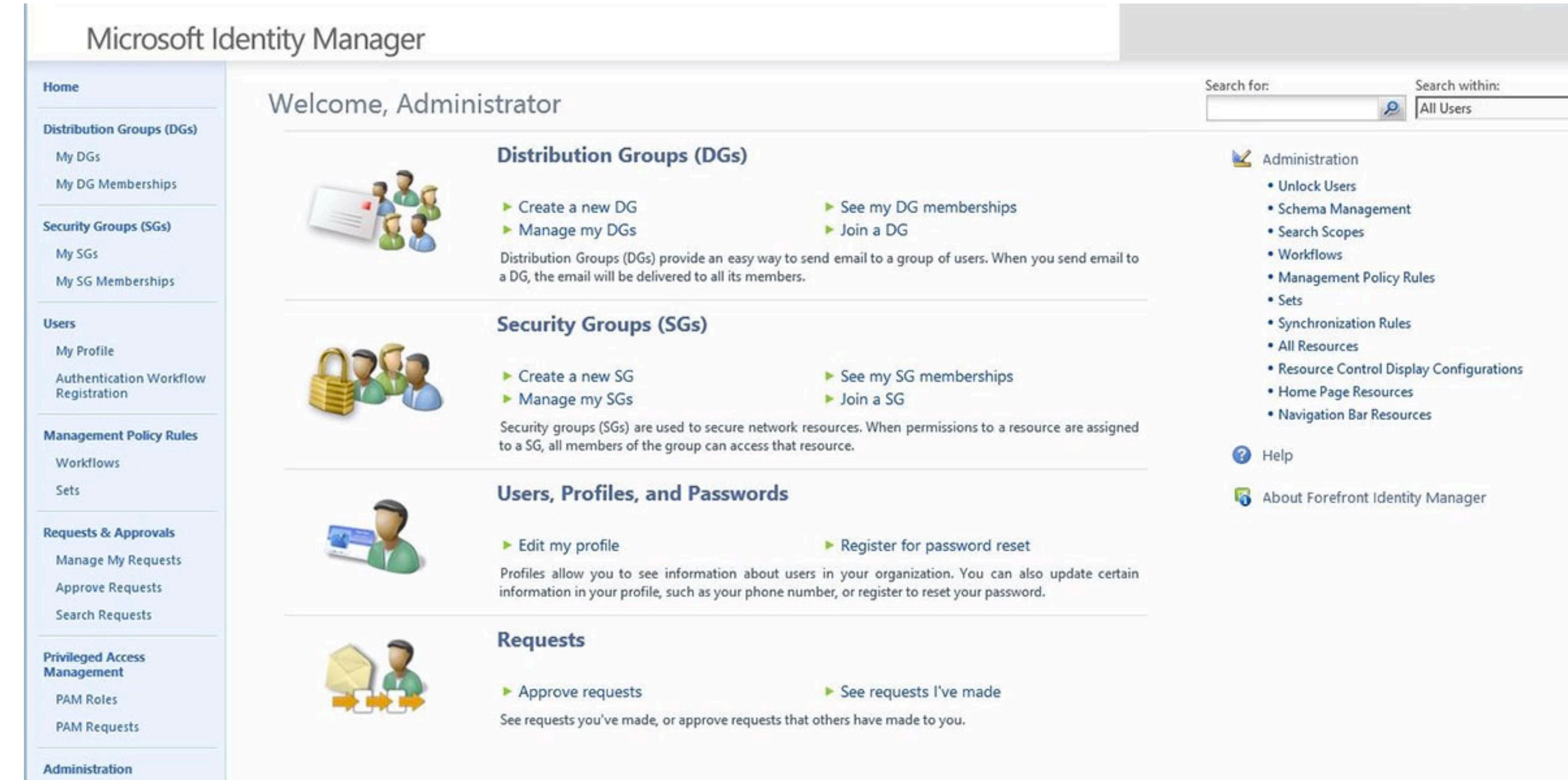
Search for: Search within:

Administration

- Unlock Users
- Schema Management
- Search Scopes
- Workflows
- Management Policy Rules
- Sets
- Synchronization Rules
- All Resources
- Resource Control Display Configurations
- Home Page Resources
- Navigation Bar Resources

Help

About Forefront Identity Manager



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Zoho Vault

The screenshot shows the Zoho Vault interface for managing third-party applications. At the top, there's a navigation bar with links for Dashboard, Secrets, Apps (which is selected), Tools, Settings, Audit, Admin, Reports, Password Assessment Report, and user account options. A search bar and a notification icon are also present.

The main content area has tabs for 'My Apps' (selected) and 'Manage Apps'. Below these, there's a descriptive text about Single Sign-On (SSO) and how it integrates with various applications. The table below lists the configured apps:

Action	Application Name	Audience URI	Description	Actions
<input type="checkbox"/>	15Five	https://zvault.15five.com/saml2/...	Employee Engagement and Per...	
<input type="checkbox"/>	15Five	https://zvault.15five.com/saml2/...	Employee Engagement and Per...	
<input type="checkbox"/>	Base CRM	https://core.futuresimple.com/ss...	CRM software.	
<input type="checkbox"/>	Box	box.net	File sharing and collaborat...	

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OneLogin

onelogin

USERS APPS DEVICES ACTIVITY SETTINGS

UPGRADE NOW ? OL

All Users

MORE ACTIONS NEW USER

search users... Show Filters

Bob Matthews bob.matthews@oldesktop.com	Never logged in
David Jackson david.jackson@oldesktop.com	Never logged in
Jake Parker jake.parker@oldesktop.com	Never logged in
Jane Doe jane.doe@oldesktop.com	Never logged in
John Smith john.smith@oldesktop.com	Last logged in 20 minutes ago
Katie Jones katie.jones@oldesktop.com	Never logged in
Kevin Roberts kevin.roberts@oldesktop.com	Never logged in
Lisa King lisa.king@oldesktop.com	Never logged in
Mark King mark.king@oldesktop.com	Never logged in
OL Admin ol.admin@oldesktop.com	Last logged in less than a minute ago

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LogMeIn Pro

The screenshot shows the LastPass web interface. The left sidebar has options: Collapse, Sites (selected), Secure Notes, Form Fills, Sharing Center, and Security Challenge. The main area is titled "LastPass...!" with a search bar "search my vault". It shows a "Sites" section for "Work (7)". There are seven items listed in a grid:

- amazon.com (katie.petrillo@logmein.com)
- asana: (katie.petrillo@logmein.com)
- Eventbrite (kpetrillo@gmail.com)
- Google (LMldemo333@gmail.com)
- Google (lmidemo333@gmail.com)
- LogMeIn (LMldemo333@gmail.com)
- Trello (kpetrillo@logmein.com)

A red sidebar on the right promotes "LastPass Enterprise" with the text: "Centralize control of employee passwords and apps with LastPass Enterprise." It includes a "Start a Trial" button and a note about ads: "Tired of ads in your password manager? Go LastPass Premium".

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Digital Persona

The website features a dark blue header with the Crossmatch logo on the left and navigation links for Blog, Store, Support Request, and Contact. Below the header is a large banner with the text "The world identifies with us." and a subtext about solving complex security challenges. Two buttons at the bottom of the banner are labeled "COMPOSITE AUTHENTICATION" and "BIOMETRIC IDENTITY SOLUTIONS".

Hundreds of millions of users worldwide trust our security solutions.
We have one that meets the needs of your use case.

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ExcelID

CONTACT US +971 42666524 sales@wipaq.com

HOME ABOUT US PRODUCTS DOWNLOADS REGISTRATION CONTACT US

Proven. Reliable. Quality

Excel ID Card Printing Software

ID CARD PRINTING SOFTWARE : I CARD SOFTWARE

ExcelID ID Card printing software is a proven, reliable and cost effective solution to design and print photo Identity cards. ExcelID is simple to setup and easy to use. The card design tools produce professional dual sided cards with variable data, barcodes, magnetic stripes, backgrounds and logos.

ExcelID supports both single and batch printing (single and dual sided cards), encodes barcodes and magnetic stripes.

ExcelID is feature rich, secure and flexible with innovative features like ability to read contact and contactless smart cards.

ExcelID allows linking of design databases, encode magnetic stripe, process smart cards, create effects and manage overlay, hologram or scratch ribbon. The fully integrated environment allows easy management of design and printing jobs. The simple database feature allows you to use as simple data entry and print software.

ExcelID can print using DCL (Direct Command language) to popular ID Card printers. ExcelID can print text, barcode and encode information on identity card. ExcelID offers Security features and overlay management.



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ADManager Plus

The screenshot shows the ADManager Plus interface. At the top, there's a navigation bar with tabs: Home, AD Mgmt (which is selected), AD Reports, AD Delegation, AD Explorer, and Support. Below the navigation bar is a toolbar with links for Create Users, Modify Users, Modify Exchange, and Modify Terminal Service, along with a search bar for 'AD objects' and export/print options.

The main area is titled 'Search Users, Groups & Computers'. It includes a 'Select Domain' section with checkboxes for various domains like adsm, adv-testlab, india.adventnet.com, mailager, mnageanyware.com, and wesat-sym. There are also checkboxes for 'Search for' Users, Groups, and Computers, and a 'Find' field set to 'cn' with the value 'adm'. Below this is a 'Search' button.

Below the search interface is a 'Search Result' table. The table has columns: Name, Object Class, FQDN, and Domain Name. The results show three entries for 'Administrator' users across different domains:

Name	Object Class	FQDN	Domain Name
Administrator	user	wesat-sym.com/Users/Administrator	wesat-sym
Administrator	user	mailager.com/Users/Administrator	mailager
Administrator	user	adv-testlab.com/Users/Administrator	adv-testlab

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Centrify Identity Service

The screenshot shows the Centrify Identity Service interface. At the top, there's a navigation bar with links for Dashboards, Users, Apps, Devices, Policies, Roles, Reports, Requests, and Settings. The user is logged in as admin_joe.admin. Below the navigation is a section titled "Security Overview" with a dropdown menu set to "Last 7 Days". The main content area includes sections for "Authentication Events" (No data available), "Failed Logins" (No data available), "Failed Challenges" (No data available), "Self Service Events" (No data available), and "Challenges By Type" (No data available). On the left, there's a detailed "Authentication Details" table with columns for "Occurred" (sorted by date), "User", and "Event Result". The table lists numerous events from October 5, 2016, to October 7, 2016, such as logins at 05:25 AM, 05:06 AM, 04:17 AM, etc. To the right of the table are sections for "Authentication Events By Type" (No data available) and "Challenges By Type" (No data available). A "Powered by" logo for Oracle is visible at the bottom right of the dashboard.

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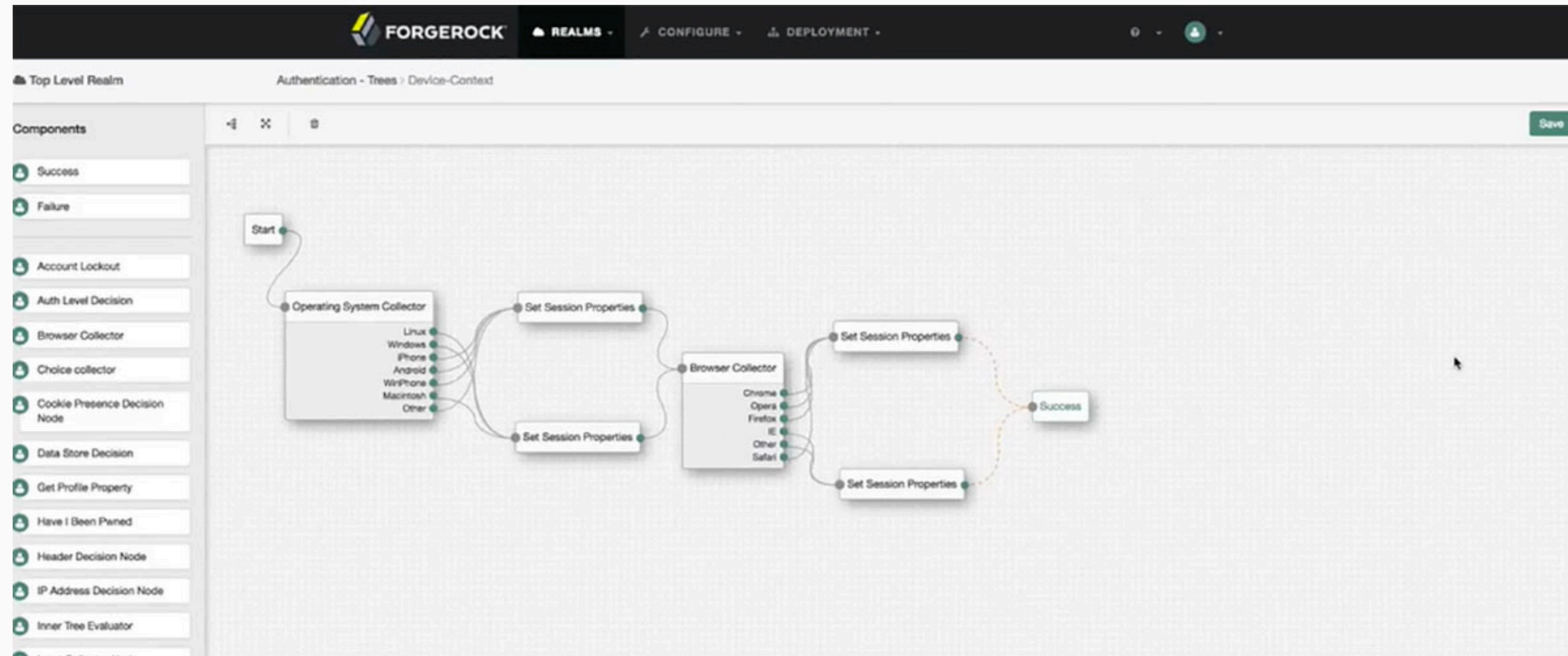
Intermedia AppID Enterprise

The screenshot shows the 'Hosted PBX' settings page in the Intermedia web interface. The left sidebar lists options like General, Phone Numbers, Auto Attendant, Groups, Locations, Devices, Resources & Utilities, Music on Hold, and Call Report. The main content area displays a summary of the service, download links for the CallScape mobile app (iPhone and Android), and configuration options for call recording. A yellow banner at the bottom states: 'By using this feature, you acknowledge that you have read, understand, and accept [Intermedia Voice's Terms of Use](#), including those provisions governing the use of call recording services.' A 'Save Changes' button is visible at the bottom left.

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ForgeRock Identity Platform

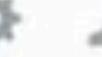


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MiniOrange

miniorange

testxxx@miniorange.co.in  

Dashboard

- Quick Test
- Users/Groups
- Apps
- Policies
- Strong Auth Method
- Fraud Prevention
- Reports
- Integrations
- Customization
- Manage License

Security Integration for any Cloud App

- Quick Test
- Sample App Test
- Single Sign On API Guide
- Strong Authentication API Guide
- Fraud Prevention API Guide
- Guide to Secure Google Apps
- Guide to Secure Salesforce
- Guide to Secure Office 365
- Guide to Secure Dropbox
- Guide to Secure Freshdesk
- Guide to Secure Bonus.ly
- Guide to Secure Zendesk
- Guide to Secure AWS
- Display Token Guide

Information

- Watch Demo Videos
- Contact Us
- FAQ

Basic Features

- Strong Auth Methods
- Add Users/Groups
- Onboarding Status
- Customization
- Reports

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NetIQ IDM

The screenshot shows a documentation page for NetIQ IDM. On the left, there is a navigation tree with the following structure:

- Planning to Install the Remote Loader
- Installing Remote Loader
 - Using the Wizard to Install the Remote Loader
 - Performing a Silent Installation of the Remote Loader
 - Installing Java Remote Loader
- Configuring the Remote Loader and Drivers
 - Creating a Secure Connection to the Identity Manager Engine
 - Understanding the Configuration Parameters for the Remote Loader** (This item is highlighted in blue)
 - Configuring the Remote Loader for Driver Instances on UNIX or Linux
 - Configuring the Remote Loader for Driver Instances on Windows
 - Configuring the Java Remote Loader for Driver Instances
 - Configuring Identity Manager Drivers to Work with the Remote Loader
 - Verifying the Configuration
- Starting and Stopping the Remote Loader
- Installing iManager
- Installing Designer for Identity Manager

On the right, there is a table listing various drivers:

com.novell.nds.dirxml.driver.loopback.LoopbackDriverShim	Loopback Driver
com.novell.nds.dirxml.driver.ebs.user.EBSUserDriver	Oracle User Management Driver
com.novell.nds.dirxml.driver.ebs.hr.EBSHRDriver	Oracle HR Driver
com.novell.nds.dirxml.driver.ebs.tca.EBSTDACDriver	Oracle TCA Driver
com.novell.nds.dirxml.driver.msgateway.MSGatewayDriverShim	Managed System Gateway Driver
com.novell.nds.dirxml.driver.manualtask.driver.ManualTaskDriver	Manual Task Driver
com.novell.nds.dirxml.driver.nisdriver.NISDriverShim	NIS Driver
com.novell.nds.dirxml.driver.notes.NotesDriverShim	Notes Driver
com.novell.nds.dirxml.driver.psoftshim.PSOFTDriverShim	PeopleSoft Driver
com.netiq.nds.dirxml.driver.pum.PUMDriverShim	Privileged User Management Driver
com.novell.nds.dirxml.driver.salesforce.SFDriverShim	Salesforce Driver
com.novell.nds.dirxml.driver.SAPHRShim.SAPDriverShim	SAP HR Driver
com.novell.nds.dirxml.driver.sap.portal.SAPPortalShim	SAP Portal Driver
com.novell.nds.dirxml.driver.sapumshim.SAPDriverShim	SAP User Management Driver
com.novell.nds.dirxml.driver.soap.SOAPDriver	SOAP Driver
com.novell.idm.driver.ComposerDriverShim	User Application
com.novell.nds.dirxml.driver.workorder.WorkOrderDriverShim	WorkOrder Driver

Below the table, there is a link to "comment on this topic".

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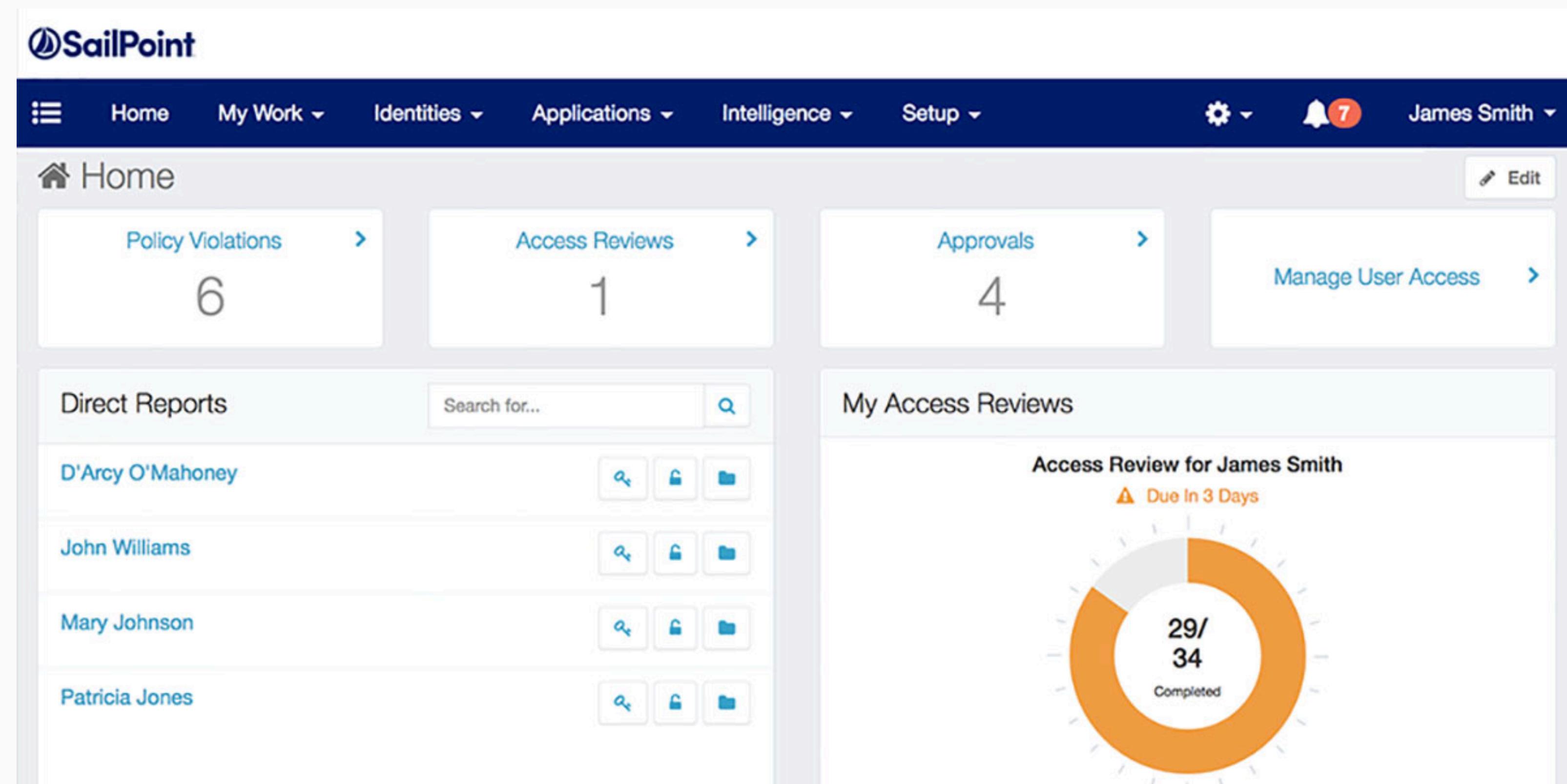
Sail Point

SailPoint Home

Policy Violations: 6 | Access Reviews: 1 | Approvals: 4 | Manage User Access: >

Direct Reports: D'Arcy O'Mahoney, John Williams, Mary Johnson, Patricia Jones

My Access Reviews: Access Review for James Smith (Due In 3 Days) - 29/34 Completed



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Sticky Password

The screenshot shows the Sticky Password account dashboard. At the top, there's a navigation bar with 'BACK TO WEBSITE' and 'ENGLISH'. On the left, the 'Sticky Password' logo is displayed. In the top right, there's a user profile icon with 'My Account | Logout' and the email 'john.smith@stickypassword.com'. Below the navigation bar, there are three tabs: 'Dashboard' (selected), 'Settings', and 'Support'. A blue callout box on the left says 'Welcome to Your Sticky Account! This is a place, where you can see, add, modify your personal settings as well as take control over what devices and browsers have access to your personal information. You also have a chance to see what is new in Sticky Password, order more cool features, and have a way to contact us with any questions you might have.' Under 'My Licenses', there's a table with one row showing a license key 'DA00PN-F54F2F-4622A3-C6B76A' and an expiration date '10/29/2015'. There are links to 'Show more details' and 'Enter new License Key'. Under 'Trusted Devices', there's a list with one item: 'firefox' (represented by a blue folder icon) was added on '10/29/2014 12:04:18 pm UTC'. A 'Remove device' button is next to it.

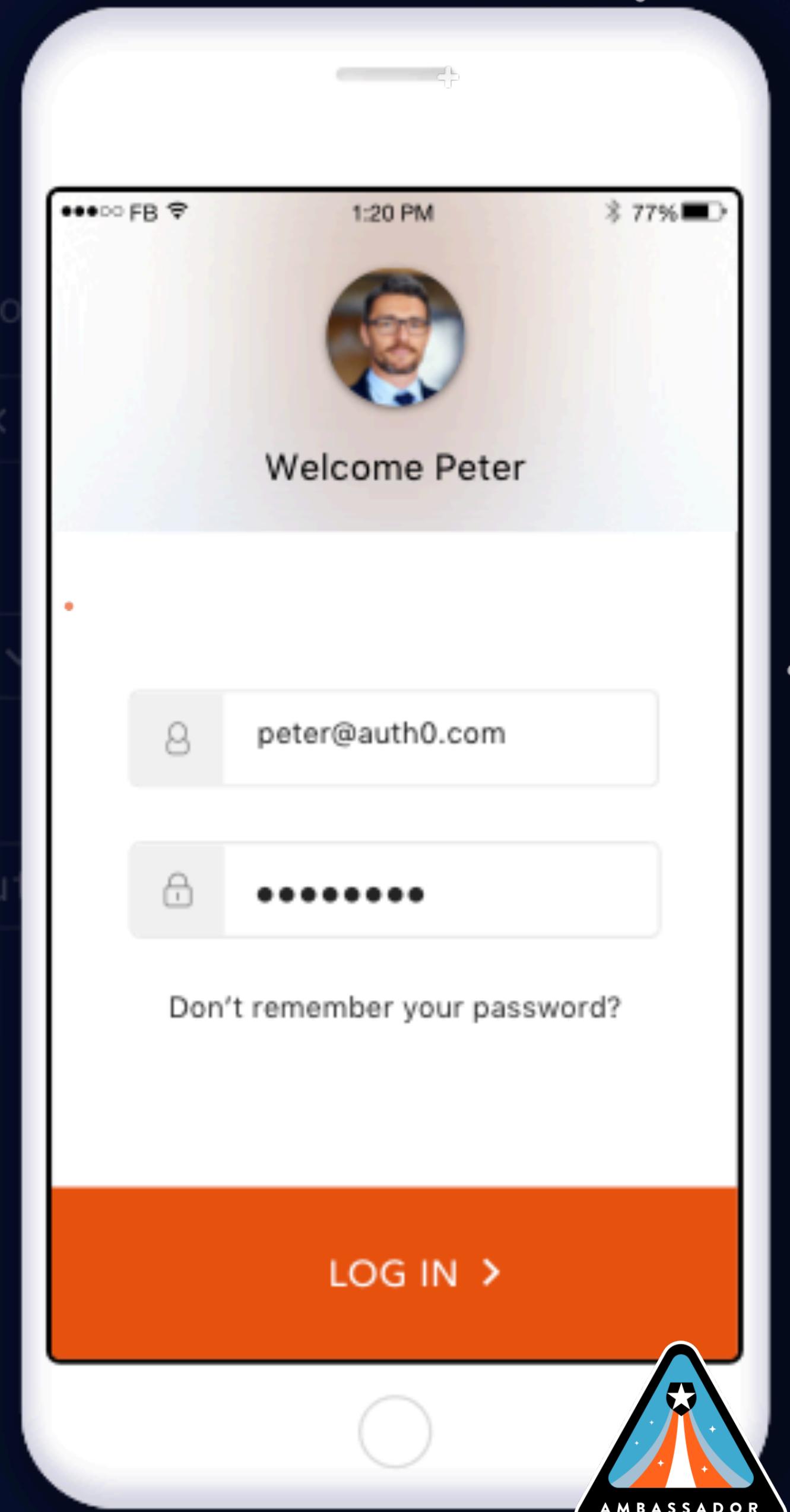
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The new way to solve Identity

```
01 var lock = new Auth0Lock(  
02   connections: [ "facebook" ],  
03   languageSelect: true,  
04   color: "#333814",  
05   closable: false,  
06   icon: "http://au.  
07   gravatar: false,  
08 },  
09 lock.show();
```



Modern Identity Platform

The enterprise-grade platform for modern identity.



Single Sign On

Connect WordPress to every login system on Earth. Really.



Breached Passwords Detection

Protect your users and services from password leaks.



Multifactor Authentication

The most usable and friction-free multifactor authentication experience.



Lock

The Auth0 Login Box. Secure your websites and mobile apps.



User Management

The simplest and easiest to use tools to help administrators manage users.



Passwordless

Allow users to login without the need to remember a password.

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Oracle
Groundbreaker
Ambassador

Auth0

- Management (I can define the info)
- Define roles (works for Authentication & Authorization)
- More extensible Federated Identity
- More complex Passwordless
- Multifactor Authentication (Guardian)

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<https://github.com/itrjwyss/ModernIdM/>

<https://www.facebook.com/itrjwyss>

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Ambassador.