Effective Security Strategies in Cloud Service

Rami El Gamal | Senior Solution Consultant

Share in chat:

- Where are you joining us from?
- What are you hoping to learn today?

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Welcome to today's session!

R A M I E L G A M A L

S e n i o r S o l u t i o n C o n s u l t a n t

A little about me...

Adobe Experience:

- 12+ years of experience with the Adobe Stack (AEM, Analytics, Target, Adobe Commerce, etc.)
- 2022 Adobe Experience Manager Champion
- AEM Architect, Developer, and Business Practitioner certified
- Director of RENY Consulting, specialized in AEM implementations and migrations
- A big Disney and Star Wars fan because .. This is the way!
- LinkedIn: https://www.linkedin.com/in/ramielgamal/

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Agenda

01

Adobe Identity Management System

02

User Management

03

Adobe Cloud Manager

Adobe Identity Management System (IMS)

Authorization VS Authentication

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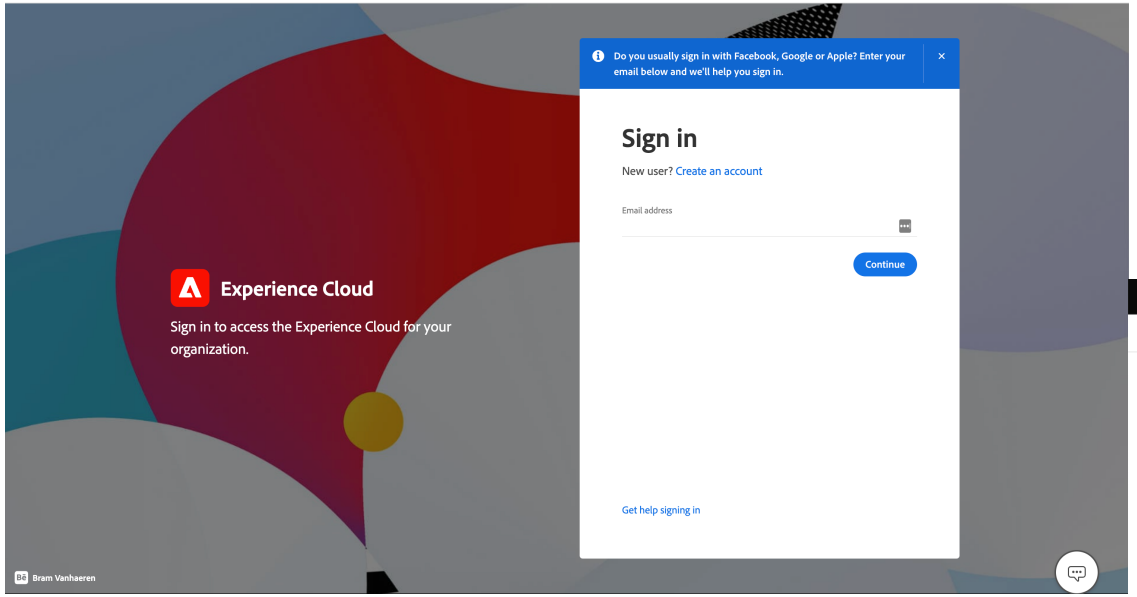
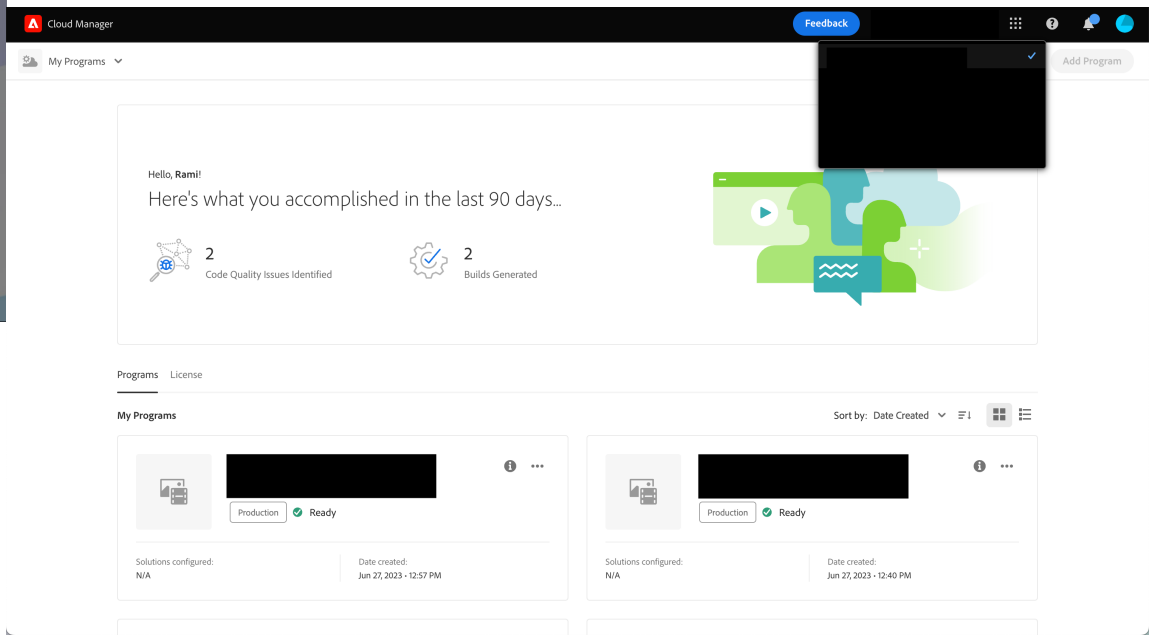
Adobe Identity Management System (IMS)

What is IMS?



Authentication

Authorization



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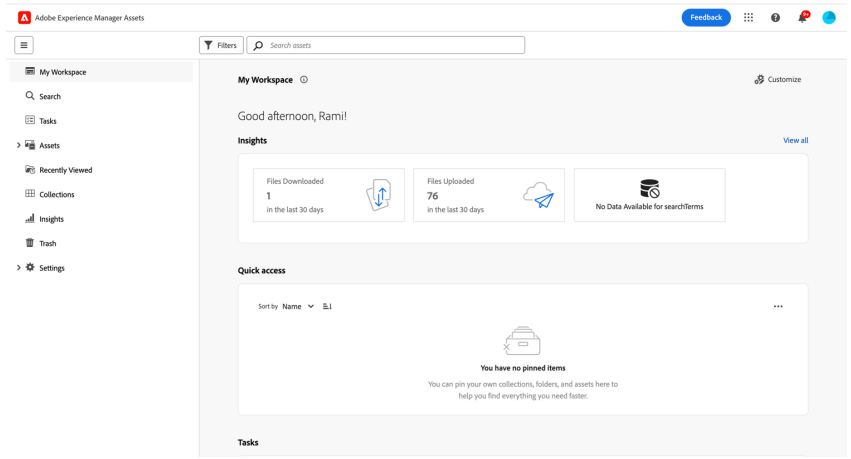
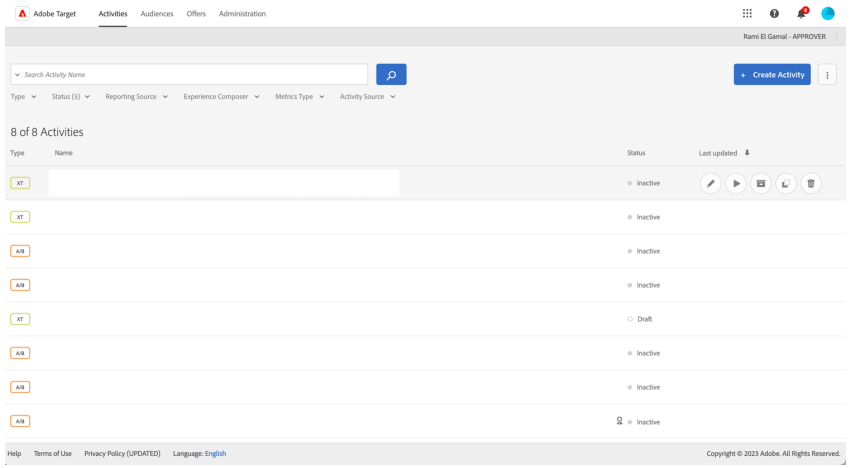
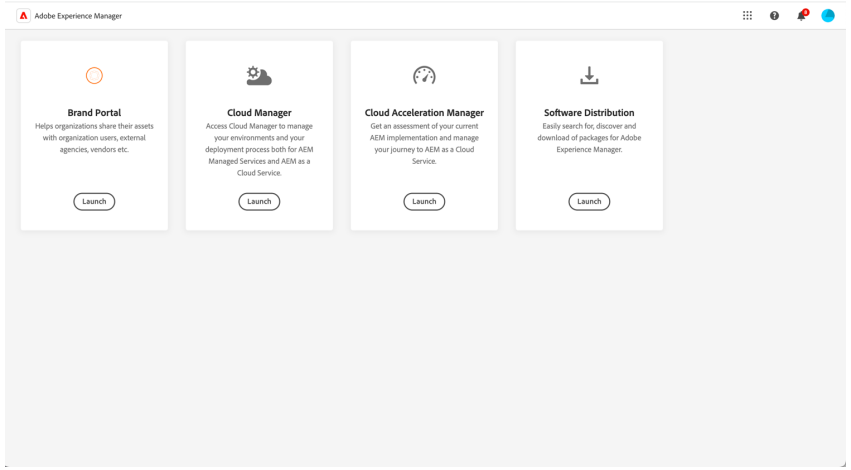
Adobe Identity Management System (IMS)

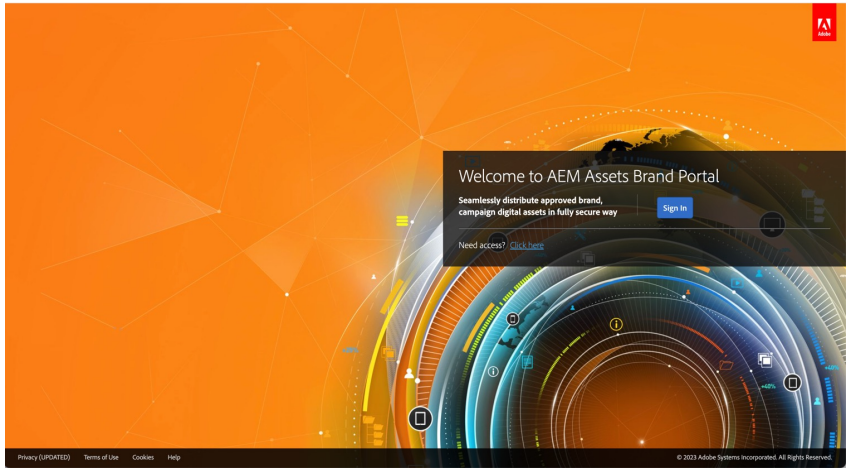


Single Sign-On (SSO)

- Allows the users to sign in once and access multiple Adobe Services
- *It supports integration with various identity providers*







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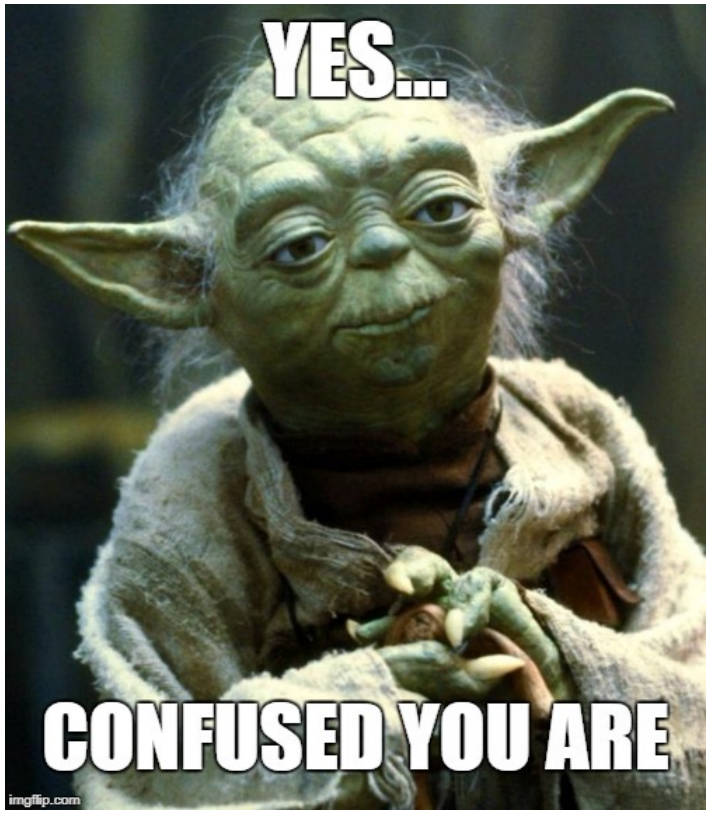
Adobe Identity Management System (IMS)

Wait!

I thought you said IMS is used for both Authentication and Authorization.

Why do we need to integrate with an Identity Provider?

- SSO
- User Identity Management
- Security and Compliance
- Enterprise Integration
- Federated Identity and Trust Relationships
- Compliance with Standards



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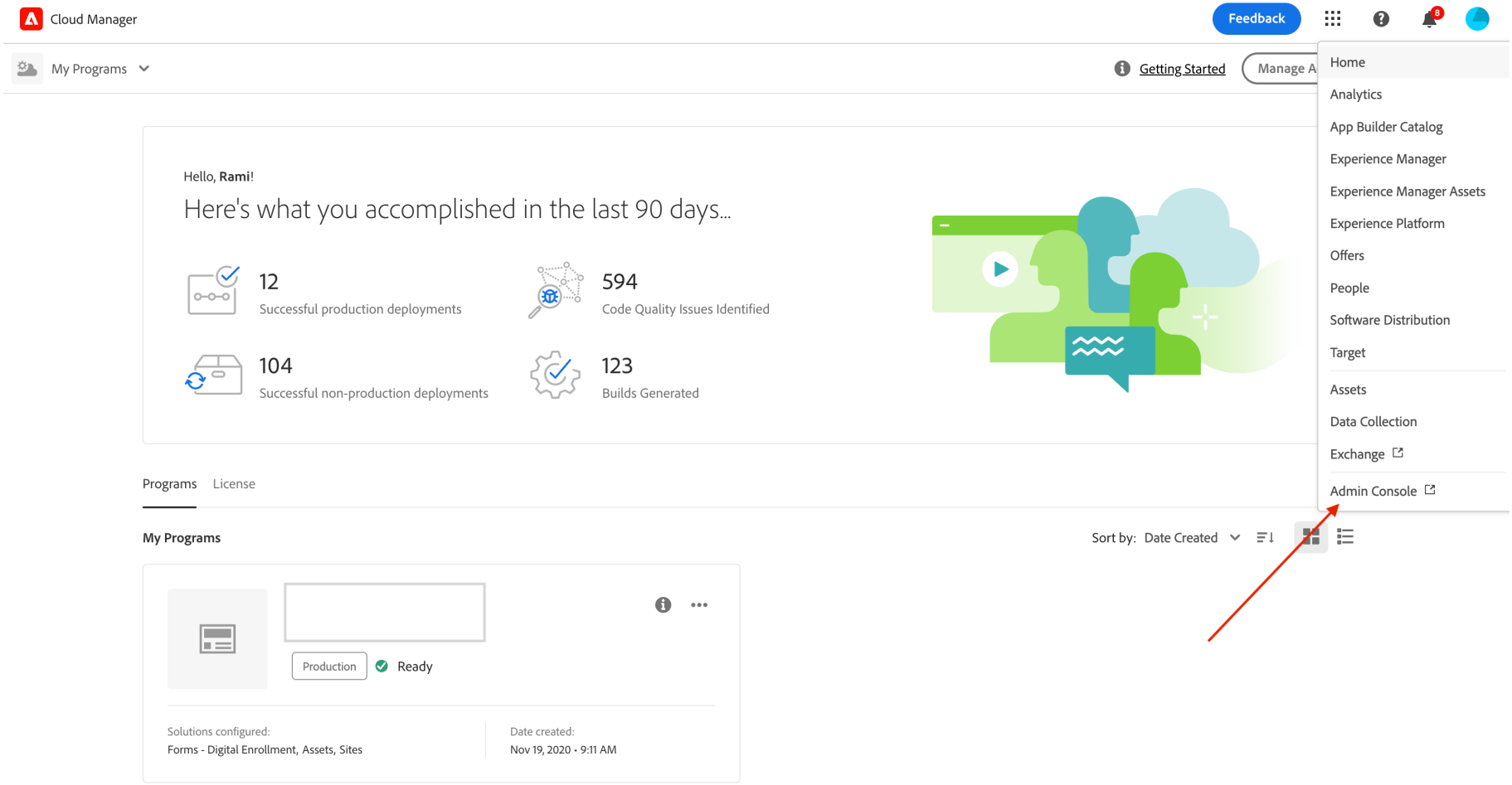
Adobe Identity Management System (IMS)

Setting Up an IdP



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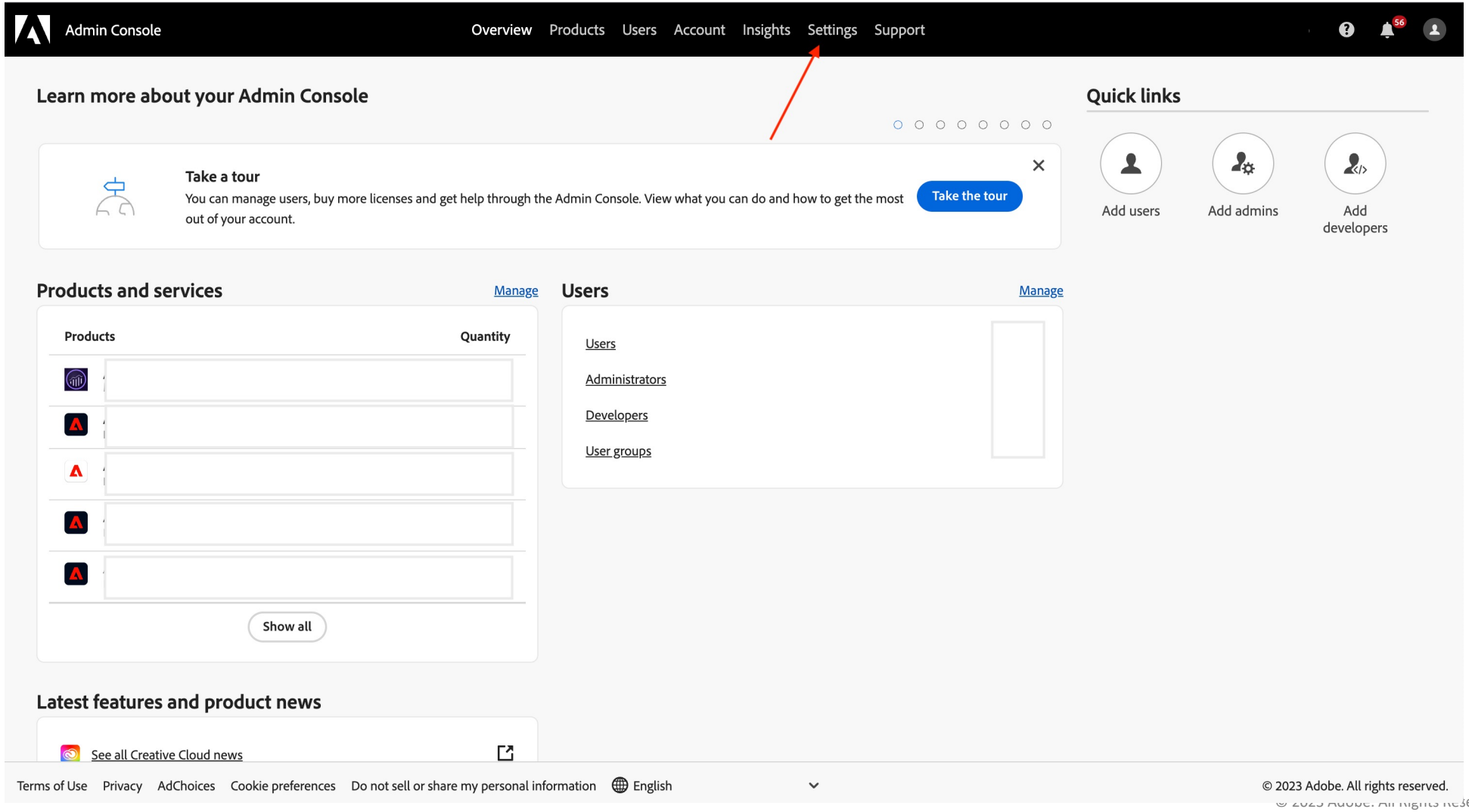
Adobe Identity Management System (IMS)

Setting Up an IdP



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Adobe Identity Management System (IMS)

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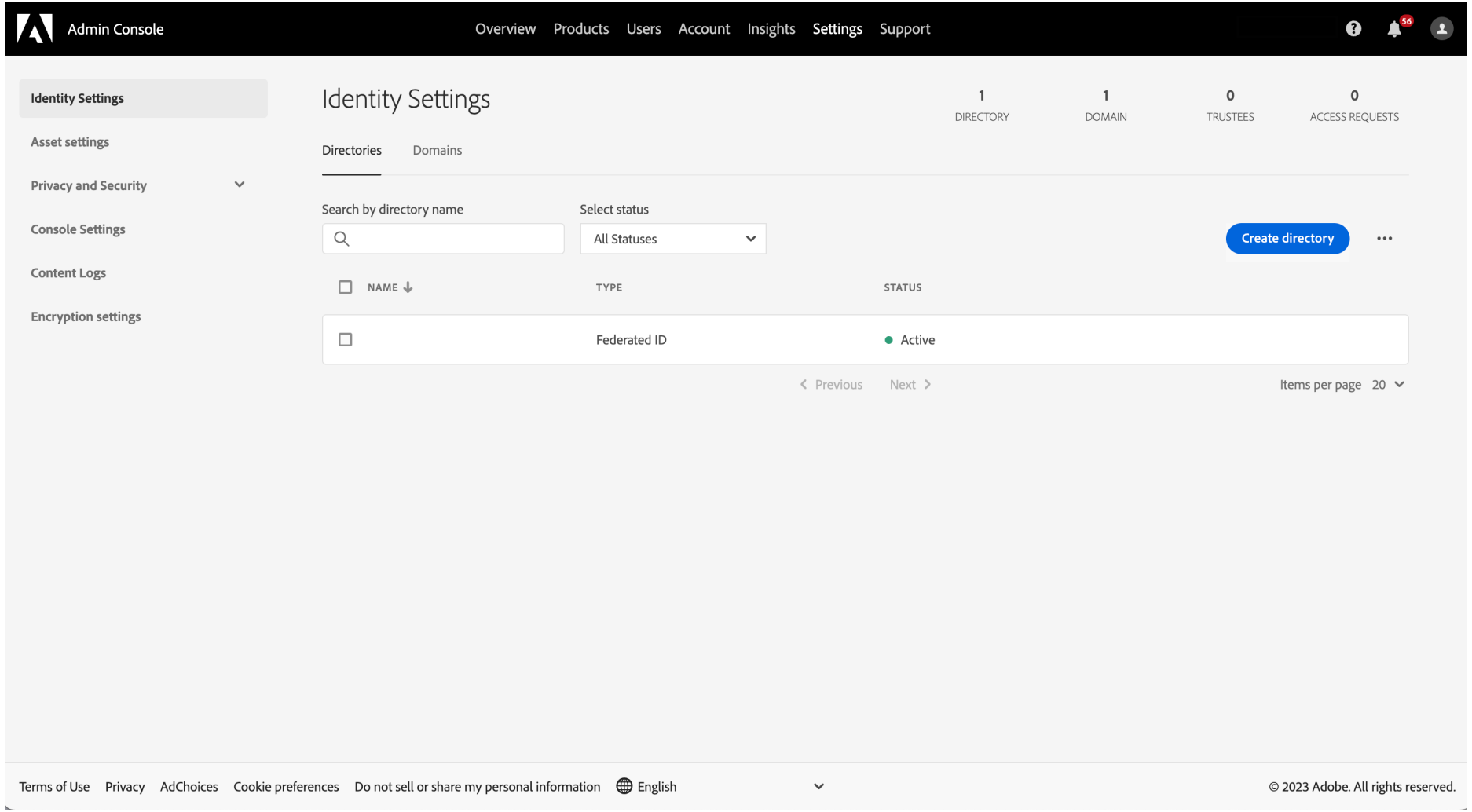

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Adobe Identity Management System (IMS)

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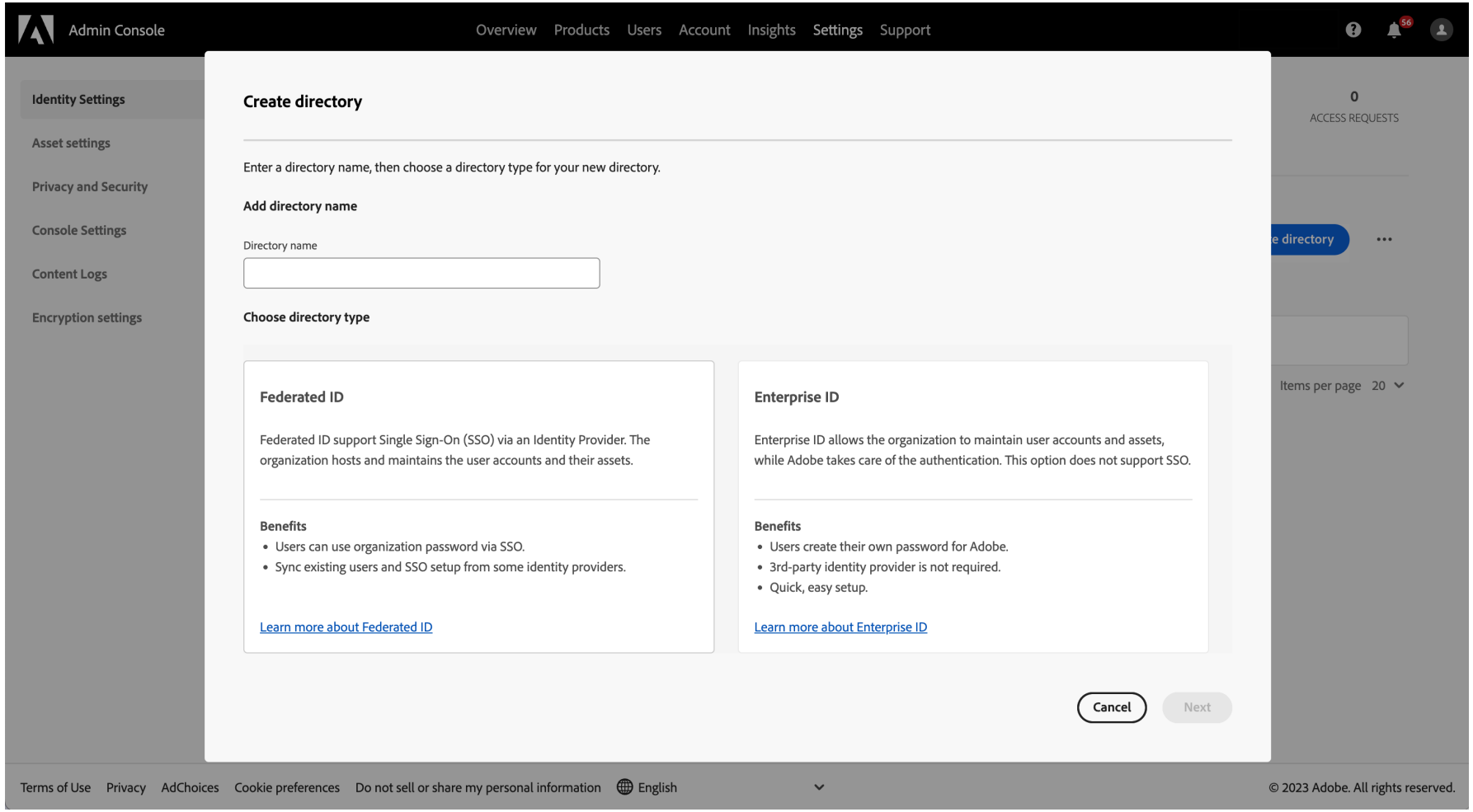

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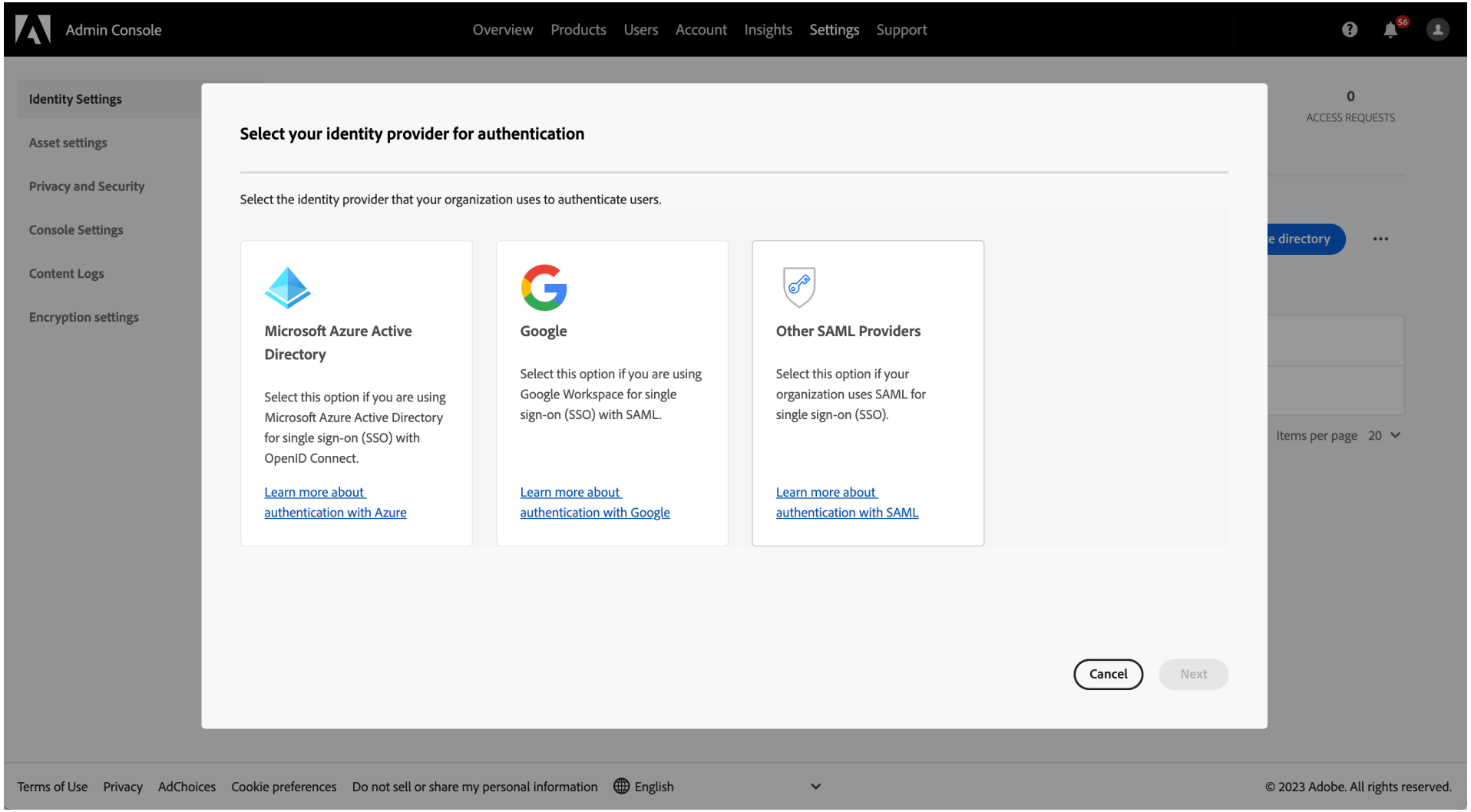
Adobe Identity Management System (IMS)

Setting Up an IdP



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Adobe Identity Management System (IMS)

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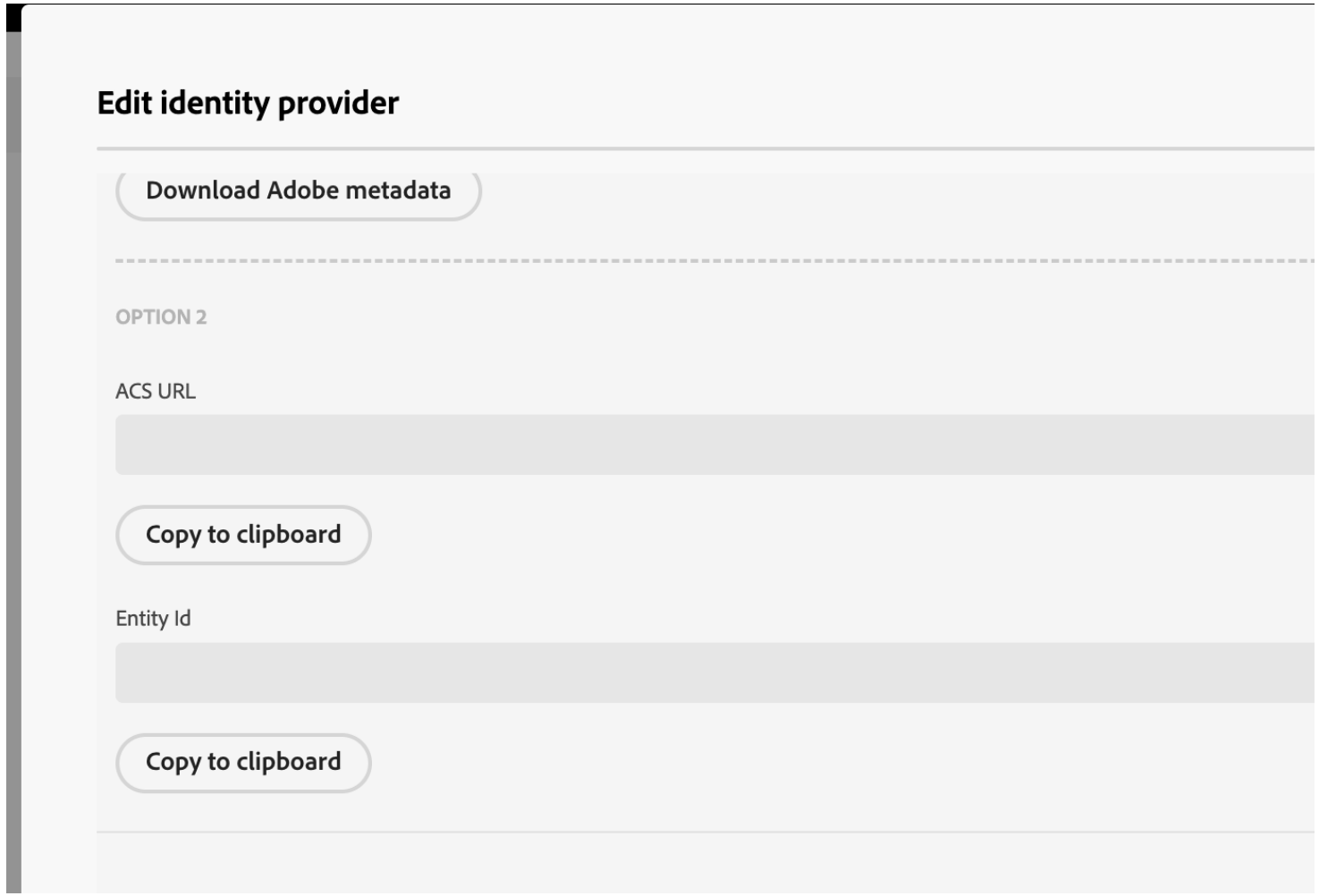

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User Management

What are the best practices before we start creating users?

- Implement RBAC
- Assign Minimum Necessary Permissions
- Clearly Define and Document Roles
- Regular User and Group Reviews
- Limit Administrative Privileges
- Regular Training and Awareness
- Testing and Validation
- Group-Based Authorization

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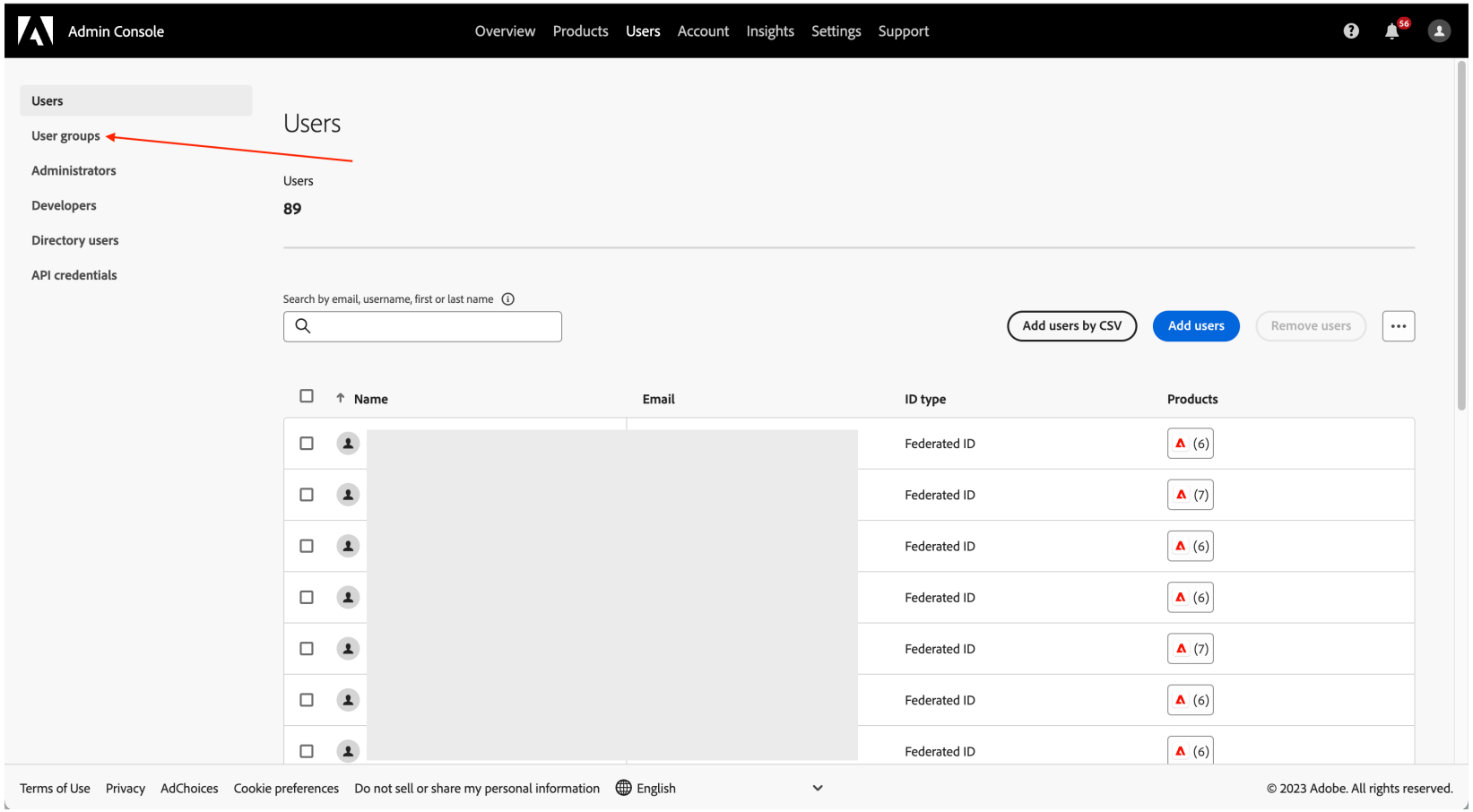
User Management

Creating a Group in IMS



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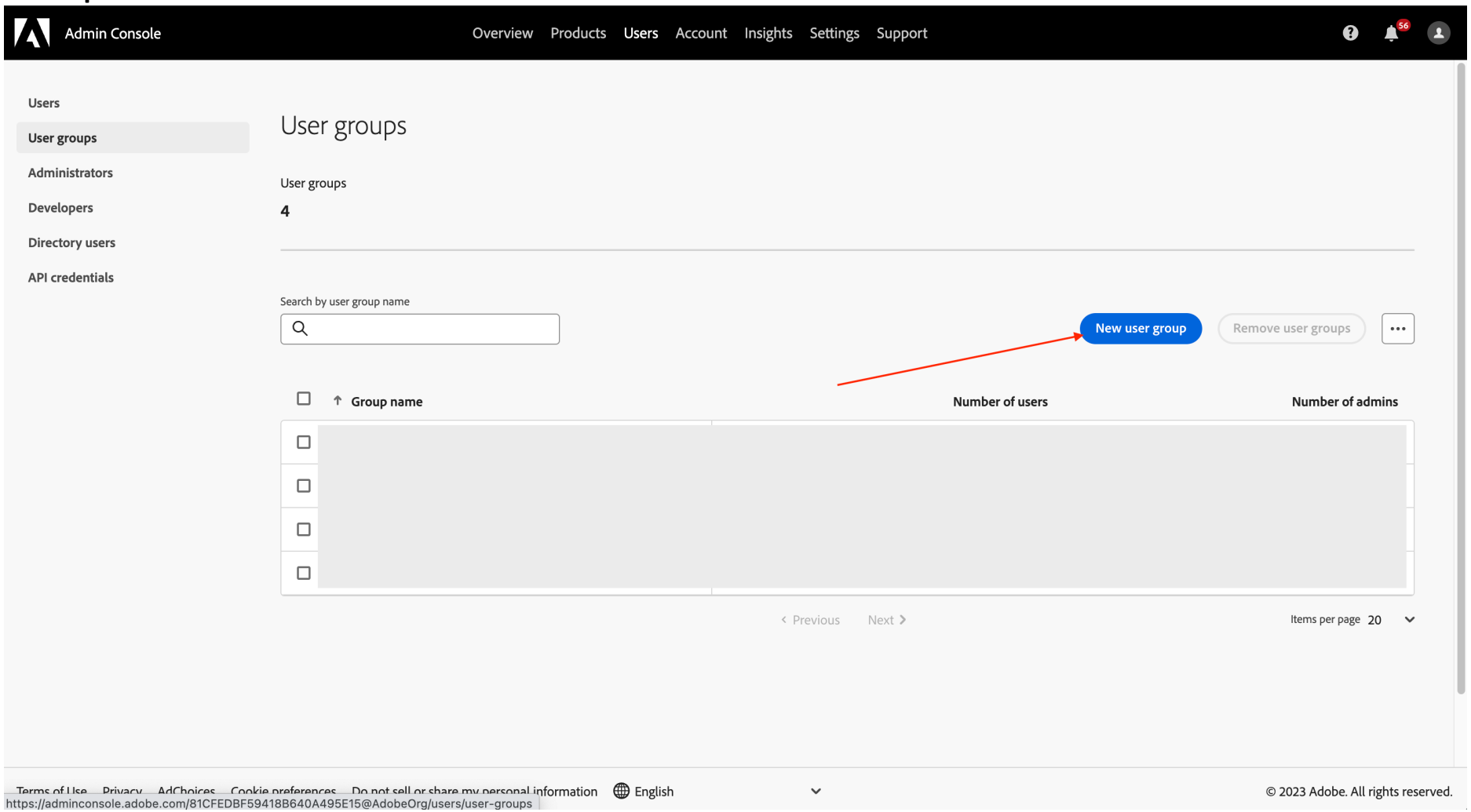
User Management

Creating a Group in IMS



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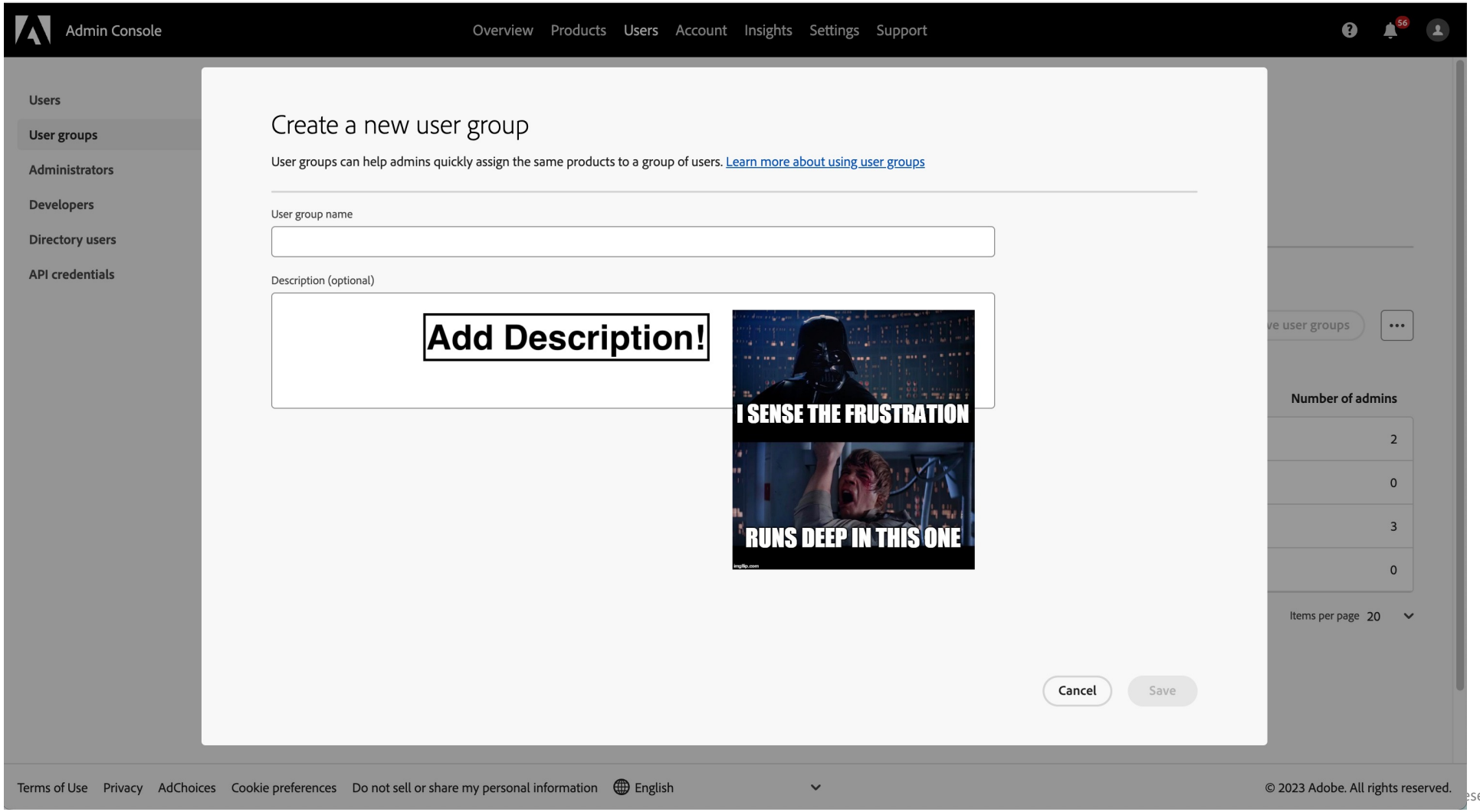

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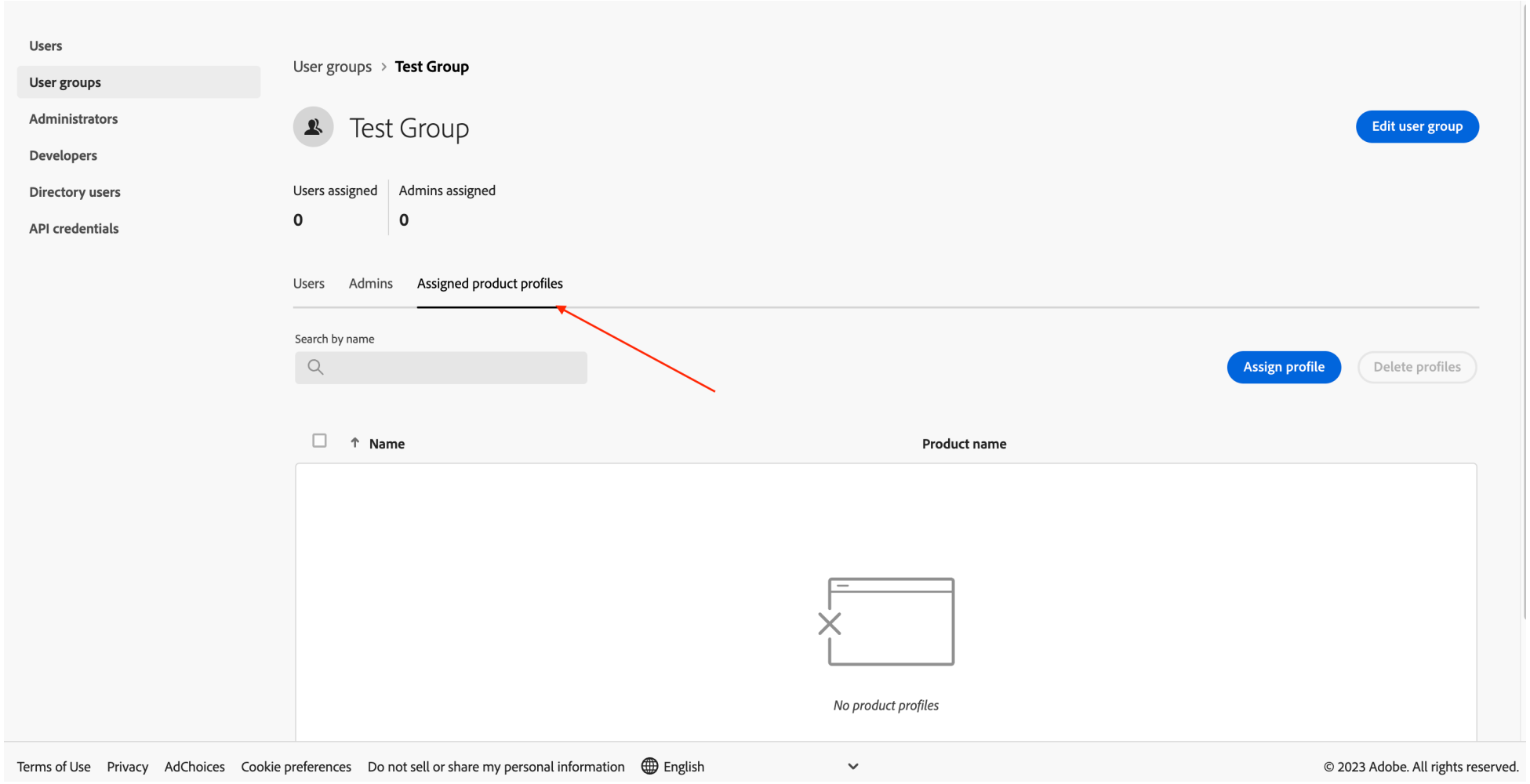
User Management

Creating a Group in IMS



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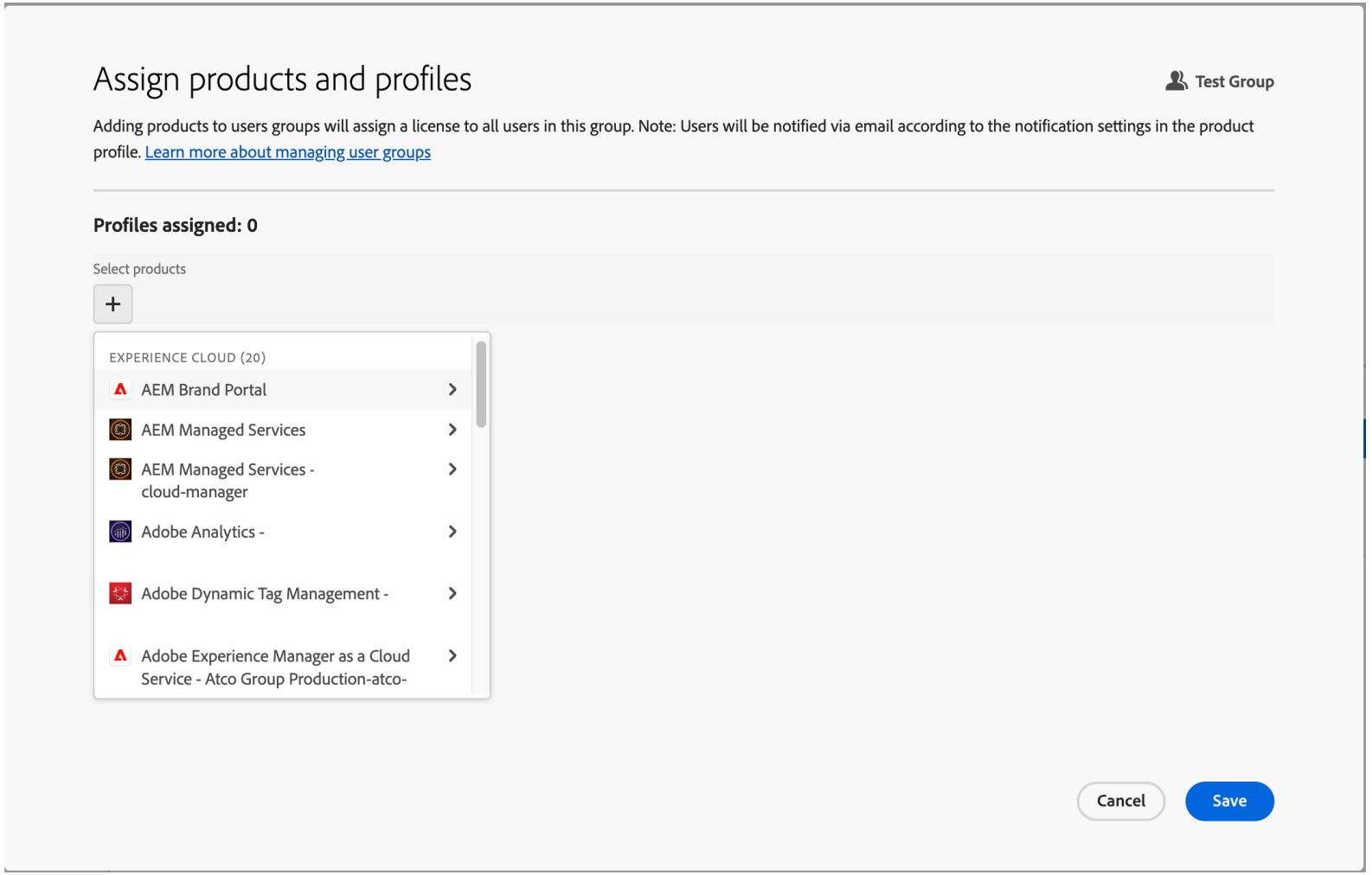
User Management

Creating a Group in IMS



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User Management

Creating a Group in IMS - Profiles

- System Administrator
- Account Administrator
- Product Administrator
- Group Administrator
- User Administrator
- Content Manager
- Viewer
- Contributor

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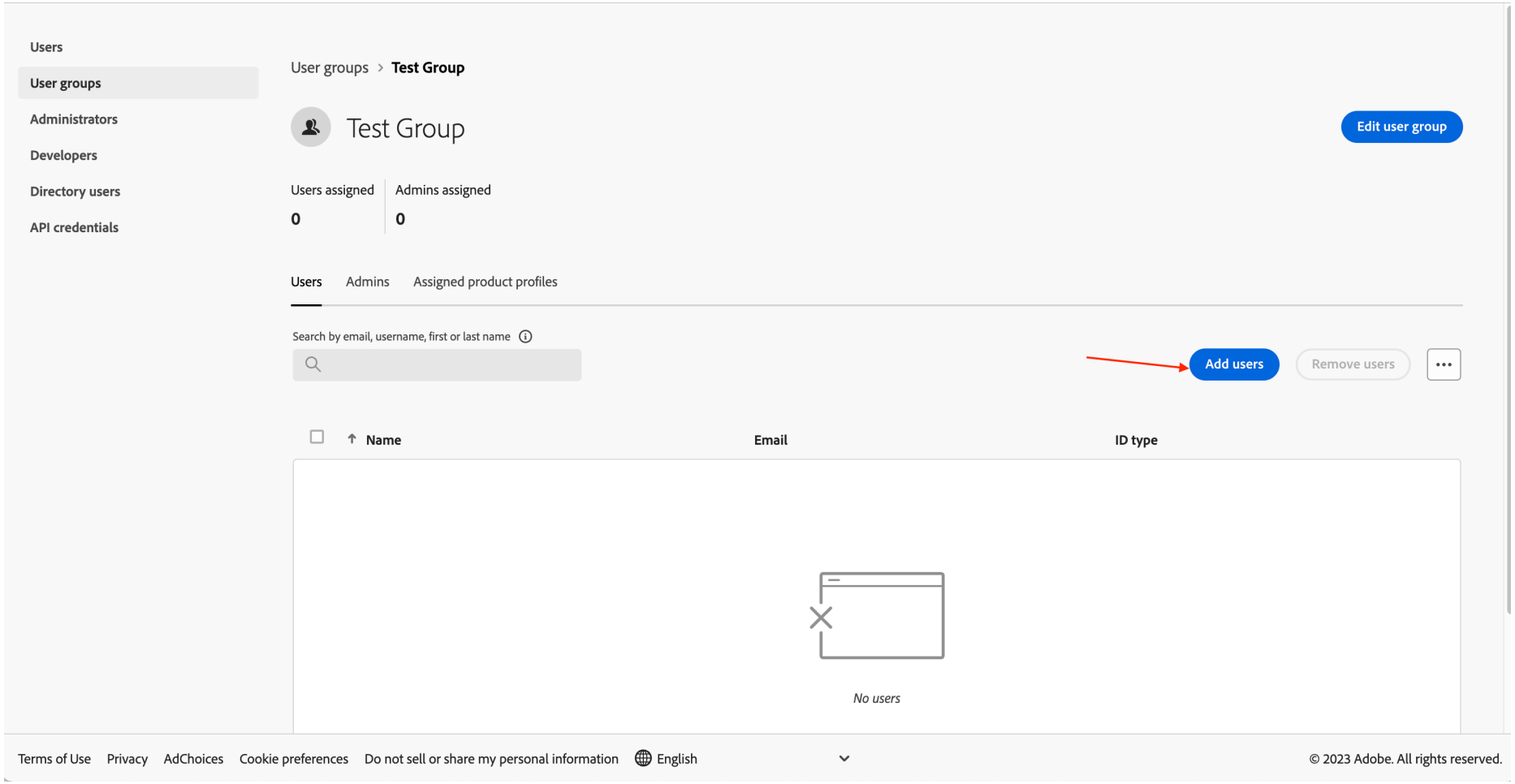
User Management

Creating a Group in IMS



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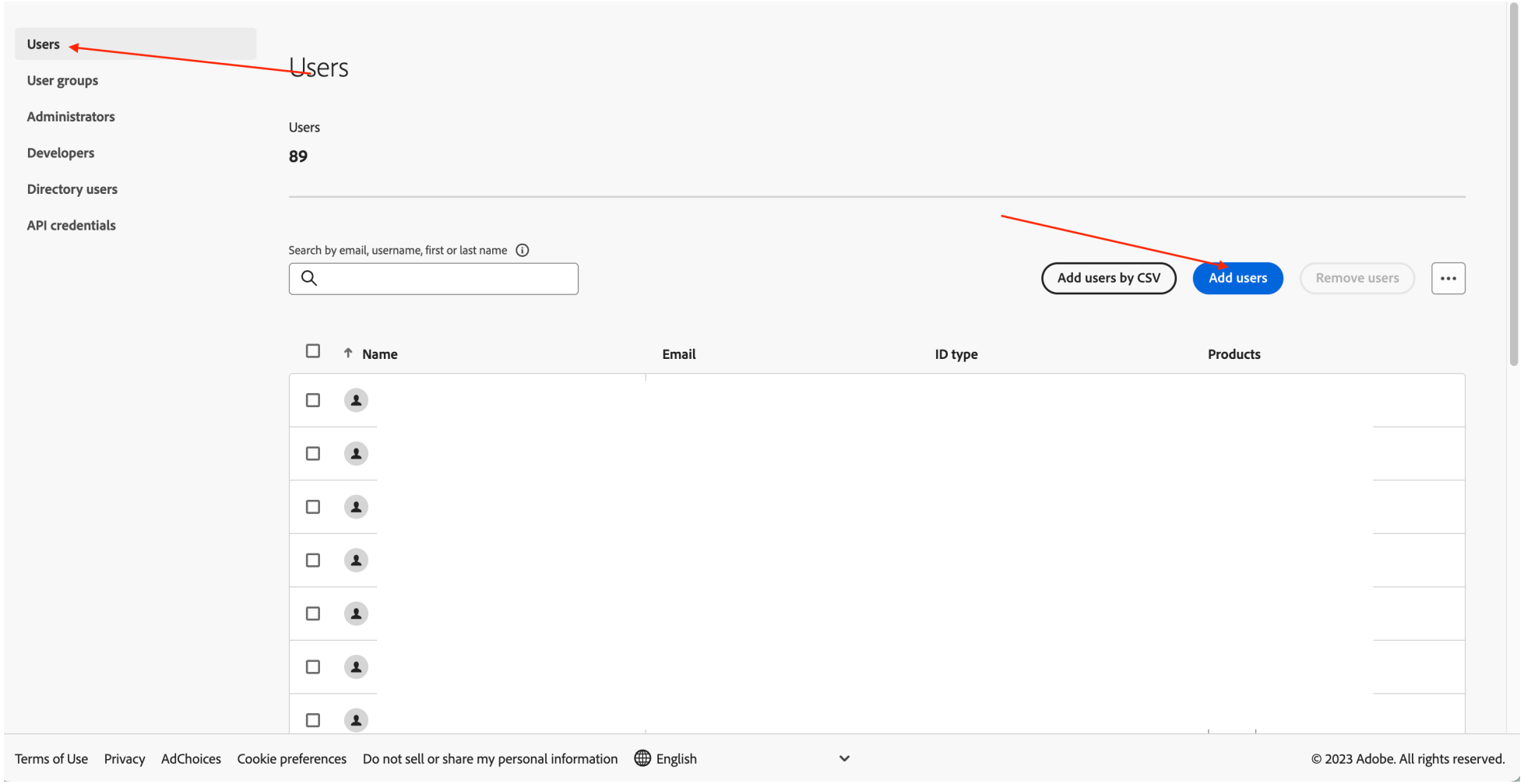
Creating a User in IMS



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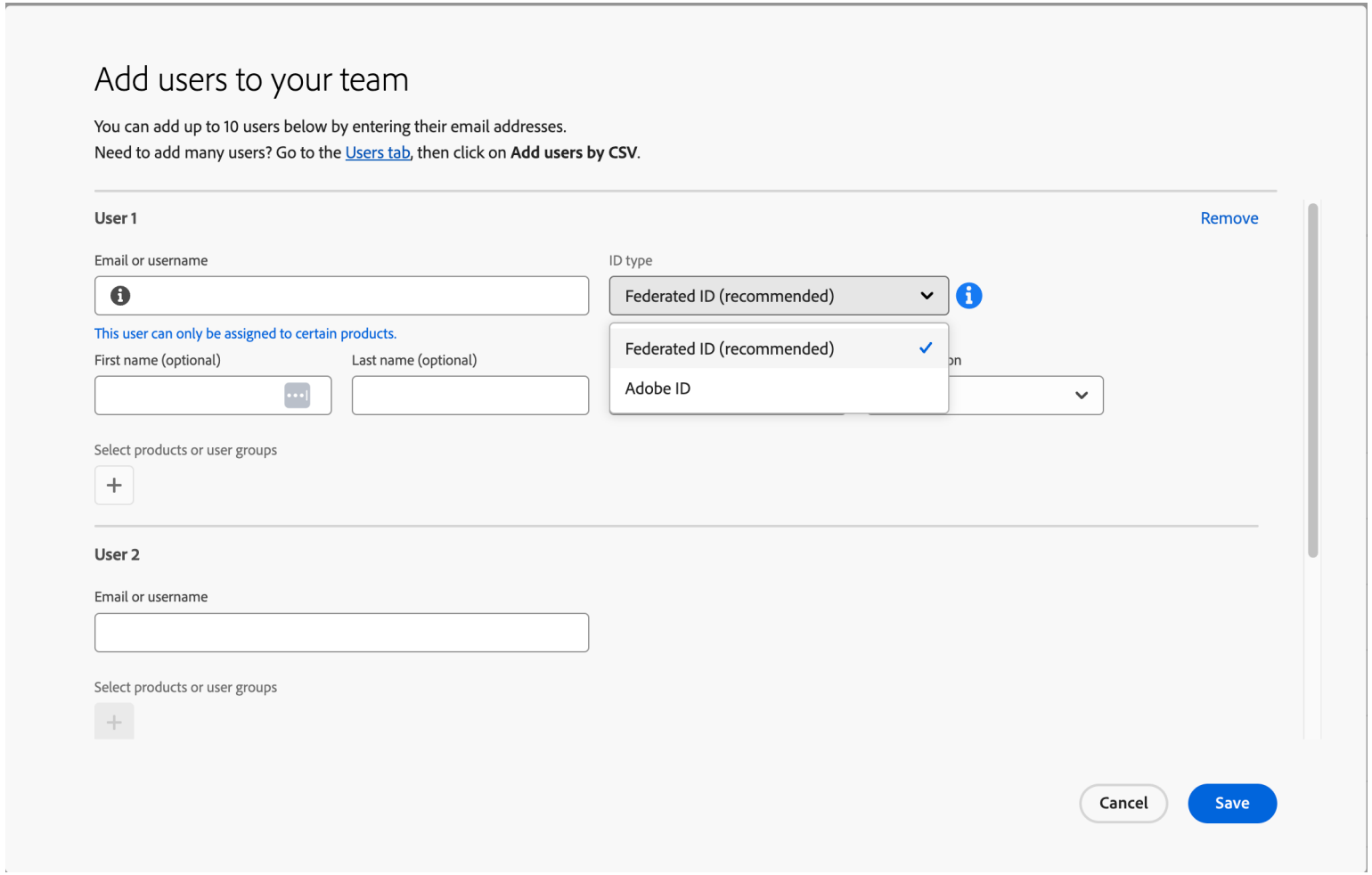
Creating a User in IMS



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Take A Break!

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User Management

How is this IdP stuff different from the SAML OSGi Configuration in AEM?

- IMS and its IdP integrations are used on the Author, not the Publish
- If the implementation needs Authentication on AEM Publish, the SAML OSGi configuration will still be required
- CUGs will still need to be created on the Author and Activated/Published to AEM Publish

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Adobe Cloud Manager

Roles and responsibilities

- Business Owner
- Program Manager
- Deployment Manager
- Developer
- Customer Success Engineer
- Content Author

What does it do?

- Continuous Integration and Deployment
- Environment Management
- Pipeline Management
- Testing and Quality Assurance
- Insights and Analytics

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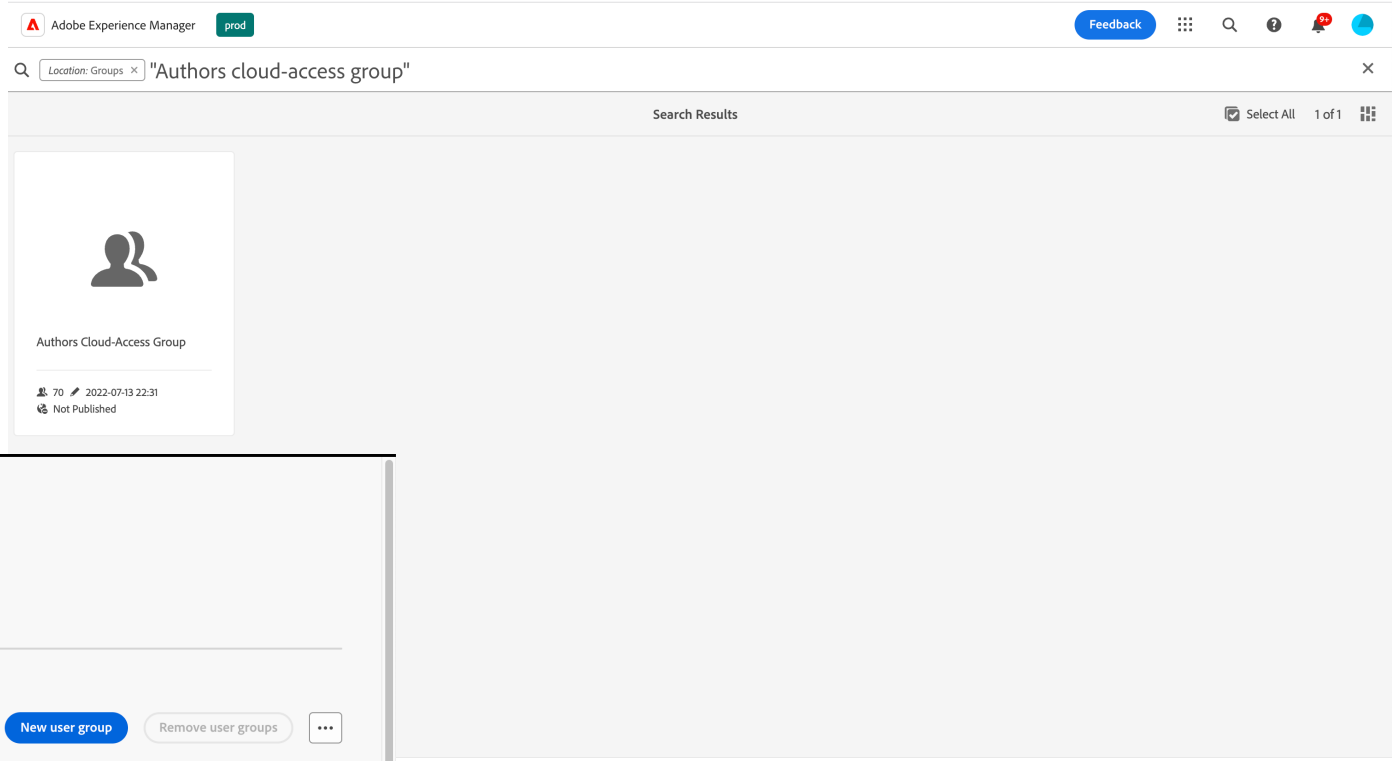
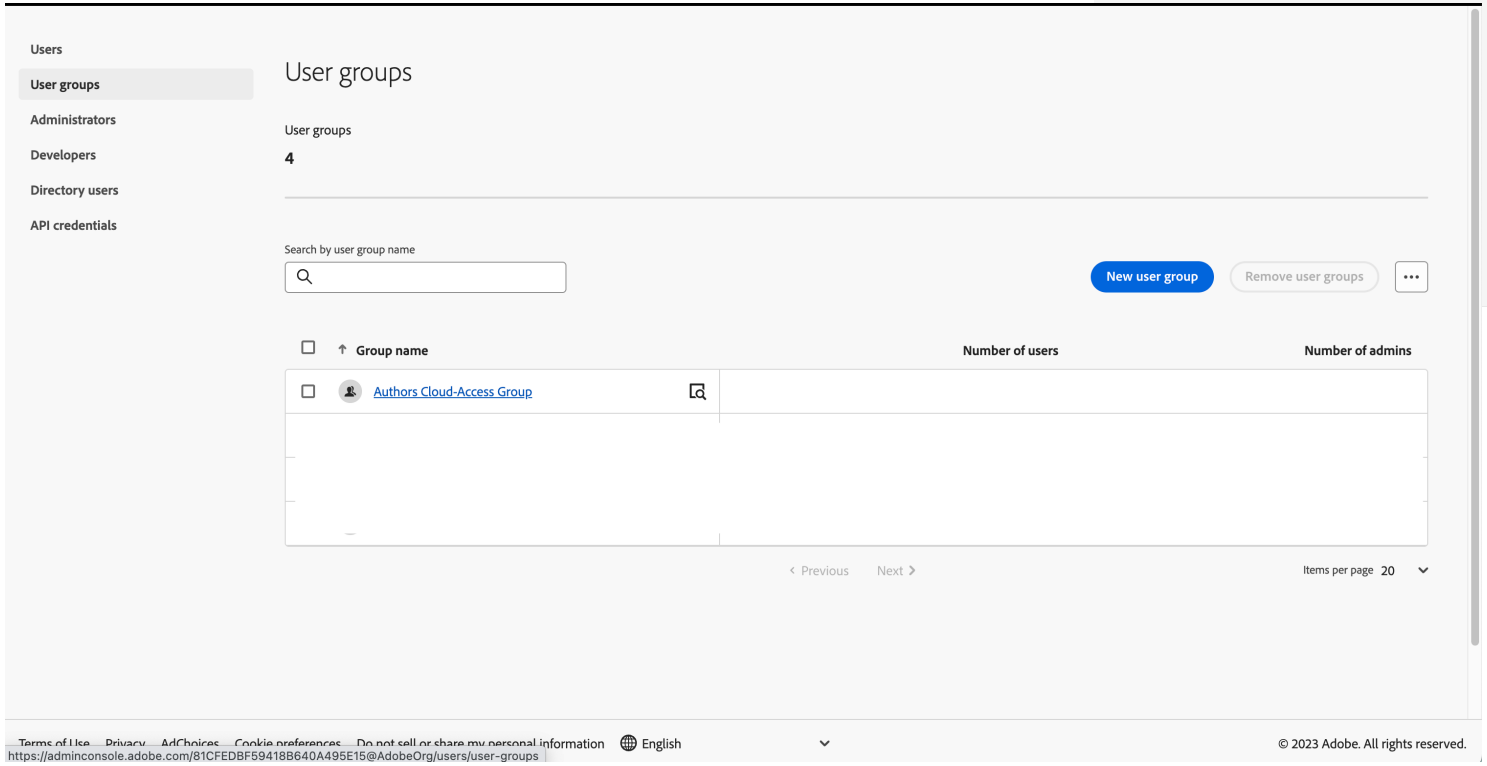
Adobe Cloud Manager

AEM Group IMS Sync

- Groups created in IMS are synced down to the AEM Instances with the assigned users





- These groups should be used to assign and limiting user access within AEM

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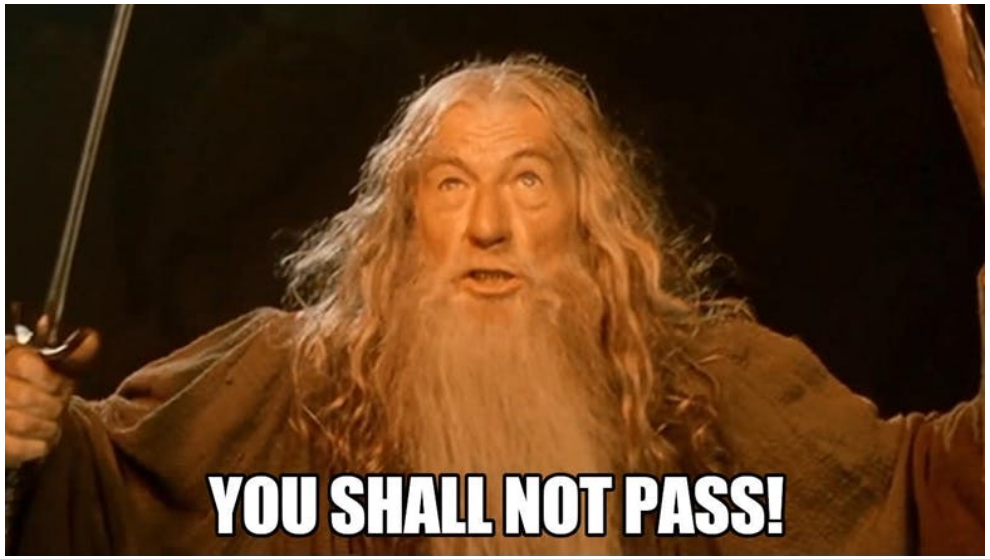
User Management

Role-Based Access Control

There are major roles you should consider to secure different parts within AEM

- Sites: Includes Content Authors, Approvers, and Publishers
- Assets: Includes Content Authors, Approvers, and Publishers
- Tags: Includes Administrators and Users
- Editable Templates: Includes Administrators and Users
- Workflows: Includes Administrators and Users



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AEM Apache Sling Repo Init

- Creating Service Users
- Creating User Groups
- Assigning Users t Groups or Groups to Groups
- Setting up ACLs for Users and Groups

```
scripts=[
        "
        # Create paths examples
        create path (sling:OrderedFolder) /content/dam/securesite
        create path (nt:unstructured) /content/dam/securesite/jcr:content
        set properties on /content/dam/securesite/jcr:content
        set cq:conf{String} to /conf/securesite
        set jcr:title{String} to \"Secure Site\"
        end

        create path /content/securesite(cq:Page)

        # service user securesite-service-user (path is relative)
        create service user securesite-service-user with path system/securesite
        set ACL for securesite-service-user
                allow jcr:all on /
        end

        # Create a group
        create group secure-site-group
        set ACL for secure-site-group
        allow crx:replicate, jcr:lockManagement, jcr:versionManagement, rep:write on /content/my-site
        end

        # Add group members
        add secure-site-group to group administrators
    "
]
```


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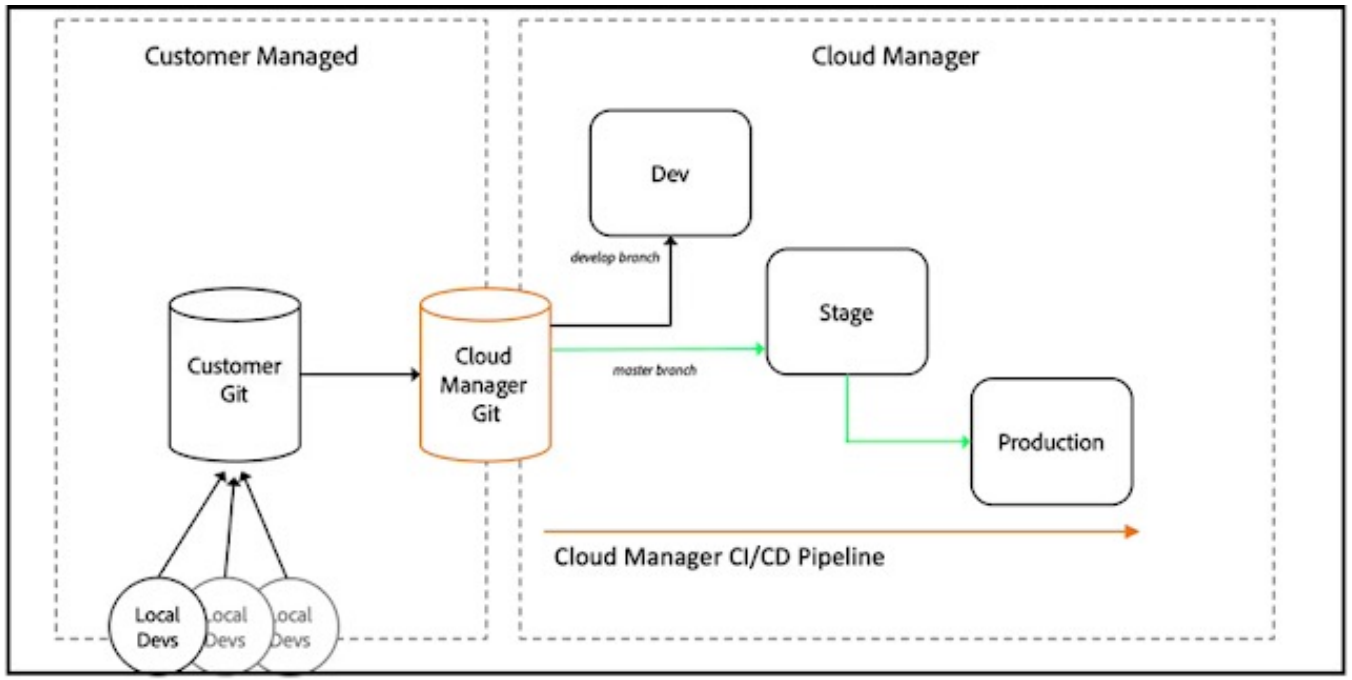
Adobe Cloud Manager

Git Repository Flow

- Importance of securing the Git repository
- Best practices for securing the Git repository in the context of Adobe Cloud Manager and CI/CD
- Integration of the Git repository with Adobe Cloud Manager for secure CI/CD
- Key considerations for securing the Adobe Cloud Manager deployment process
- Implementing secure deployment workflows
- Enforcing authentication, access controls, and audit logging



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Adobe Cloud Manager

Environment Variables

- Overview of environment variables in Adobe Cloud Manager
- Purpose and benefits of using environment variables
- When to use environment variables instead of OSGi configurations for security reasons

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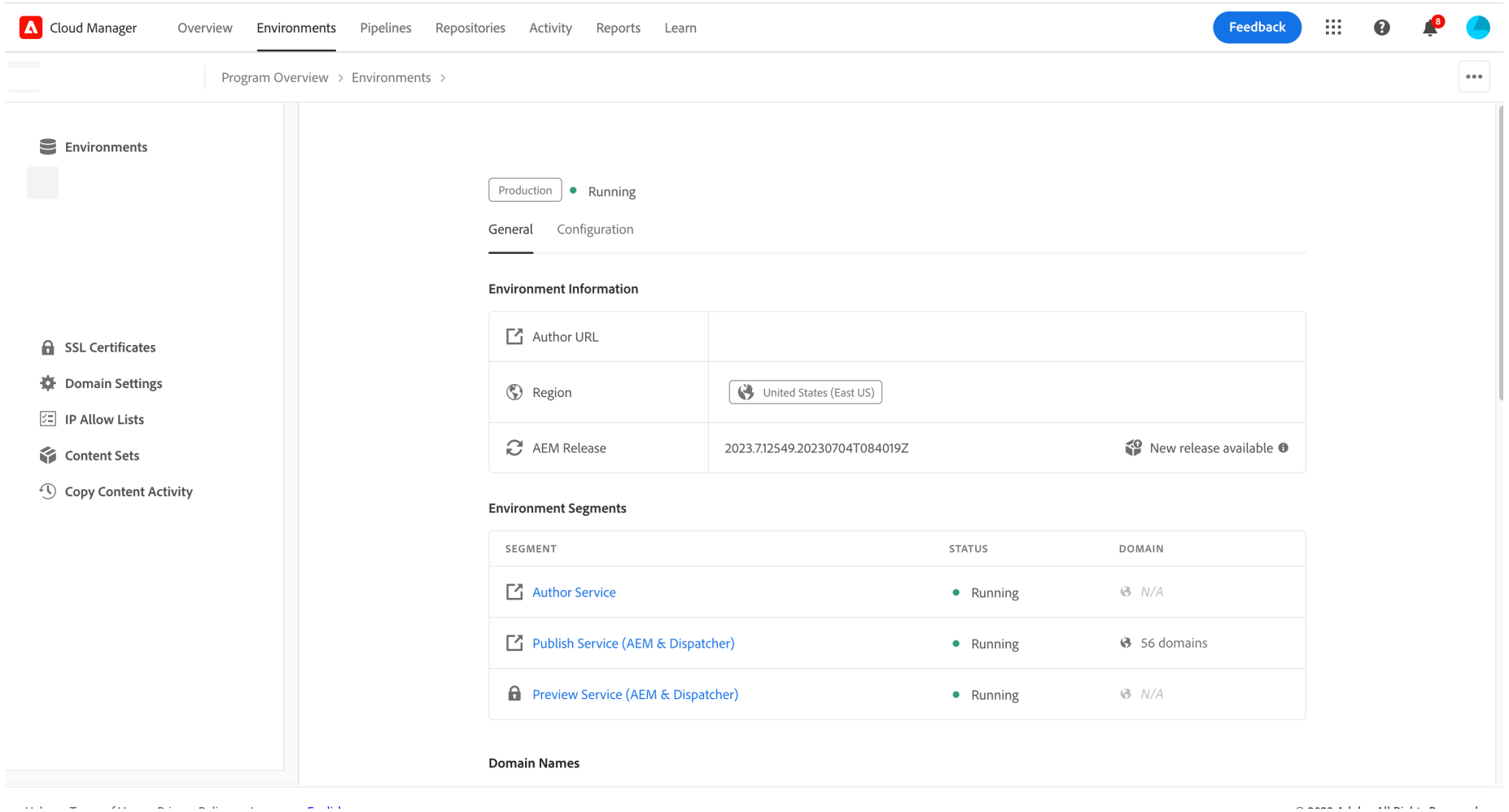
Adobe Cloud Manager

Environment Variables



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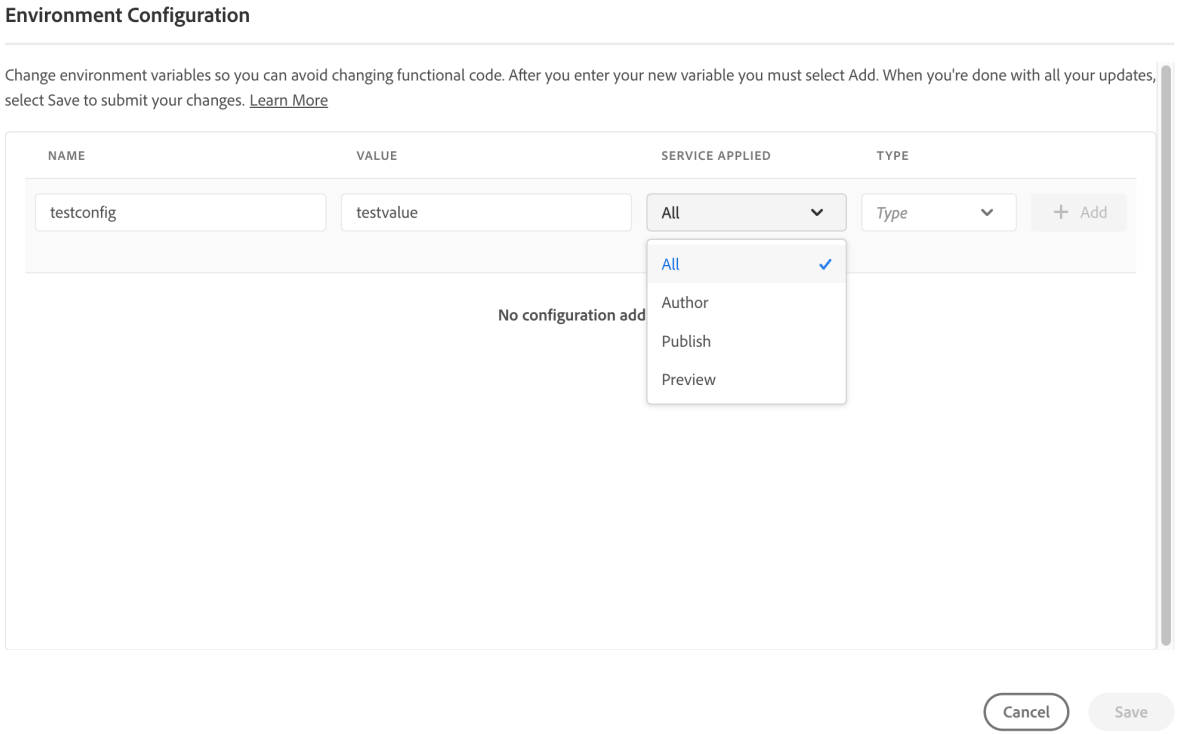
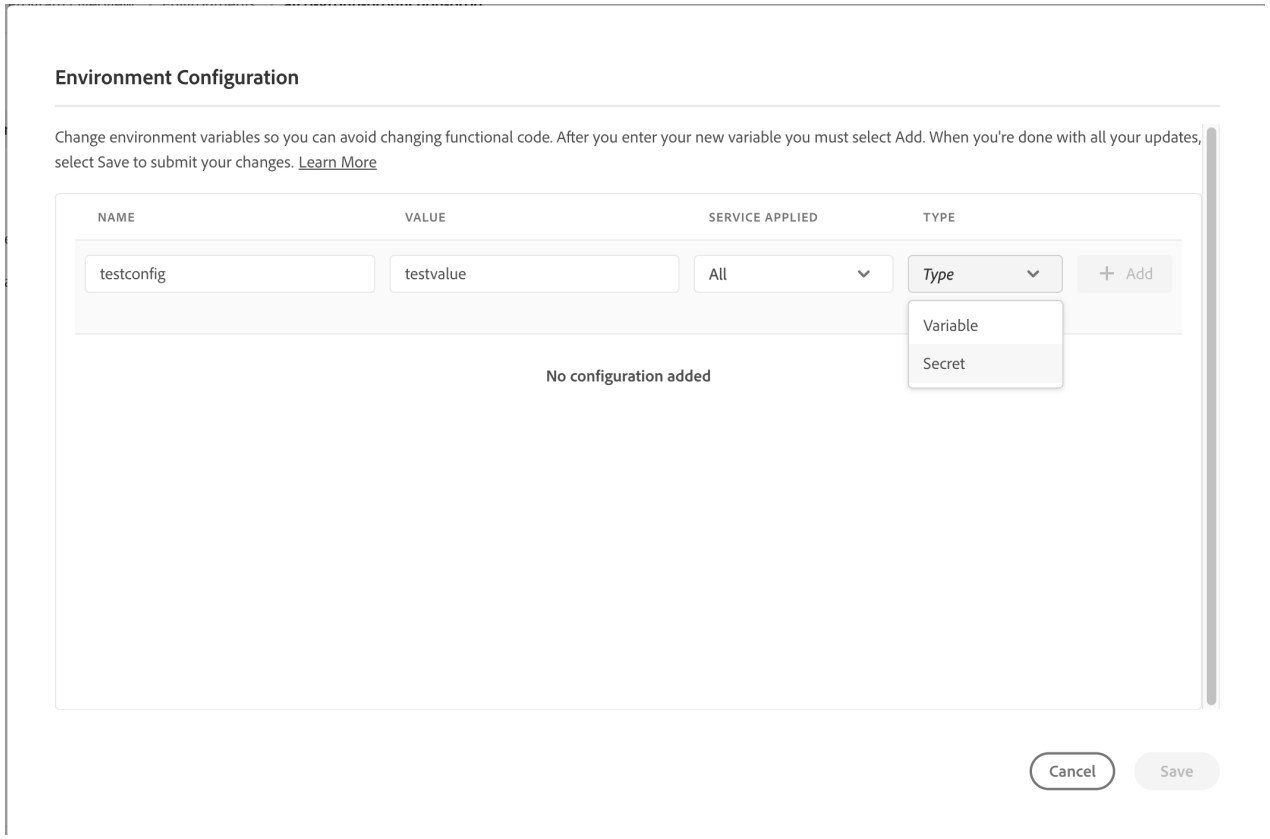
Environment Variables





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Adobe Cloud Manager

Environment Variables

OSGi Configuration

```
{
"connection.timeout": 1000,
"api-key": "$[secret:server-api-key]",
"url": "$[env:server-url]"
}
```

Maven Settings

```
<?xml version="1.0" encoding="UTF-8"?>
<settings xmlns="https://maven.apache.org/SETTINGS/1.0.0" x
        xsi:schemaLocation="https://maven.apache.org/SETTIN
    <servers>
        <server>
            <id>myco-repository</id>
            <username>cloudmanager</username>
            <password>${env.CUSTOM_MYCO_REPOSITORY_PASSWORD}
        </server>
    </servers>
</settings>
```

POM XML

```
<servers>
    <server>
        <id>myco-repository</id>
        <username>cloudmanager</username>
        <password>${env.CUSTOM_MYCO_REPOSITORY_PASSWORD}</password>
    </server>
</servers>
```


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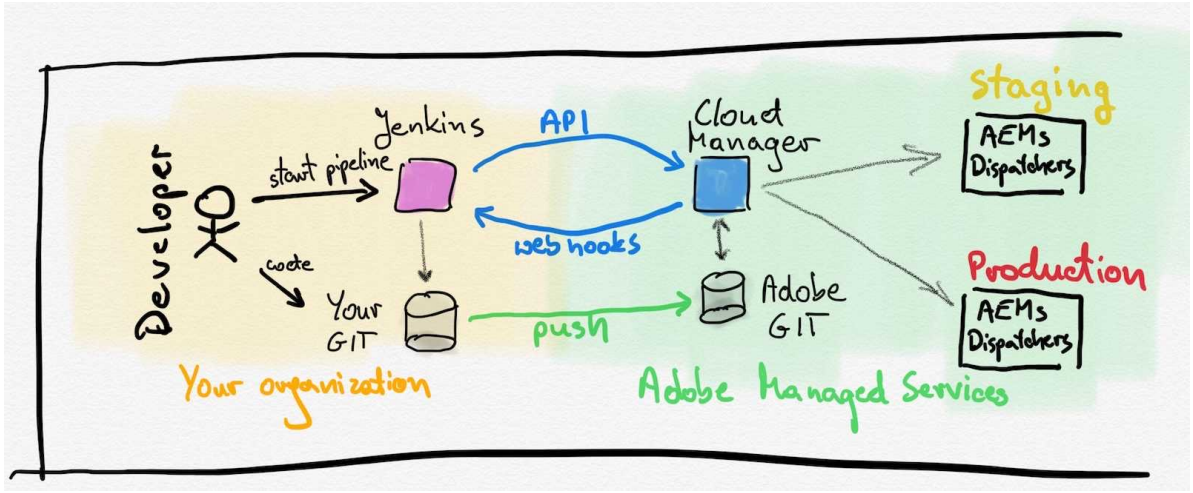
Adobe Cloud Manager

Securing AEM with Allowed IPs

- Environment specific (Prod Author vs Publish vs Preview)
- Can be applied without a code deploy
- Only accessible by Cloud Manager Admins and Developers



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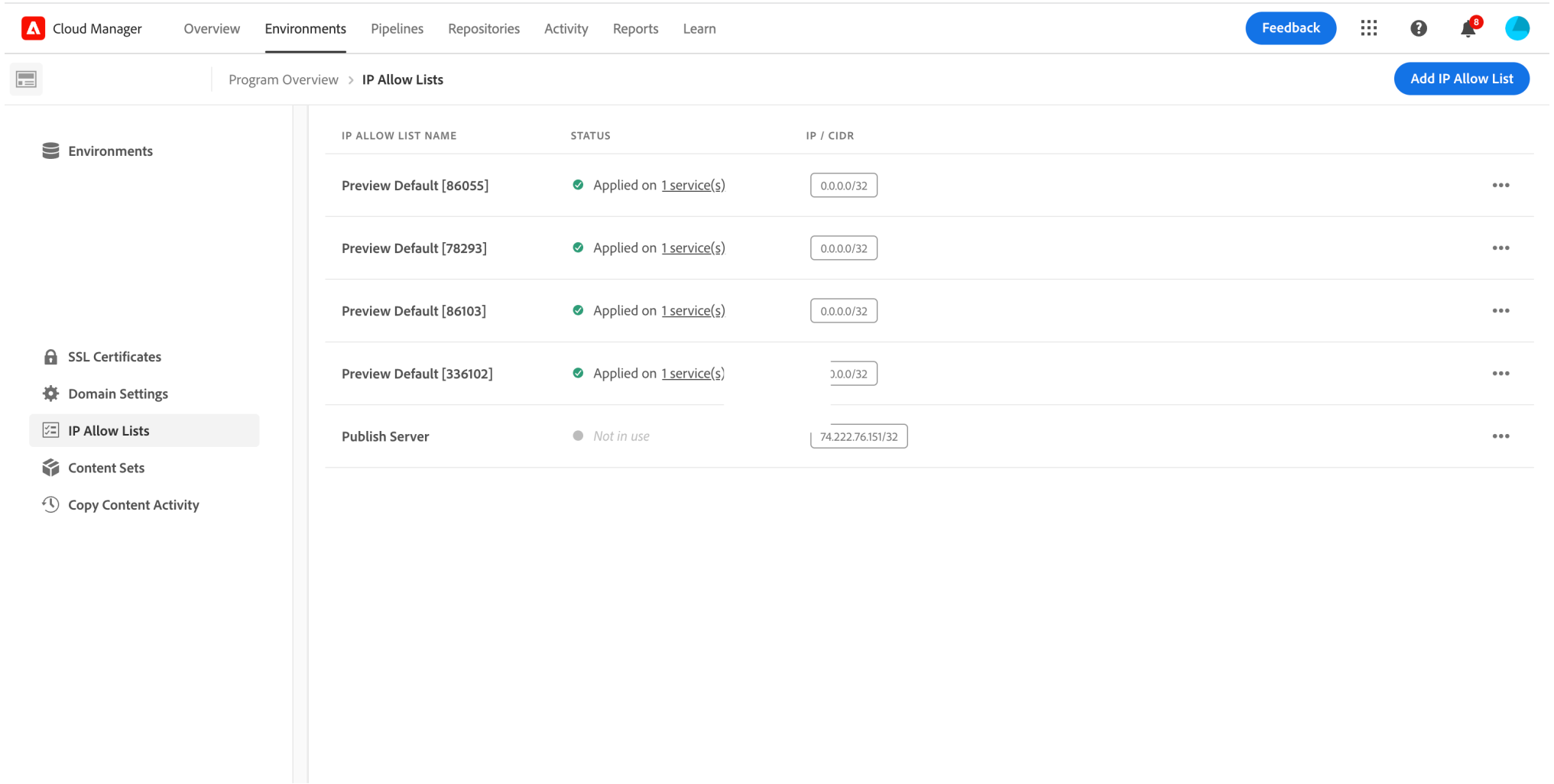
Adobe Cloud Manager

Securing AEM with Allowed IPs



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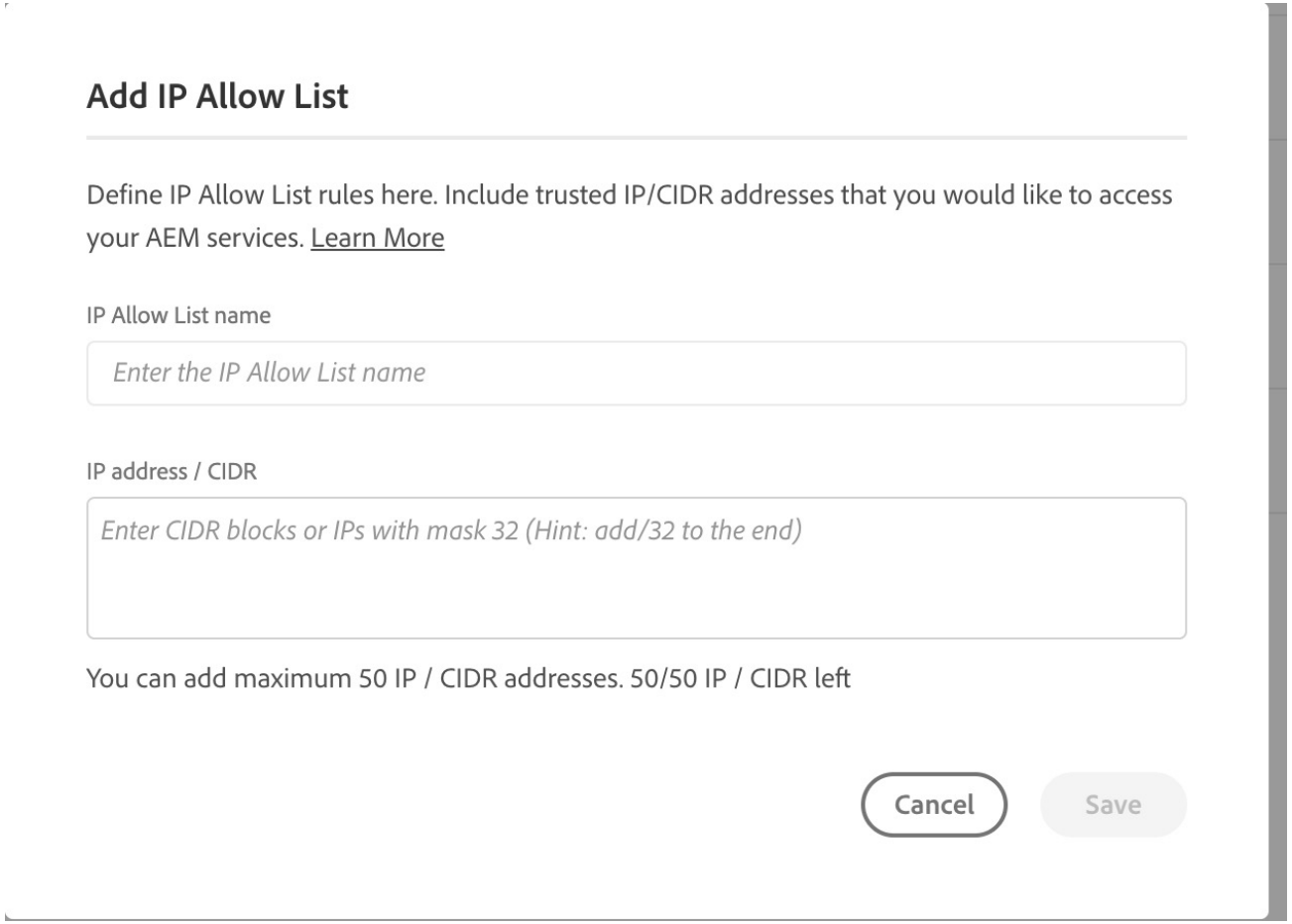

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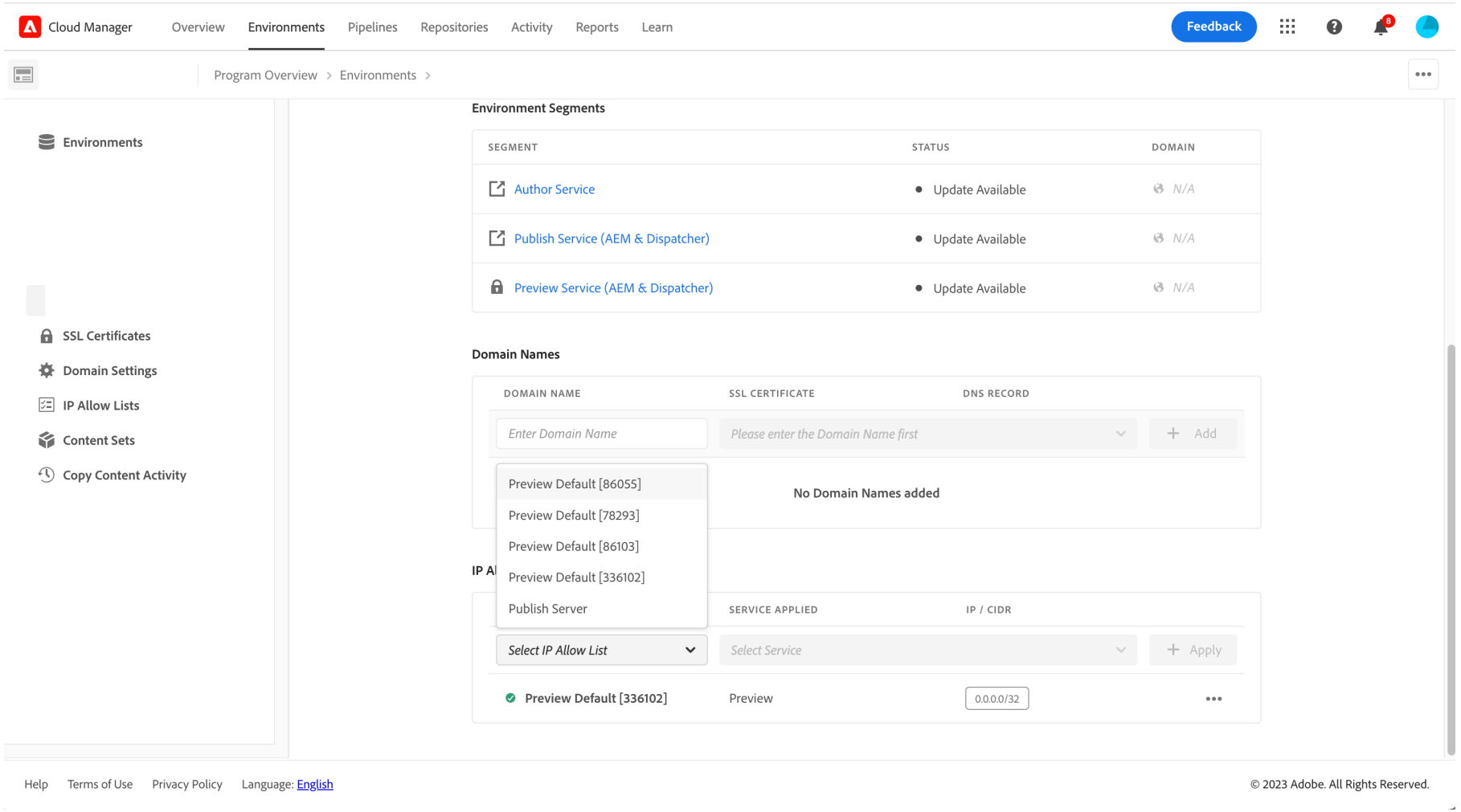

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Adobe Cloud Manager

Dispatcher Whitelisting

- Can be domain specific based on which vhost is being used
- Requires a code deploy when changes happen
- Accessible by all developers as it is part of the codebase

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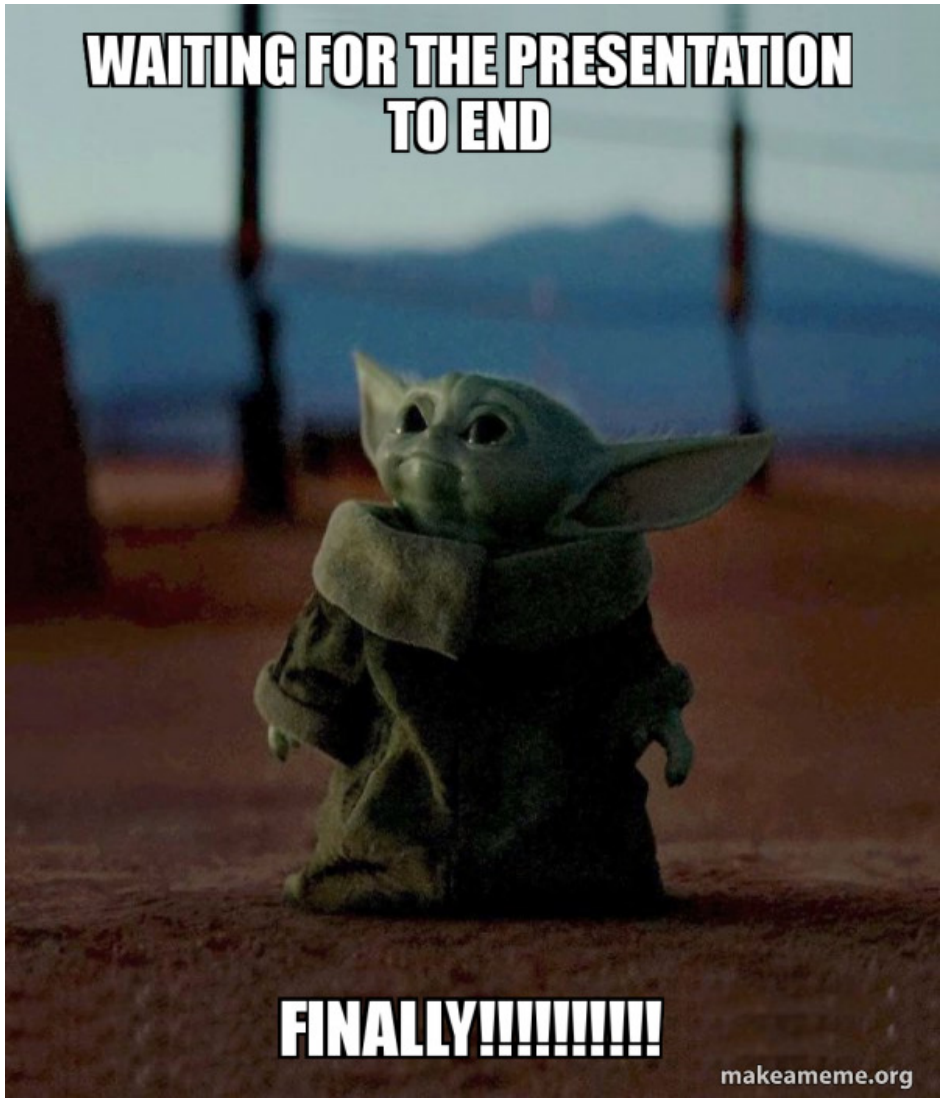
Takeaways

- Adobe IMS can be used for Authentication and Authorization or just Authorization
- It is important to assign the right permissions to the groups based on Role-Based Access Control
- Users should be assigned to groups and not directly to applications
- Cloud Environment Variables should be used, specially for “Secret” strings
- Adobe Cloud can be used along side the Dispatcher to limit access to your environments

- *Using too many memes might not be a good idea!*



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Q&A

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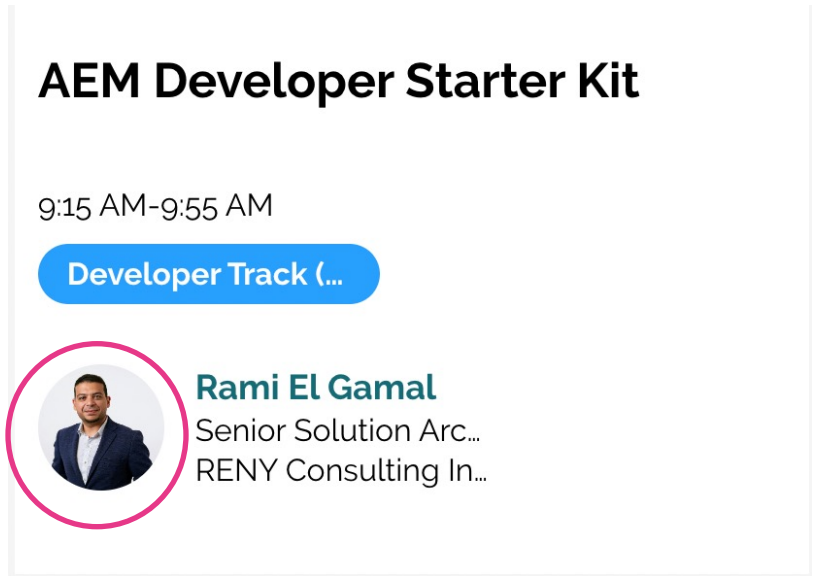
The Skill Exchange

August 15: Adobe Experience Manager-Sites

There’s me!



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