

# Project: Deploy An Article CMS to Azure

**Leandro Roncoroni**

## Resource Group

Provide a screenshot of the resource group in Azure, containing your running resources.

The screenshot displays the Azure portal interface for a resource group named 'cms'. The left-hand navigation pane includes links to Overview, Activity log, Access control (IAM), Tags, Resource visualizer, Events, Settings, Cost Management, Monitoring, Automation, and Help. The main content area is divided into two sections: 'Essentials' and 'Resources'. The 'Essentials' section provides key information about the resource group, including the subscription (UdacityDS - 15), subscription ID (17fa567b-e6eb-4e3c-a2e1-c445717eb2aa), and location (Central US). It also shows deployment status with 1 failed and 3 succeeded attempts. The 'Resources' section is currently active, displaying a table of resources within the group. The table has columns for Name, Type, and Location. The resources listed are:

Name	Type	Location
ASP-cms-b829	App Service plan	Central US
cms (cms789/cms)	SQL database	Central US
cms789	SQL server	Central US
image789	Storage account	Central US
udacitycms	App Service	Central US
udacitycms-b48f	Managed Identity	Central US
udacitycms-be59	Managed Identity	Central US

## Storage

Provide a screenshot from your SQL database within Azure, showing that both the posts and users tables have been created. Alternatively, if the site is still live, provide the URL for the site.

Home > cms (cms789/cms)



## cms (cms789/cms) | Query editor (preview)

SQL database

Search

Login New Query Open query Feedback Getting started

Overview

Activity log

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Diagnose and solve problems

Query editor (preview)

Mirror database in Fabric (preview)

Resource visualizer

Settings

Data management

Integrations

Power Platform

Security

Intelligent performance

Monitoring

Automation

Help

cms (odl\_user\_281273@udacityhol.onm...

Showing limited object explorer here. For full capability please click here to open Azure Data Studio.

Tables

dbo.POSTS

dbo.USERS

Views

Stored Procedures

Query 1

Run Cancel query Save query Export data as Show only Editor

```
1 SELECT * FROM [dbo].[USERS]
```

Results Messages

Search to filter items...

id	username	password_hash
1	admin	pbkdf2:sha256:150000\$Qlirz6Hg\$5f4cd25d78a6c79906a53f74ef5d3bb2609af2b...

Add or remove favorites by pressing Ctrl+Shift+F

Query succeeded | 0s

Home > cms (cms789/cms)



## cms (cms789/cms) | Query editor (preview)

SQL database

Search

Login New Query Open query Feedback Getting started

Overview

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Query editor (preview)

Mirror database in Fabric (preview)

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cms (odl\_user\_281273@udacityhol.onm...

Showing limited object explorer here. For full capability please click here to open Azure Data Studio.

Tables

dbo.POSTS

dbo.USERS

Views

Stored Procedures

Query 1

Run Cancel query Save query Export data as Show only Editor

```
1 -- SELECT * FROM [dbo].[USERS]
2 SELECT * FROM [dbo].[POSTS]
```

Results Messages

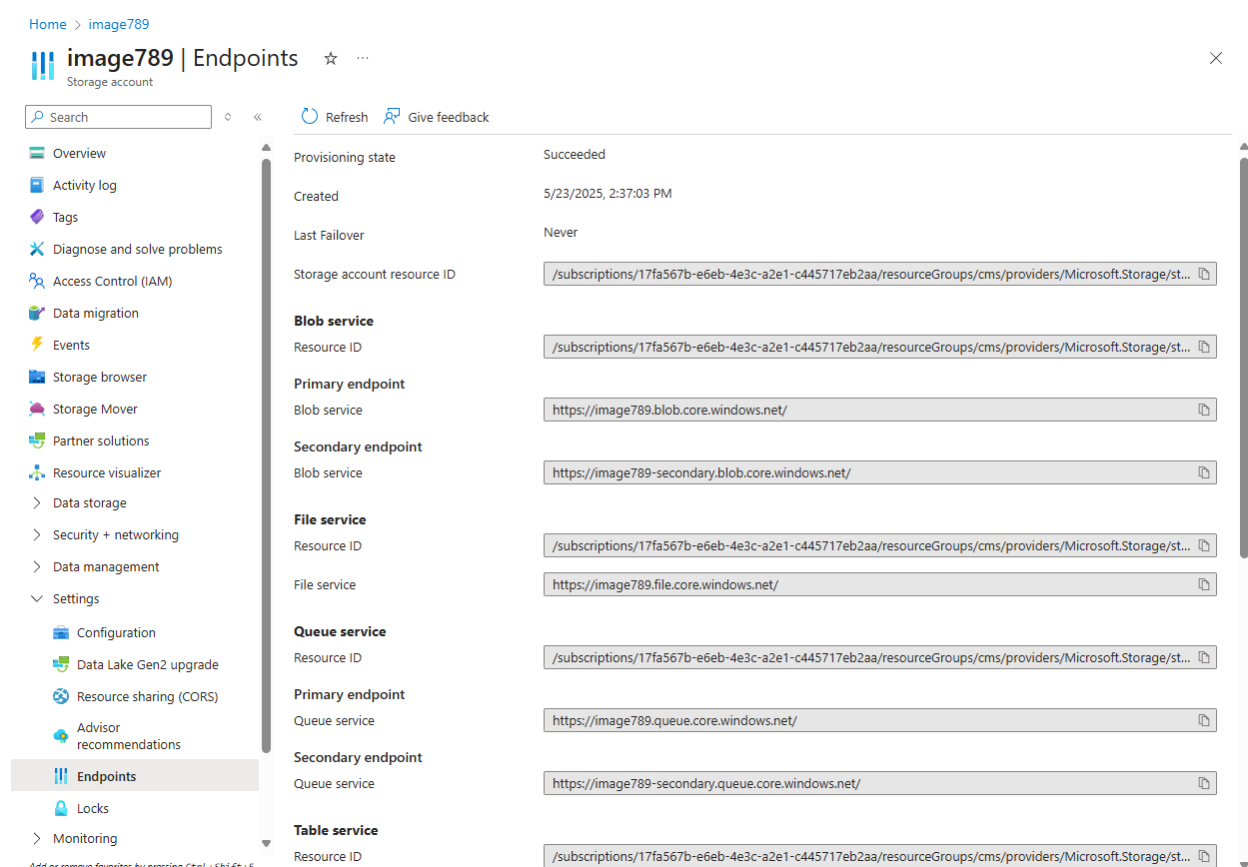
Search to filter items...

id	title	author	body	image_path
1	Lorem ipsum dolor s...	John Smith	Proin sit amet mi om...	

Add or remove favorites by pressing Ctrl+Shift+F

Query succeeded | 0s

Provide a screenshot from your Storage Account within Azure, with the blob storage endpoint URL visible (can be seen in “Settings”->”Properties”). Alternatively, if the site is still live, provide the URL for the CMS site to show images are able to be stored and viewed.



## Resource Justification

In the provided writeup.md file, for **both** the VM and the App Service solution for the CMS app: Analyze costs, scalability, availability, and workflow

Ensure the write-up should include information on all four analysis points mentioned above for both VM and App Service.

### Cost.

- Azure App Service: offers a tiered pricing (free in this case) with built-in scaling; abstraction of infrastructure management.

- Azure VM: Offers pay-as-you-go for compute, storage and bandwidth. Need to pay for OS licensing, patching and maintenance

### **Scalability**

- Azure App Service: built-in auto-scaling, minimal configuration and fast scaling
- Azure VM: Manual scaling, full control over scaling process and slow scaling due to provisioning

### **Availability**

- Azure App Service: built-in high availability, integrated disaster recovery
- Azure VM: requires setup, manual configuration for disaster recovery

### **Workflow**

- Azure App Service: GH Actions, Azure DevOps. Azure handles platform updates. Built-in diagnostic and logging.
- Azure VM: Manual setup (SSH, FTP, CI/CD). Customer manages OS updates, patches and runtime and requires to setup monitoring.

Choose the appropriate solution (VM or App Service) for deploying the app and justify your choice. The justification should have at least 2-3 sentences on why you have chosen the VM or App Service.

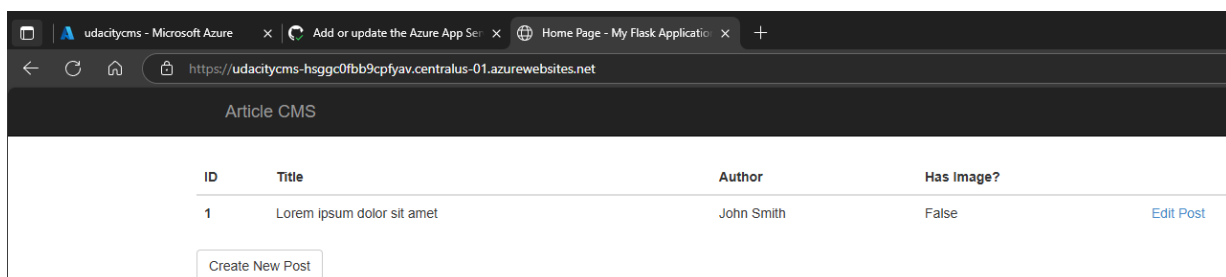
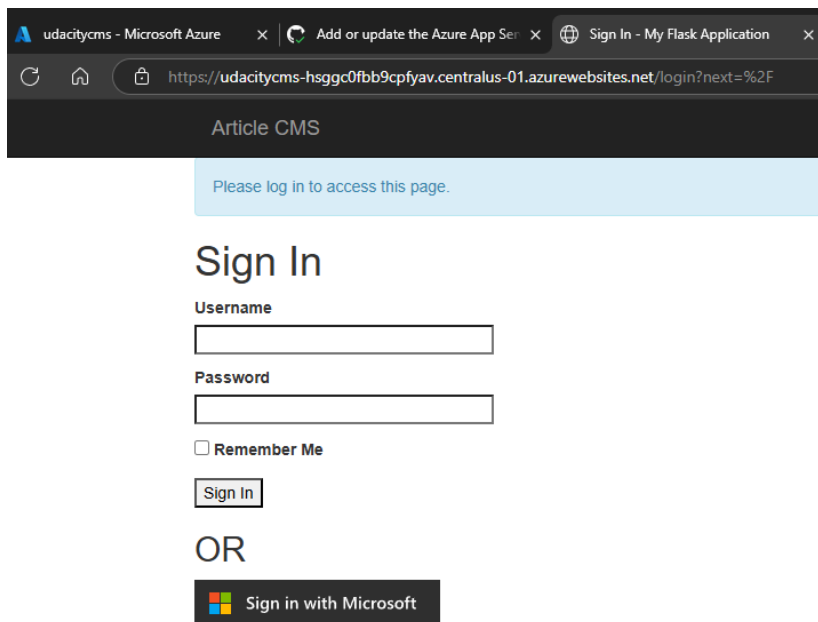
The solution chosen is Azure App Service, because of its ease of use, lower maintenance, and built-in scalability.

If there were any requirement for custom OS-level control, specialized libraries, or non-standard configurations, I would go with Azure VM.

## Deployment

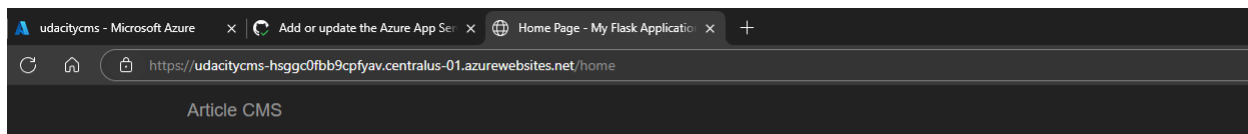
The Python web app has been deployed to Azure using the chosen resource in the previous section.

As evidence, provide a screenshot of the Python application running from a browser (this can be part of the screenshot in the next section). **The screenshot should include the URL and the black header that states “Article CMS”.** Alternatively, you can provide a link to the deployed app, if it is still live.



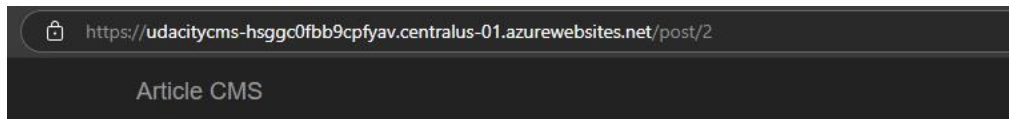
The Python web app is able to connect to the related storage solutions.

As evidence, provide a screenshot of the Python application running from a browser. **The screenshot should include the URL and at least one article containing title, author, body, and an image.** Alternatively, you can provide a link to the deployed app, if it is still live.



ID	Title	Author	Has Image?	
1	Lorem ipsum dolor sit amet	John Smith	False	<a href="#">Edit Post</a>
2	My first new post	Leandro	True	<a href="#">Edit Post</a>

[Create New Post](#)



## Edit Post

Title

My first new post

Author

Leandro

Body

This is the body of my first new post.

[Save](#)



Image

[Choose File](#)

No file chosen

## Security & Monitoring

The Python web app has an additional, operational option to sign in with Microsoft.

As evidence, provide a screenshot of the redirect URIs configured within the App Registration page in Azure. Alternatively, you can provide a link to the deployed app, if it is still live.

Additionally, your code in views.py should appropriately implement the Microsoft sign-in button using the msal library.

<https://github.com/learonco/cd1756-Azure-Applications-project/blob/main/FlaskWebProject/views.py>

The screenshot shows the 'Authentication' page in the Azure portal for an application named 'cmsEntraID'. The left sidebar contains a navigation menu with options: Overview, Quickstart, Integration assistant, Diagnose and solve problems, Manage (expanded), Branding & properties, Authentication (selected), Certificates & secrets, Token configuration, API permissions, Expose an API, App roles, Owners, Roles and administrators, Manifest, and Support + Troubleshooting. The main content area is titled 'Authentication' and includes a search bar and a 'Got feedback?' link. Below this, there are sections for 'Platform configurations', 'Web' (with 'Redirect URIs' and 'Add URI' button), 'Front-channel logout URL' (with a text input field containing 'https://udacitycms-hsggc0fbb9cpfyav.centralus-01.azurewebsites.net/login'), and 'Implicit grant and hybrid flows'.

Home > Udacity - DS | App registrations > cmsEntraID

cmsEntraID | Authentication

Search

Got feedback?

Overview

Quickstart

Integration assistant

Diagnose and solve problems

Manage

Branding & properties

**Authentication**

Certificates & secrets

Token configuration

API permissions

Expose an API

App roles

Owners

Roles and administrators

Manifest

Support + Troubleshooting

Platform configurations

Depending on the platform or device this application is targeting, additional configuration may be required such as redirect URIs, specific authentication settings, or fields specific to the platform.

+ Add a platform

Web

Quickstart Docs

Redirect URIs

The URIs we will accept as destinations when returning authentication responses (tokens) after successfully authenticating or signing out users. The redirect URI you send in the request to the login server should match one listed here. Also referred to as reply URLs. [Learn more about Redirect URIs and their restrictions](#)

https://udacitycms-hsggc0fbb9cpfyav.centralus-01.azurewebsites.net/getAToken

Add URI

Front-channel logout URL

This is where we send a request to have the application clear the user's session data. This is required for single sign-out to work correctly.

https://udacitycms-hsggc0fbb9cpfyav.centralus-01.azurewebsites.net/login

Implicit grant and hybrid flows

Request a token directly from the authorization endpoint. If the application has a single-page architecture (SPA) and doesn't use the authorization code flow, or if it invokes a web API via JavaScript, select both access tokens and ID tokens. For ASP.NET Core web apps and other web apps that use hybrid authentication, select only ID tokens. [Learn more about tokens](#).

Select the tokens you would like to be issued by the authorization endpoint:



odl\_user\_281273@udacityhol.onmicrosoft.com

## Permissions requested

cmsEntraID  
**unverified**

**This application is not published by Microsoft.**

This app would like to:

- ✓ Sign you in and read your profile
- ✓ Maintain access to data you have given it access to

Accepting these permissions means that you allow this app to use your data as specified in their terms of service and privacy statement. **The publisher has not provided links to their terms for you to review.** You can change these permissions at <https://myapps.microsoft.com>. [Show details](#)

Does this app look suspicious? [Report it here](#)

Cancel

Accept

udacitycms - Microsoft Azure

Build and deploy Python app to A

Sign out



[https://login.microsoftonline.com/common/oauth2/v2.0/logout?post\\_logout\\_redirect\\_uri=http://udacitycms-hsggc0fbb9cpfyav.centralus-](https://login.microsoftonline.com/common/oauth2/v2.0/logout?post_logout_redirect_uri=http://udacitycms-hsggc0fbb9cpfyav.centralus-)



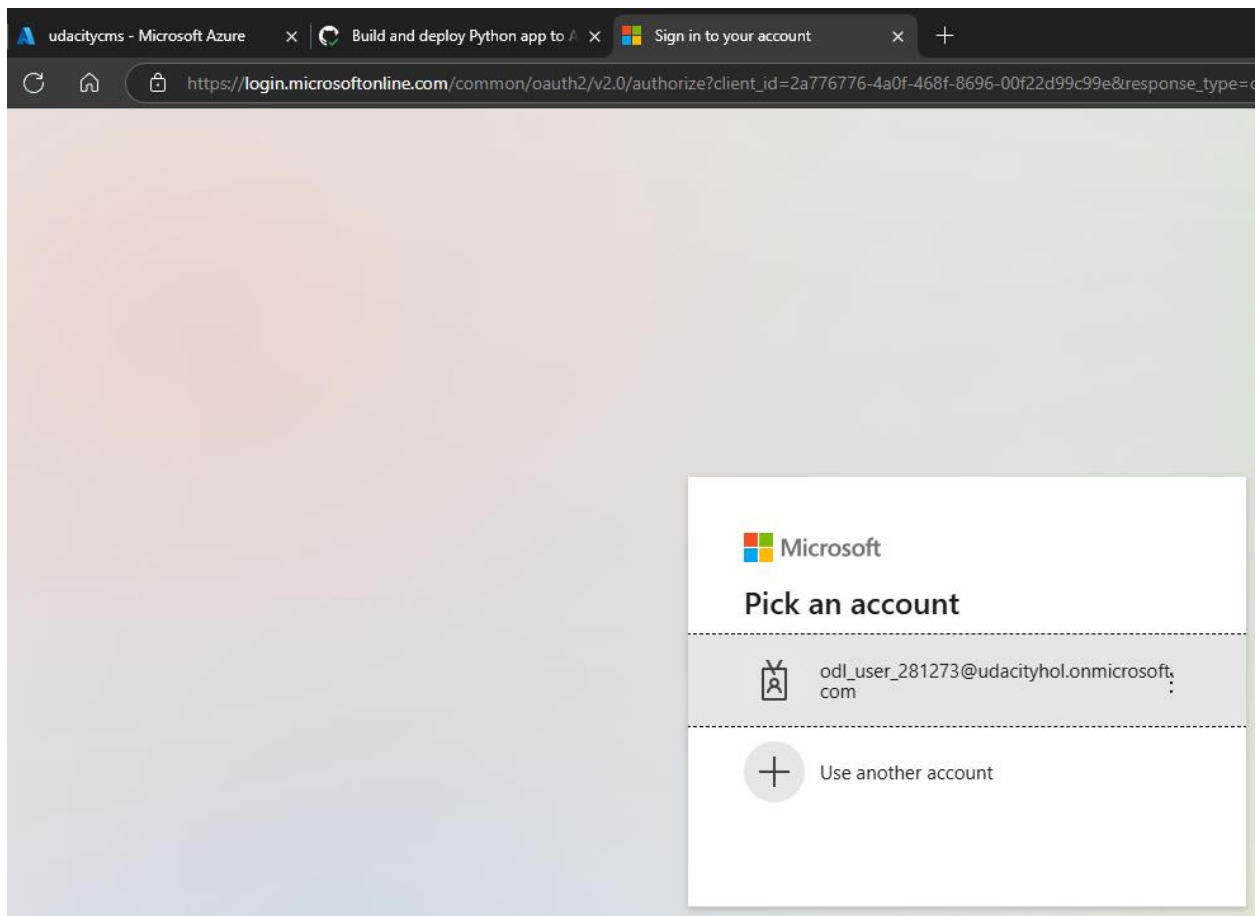
## Pick an account

Which account do you want to sign out of?



ODL\_User 281273  
odl\_user\_281273@udacityhol.onmicrosoft.com  
Signed in





<https://udacitycms-hsggc0fbb9cpfyav.centralus-01.azurewebsites.net/>

Both successful and unsuccessful attempts to access the web app are logged.

As evidence, provide a screenshot or download the logs from Azure containing at least one successful and one unsuccessful access attempt, and include them in your submission files. If otherwise submitting a URL, please include a link to screenshot/logs in the “Submission Details” box on the project submission page.

**Hint:** Share the screenshots where logs show the successful and failed login attempts. You can share Azure Portal logging, localhost terminal logs, or logs in Azure storage account.

Home > udacitycms

## udacitycms | Log stream

Web App

Search

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Microsoft Defender for Cloud

Events (preview)

Recommended services (preview)

Log stream

Log Level Stop Copy Clear

Instances

0da0fe57fb91e6f11257116c067f1677ea2b718625ee60d6406366ad463cfb0e

```
2025-05-23T19:38:13.4152045Z 169.254.129.1 - - [23/May/2025:19:38:11 +0000] "GET /static/content/site.css HTTP/1.1" 304 0 "https://udacitycms-hsggc0fb9cpfyav-01.azurewebsites.net/login" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/136.0.0.0 Safari/537.36 Edg/136.0.0.0"
2025-05-23T19:38:13.4152616Z 169.254.129.1 - - [23/May/2025:19:38:12 +0000] "GET /static/scripts/modernizr-2.6.2.js HTTP/1.1" 304 0 "https://udacitycms-hsggc0fb9cpfyav-01.azurewebsites.net/login" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/136.0.0.0 Safari/537.36 Edg/136.0.0.0"
2025-05-23T19:38:13.415269Z 169.254.129.1 - - [23/May/2025:19:38:12 +0000] "GET /static/images/sign-in-with-mozilla-5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/136.0.0.0 Safari/537.36 Edg/136.0.0.0"
2025-05-23T19:38:13.4153001Z 169.254.129.1 - - [23/May/2025:19:38:12 +0000] "GET /static/scripts/jquery-1.10.2.js HTTP/1.1" 304 0 "https://udacitycms-hsggc0fb9cpfyav-01.azurewebsites.net/login" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/136.0.0.0 Safari/537.36 Edg/136.0.0.0"
2025-05-23T19:38:13.4153086Z 169.254.129.1 - - [23/May/2025:19:38:12 +0000] "GET /static/scripts/bootstrap.js HTTP/1.1" 304 0 "https://udacitycms-hsggc0fb9cpfyav-01.azurewebsites.net/login" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/136.0.0.0 Safari/537.36 Edg/136.0.0.0"
2025-05-23T19:38:13.4153143Z 169.254.129.1 - - [23/May/2025:19:38:12 +0000] "GET /static/scripts/respond.js HTTP/1.1" 304 0 "https://udacitycms-hsggc0fb9cpfyav-01.azurewebsites.net/login" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/136.0.0.0 Safari/537.36 Edg/136.0.0.0"
2025-05-23T19:38:28.0095839Z [2025-05-23 19:38:28,009] WARNING in views: admin logged successfully.
2025-05-23T19:38:28.0097147Z admin logged successfully.
2025-05-23T19:38:28.0166091Z 169.254.129.1 - - [23/May/2025:19:38:28 +0000] "POST /login HTTP/1.1" 302 216 "https://udacitycms-hsggc0fb9cpfyav-01.azurewebsites.net/login" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/136.0.0.0 Safari/537.36 Edg/136.0.0.0"
```

Home > udacitycms

## udacitycms | Log stream

Web App

Search

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Microsoft Defender for Cloud

Events (preview)

Recommended services (preview)

Log stream

Resource visualizer

Deployment

Settings

Performance

App Service plan

Development Tools

Log Level Stop Copy Clear

Instances

0da0fe57fb91e6f11257116c067f1677ea2b718625ee60d6406366ad463cfb0e

```
2025-05-23T19:39:52.2274818Z 169.254.129.1 - - [23/May/2025:19:39:52 +0000] "GET /static/content/bootstrap.min.css HTTP/1.1" 304 0 "https://udacitycms-hsggc0fb9cpfyav-01.azurewebsites.net/login" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/136.0.0.0 Safari/537.36 Edg/136.0.0.0"
2025-05-23T19:39:52.2392463Z 169.254.129.1 - - [23/May/2025:19:39:52 +0000] "GET /static/scripts/modernizr-2.6.2.js HTTP/1.1" 304 0 "https://udacitycms-hsggc0fb9cpfyav-01.azurewebsites.net/login" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/136.0.0.0 Safari/537.36 Edg/136.0.0.0"
2025-05-23T19:39:52.2536052Z 169.254.129.1 - - [23/May/2025:19:39:52 +0000] "GET /static/images/sign-in-with-mozilla-5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/136.0.0.0 Safari/537.36 Edg/136.0.0.0"
2025-05-23T19:39:52.2574554Z 169.254.129.1 - - [23/May/2025:19:39:52 +0000] "GET /static/content/site.css HTTP/1.1" 304 0 "https://udacitycms-hsggc0fb9cpfyav-01.azurewebsites.net/login" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/136.0.0.0 Safari/537.36 Edg/136.0.0.0"
2025-05-23T19:39:52.2606043Z 169.254.129.1 - - [23/May/2025:19:39:52 +0000] "GET /static/scripts/jquery-1.10.2.js HTTP/1.1" 304 0 "https://udacitycms-hsggc0fb9cpfyav-01.azurewebsites.net/login" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/136.0.0.0 Safari/537.36 Edg/136.0.0.0"
2025-05-23T19:39:52.4552422Z 169.254.129.1 - - [23/May/2025:19:39:52 +0000] "GET /static/scripts/bootstrap.js HTTP/1.1" 304 0 "https://udacitycms-hsggc0fb9cpfyav-01.azurewebsites.net/login" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/136.0.0.0 Safari/537.36 Edg/136.0.0.0"
2025-05-23T19:39:52.4672262Z 169.254.129.1 - - [23/May/2025:19:39:52 +0000] "GET /static/scripts/respond.js HTTP/1.1" 304 0 "https://udacitycms-hsggc0fb9cpfyav-01.azurewebsites.net/login" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/136.0.0.0 Safari/537.36 Edg/136.0.0.0"
2025-05-23T19:40:08.2279615Z [2025-05-23 19:40:08,227] WARNING in views: Invalid login attempt - Invalid username or password. Username: invaliduser
2025-05-23T19:40:08.2280025Z Invalid login attempt - Invalid username or password. Username: invaliduser
2025-05-23T19:40:08.2318362Z 169.254.129.1 - - [23/May/2025:19:40:08 +0000] "GET /static/content/bootstrap.min.css HTTP/1.1" 304 0 "https://udacitycms-hsggc0fb9cpfyav-01.azurewebsites.net/login" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/136.0.0.0 Safari/537.36 Edg/136.0.0.0"
2025-05-23T19:40:08.2318362Z 169.254.129.1 - - [23/May/2025:19:40:08 +0000] "GET /static/scripts/modernizr-2.6.2.js HTTP/1.1" 304 0 "https://udacitycms-hsggc0fb9cpfyav-01.azurewebsites.net/login" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/136.0.0.0 Safari/537.36 Edg/136.0.0.0"
2025-05-23T19:40:08.2318362Z 169.254.129.1 - - [23/May/2025:19:40:08 +0000] "GET /static/images/sign-in-with-mozilla-5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/136.0.0.0 Safari/537.36 Edg/136.0.0.0"
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2025-05-23T19:40:08.2318362Z 169.254.129.1 - - [23/May/2025:19:40:08 +0000] "GET /static/scripts/jquery-1.10.2.js HTTP/1.1" 304 0 "https://udacitycms-hsggc0fb9cpfyav-01.azurewebsites.net/login" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/136.0.0.0 Safari/537.36 Edg/136.0.0.0"
2025-05-23T19:40:08.2318362Z 169.254.129.1 - - [23/May/2025:19:40:08 +0000] "GET /static/scripts/bootstrap.js HTTP/1.1" 304 0 "https://udacitycms-hsggc0fb9cpfyav-01.azurewebsites.net/login" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/136.0.0.0 Safari/537.36 Edg/136.0.0.0"
2025-05-23T19:40:08.2318362Z 169.254.129.1 - - [23/May/2025:19:40:08 +0000] "GET /static/scripts/respond.js HTTP/1.1" 304 0 "https://udacitycms-hsggc0fb9cpfyav-01.azurewebsites.net/login" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/136.0.0.0 Safari/537.36 Edg/136.0.0.0"
2025-05-23T19:40:08.2318362Z 169.254.129.1 - - [23/May/2025:19:40:08 +0000] "POST /login HTTP/1.1" 302 216 "https://udacitycms-hsggc0fb9cpfyav-01.azurewebsites.net/login" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/136.0.0.0 Safari/537.36 Edg/136.0.0.0"
```