Hewlett Packard Enterprise

Enabling business automation using HPE GreenLake platform foundational APIs

Didier Lalli, Mat Losmede, Denis Choukroun, Fred Passeron, Dev Experience, HPE GLP Engineering

March 2024

Agenda

- Why should you care about developers?
- What is the HPE GreenLake edge-to-cloud platform?
- What are the HPE GreenLake edge-to-cloud platform APIs?
- What are the prerequisites to use the HPE GreenLake platform APIs?
- Where is the documentation for the HPE GreenLake platform APIs?
- Demo 1: Exploring the HPE GreenLake platform APIs from the HPE GreenLake Developer Portal
- Demo 2: Exploring the HPE GreenLake platform APIs from OpenAPI tool such as Postman
- Demo 3: Writing scripts using the HPE GreenLake platform APIs
- What's next with the HPE GreenLake platform APIs?
- Resources to get started with HPE GreenLake platform APIs
- Demo 4: Leveraging HPE Developer Community Workshops-on-demand
- Call to action

# Why should we care about developers?

"Hewlett Packard Enterprise Aspires To Be The 'Fourth Cloud,' Says CEO"

- Other cloud vendors have a huge grip on developers, HPE is barely known by developers
- Developers are becoming influencers that we cannot continue to ignore
- You need to be better equipped to talk to customer developer leads
- You need to understand how our APIs can solve real customer problems (integrations, automation)

Developers' decision making power has increased over time
% of developers (Q1 2021 n=17,580 | Q3 2021 n=18,961 | Q1 2022 n=14,929 | Q3 2022 n=12,980)

Influence of developers on tool buying decisions
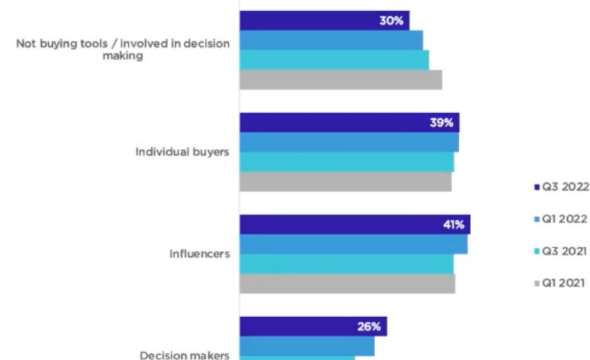
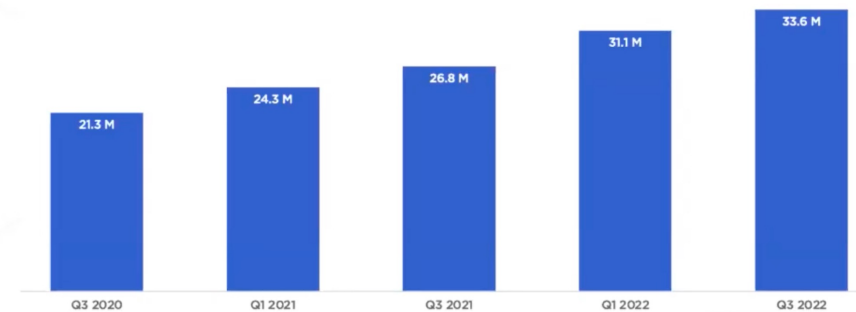© SlashData | All rights reserved

The global developer population has grown by about 25% year-on-year since Q3 2020
No. of developers (in millions)

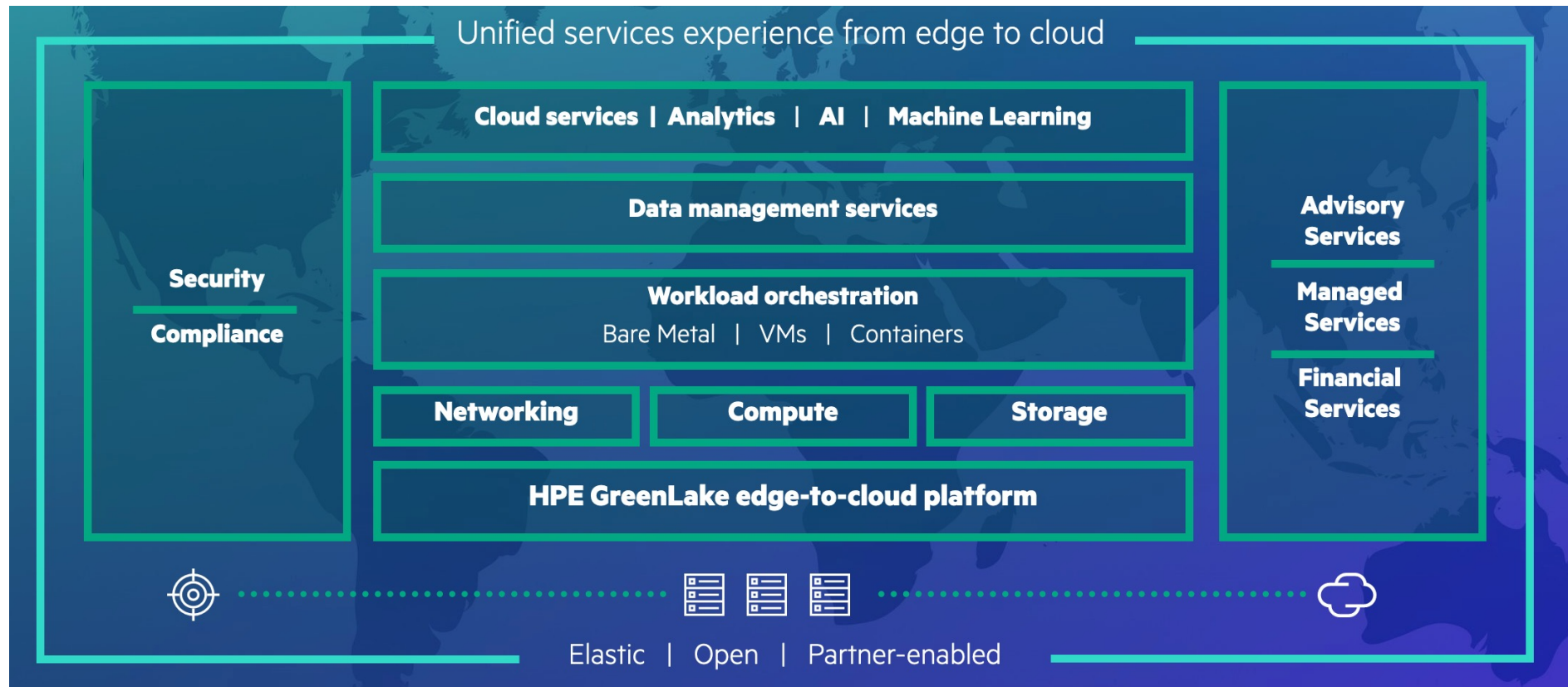Growth of the global developer population

What is the HPE GreenLake edge-to-cloud platform?

"HPE's unified management plane for hybrid cloud, the HPE GreenLake edge-to-cloud platform (also referred to as the "HPE GreenLake platform" or just "the platform"), provides a set of common services that are used by cloud services that run on top of the HPE GreenLake platform. Cloud services rely on these common services for user's authentication, authorization, devices and subscriptions management, monitoring, audit trail and more. "

Unified services experience from edge to cloud

Cloud services | Analytics | AI | Machine Learning

Data management services

Security

Compliance

Workload orchestration

Bare Metal | VMs | Containers

Networking   **Compute**   **Storage**

HPE GreenLake edge-to-cloud platform

Advisory Services

Managed Services

Financial Services

Elastic | Open | Partner-enabled

What are the HPE GreenLake platform APIs?

*"The foundational APIs for the HPE GreenLake platform services are designed to enable IT administrators and IT operators to automate IT operations by **programmatically** managing users and resources in a HPE GreenLake platform **workspace**"*

- Released November 2023
- Conforms to OpenAPI specifications
- Unified endpoint: https://global.api.greenlake.hpe.com/
- The set of APIs for common platform services includes:
  - Identity and Access management
    - Workspace management
    - Identity management
  - Location management
  - Device inventory management
  - Subscription management
  - Audit log management
  - Wellness events management
  - Added in Feb 2024: Service Catalog

What are the prerequisites to use the HPE GreenLake platform APIs?

As an IT administrator, before you can work with the APIs for common HPE GreenLake platform services, you will need to:

- Create an HPE account and a company workspace for your organization. Ensure you get assigned the **Workspace Account Administrator** role in HPE GreenLake platform for your organization workspace.
- Gather the Workspace ID of your organization workspace
- Request HPE GreenLake platform API access (HPE GreenLake platform API onboarding support ticket using Workspace ID and user email)
- Generate API client credentials for the *HPE GreenLake platform*. The credentials consist of a *ClientID* and *ClientSecret* pair that represents the permissions granted to the user who creates the API client credentials.
- Generate an access token using the API client credentials

Where is the documentation for the HPE GreenLake platform APIs?

- HPE GreenLake Developer Portal: https://developer.greenlake.hpe.com
- Public and Private content

Where is the documentation for the HPE GreenLake platform APIs?

- Detailed documentation of each API
- OpenAPI specs for download
- Option to Try It

DEMO 1: EXPLORING THE HPE GREENLAKE PLATFORM APIS FROM THE HPE GREENLAKE DEVELOPER PORTAL

Demo Steps

1. Open HPE GreenLake Developer portal
2. Locate Audit Log management API
3. Open HPE GreenLake console to generate an access token
4. Copy the generated token
5. Back in HPE GreenLake Developer portal, paste generated token
6. Click Try it
7. Check status code & explore results

HPE GreenLake Developer Portal

HPE GreenLake APIs provide customers and partners a standardized interface for integrating their applications with the cloud services. This portal presents the secure and scalable framework of APIs that helps you achieve data-first modernization by bringing the cloud experience to your distributed apps and data. **Learn more about HPE GreenLake**

Guides

Access learning materials and best practices for working with HPE GreenLake APIs

Services

Explore and integrate with a broad catalog of HPE GreenLake cloud services

HPE Developer Community

Find more resources to collaborate and build applications and integrations with HPE

Login

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∨ Services

Authentication

Audit Logs

Compute Ops Management

Devices

Subscriptions

Identity & Access Mgmt (IAM)

Locations

Wellness

HPE Developer Community

About HPE GreenLake

Last updated 1 year ago

ON THIS PAGE

Generate Access Token to access APIs

Delete or Reset Credentials

Points to Remember

Generate Access Token to access APIs

The following steps describe how to manage applications, credentials from the HPE GreenLake platform UI, and then generate an access token for applications and HPE GreenLake Platform APIs. These steps assume that you have already created an HPE GreenLake account.

1. Click on the **Applications** menu item at the top.

2. Click **View Available Applications** .

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Last updated 1 month ago

HPE GreenLake API for Audit Logs

The HPE GreenLake Audit Log service offers a collection of RESTful APIs for publishing audit logs, managing configurations, and retrieving application-specific and overall platform logs.

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   GLCP Audit Logs API

∨ Audit logs - v1beta1

   `GET` Get additional detail of an audit log.

   `GET` Get all audit logs of an application or user.

Change Log

Get all audit logs of an application or user.

`GET` /audit-log/v1beta1/logs ›   Try it

The audit logs can be filtered using a variety of parameters. Queries should be separated by `and` and can utilize `eq`, `contains`, and `in` operators to construct the final query. Each query should follow the format:

- key eq 'value' for equality operation.
- contains(key, 'value') for contains operation.
- key in ('value1', 'value2') for in operation.

The supported filter parameters.

- createdAt
- category
- description
- ipAddress
- target
- user/username
- workspace/workspaceName
- application/id
- region

Examples:

Request samples ∨

| curl | JavaScript | Node.js | 2 more ∨ |

Copy

```
curl -i -X GET \
  https://global.api.greenlake.hpe.com/audit-
  -H 'Authorization: Bearer <YOUR_JWT_HERE>'
```

Response samples ∨

| 200 | 400 | 401 | 2 more ∨ |

application/json

Copy   Expand all   Collapse all

```
{
  "items": [
    { … }
  ],
  "count": 0,
  "offset": 0,
  "total": 0,
  "remainingRecords": true
}
```

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   `GET` Get additional detail of an audit log.

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Change Log

Get all audit logs of an application or user.

| Request | Response | | ✕ |

Target server:

```
https://global.api.greenlake.hpe.com                                        ˅
```

Security ˅   ⊗

Bearer Token:

```
(without 'Bearer')
```

Field is required

Note: Your credentials will be saved until the end of the browser session

Parameters ›

`GET` /audit-log/v1beta1/logs?limit=50&offset=0   **Send**

The audit logs can be filtered using a variety of parameters. Queries should be separated by `and` and can utilize `eq`, `contains`, and `in` operators to construct the final query. Each query should follow the format:

- key eq 'value' for equality operation.
- contains(key, 'value') for contains operation.
- key in ('value1', 'value2') for in operation.

The supported filter parameters.

- createdAt

Request samples ˅

| curl | JavaScript | Node.js | 2 more ˅ |

Copy

```
curl -i -X GET \
  https://global.api.greenlake.hpe.com/audit-log/v1beta1/log
  -H 'Authorization: Bearer <YOUR_JWT_HERE>'
```

Response samples ˅

| 200 | 400 | 401 | 2 more ˅ |

`application/json`

Copy   Expand all   Collapse all

```
{
-  "items": [
+     { … }
   ],
   "count": 0,
   "offset": 0,
   "total": 0,
   "remainingRecords": true
}
```

Sign In

Username

didier.lalli@hpe.com

☐ Remember me

Next

OR

Sign in with SSO

Need help signing in?

Don't have an account? Sign up

Welcome to HPE GreenLake

Here's a list of workspaces we found associated with didier.lalli@hpe.com:

Workspaces

🔍 Search workspaces

4 Workspaces

| | HPEDEV -GLCP- Hackshack | Go to Workspace |

| T | TME HPE | Go to Workspace |

| H | HPE GreenLake edge-to-cloud platform demo | Go to Workspace |

Getting Started

Dismiss

Find Services
Discover and launch services from our catalog.

Manage Workspace
Set up this workspace, users, access and more.

Quick Links

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User Management

Locations

Switch Workspace

Feedback

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My Services

Compute Ops Management
Compute
Launch

Aruba Central
Networking
Launch

Data Services
Storage
Launch

Learn

HPE GreenLake Developer Portal
Integrate apps and services.

What's New on HPE GreenLake
See the latest release information and announcements.

Featured Services

View Catalog

Recommended (5)   Private Cloud (2)   Storage (5)   Networking (1)   Workloads (4)   Management & Governance (3)

HPE GreenLake Flex   Private Cloud   OpsRamp   HPE Sustainability

Manage Workspace

Manage your HPE GreenLake workspace.

HPEDEV -GLCP- Hackshack

Workspace ID
3009de2825f211ec8a84fedebcb4a754

Workspace Status
Registered

Workspace Type
Standard Enterprise Workspace

Manage Workspace Type

Workspace Details

Manage your workspace's details including name, phone number, email, and MFA configuration.

Identity & Access

Manage users and their access to services and resources.

Audit Log

View changes and processes within all your applications.

Authentication

Connect your company's single sign-on (SSO) with HPE GreenLake.

API

Access application data through an API.

IP Access Rules

Set up and manage IP access.

Usage Reporting

Track subscription and system resource usage.

Locations

Manage device addresses to automate supporting services.

‹ Manage Workspace

API

Access your service data using our APIs.

API Client Credentials

Client credentials are used to generate access tokens that are required for accessing workspace data. You can maintain a maximum of 5 credentials.

Create Credentials

Compute	⌄
Demo	⌄
Didier Test API	⌄
test	⌄
TestDidier	⌄

Code Sample for Generating Access Token

Use token URL or code sample below to generate access tokens programmatically.

Token URL

https://sso.common.cloud.hpe.com/as/token.oauth2

View Code Sample

❮ Manage Workspace

API

Access your service data using our APIs.

API Client Credentials

Client credentials are used to generate access tokens that are required for accessing workspace data. You can maintain a maximum of 5 credentials.

[Create Credentials]

▣ Compute

▭ Demo

▭ Didier Test API

▣ test

▣ TestDidier

Code Sample for Generating Access Token

Use token URL or code sample below to generate access tokens programmatically.

Create Credentials

Select the service manager that you want to access.

Select Service Manager*

| HPE GreenLake Cloud Platform ⌄ |

Credential Name*
Provide a short name for this credential.

| My new API client credentials |

Cancel   **Create Credentials**

‹ Manage Workspace

API

Access your service data using our APIs.

API Client Credentials

Client credentials are used to generate access tokens that are required for accessing workspace data. You can maintain a maximum of 5 credentials.

Create Credentials

🟣 Compute	⌄
▬ Demo	⌄
▬ Didier Test API	⌄
🟦 test	⌄
🟣 TestDidier	⌄

Code Sample for Generating Access Token

Use token URL or code sample below to generate access tokens programmatically.

Token URL

https://sso.common.cloud.hpe.com/as/token.oauth2   📋

View Code Sample

‹ Manage Workspace

API

Access your service data using our APIs.

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Client credentials are used to generate access tokens that are required for accessing workspace data. You can maintain a maximum of 5 credentials.

(Create Credentials)

🟪 Compute	⌄

▭ Demo	⌄

▭ Didier Test API	⌃

Service Manager Instance

00000000-0000-0000-0000-000000000000   📋

Client ID

5d5c05c2-48c9-4f70-9f8e-b320fd15046f   📋

Connectivity Endpoint

N/A   📋

...   (Generate Access Token)

Code Sample for Generating Access Token

Use token URL or code sample below to generate access tokens programmatically.

Token URL

https://sso.common.cloud.hpe.com/as/token.oauth2   📋

(View Code Sample)

< Manage Workspace

API

Access your service data using our APIs.

API Client Credentials

Client credentials are used to generate access tokens t
can maintain a maximum of 5 credentials.

Create Credentials

Compute

Demo

Didier Test API

Service Manager Instance
00000000-0000-0000-0000-000000000000

Client ID
5d5c05c2-48c9-4f70-9f8e-b320fd15046f

Connectivity Endpoint
N/A

···   Generate Access Token

Generate Access Token

Provide the associated client secret to generate an access token. The token will only be valid for 2 hours from its creation.

Client ID
5d5c05c2-48c9-4f70-9f8e-b320fd15046f

Client Secret
Enter Client Secret

Cancel   **Create Access Token**

‹ Manage Workspace

API

Access your service data using our APIs.

API Client Credentials

Client credentials are used to generate access tokens t   ess tokens programmatically.
can maintain a maximum of 5 credentials.

[Create Credentials]

🟪 Compute

▭ Demo

▭ Didier Test API

Service Manager Instance

| 00000000-0000-0000-0000-000000000000 | ▤

Client ID

| 5d5c05c2-48c9-4f70-9f8e-b320fd15046f | ▤

Connectivity Endpoint

| N/A | ▤

...   (Generate Access Token)

Access Token Created

You successfully created an access token for **Didier Test API**. Please copy the access token to a safe place.

Access Token

| eyJhbGciOiJSUzI1NiIsImtpZCI6IjJGSmhvZ1lRMDZNazNBc2Q4UU8zU09ZVE9wayIsInBpLm | ▤

⚠ **Note:** We do not store your access token. Copy this to a safe location.

[Close]

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`GET` Get additional detail of an audit log.

`GET` Get all audit logs of an application or user.

Change Log

Get all audit logs of an application or user.

| Request | Response |

Target server:

```
https://global.api.greenlake.hpe.com          ⌄
```

Security ⌄   🔒

Bearer Token:

```
●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●
```

Note: Your credentials will be saved until the end of the browser session

Parameters ›

`GET` `/audit-log/v1beta1/logs?limit=50&offset=0`   **Send**

The audit logs can be filtered using a variety of parameters. Queries should be separated by `and` and can utilize `eq`, `contains`, and `in` operators to construct the final query. Each query should follow the format:

- key eq 'value' for equality operation.

Request samples ⌄

| curl | JavaScript | Node.js | 2 more ⌄ |

Copy

```
curl -i -X GET \
    https://global.api.greenlake.hpe.com/audit-
    -H 'Authorization: Bearer <YOUR_JWT_HERE>'
```

Response samples ⌄

| 200 | 400 | 401 | 2 more ⌄ |

```
application/json
```

Copy   Expand all   Collapse all

```json
{
    "items": [
        { … }
    ],
    "count": 0,
    "offset": 0,
    "total": 0,
    "remainingRecords": true
}
```

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`GET` Get additional detail of an audit log.

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Get all audit logs of an application or user.

Edit Request | Response | ✕

Status: 200 OK **Time: 4003ms** **Size: 28.84 KB**

Headers:

Access-Control-Allow-Credentials: true
Access-Control-Allow-Origin: *
Apigw-Requestid: RvcP_hF0PHcEMPw=
Cache-Control: no-cacheno-storemust-revalidateprivate
Ccs-Transaction-Id: 4c15f769-d30f-4414-88a5-a3d500e48228
Connection: keep-alive
Content-Length: 28841
Content-Security-Policy: default-src 'none';
Content-Type: application/json
Date: Thu18 Jan 2024 15:16:28 GMT
Pragma: no-cache
Referrer-Policy: same-origin
Server: istio-envoy
Strict-Transport-Security: max-age=31536000; includeSubDomains; preload
Via: 1.1 a170450d5cd56debfea916e005590e76.cloudfront.net (CloudFront)1.1 93db32d5347403a3ab35b4
X-Amz-Cf-Id: ctYLAYMzckJtvgD5D6jEQSO5onb0refdy19E0xsQeKwfZCpjpEvb7Q==
X-Amz-Cf-Pop: IAD55-P5IAD66-C1
X-Cache: Miss from cloudfront
X-Content-Type-Options: nosniff

`GET` /audit-log/v1beta1/logs?limit=50&offset=0   [Resend]

Request samples ⌄

curl | JavaScript | Node.js | 2 more ⌄

[Copy]

```
curl -i -X GET \
  https://global.api.greenlake.hpe.com/audit-log/v1beta1/lo
  -H 'Authorization: Bearer <YOUR_JWT_HERE>'
```

Response samples ⌄

200 | 400 | 401 | 2 more ⌄

application/json

[Copy] [Expand all] [Collapse all]

```
{
  "items": [
    { … }
  ],
  "count": 0,
  "offset": 0,
  "total": 0,
  "remainingRecords": true
}
```

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GET Get additional detail of an audit log.

GET Get all audit logs of an application or user.

Change Log

Get all audit logs of an application or user.

Edit Request | Response   ✕

```
{
    "items": [
        {
            "id": "JZskHY0BziqCRB0H4ctu",
            "type": "/audit-log/logs",
            "user": { … },
            "workspace": { … },
            "category": "Credential Management",
            "application": { … },
            "description": "User didier.lalli@hpe.com with client id 5d5c05c2-48c9-4f70-9f8e-b320fd15
            "generation": 1,
            "createdAt": "2024-01-18T15:16:12.000000Z",
            "updatedAt": "2024-01-18T15:16:12.000000Z",
            "additionalInfo": { … },
            "hasDetails": false
        },
        {
            "id": "vpskHY0BziqCRB0HhbCJ",
            "type": "/audit-log/logs",
            "user": { … },
            "workspace": { … },
            "category": "Customer Management",
            "application": { … },
            "description": "Loading workspace 3009de2825f211ec8a84fedebcb4a754 for user didier.lalli@
            "generation": 1,
            "createdAt": "2024-01-18T15:15:49.000000Z",
            "updatedAt": "2024-01-18T15:15:49.000000Z",
            "additionalInfo": { … },
            "hasDetails": false
        },
        { … },
```

GET /audit-log/v1beta1/logs?limit=50&offset=0   Resend

Request samples ∨

curl   JavaScript   Node.js   2 more ∨

Copy

```
curl -i -X GET \
    https://global.api.greenlake.hpe.com/audit-log/v1beta1/lo
    -H 'Authorization: Bearer <YOUR_JWT_HERE>'
```

Response samples ∨

200   400   401   2 more ∨

application/json

Copy   Expand all   Collapse all

```
{
    "items": [
        { … }
    ],
    "count": 0,
    "offset": 0,
    "total": 0,
    "remainingRecords": true
}
```

Quick Poll #1

Demo 2: Exploring the HPE GreenLake platform APIs from OpenAPI tool such as Postman

Demo Steps

1. In HPE GreenLake Developer portal show where to download the Open API Specs
2. Open GLP-API-Tooling community GitHub repo
3. Locate curated Postman collection and copy JSON content
4. Open Postman
5. Import new collection and paste JSON from clipboard
6. Check content of newly imported collection, customize variables for your environment
7. Use GenerateToken call
8. Call other API, for example to get details of workspace
9. Explore the rest of the collection

HPE GreenLake

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˃ Audit logs - v1beta1

Change Log

GLCP Audit Logs API (v1beta1)

Download OpenAPI specification: Download

License: HPE License
The HPE GreenLake Audit Log Service offers a collection of RESTful APIs for publishing audit logs
and querying both application-specific and overall platform logs.

Next to **Get additional detail of an audit log.**

<> Code   ⊙ Issues   ⇄ Pull requests   ▷ Actions   ▦ Projects   🛡 Security   📈 Insights   ⚙ Settings

Files

`main`

🔍 Go to file   t

📂 Postman-Collections
   📄 APIs for common HPE Greenla...
   📄 README.md
📂 Scripts
   📄 bulk-invite.ps1
   📄 spy-workspace.ps1
   📄 spy_workspace.py
   📄 spy_workspace.sh
   📄 userlist.xlsx
📄 LICENSE
📄 README.md

GLP-API-Tooling / **Postman-Collections** /

choukden Update README.md   42b6623 · last week   🕘 History

Add file

Name	Last commit message	Last commit date
📁 ..		
📄 APIs for common HPE Greenlake platform services.json	Add files via upload	last week
📄 README.md	Update README.md	last week

README.md

Postman collections for the foundational APIs for the HPE GreenLake platform services

<> Code ⊙ Issues ⑂ Pull requests ▷ Actions ⊞ Projects 🛡 Security 📈 Insights ⚙ Settings

Files

GLP-API-Tooling / Postman-Collections / **APIs for common HPE Greenlake platform services.json** ⧉

main

Go to file   t

▾ 📂 Postman-Collections
    📄 APIs for common HPE Greenla...
    📄 README.md
▾ 📂 Scripts
    📄 bulk-invite.ps1
    📄 spy-workspace.ps1
    📄 spy_workspace.py
    📄 spy_workspace.sh
    📄 userlist.xlsx
  📄 LICENSE
  📄 README.md

choukden Add files via upload   20f4054 · last week   🕓 History

Code Blame   14873 lines (14873 loc) · 566 KB   ⬡ Code 55% faster with GitHub Copilot   Raw ⧉ ⬇ ✏ ▾ <>

```
  1  {
  2      "info": {
  3          "_postman_id": "2be72f9d-9e7d-4833-b489-cc1e38e4d1c0",
  4          "name": "APIs for common HPE Greenlake platform services",
  5          "description": "Collection for APIs for common HPE GreenLake platform services with Variables defined at the Collection level.",
  6          "schema": "https://schema.getpostman.com/json/collection/v2.1.0/collection.json",
  7          "_exporter_id": "2747724"
  8      },
  9      "item": [
 10          {
 11              "name": "Step1-Generate Token",
 12              "item": [
 13                  {
 14                      "name": "Generate AccessToken",
 15                      "event": [
 16                          {
 17                              "listen": "test",
 18                              "script": {
 19                                  "exec": [
 20                                      "var jsonData = JSON.parse(responseBody).access_token;\r",
 21                                      "pm.collectionVariables.set(\"BearerToken\",jsonData);\r",
 22                                      "console.log(jsonData)"
 23                                  ],
 24                                  "type": "text/javascript"
 25                              }
 26                          }
 27                      ],
 28                      "request": {
 29                          "method": "POST",
```

Search Postman

My Workspace   New Import

No Environment ∨

Collections

Environments

History

- External and Global apis for aquila
- GLP Account Management
- GLP Audit Logs API
- GLP AuthZ
- GLP Billing Documents Specification
- GLP Inventory NBAPI
- GLP Locations
- GLP Wellness
- Google Analytics
- GreenLake
- HPE Compute Ops Management
- HPE Compute Op... Lionel's COM Co...
- HPE Container Platform
- New Collection
- New Collection
- New-ACT-SM-NBAPI
- Volumio
- WeatherReport
- ZZZ- APIs for common HPE Greenlake...

Open Workspace Overview

Create a new request:

My Workspace   New   Import   +

No Environment ⌄

Collections

+   ▽   ⋯

External and Global apis for aquila
GLP Account Management
GLP Audit Logs API
GLP AuthZ
GLP Billing Documents Specification
GLP Inventory NBAPI
GLP Locations
GLP Wellness
Google Analytics
GreenLake
HPE Compute Ops Management
HPE Compute Op...   🔧 Lionel's COM Co...
HPE Container Platform
New Collection
New Collection
New-ACT-SM-NBAPI
Volumio
WeatherReport
ZZZ- APIs for common HPE Greenlake...

Environments

History

×

Paste cURL, Raw text or URL...

💡 Tip : You can also paste cURL in the request bar to import   Dismiss

Drop anywhere to import
Or select files or folders

🔄 Migrate to Postman ⌄ | 🔧 Other Sources ⌄   Learn more about importing data ↗

⊞ ● Online   🔍 Find and replace   ▭ Console   ⚠ Import Complete   🤖 Postbot   ▶ Runner   ⚡ Start Proxy   🍪 Cookies   🗑 Trash   ⊞   ?

APIs for common HPE Gre...   +   No Environment

APIs for common HPE Greenlake platform services   Share   Fork   0   Run   Save   ...

Overview   Authorization ●   Pre-request Script   Tests   Variables ●   Runs

- APIs for common HPE Greenlake platf...
  - Step1-Generate Token
  - Configuring and Managing GL...
  - Tracking GLP Workspace
- External and Global apis for aquila
- GLP Account Management
- GLP Audit Logs API
- GLP AuthZ
- GLP Billing Documents Specification
- GLP Inventory NBAPI
- GLP Locations
- GLP Wellness
- Google Analytics
- GreenLake
- HPE Compute Ops Management
- HPE Compute Op...   ⚲ Lionel's COM Co...
- HPE Container Platform
- New Collection
- New Collection
- New-ACT-SM-NBAPI
- Volumio
- WeatherReport
- ZZZ- APIs for common HPE Greenlake...

APIs for common HPE Greenlake platform services

Created by

🔵 You

Created on

18 Jan 2024, 12:20 PM

Collection for APIs for common HPE GreenLake platform services with Variables defined at the Collection level.

View complete documentation →

My Workspace   New   Import

APIs for common HPE Gr...   +   No Environment

Collections

APIs for common HPE Greenlake platf...

> APIs for common HPE Greenlake platf...
  ⌄ 📄 Step1-Generate Token
       POST Generate AccessToken
    > GET Get workspace information
    > 📄 Configuring and Managing GL...
    > 📄 Tracking GLP Workspace
  > External and Global apis for aquila
  > GLP Account Management
  > GLP Audit Logs API
  > GLP AuthZ
  > GLP Billing Documents Specification
  > GLP Inventory NBAPI
  > GLP Locations
  > GLP Wellness
  > Google Analytics
  > GreenLake
  > HPE Compute Ops Management
  > HPE Compute Op... ⚡ Lionel's COM Co...
  > HPE Container Platform
  > New Collection
  > New Collection
  > New-ACT-SM-NBAPI
  > Volumio
  > WeatherReport
  > ZZZ- APIs for common HPE Greenlake...

APIs for common HPE Greenlake platform services   Share   Fork 0   ▶ Run   Save ...

Overview   Authorization ●   Pre-request Script   Tests   Variables ●   Runs

These variables are specific to this collection and its requests. Learn more about collection variables

🔍 Filter variables

	Variable	Initial value	Current value	
☑	baseUrl	https://global.api.greenlake.hpe.com	https://global.api.greenlake.hpe.com	
☑	BearerToken			
☑	ClientId	SetYourClientID	SetYourClientID	🗑 ...
☑	ClientSecret	SetYourClientSecret	SetYourClientSecret	
☑	sso_URI	sso.common.cloud.hpe.com/as/token.oauth2	sso.common.cloud.hpe.com/as/token.oauth2	
☑	GLP_Application_Id	00000000-0000-0000-0000-000000000000	00000000-0000-0000-0000-000000000000	
☑	WorkspaceId	SetYourWorkspaceID	SetYourWorkspaceID	
☑	COM_Application_Id	SetYourComputeOpsMgmtAppID	SetYourComputeOpsMgmtAppID	
☑	Aruba_Application_Id	SetYourArubaCentralAppID	SetYourArubaCentralAppID	
☑	DSCC_Application_Id	SetYourDataServicesAppID	SetYourDataServicesAppID	
☑	DeviceId			
☑	UserId			
☑	UserIdNoDash			
☑	InvitedUserId			
☑	InvitedUserIdNoDash			
☑	AsyncOpsTransaction_Id			

ⓘ **Use variables to reuse values and protect sensitive data**
Store sensitive data in variable type secret to keep its values masked on the screen. Learn more about variable type
Work with the current value of a variable to prevent sharing sensitive values with your team. Learn more about variable values

Demo 3: Writing scripts using the HPE GreenLake platform APIs

Demo Steps

1. Open GLP-API-Tooling community GitHub repo
2. Locate Script folder with sample code in Python, PowerShell and bash
3. Clone repo and open PowerShell script in Visual Studio Code
4. Explore the code
5. Run the code
6. Login to HPE GreenLake console and make a change in workspace to generate audit logs
7. Check running code to see new audit logs being picked-up

<> Code   Issues   Pull requests   Actions   Projects   Security   Insights   Settings

Files

main

Go to file

> Postman-Collections
  APIs for common HPE Greenlake...
  README.md
> Scripts
  bulk-invite.ps1
  spy-workspace.ps1
  spy_workspace.py
  spy_workspace.sh
  userlist.xlsx
  LICENSE
  README.md

GLP-API-Tooling / Scripts /

Add file

Didier-Lalli Adding bulk-invite by Dung   117b232 · last week   History

Name	Last commit message	Last commit date
..		
bulk-invite.ps1	Adding bulk-invite by Dung	last week
spy-workspace.ps1	Fix	last month
spy_workspace.py	Fix	last month
spy_workspace.sh	Fix	last month
userlist.xlsx	Adding bulk-invite by Dung	last week

Files

GLP-API-Tooling / Scripts / spy_workspace.sh ⧉

main

Go to file

- Postman-Collections
  - APIs for common HPE Greenla...
  - README.md
- Scripts
  - bulk-invite.ps1
  - spy-workspace.ps1
  - spy_workspace.py
  - spy_workspace.sh
  - userlist.xlsx
- LICENSE
- README.md

Didier-Lalli Fix   913efc3 · last month   ⟲ History

Code   Blame   Executable File · 54 lines (46 loc) · 1.81 KB   ⊙ Code 55% faster with GitHub Copilot   Raw ⧉ ⬇ ✎ ▾ ⟨⟩

```bash
 1  #!/bin/bash
 2  if [[ -z "${CLIENTID}" ]]; then
 3      read -p "Enter your HPE GreenLake Client ID: " client_id
 4  else
 5      client_id="${CLIENTID}"
 6  fi
 7  if [[ -z "${CLIENTSECRET}" ]]; then
 8      client_secret=""
 9      pass_var="Enter your HPE GreenLake Client Secret: "         # to take password character wise
10      while IFS= read -p "$pass_var" -r -s -n 1 letter
11      do
12          if [[ $letter == $'\0' ]]      #  if enter is pressed, exit the loop
13          then
14              break
15          fi
16
17          client_secret="${client_secret}$letter"          # store the letter in pass, use pass+="$letter" for more concise and readable.
18          pass_var="*"              # in place of password the asterisk (*) will be printed
19      done
20  else
21      client_secret="${CLIENTSECRET}"
22  fi
23
24  # Get a token
25  access_token="Bearer "`curl -s --location 'https://sso.common.cloud.hpe.com/as/token.oauth2' \
26  --header 'Content-Type: application/x-www-form-urlencoded' \
27  --data-urlencode 'grant_type=client_credentials' \
28  --data-urlencode 'client_id='$client_id'' \
29  --data-urlencode 'client_secret='$client_secret''  | jq .access_token | xargs`
30
31
32  # Loop until CTRL-C or token expires (2 hours)
```

Scripts > $ spy_workspace.sh

```bash
#!/bin/bash
if [[ -z "${CLIENTID}" ]]; then
    read -p "Enter your HPE GreenLake Client ID: " client_id
else
    client_id="${CLIENTID}"
fi
if [[ -z "${CLIENTSECRET}" ]]; then
    client_secret=""
    pass_var="Enter your HPE GreenLake Client Secret: "      # to take password character wise
    while IFS= read -p "$pass_var" -r -s -n 1 letter
    do
        if [[ $letter == $'\0' ]]        #  if enter is pressed, exit the loop
        then
            break
        fi

        client_secret="${client_secret}$letter"        # store the letter in pass, use pass+="$letter" for more concise and readable.
        pass_var="*"              # in place of password the asterisk (*) will be printed
    done
else
    client_secret="${CLIENTSECRET}"
fi


# Get a token
access_token="Bearer "`curl -s --location 'https://sso.common.cloud.hpe.com/as/token.oauth2' \
--header 'Content-Type: application/x-www-form-urlencoded' \
--data-urlencode 'grant_type=client_credentials' \
--data-urlencode 'client_id='$client_id'' \
--data-urlencode 'client_secret='$client_secret''  | jq .access_token | xargs`

# Loop until CTRL-C or token expires (2 hours)
for (( ; ; ))
do
    d=`date -v "-1M" -u +"%Y-%m-%dT%H:%M:%S.00Z"`
    echo Last check at \(UTC\): $d
    echo '--------------------'

    # Fetch audit logs since last minute
    http_response=$(curl -s -o out.json -w "%{http_code}" --location "https://global.api.greenlake.hpe.com/audit-log/v1beta1/logs?filter=startTime%20ge%20'$d'" \
    --header 'Accept: application/json' \
    --header "Authorization: $access_token")

    if [ "$http_response" != "200" ]; then
        echo "Error calling the API or token has expired!"
        exit $http_response
    else
        cat out.json | jq '.items[] | { createdAt: .createdAt, username: .user.username, description: .description, ipAddress: .additionalInfo.ipAddress}'
    fi
```

```bash
#!/bin/bash
if [[ -z "${CLIENTID}" ]]; then
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client_secret=""
pass_var="Enter your HPE GreenLake Client Secret: "        # to take password character wise
while IFS= read -p "$pass_var" -r -s -n 1 letter
do
  if [[ $letter == $'\0' ]]        # if enter is pressed, exit the loop
  then
    break
  fi
  client_secret="${client_secret}$letter"        # store the letter in pass, use pass+="$letter" for more concise and readable.
  pass_var="*"        # in place of password the asterisk (*) will be printed
done
else
  client_secret="${CLIENTSECRET}"
fi

# Get a token
access_token="Bearer "`curl -s --location 'https://sso.common.cloud.hpe.com/as/token.oauth2' \
--header 'Content-Type: application/x-www-form-urlencoded' \
--data-urlencode 'grant_type=client_credentials' \
--data-urlencode 'client_id='$client_id'' \
--data-urlencode 'client_secret='$client_secret'' | jq .access_token | xargs`

# Loop until CTRL-C or token expires (2 hours)
for (( ; ; ))
do
  d=`date -v "-1M" -u +"%Y-%m-%dT%H:%M:%S.00Z"`
  echo Last check at \(UTC\): $d
  echo '---------------------'

  # Fetch audit logs since last minute
  http_response=$(curl -s -o out.json -w "%{http_code}" --location "https://global.api.greenlake.hpe.com/audit-log/v1beta1/logs?filter=startTime%20ge%20'$d'" \
  --header 'Accept: application/json' \
  --header "Authorization: $access_token")

  if [ "$http_response" != "200" ]; then
    echo "Error calling the API or token has expired!"
    exit $http_response
  else
    cat out.json | jq '.items[] | { createdAt: .createdAt, username: .user.username, description: .description, ipAddress: .additionalInfo.ipAddress}'
  fi
```

userlist.csv U $ spy_workspace.sh ✕ $ bulk_invite.sh U   ➤ bulk_invite.ps1 U

Scripts > $ spy_workspace.sh

```
16
17        client_secret="${client_secret}$letter"          # store the letter in pass, use pass+="$letter" for more concise and readable.
18        pass_var="*"                                      # in place of password the asterisk (*) will be printed
19    done
20    else
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24    # Get a token
25    access_token="Bearer "`curl -s --location 'https://sso.common.cloud.hpe.com/as/token.oauth2' \
26    --header 'Content-Type: application/x-www-form-urlencoded' \
27    --data-urlencode 'grant_type=client_credentials' \
28    --data-urlencode 'client_id='$client_id'' \
29    --data-urlencode 'client_secret='$client_secret''  | jq .access_token | xargs`
30
31    💡
32    # Loop until CTRL-C or token expires (2 hours)
33    for (( ; ; ))
34    do
35        d=`date -v "-1M" -u +"%Y-%m-%dT%H:%M:%S.00Z"`
36        echo Last check at \(UTC\): $d
37        echo '----------------------'
38
39
40        # Fetch audit logs since last minute
41        http_response=$(curl -s -o out.json -w "%{http_code}" --location "https://global.api.greenlake.hpe.com/audit-log/v1beta1/logs?filter=startTime%20ge%20'$d'" \
42        --header 'Accept: application/json' \
43        --header "Authorization: $access_token")
44
45        if [ "$http_response" != "200" ]; then
46            echo "Error calling the API or token has expired!"
47            exit $http_response
48        else
49            cat out.json | jq '.items[] | { createdAt: .createdAt, username: .user.username, description: .description, ipAddress: .additionalInfo.ipAddress}'
50        fi
51
52        # Wait a minute and check again
53        sleep 60
54    done
```

Ln 54, Col 5 (802 selected)   Spaces: 2   UTF-8   LF   Shell Script   ⊘ Prettier

userlist.csv U $ spy_workspace.sh ✕ $ bulk_invite.sh U   bulk_invite.ps1 U

Scripts > $ spy_workspace.sh

```bash
16
17        client_secret="${client_secret}$letter"        # store the letter in pass, use pass+="$letter" for more concise and readable.
18        pass_var="*"                                    # in place of password the asterisk (*) will be printed
19    done
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22    fi
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24    # Get a token
25    access_token="Bearer "`curl -s --location 'https://sso.common.cloud.hpe.com/as/token.oauth2' \
26    --header 'Content-Type: application/x-www-form-urlencoded' \
27    --data-urlencode 'grant_type=client_credentials' \
28    --data-urlencode 'client_id='$client_id'' \
29    --data-urlencode 'client_secret='$client_secret'' | jq .access_token | xargs`
30
31    💡
32    # Loop until CTRL-C or token expires (2 hours)
33    for ((;;))
34    do
35        d=`date -v "-1M" -u +"%Y-%m-%dT%H:%M:%S.00Z"`
36        echo Last check at \(UTC\): $d
37        echo '-----------------------'
38
```

TERMINAL   PORTS   PROBLEMS   OUTPUT   DEBUG CONSOLE   bash - Scripts

```
Didiers-MacBook-Pro:Scripts lalli$ ./spy_workspace.sh
Last check at (UTC): 2024-01-18T11:52:57.00Z
-----------------------
```

Connecting to Hewlett Packard Enterprise
Sign-in with your HPE account to access HPE GreenLake edge-
to-cloud Platform

Sign In

Username

didier.lalli@hpe.com

☐ Remember me

Next

OR

Sign in with SSO

Need help signing in?

Don't have an account? Sign up

Welcome to HPE GreenLake

Here's a list of workspaces we found associated with didier.lalli@hpe.com:

Workspaces

🔍 Search workspaces

4 Workspaces

🐻	HPEDEV -GLCP- Hackshack	Go to Workspace

T	TME HPE	Go to Workspace

H	HPE GreenLake edge-to-cloud platform demo	Go to Workspace

Getting Started   Dismiss

⊞ **Find Services**
Discover and launch services from our catalog.

👤₊ **Manage Workspace**
Set up this workspace, users, access and more.

Quick Links

Manage Workspace

Device Inventory

Service Subscriptions

User Management

Locations

Switch Workspace

Feedback

Recent Services   ☰ My Services

Compute Ops Management
Compute   (Launch)

Aruba Central
Networking   (Launch)

Data Services
Storage   (Launch)

Learn

HPE GreenLake Developer Portal   ⧉
Integrate apps and services.

What's New on HPE GreenLake   →
See the latest release information and announcements.

Featured Services   View Catalog

Recommended (5)   Private Cloud (2)   Storage (5)   Networking (1)   Workloads (4)   Management & Governance (3)

HPE GreenLake Flex   Private Cloud   OpsRamp   HPE Sustainability

Manage Workspace

Manage your HPE GreenLake workspace.

HPEDEV -GLCP- Hackshack

Workspace ID
3009de2825f211ec8a84fedebcb4a754

Workspace Status
Registered

Workspace Type
Standard Enterprise Workspace

Manage Workspace Type

Workspace Details
Manage your workspace's details including name, phone number, email, and MFA configuration.

Identity & Access
Manage users and their access to services and resources.

Audit Log
View changes and processes within all your applications.

Authentication
Connect your company's single sign-on (SSO) with HPE GreenLake.

API
Access application data through an API.

IP Access Rules
Set up and manage IP access.

Usage Reporting
Track subscription and system resource usage.

Locations
Manage device addresses to automate supporting services.

Workspace Details

Manage your workspace's details including name, phone number, email, and MFA configuration.

Workspace Details

Security

Workspace Information

Manage your workspace's general information.

Workspace Icon

Supported File Types: PNG and JPEG. Max File Size: 1MB

Drag and drop   **Select File**

SotJzj_4_400x400.jpg   🗑

Workspace Name*

HPEDEV -GLCP- Hackshack

Address*

France   ⌄

5 ave Raymond Chanas

Building 1

Grenoble   Rhône-Alpes

38000

Phone Number

+3312345678

Email

hpedev@hpe.com

Cancel   **Save Changes**

EXPLORER

GLP-API-TOOLING
- .vscode
- Postman-Collections
  - {} APIs for common HPE Greenlake platform s...
  - ⓘ README.md
- Scripts
  - ⌗ bulk_invite.ps1   U
  - $ bulk_invite.sh   U
  - {} out.json   U
  - ⊕ spy_workspace.py
  - $ spy_workspace.sh
  - ⌗ spy-workspace.ps1
  - ⊞ userlist.csv   U
  - ⊞ userlist.xlsx
  - 👤 LICENSE
  - ⓘ README.md

⊞ userlist.csv U | $ spy_workspace.sh ✕ | $ bulk_invite.sh U | ⌗ bulk_invite.ps1 U

Scripts > $ spy_workspace.sh

```bash
16
17        client_secret="${client_secret}$letter"        # store the letter in pass, use pass+="$letter" for more concise and readable.
18        pass_var="*"                    # in place of password the asterisk (*) will be printed
19    done
20    else
21        client_secret="${CLIENTSECRET}"
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24    # Get a token
25    access_token="Bearer "`curl -s --location 'https://sso.common.cloud.hpe.com/as/token.oauth2' \
26    --header 'Content-Type: application/x-www-form-urlencoded' \
27    --data-urlencode 'grant_type=client_credentials' \
28    --data-urlencode 'client_id='$client_id'' \
29    --data-urlencode 'client_secret='$client_secret''  | jq .access_token | xargs`
30
31 💡
32    # Loop until CTRL-C or token expires (2 hours)
33    for (( ; ; ))
34    do
35        d=`date -v "-1M" -u +"%Y-%m-%dT%H:%M:%S.00Z"`
36        echo Last check at \(UTC\): $d
37        echo '---------------------'
38
```

TERMINAL   PORTS   PROBLEMS   OUTPUT   DEBUG CONSOLE   🔲 bash - Scripts

```
Didiers-MacBook-Pro:Scripts lalli$ ./spy_workspace.sh
Last check at (UTC): 2024-01-18T11:52:57.00Z

Last check at (UTC): 2024-01-18T11:53:58.00Z
---------------------
{
    "createdAt": "2024-01-18T11:54:43.000000Z",
    "username": "didier.lalli@hpe.com",
    "description": "Loading workspace 3009de2825f211ec8a84fedebcb4a754 for user didier.lalli@hpe.com",
    "ipAddress": "91.166.228.215"
}
{
    "createdAt": "2024-01-18T11:54:33.000000Z",
    "username": "didier.lalli@hpe.com",
    "description": "User didier.lalli@hpe.com logged in via ping mode.",
    "ipAddress": "91.166.228.215"
}
Last check at (UTC): 2024-01-18T11:54:59.00Z
---------------------
{
    "createdAt": "2024-01-18T11:55:25.000000Z",
    "username": "didier.lalli@hpe.com",
    "description": "Platform customer 3009de2825f211ec8a84fedebcb4a754 profile Phone Number updated",
    "ipAddress": "91.166.228.215"
}
Last check at (UTC): 2024-01-18T11:56:00.00Z
```

Quick Poll #2

What's next with the HPE GreenLake platform APIs?

- More APIs in existing services
- More APIs for new services
- Eventing (webhooks)

Resources to get started with HPE GreenLake platform APIs

- HPE GreenLake Developer Portal: https://developer.greenlake.hpe.com
  - API Reference
  - OpenAPI specs for download
- GLP API Tooling repo: https://github.com/hpe-dev-incubator/GLP-API-Tooling
  - Curated Postman collection
  - Sample code described in blog posts
- Blog posts on HPE Developer Community web portal: https://developer.hpe.com/blog
- Webinars and replay
  - Munch & Learn: https://developer.hpe.com/campaign/munch-and-learn
  - Meetups: https://developer.hpe.com/campaign/meetups
- Workshops-on-Demand: https://developer.hpe.com/hackshack/workshops
- #hpe-greenlake-api Slack channel on HPE DEV Slack with already 1500+ community members: https://developer.hpe.com/slack-signup

Quick Poll #3

HPE DEV

Demo 4: Leveraging HPE Developer Community Workshops-on-Demand

Demo Steps

1. In HPE Developer Community portal show skill up section and browse to workshops-on-demand
2. Open HPE GreenLake category and register for the workshop
3. Show email with WoD link and credentials to connect
4. Open Jupyter Notebook
5. Explain introduction
6. Run the workshop
7. Show conclusion and survey link

How to get to the workshop?
Register, receive, and run

- Browse to the following <u>URL</u>

- On the **Dive in the foundational APIs for the HPE GreenLake edge-to-cloud platform** Workshop tile, click on Register

- Register by entering Company Email, Name, and Company Name in the pop up window
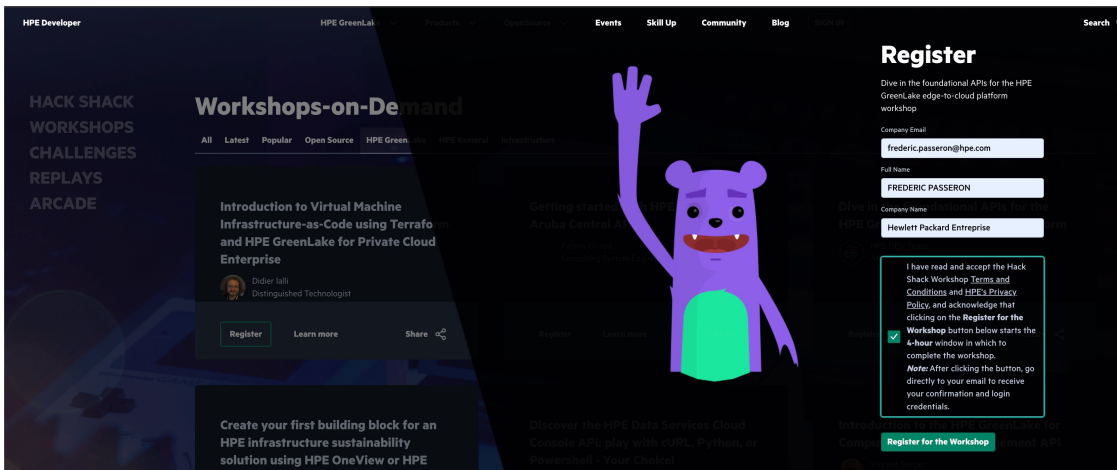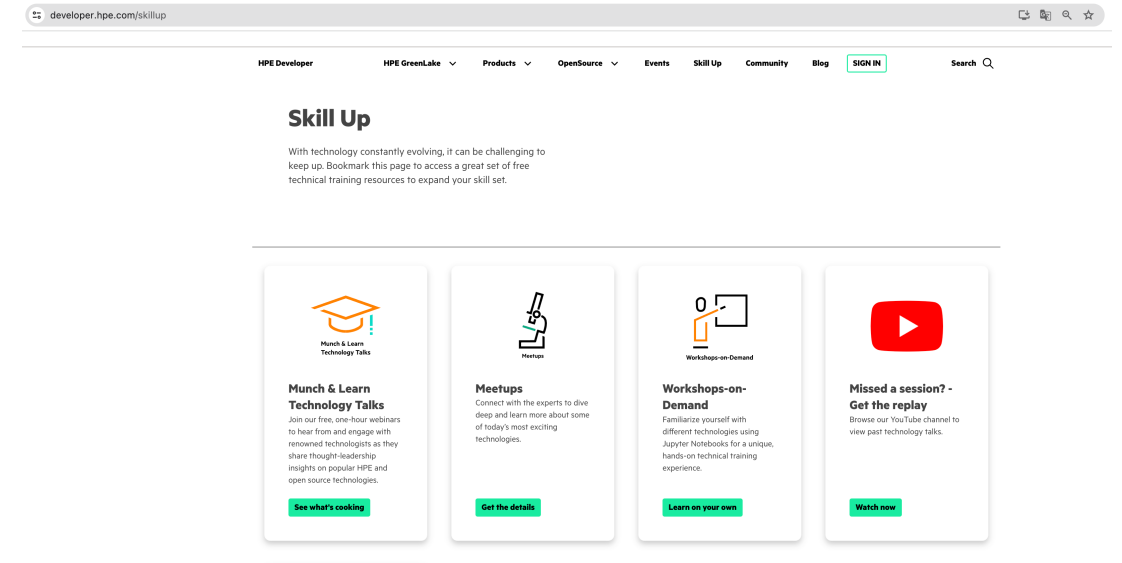
How to get to the workshop?
Register, receive, and run

- A minute or so later, open up the emails received from HPE DEV Workshops-on-Demand email sender hpedev.hackshack@hpe.com
  - 1st email is a welcome email
  - 2nd email provides you with the necessary info to connect to the Jupyter notebooks environment
    - Click on the Start workshop button
    - Enter the credentials on the Jupyter Notebooks Login Window
    - Follow the instructor
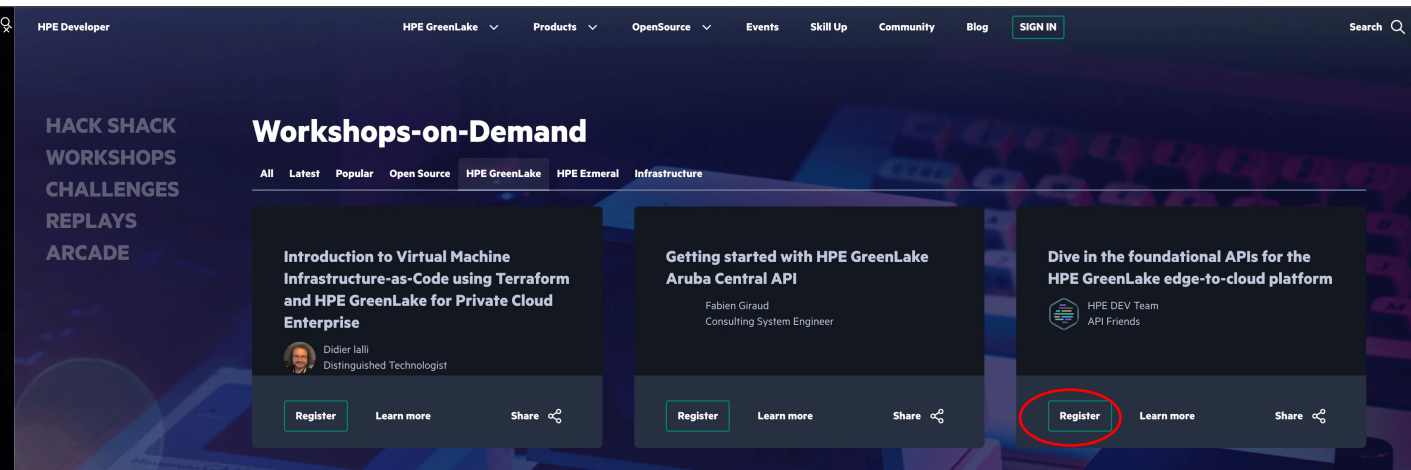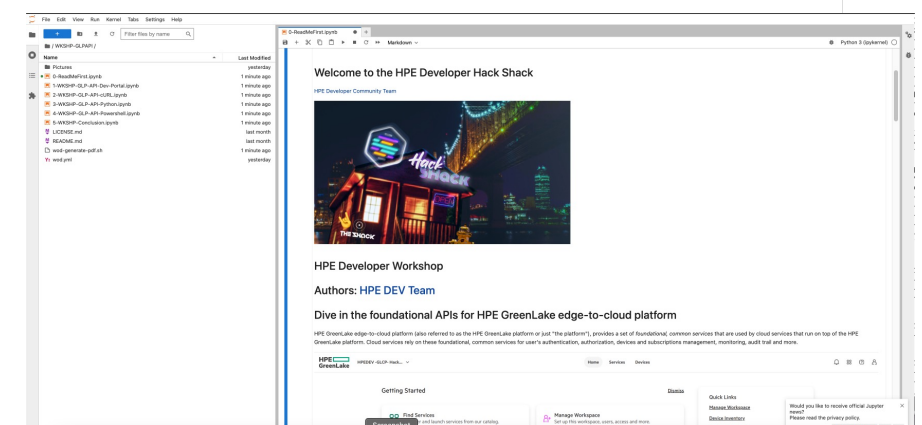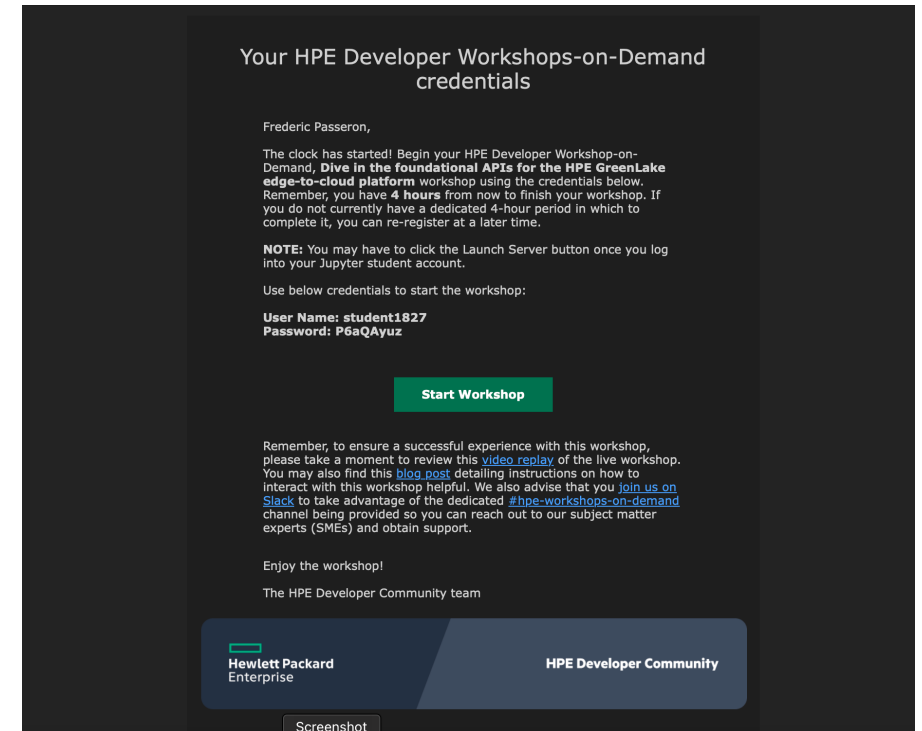
How to run the workshop
Register, receive, and run

notebooks.hpedev.io/hub/login?next=%2Fhub%2Fuser%2Fstudent1826%2Flab%3F

jupyterhub

Sign in prod1

Username:

student1826

Password:

••••••••

Sign in

How to run the workshop
Register, receive, and run

How to run the workshop
Register, receive, and run

notebooks.hpedev.io/user/student1826/lab/tree/WKSHP-GLPAPI/2-WKSHP-GLP-API-cURL.ipynb

File　Edit　View　Run　Kernel　Tabs　Settings　Help

0-ReadMeFirst.ipynb　　1-WKSHP-GLP-API-Dev-Pc　　2-WKSHP-GLP-API-cURL.ij

Markdown

1- Initialize the environment

Let's first define the environment variables according to your assigned HPE GreenLake platform workspace.

Note: When executing a notebook code cell, a [*] next to the action, it means the execution step is busy working within the notebook.
A [digit number] next to the action means the execution step has completed.

```
# define environmental variables:
studentId="student1826" # your Jupyter Notebook student Identifier (i.e.: student<xx>)
GLP_endpoint="global.api.greenlake.hpe.com" # The unified domain connectivity endpoint.
WorkspaceId="3009de2825f211ec8a84fedebcb4a754" # the Workspace ID
GLPApplicationId="00000000-0000-0000-0000-000000000000" # HPE GreenLake platform application ID
ArubaApplicationId="683da368-66cb-4ee7-90a9-ec1964768092" # HPE Aruba Central application ID
appRegion="eu-central" # Region for the regional instance of the HPE Aruba Central application
invitedUserEmail="hpedevstudent+1826@gmail.com" # the email address of the user that will be invited to join the workspace
invitedEncodedUser="username%20eq%20%27hpedevstudent%2B1826%40gmail.com%27" #the encoded value of the invited user email
invitedEncodedUserLog="user%2Fusername%20eq%20%27hpedevstudent%2B1826%40gmail.com%27" #the encoded value of the invited user email to track activities with Audit Logs
GLPApplicationEncoded="application%2Fid%20eq%20%27${GLPApplicationId}%27" #the encoded value of the HPE GreenLake platform Application for Audit Logs
ArubaApplicationEncoded="application%2Fid%20eq%20%27${ArubaApplicationId}%27" #the encoded value of the Aruba Central Application for Audit Logs
APSerialNumber="CNQMLPQ3KD"
APSNEncoded="serialNumber%20eq%20%27${APSerialNumber}%27"
APMacAddress="E8:10:98:C7:DF:76"
APSubscriptionKey="E0A1FDF30D1AC4FF39"
APSubscriptionKeyEncoded="key%20eq%20%27${APSubscriptionKey}%27"


echo "your operation context is:" $studentId
echo "your REST API endpoint is:" $GLP_endpoint
echo "HPE GreenLake workspace ID is:" $WorkspaceId
echo "GLP Application ID is:" $GLPApplicationId
echo "Aruba Central application ID is:" $ArubaApplicationId
echo "Application region for Aruba Central is:" $appRegion
echo "Invited user's email is:" $invitedUserEmail
echo "Encoded invited user's email is:" $invitedEncodedUser
echo "Encoded invited user's tracking activities is:" $invitedEncodedUserLog
echo "Encoded HPE GreenLake platform application for tracking activities is:" $GLPApplicationEncoded
echo "Encoded Aruba Central application for tracking activities is:" $ArubaApplicationEncoded
echo "Access Point device Serial Number is:" $APSerialNumber
echo "Access Point device MAC Address is:" $APMacAddress
echo "Encoded Serial Number of the Access Point is:" $APSNEncoded
echo "Access Point Subscription key is:" $APSubscriptionKey
echo "Encoded Subscription key is:" $APSubscriptionKeyEncoded
```

2 - Creating an Access Token

As mentioned earlier, the HPE Greenlake platform APIs use a bearer token as an authorization type to ensure that all REST API requests access the HPE GreenLake platform services and resources securely. So you first need to obtain a token from the OAuth authorization server before you can make any REST API calls to the HPE GreenLake platform APIs.

This command would create a time-limited access token. The access token expires after 2 hours.

IMPORTANT NOTE: this is **not** a code cell, do not actually execute this command, it is there to show use the command that would be used to generate the access using a REST API call with your *ClientID-ClientSecret* pair. In the lab environment, the URL of the **OAuth authorization server** is set to "https://sso.common.cloud.hpe.com/as/token.oauth2".

```
curl -X POST https://sso.common.cloud.hpe.com/as/token.oauth2 -H "Content-Type: application/x-www-form-urlencoded" -d "grant_type=client_credentials&client_id=$YOUR_CLIENT_ID&client_secret=$YOUR_CLIENT_SECRET"
```

This would return JSON output like the following

```
{
    "access_token":
"eyJhbGciOiJSUzI1NiIsImtpZCI6IlRFak8tZEZJPbThxUDlqRUlxdVE5aXVKX09HTSIsInBpLmF0bSI6ImRlejAifQ.eyJjbGllbnRfaWQiOiI2YjJkNGFkfkOC00ZGQ5LTQzYjEtYjVlYy04MjZiNGFhZGFmNzQiLCJpc3MiOiJodHRwczovL3Nzby5jb21tb24uY2xvdWQuaHBlLmNvbS9hcyIsImF1ZCI6ImV4dGVybmFsX2FwaSIsInN1YiI6ImhwZWRldnN0dWRlbnQ..."
TLyW1uPH04AbJO7Z7g10_hwTLKXr9s2TQwigt4UbHl0sHZctGdikrgnk-6mxdfhuyYjU0iN4YjJ_ZSWaObMx12de90v1v65oPDWgsyj8EpYZdZ9k2NphaXTLzO5oVI43-B-
```

Simple　0　3　Bash | Idle

Mode: Command　Ln 1, Col 1　2-WKSHP-GLP-API-cURL.ipynb　0

How to end the workshop?

Register, receive, run, and REPORT ☺
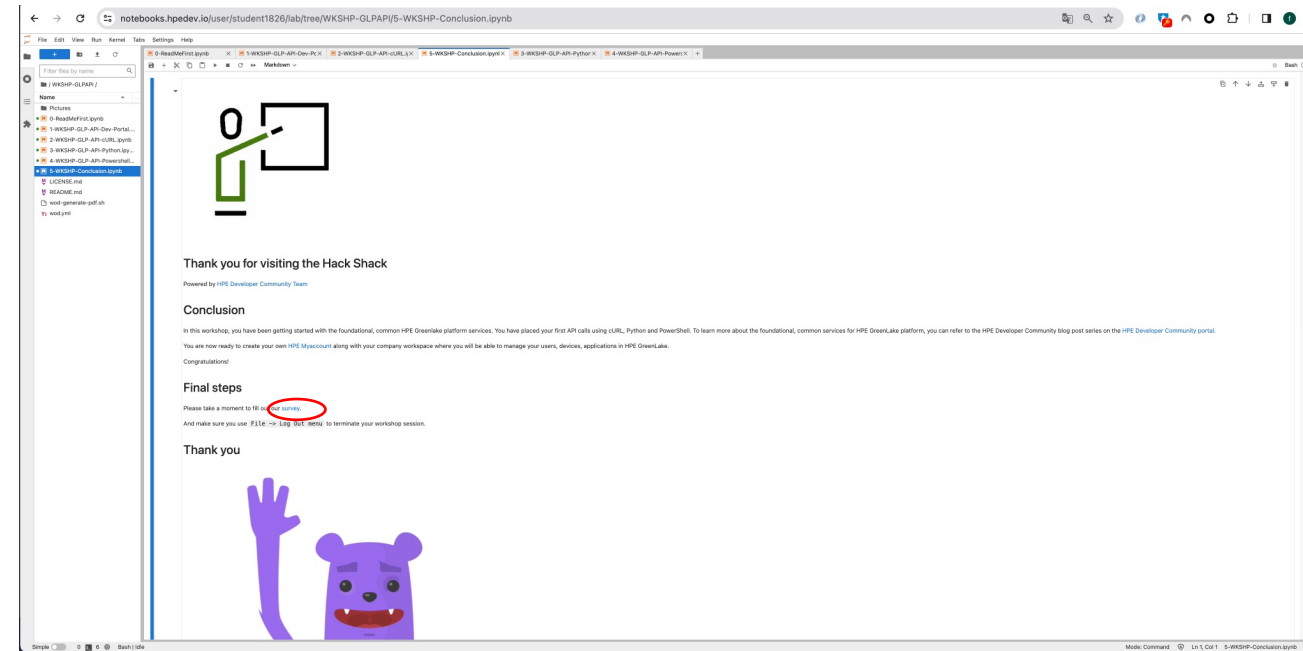
- Fill the survey please!

- In every single workshop the HPE DEV Team produces, one will find in the conclusion notebook a link to our survey.

- It takes only a minute to complete and allows you to provide feedbacks on the workshop itself and subjects you would like to covered in the future.

- Go to HPE Dev Slack for support (#hpe-workshop-on-demand)

Call to action
Learn, try, contribute & amplify

- ✓ Learn
  - ✓ Bookmark HPE GreenLake Developer Portal for API Reference
  - ✓ Read blog posts and bookmark HPE Developer Community web portal
  - ✓ Leverage Workshops-on-Demand
  - ✓ Attend HPE Developer Community Munch & Learn and Meetups
- ✓ Try
  - ✓ Sign up for a HPE GreenLake account
  - ✓ Request HPE GreenLake platform API access
  - ✓ Download Postman collection and sample code
  - ✓ Make API calls against your Workspace
  - ✓ Optional: Write your own code
- ✓ Contribute
  - ✓ Join HPE Developer Community
  - ✓ Engage conversation in HPE Developer Community Slack, give us feedback
- ✓ Amplify
  - ✓ Talk and demo APIs to customers
  - ✓ Invite customers to Learn & Try too

Thank you