CyberArk GitGuardian Integration Guide

v.1.1

Revision History:

Revision Number	Author	Summary
20240401-01	David Hisel	Version 1.0
20240418-01	David Hisel	Version 1.1 – Add Credential Provider

Table Of Contents

General Requirements

Customers must have the following in order to implement this capability:

- Privilege Cloud Account
  - Safe created for storing Pending accounts
  - User that has access to the Pending safe with sufficient permissions to add accounts to the safe
  - CPM Plugin installed – CPM plugin can be downloaded from the CyberArk marketplace
- Linux Host – this is where the integration application will run
- PostgreSQL (or PostgreSQL compatible) database accessible by the Linux Machine
- Gitguardian Account
  - Personal Access Token
  - Webhook Authorization Token

To enable the **Credential Provider** feature, the customer must have the Credential Provider installed to the Linux host machine where the integration application is running.

Additional requirements to enable the Credential Provider feature:

- Install Credential Provider on Linux host
  - Credential Provider Service
  - Credential Provider SDK
- Privilege Cloud Account
  - “CyberArk GitGuardian Integration Host” Platform Installed – Download from the CyberArk marketplace.

Linux Machine Configuration

Requirements

- Git and Go lang installed
- Network configured to allow incoming GitGuardian webhook requests
- Front-end proxy installed, NGINX, to proxy pass to the integration and termination point for SSL traffic
    - Hostname resolves in DNS
    - SSL Certs created for the endpoint

Setup The Frontend Proxy

1) Login to a linux host where you will run the integration service
2) Install NGINX
3) Configure NGINX to be a frontend proxy; here is an example configuration where the hostname has been added to DNS as “webhook1.example.com” and the associated SSL certificates have been created and are available on the linux host for NGINX. Example config:

```
server {
   listen              443 ssl;
   server_name         webhook1.example.com;
   ssl_certificate     ssl/webhook1.example.com/webhook1.example.com.cer;
   ssl_certificate_key ssl/webhook1.example.com/webhook1.example.com.key;
   ssl_protocols       TLSv1 TLSv1.1 TLSv1.2 TLSv1.3;
   ssl_ciphers         HIGH:!aNULL:!MD5;

   location / {
   proxy_pass http://localhost:9191;
   include proxy_params;
   }
}
```

GitGuardian Configuration

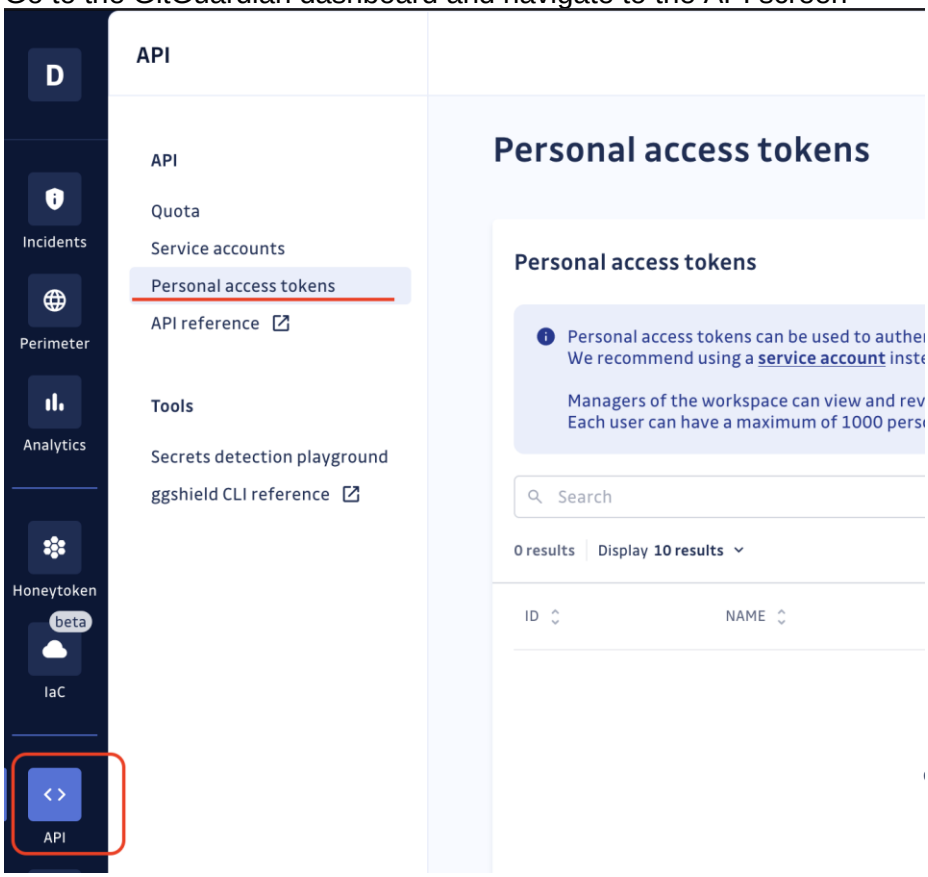
Requirements

- Endpoint defined for the integration, ex: https://webhook1.example.com/

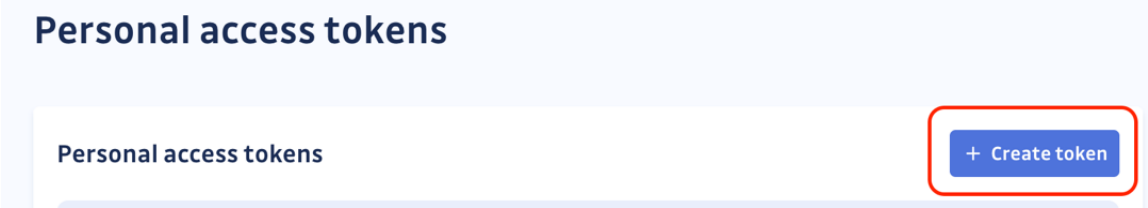
Generate Personal Access Token

This is used when calling HMSL to avoid the daily limit of 5 requests per day; GitGuardian login url: https://dashboard.gitguardian.com/

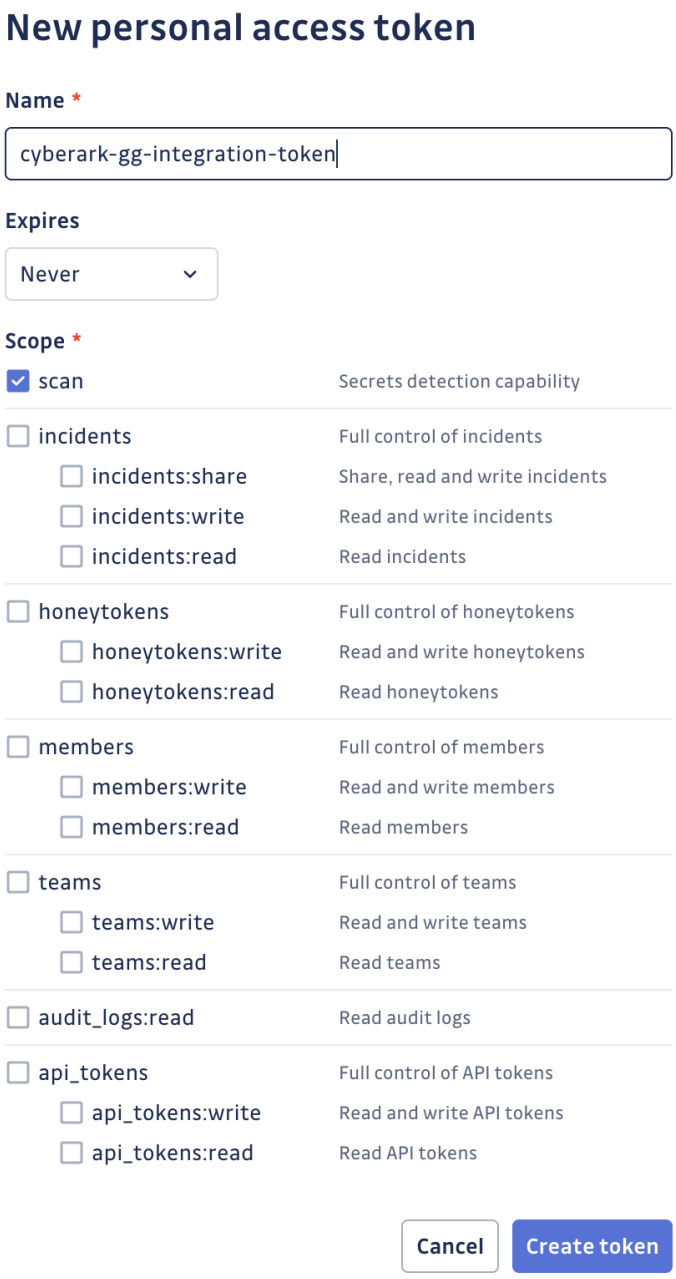
1) Go to the GitGuardian dashboard and navigate to the API screen



2) Click on the Create Token button to create the PAT



3) Check the “Scan” checkbox, and click create token

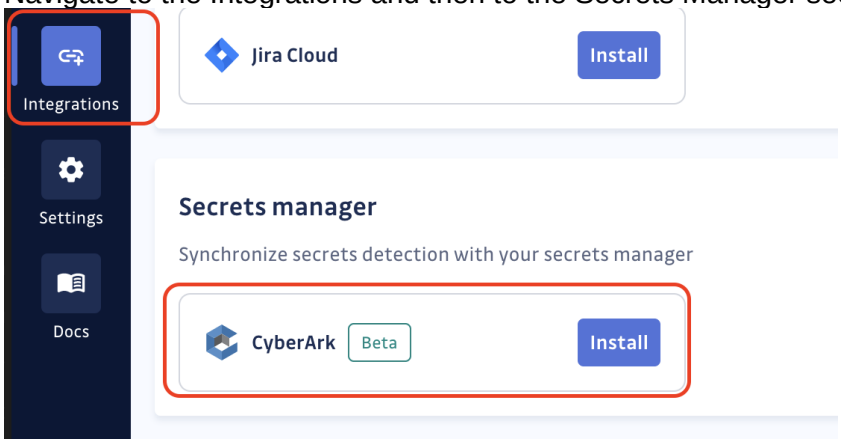


a) Copy the token and save it for configuring the integration

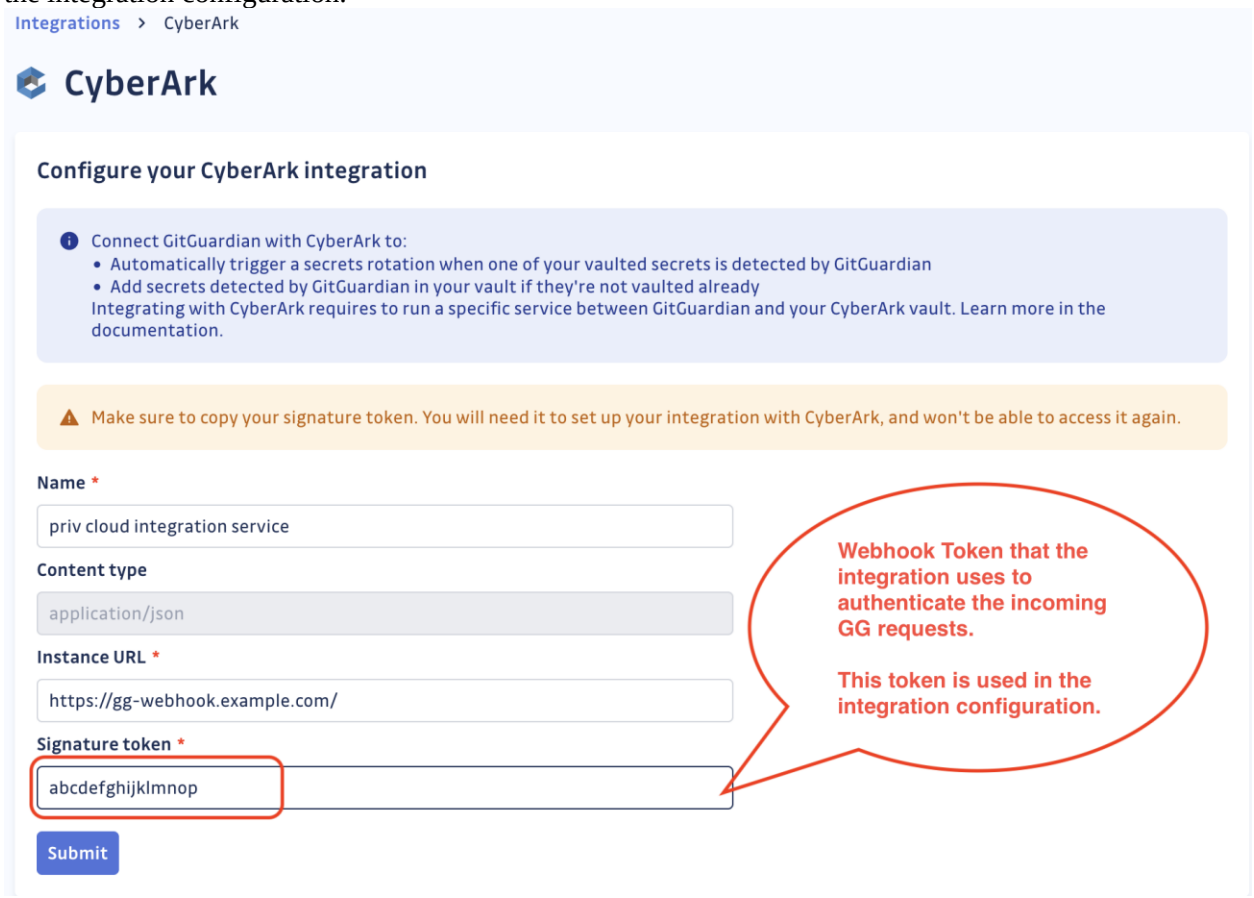
Create the GitGuardian Webhook

This is used when calling HMSL to avoid the daily limit of 5 requests per day; GG login url: https://dashboard.gitguardian.com/

1) Navigate to the Integrations and then to the Secrets Manager section



2) Click the install button and configure the integration – **Copy the webhook token** this will be used in the integration configuration.



Install and Build the Integration Service

1) Create a directory to hold the integration code and change into the directory

```
mkdir work
cd work
```

2) Clone the git repo to the machine

```
git clone https://github.com/conjurdemos/cyberark-gitguardian-hmsl-remediation-integration-service.git
```

3) Change into the repo directory

```
cd cyberark-gitguardian-hmsl-remediation-integration-service
```

4) Compile the binaries using make:

```
make build-all-bins
```

Configure The Integration Service

1) Obtain connection information for the PostgreSQL server

Example:

```
  db user: DBUSER
  db pass: DBPASS
  db host: localhost
  db port: 26527
  db name: brimstone (database name)
```

Using these parameters would create the connection string:

```
  -dburl "postgresql://DBUSER:DBPASS@localhost:26257/brimstone"
```

2) Obtain connection information for the Privilege Cloud account

Example:

```
  ID Tenant ID: ID_TENANTID
  Privilege Cloud Tenant ID:  PCLOUD_TENANTID
  Privilege Cloud Service User: PCLOUD_SERVICE_USER
  Privilege Cloud Service User Pass: PCLOUD_SERVICE_USER_PASS
  Pending Safe name: PENDING_SAFENAME
```

Using these parameters to populate the service configuration configuration

```
  -idtenanturl "https://ID_TENANTID.id.cyberark.cloud"
  -pcloudurl "https://PCLOUD_TENANTID.privilegecloud.cyberark.cloud"
  -pamuser "PCLOUD_SERVICE_USER"
  -pampass "PCLOUD_SERVICE_USER_PASS"
```

```
  -safename "PENDING_SAFENAME"
```

3) Determine the port that the service will listen on; this will be the port that the NGINX server is configured to proxy pass

```
Example:
  listen on port 9191

Using this to populate the configuration parameter
  -port "9191"
```

4) Generate an API key that the service will use to authenticate incoming requests with

```
Example:
  generate a dev API key with value: dev123

Using this to populate the configuration environment variable
  export BRIMSTONE_API_KEY="dev123"
```

Create a startup script

1) Using the configuration information gathered, fill in the appropriate fields in the example script, save the script in the "./bin" directory

```
#!/usr/bin/bash

# set the value of the API key for authn to brimstone
export BRIMSTONE_API_KEY="dev123"

# set this to the value of the GitGuardian API Token
export GG_API_TOKEN="abc123"

# set this to the value of the GitGuardian Webhook token presented
# when configuring the webhook
export GG_WEBHOOK_TOKEN="xxx"

./bin/brimstone -d \
-hmslurl "https://api.hasmysecretleaked.com" \
-hmslaudtype "hmsl" \
-ggapiurl "https://api.gitguardian.com" \
-ggapitokenvar "GG_API_TOKEN" \
-ggwebhooktokenvar="GG_WEBHOOK_TOKEN" \
-keyvar "BRIMSTONE_API_KEY" \
-dburl "postgresql://DBUSER:DBPASS@localhost:26257/brimstone" \
-port "9191" \
-idtenanturl "https://ID_TENANTID.id.cyberark.cloud" \
-pcloudurl "https://PCLOUD_TENANTID.privilegecloud.cyberark.cloud" \
-pamuser "PCLOUD_SERVICE_USER" \
-pampass "PCLOUD_SERVICE_USER_PASS" \
-safename "PENDING_SAFENAME" > ./bin/brimstone.log 2> ./bin/brimstone-err.log
```

2) Run the script to check that everything is configured properly

```
bash ./bin/local-start-script.sh
```

3) Check the logs to verify it is running properly

```
tail ./bin/brimstone.log
# Check log output

tail ./bin/brimstone-err.log
# Check log output
```

Credential Provider Installation

Install the Credential Provider on the same linux host where you will run the integration application. Follow this link and follow the instructions to install the CP:

Credential Provider Documentation

URL: https://docs.cyberark.com/credential-providers/latest/en/Content/CP+and+ASCP/lp_cp.htm

Credential Provider Deamon Installation

Installation of CP service:

https://docs.cyberark.com/credential-providers/latest/en/Content/CP+and+ASCP/Installation-on-AIX-RHEL-CentOS.htm

Credential Provider SDK Installation

Installation of SDK:

https://docs.cyberark.com/credential-providers/latest/en/Content/CP%20and%20ASCP/Working-with-Application-Password-SDK.htm

Configuring the SDK:

Note: where it says to copy the files into a /usr/lib* directory, copy the files, and do not symlink to the files.

https://docs.cyberark.com/credential-providers/latest/en/Content/CP%20and%20ASCP/C-Application-Password-SDK.htm?tocpath=Developer%7CCredential%20Provider%7CApplication%20Password%20SDKs%7CC%252FC%252B%252B%20Application%20Password%20SDK%7C_____0#SetuptheCCApplicationPasswordSDK

Install and Build the Integration Service with Credential Provider

1) Create a directory to hold the integration code and change into the directory

```
mkdir work
cd work
```

2) Clone the git repo to the machine

```
git clone https://github.com/conjurdemos/cyberark-gitguardian-hmsl-remediation-integration-service.git
```

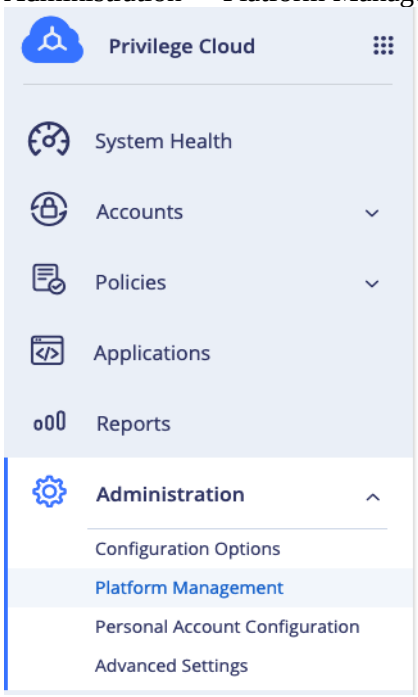
3) Change into the repo directory

```
cd cyberark-gitguardian-hmsl-remediation-integration-service
```

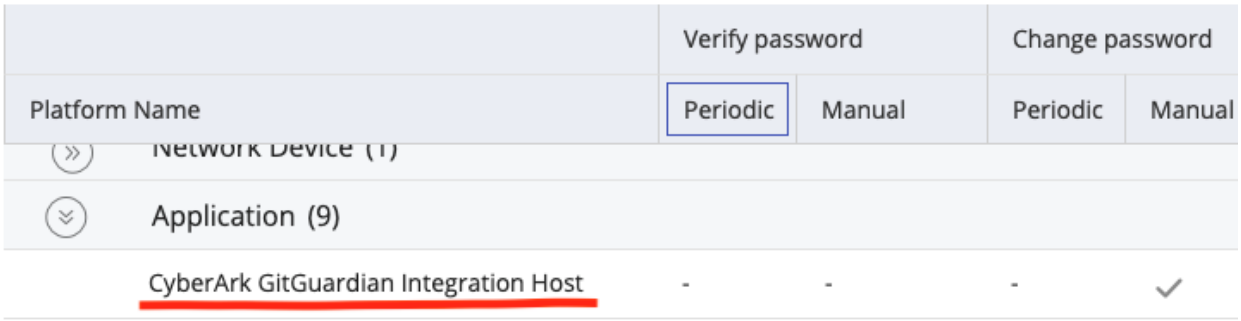
4) Compile the binaries using make:

```
make build-all-bins
```

Install the CyberArk GitGuardian Integration Host Platform

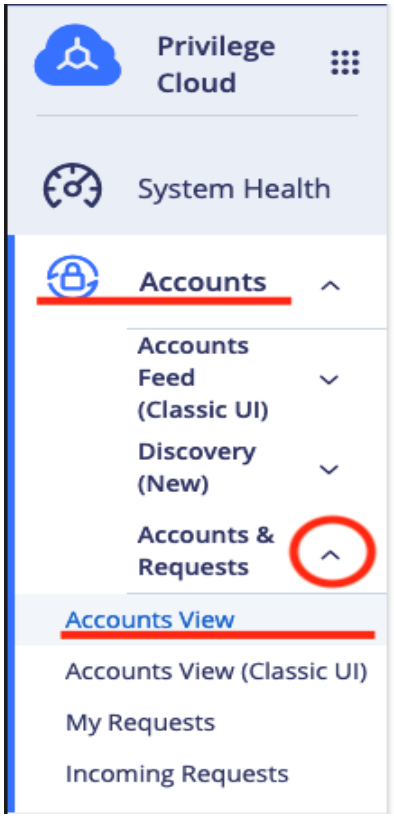
- Download from the CyberArk marketplace
  TBD: Where is the new platform definition coming from?
- Import into the Privilege Cloud account
  - Administration -> Platform Management -> Import platform
  - 

- The new platform should show up under “Applications”



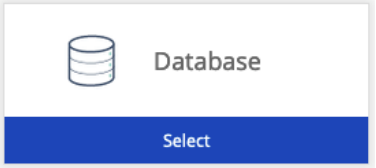
Configure The Integration Service

- Create account for database using PostgreSQL platform
  - Go To Accounts View

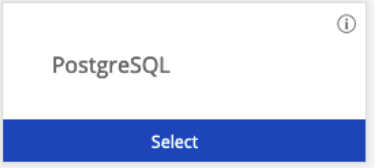


  - Click on Add Account

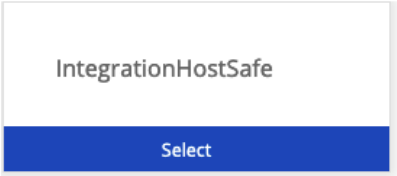
1. Select system type “Database”



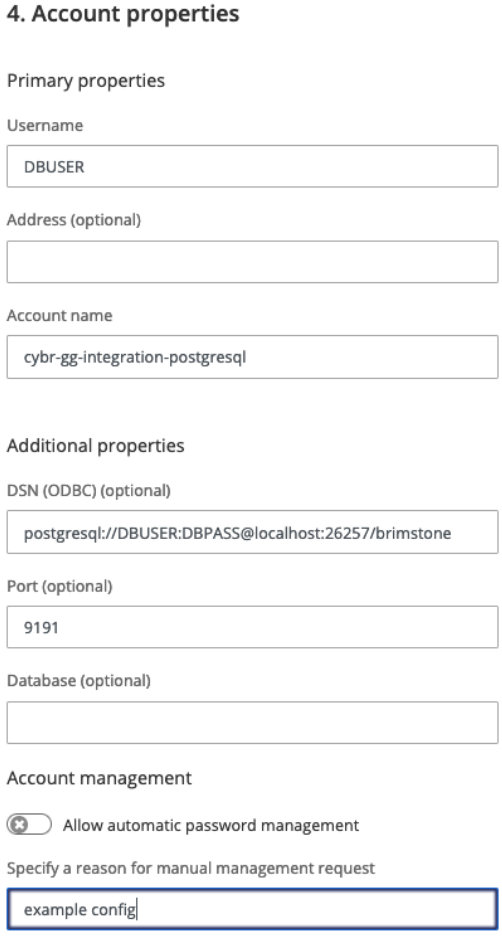
2. Select platform “PostgreSQL”



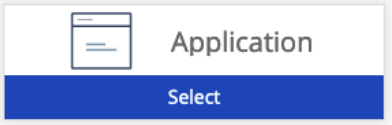
3. Select safe where to add the account, for this example, we have created safename “IntegrationHostSafe” – This is the safe where the integration credentials will be stored



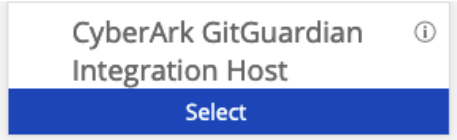
4. Fill in the properties for the database, use the values gathered from setting up the database step, then click save button



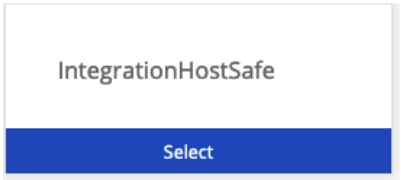
- Create account for integration service using CyberArk GitGuardian Integration Host platform
    1. Select system type “Application”



    2. Select platform “CyberArk GitGuardian Integration Host”



    3. Select safe where to add the account, for this example, we have created safename “ExamplePendingSafe” – This is the safe where the integration credentials will be stored



    4. Fill in the properties for the integration host, use the values gathered from setting up the linux host step, then click the save button

4. Account properties

Primary properties

Account name

Cybr-GG-Integration-Host

Additional properties

Integration Host API Key for clients to authenticate with

dev123

Integration Host Port to listen on

9191

GitGuardian API URL

https://api.gitguardian.com

GitGuardian API Token

my-gg-api-token

GitGuardian Webhook Token

my-gg-webhook-token

Privilege Cloud ID Tenant URL

https://EXAMPLE-TENANT-ID.id.cyberark.cloud

Privilege Cloud URL

https://EXAMPLE.privilegecloud.cyberark.cloud

Privilege Cloud PAM User

service_account_user@cyberark.cloud

Privilege Cloud PAM Password

my-pam-service-user-password

Privilege Cloud Pending Safe Name

ExamplePendingSafe

Account management

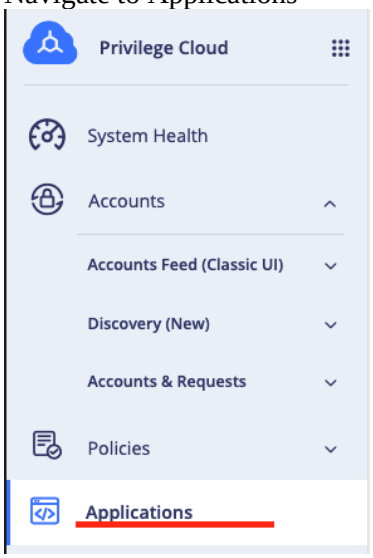
Allow automatic password management

Specify a reason for manual management request

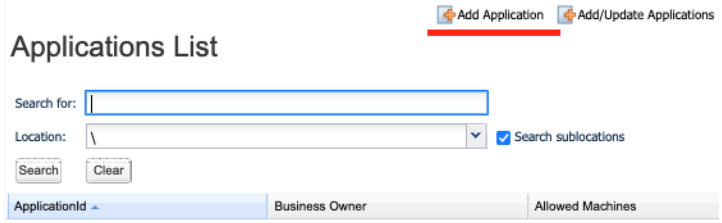
example account

Create a Privilege Cloud Application

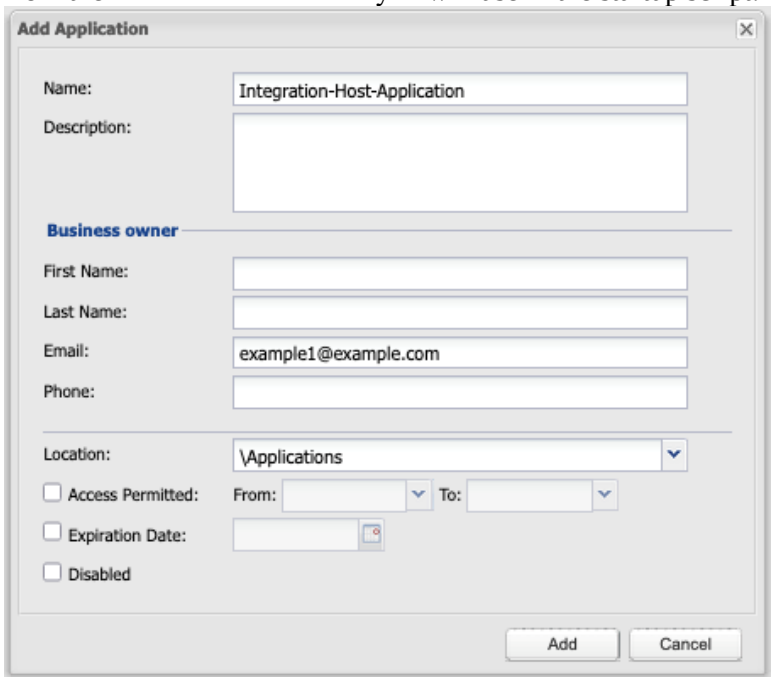
1) Navigate to Applications



2) Click on Add Application



3) Add a name for the application, this will be used in the configuration in the startup script, placeholder in the startup script is INTEGRATION-HOST-APPLICATION-NAME, in the screenshot the value from the "Name:" field is what you will use in the startup script.



Create a startup script

1) Using the configuration information gathered, fill in the appropriate fields in the example script, save the script in the "./bin" directory

```
#!/usr/bin/bash

./bin/brimstone-cp -d \
-safename "SAFENAME-WHERE-INTEGRATION-HOST-SETTINGS-ARE-STORED" \
-hostobjname "CYBR-GG-INTEGRATION-HOST-ACCOUNT-NAME" \
-dbobjname "POSTGRESQL-ACCOUNT-NAME" \
-appid "INTEGRATION-HOST-APPLICATION-NAME" </dev/null > ./bin/brimstone-cp.log 2> ./bin/brimstone-cp-err.log
```

2) Run the script to check that everything is configured properly

```
bash ./bin/local-start-script-cp.sh
```

3) Check the logs to verify it is running properly

```
tail ./bin/brimstone-cp.log
# Check log output

tail ./bin/brimstone-err-cp.log
# Check log output
```