



# Synthetic Credential Vault

The Synthetic Credential Vault securely stores credentials used for synthetic jobs. When you create a synthetic job with a synthetic script, you can retrieve a stored key/value credential pair, like a username and password, and inject the credential into a synthetic script. Then when the synthetic job runs, the synthetic script executes and retrieves the credentials stored in the Synthetic Credential Vault.

To access the Synthetic Credential Vault in the Controller, go to  > **Tools** > **Manage Synthetic Credentials**.

## Overview of Synthetic Credentials

A synthetic credential is a key-value pair stored in the Synthetic Credential Vault. If you want to use a combination of credentials, such as a username-password combination, you must create two separate credentials: one credential for the username and another credential for the password.

## Support

This table describes the requirements and limitations of the Synthetic Credential Vault.

Type	Specification
Deployment	Only available for SaaS customers.
Accounts	Limited to 1000 credentials per EUM account.
Synthetic jobs	Limited to 100 credentials per synthetic job.
Credential versions	Past versions of credentials are not stored. Once you update a credential, you cannot retrieve the previous version.

## Manage Users

The table below describes permission differences between admin and read-only users. See [Roles and Permissions](#) for more information.

User Level	Permission
Admin (requires Administration, Agents, Getting Started Wizard permissions)	<ul style="list-style-type: none"><li>• Manage all users</li><li>• Add, edit, and delete credentials.</li><li>• View both keys and values of stored credentials.</li><li>• View users, timestamps, and associated applications</li></ul>
Read-only	<ul style="list-style-type: none"><li>• View keys of stored credentials</li><li>• View users, timestamps, and associated applications</li></ul>

In the Controller UI, you can configure roles, users, and groups with Account-level, read-only permission for the Synthetic Credential Vault. AppDynamics recommends you add a read-only role and assign that role to multiple users and/or groups.

To create a role in the Controller UI with read-only permission:

1. In the Controller UI, go to  > **Administration** > **Roles**.
2. Under **Roles**, click **Create**.
3. Add a role name, such as "Synthetic Credential Vault (read-only)."
4. Under **Account**, click **Add+**.
5. Check the "View Synthetic Credential Vault" box.

6. Under **User and Groups within this Role**, add users and/or groups.

 To configure custom roles or users via REST API, see [RBAC API](#).

## How to Use

You can use the Synthetic Credential Vault in the following way:

1. Add a credential in key-value pair to the Synthetic Credential Vault.
2. Create a synthetic job that is using a synthetic script.
3. Inject the credential key into the appropriate place in your synthetic script. See the example from [Use Synthetic Credentials in a Synthetic Script](#).
4. The synthetic job will run and retrieve the credential value associated with the stored credential key.

## Syntax Rules

This table describes credential syntax rules for the Synthetic Credential Vault and synthetic scripts.

Keys	<ul style="list-style-type: none"><li>• 1-100 characters</li><li>• Alphanumeric characters, hyphens, and underscores only</li><li>• Keys must be unique per EUM account</li></ul>
Values	<ul style="list-style-type: none"><li>• 1-350 characters</li><li>• Any non-control, printable UTF-16 characters</li></ul>
Credential placeholder (used in synthetic scripts)	"<%key%"

## Create Credentials

In the Synthetic Credential Vault, you can add a single or multiple credentials.

### Add a single credential

These instructions demonstrate how to add a single credential for a sample email and password.

1. Go to  > **Tools > Manage Synthetic Credentials**.
2. Click Add.
3. Enter a key and value. See [Syntax Rules](#).

- (Optional) Select an associated application. When you search for credentials in the synthetic script, associated credentials are suggested first.

Add/Edit ✕

**Key**

**Value**

**Application Optional**

## Add multiple credentials

You can add multiple credentials at once using the **Import** button. Make sure the imported credentials follow [Syntax Rules](#).

These instructions demonstrate how to add a single credential for a sample email and password.

- Go to  > **Tools** > **Manage Synthetic Credentials**.
- Click **Import**.
- Copy and paste credentials or type them line by line. The maximum number of credentials that can be imported at once is 250.

Note: The associated application option is not available for bulk import. You must edit each credential individually to specify the associated application.

**Example**

```
email_key=user123@email.com
password_key>Password123
```

## Manage Credentials

In the Synthetic Credential Vault, you can edit, delete, sort and search credentials.

## Edit Credentials

With admin-level access, you can edit the associated application for existing and imported credentials. However, you can only edit one credential at a time.

## Delete Credentials

With admin-level access, you can remove one or more credentials at a time.

## Sort Credentials

You can sort credentials alphabetically by clicking on the key name, user, and timestamp columns.

## Search Credentials

You can search credentials by key name, user, and application.

## Use Credentials in a Synthetic Script

You can retrieve credentials stored in the Synthetic Credential Vault with a synthetic script. Credentials associated to a specific application appear first when you start typing the key.

1. To create a synthetic job in the Controller UI, go to **User Experience > Jobs > Add**.
2. Add your synthetic script. See [Write Your First Script](#) for more information.
3. [Locate the DOM element](#).
4. Enter the corresponding credential using the syntax "<%key%>".

### Synthetic Script

```
driver.find_element_by_id("email").send_keys("<%email_key%")  
driver.find_element_by_id("pass").send_keys("<%password_key%")
```