



Dynamic Application Builder

Version 0.5

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Chapter

1

Using the Dynamic Application Builder

Overview

This manual describes how to create Dynamic Applications locally using the *Dynamic Application Builder* tool.

The Dynamic Application Builder is a tool that provides a creation wizard for Dynamic Applications that use the Snippet Framework libraries. For more information, see the [Snippet Framework](#) documentation.

The Dynamic Application Builder includes the PowerPack API Python library that allows you to interface with your SL1 system to create PowerPack-able objects programmatically.

NOTE: The Dynamic Application Builder works against endpoints with basic auth or no auth. OAuth2 will be supported in a future version.

CAUTION: Use the Dynamic Application Builder tool with caution, as you can overload your SL1 system.

This chapter covers the following topics:

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Validated Environments

Operating System	Docker Desktop	Docker CE + Docker Compose
Windows 10	X	
Windows 11	X	
OSX	X	
Ubuntu WSL 2	X*	X**
Ubuntu (Debian-based Distros)	X	X

* - Installed on the host OS.

** - Installed locally to the guest OS.

NOTE: Configurations outside of those listed above have not been validated as of this release.

Prerequisites

You must have the following prerequisites to use the Dynamic Application Builder:

- An SL1 system version 11.3.0 or later if you are exporting Dynamic Applications.
- Version 100 of the *REST Toolkit* PowerPack installed on the SL1 system you wish to export Dynamic Applications to, as the Dynamic Application Builder builds Dynamic Applications using this low-code tool. Version 100 has been included in the .zip file. Refer to the *REST Toolkit* documentation to make any changes in SL1 after using the Dynamic Application Builder.
- At least 250MB of free space on your system.
- In the `config.ini` file, enter the IP address (or URL), username, password (Base64 encoded), and database username and password (Base64 encoded), for the SL1 system you wish to export Dynamic Applications to and save the file.

The passwords in the `config.ini` file are base64 encoded. The base64-encoded string for any password can be created:

- At <https://www.base64encode.org>
- In bash: `echo -n 'em7admin' | base64`
- In PowerShell: `[Convert]::ToBase64String([Text.Encoding]::UTF8.GetBytes('em7admin'))`

NOTE: If the SL1 account in the `config.ini` file cannot log in, i.e. access is denied or the password needs to be changed, the Dynamic Application Builder will fail.

Installing and Launching the Dynamic Application Builder

To install the Dynamic Application Builder:

1. Download the Dynamic Application Builder .zip file from the Support Site to a local computer.
2. Unzip the Dynamic Application Builder .zip file and click the `dab.sh` file on Linux/OSX machines or the `dabwindows.ps1` file on Windows machines to run the builder.

Creating a Credential

After launching the Dynamic Application Builder, it will detect any previously created endpoint credentials saved on your machine. It will give you the option to select those credentials or to create a new credential. To create a new credential, follow the prompts in the Dynamic Application Builder by entering values or making selections as necessary.

Each of the steps represent a field in the **Credential Editor**. For explanations of each field, see the *Defining a Basic/Snippet Credential* section in the *Discovery and Credentials* manual.

After the step where you confirm the endpoint that you want to use, you will see a table with the name of your credential, the **Hostname**, and the **API Endpoint**. The next step is to create a Dynamic Application. In this version you must create and export a Dynamic Application before you can create, test, and export collection objects. You will be able to edit Dynamic Applications in a future version.

Creating a Dynamic Application

Select **Create New** to begin creating a new Dynamic Application. Enter values and make selections in the prompts that appear.

NOTE: This version of the Dynamic Application Builder allows the creation of Snippet Configuration Dynamic Applications only.

Each of the steps represent a field in the **Dynamic Application Properties Editor**. For explanations of each field, see the *Dynamic Application Properties* section in the **Dynamic Application Development** manual.

Once you have finished, you will see a JSON representation of your new Dynamic Application, allowing you to review your selections.

After you have reviewed your selections, you will be given the options to save your Dynamic Application locally, export the Dynamic Application to SL1, and/or create a new collection object for the Dynamic Application.

If a filepath is already in use, you will be given a prompt to overwrite the saved file or exit without saving.

NOTE: This version of the Dynamic Application Builder does not support editing Dynamic Applications.

Creating a Collection Object

After creating your Dynamic Application, you will be asked if you would like to create a new collection object.

After entering "Y" to create a new collection object, you will be asked to enter the line number for the JSONPath selector/data you want to collect. Enter "V" to view a breakdown of the payload in numbered selections, and enter the line number for the value that you would like to create into a collection object.

```
? Enter Line number for the JSONPath selector/data you want to collect (type V to view the generated JSONPath selectors again): v
Payload (Ctrl-X to continue, Page Up/Down to scroll):
1 | $.["category"] = server-hardware
2 | $.["count"] = 12
3 | $.["created"] = 2022-05-31T19:48:52.741Z
4 | $.["eTag"] = 1654026532741
5 | $[members][0].["assetTag"] =
6 | $[members][0].["category"] = server-hardware
7 | $[members][0].["created"] = 2020-08-19T18:21:47.993Z
8 | $[members][0].["description"] = None
9 | $[members][0].["eTag"] = 1653885888066
10 | $[members][0].["formFactor"] = HalfHeight
11 | $[members][0].["generation"] = Gen10
12 | $[members][0].["hostOsType"] = 25
13 | $[members][0].["imlMode"] = Enabled
14 | $[members][0].["intelligentProvisioningVersion"] = 3.40.192
15 | $[members][0].["licensingIntent"] = NotApplicable
16 | $[members][0].["locationUri"] = /rest/enclosures/P06011MX002604D7
17 | $[members][0].["maintenanceMode"] = False
18 | $[members][0].["memoryMb"] = 1572864
19 | $[members][0].["migrationState"] = NotApplicable
20 | $[members][0].["model"] = Synergy 480 Gen10
21 | $[members][0].["modified"] = 2022-05-30T04:44:48.066Z
22 | $[members][0].["mpFirmwareVersion"] = 2.63 Jan 20 2022
23 | $[members][0][mpHostInfo].["mpHostName"] = sn-s1-b2-ilo.jpl.nasa.gov
24 | $[members][0][mpHostInfo][mpIpAddresses][0].["address"] = fe80:0:0:9640:c9ff:fe41:8894
25 | $[members][0][mpHostInfo][mpIpAddresses][0].["type"] = LinkLocal
26 | $[members][0][mpHostInfo][mpIpAddresses][1].["address"] = 10.28.16.53
27 | $[members][0][mpHostInfo][mpIpAddresses][1].["type"] = Static
28 | $[members][0].["mpLicenseType"] = iLO Advanced
29 | $[members][0].["mpModel"] = iLO5
30 | $[members][0].["mpState"] = OK
```

Each of the steps represent a field in the [Dynamic Applications | Collections Objects](#) page. For explanations of each field, see the [Creating a Collection Object](#) section in the *Dynamic Application Development* manual.

When you are finished, you will be given the options to save your Dynamic Application locally, export the Dynamic Application to SL1, and/or create a new collection object for the Dynamic Application.

Testing Your Dynamic Application

The Dynamic Application Builder creates Dynamic Applications using the Snippet Framework. Please reference the following documentation for editing, testing, and troubleshooting your Dynamic Applications once they have been exported to SL1:

[How to Build Dynamic Applications with the Snippet Framework](#)

Troubleshooting

To remove the Dynamic Application Builder container, network, volume, and image, use the following Docker commands:

```
docker container stop silo_da_builder-silo-da-builder-1
```

```
docker container rm silo_da_builder-silo-da-builder-1
```

```
docker network rm silo_da_builder_silo-da-builder-net
```

```
docker image rm silo-da-builder
```

```
docker volume rm pre-commit-cache
```

These commands will reset the environment so that you can re-run `dab.sh` or `dabwindows.ps1` to relaunch the Dynamic Application Builder.

If you have any questions or feedback, contact the PowerPack user group in Salesforce as this is a Limited Availability release.

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