

Splunk4Admins - Apps

Lab Guide

Overview

This lab guide contains the hands-on exercises for the Splunk4Admins - Apps workshop. Before proceeding with these exercises, please ensure that you have a copy of the workshop slide deck, which will help to put into context the tasks you are carrying out.

Download the workshop slide deck: https://splk.it/S4A-Apps-Attendee

Prerequisites

In order to complete these exercises, you will need your own Splunk instance. Splunk's hands-on workshops are delivered via the Splunk Show portal and you will need a splunk.com account in order to access this.

If you don't already have a Splunk.com account, please create one here before proceeding with the rest of the workshop.

Troubleshooting Connectivity

If you experience connectivity issues with accessing either your workshop environment or the event page, please try the following troubleshooting steps. If you still experience issues please reach out to the team running your workshop.

- **Use Google Chrome** (if you're not already)
- If the event page (i.e. https://show.splunk.com/event/<eventID>) didn't load when you clicked on the link, try refreshing the page
- **Disconnect from VPN** (if you're using one)
- Clear your browser cache and restart your browser (if using Google Chrome, go to: Settings > Privacy and security > Clear browsing data)
- Try using private browsing mode (e.g. Incognito in Google Chrome) to rule out any cache issues
- Try using another computer such as your personal computer all you need is a web browser! Cloud platforms like AWS can often be blocked on corporate laptops.

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Exercise 1 - App context - Demonstration

Description

Experience how app context permits access to Knowledge Objects. See how a field extract is available when a specific app context is selected (with a field extract limited to app context) rather than the generic form available outside of the ap

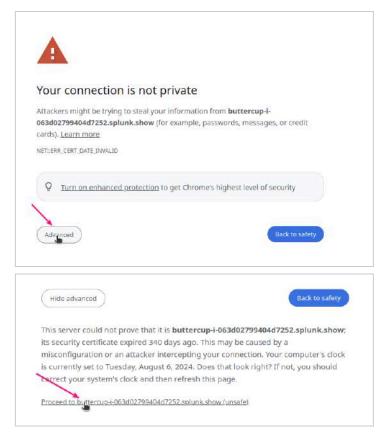
Steps

Access the Enterprise node all-in-one

1. Access the environment by clicking on the Splunk Enterprise link provided in the Splunk Show interface.

Note: Due to constraints within the lab environment, the connections will be unencrypted and unvalidated. This is not an issue, as nothing of value is passed, but you will see the following screen.

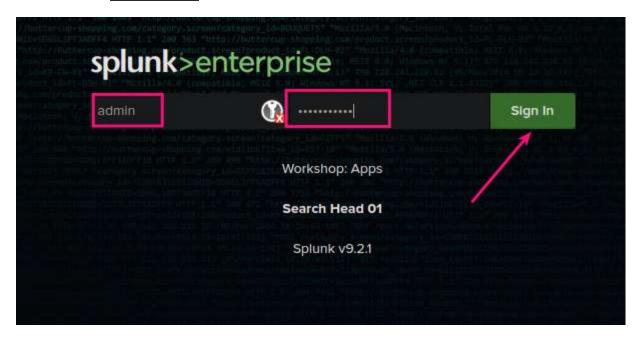
Click on the "Advanced" button and then on "Proceed to..." at the bottom of the prompt.



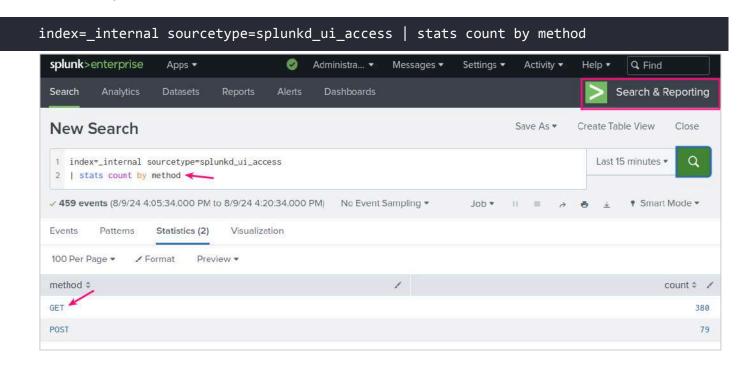
2. Login using the following credentials:

Username: admin

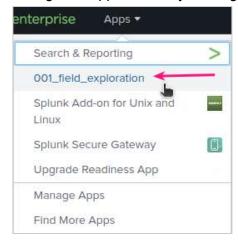
Password: 5p1unk.conf



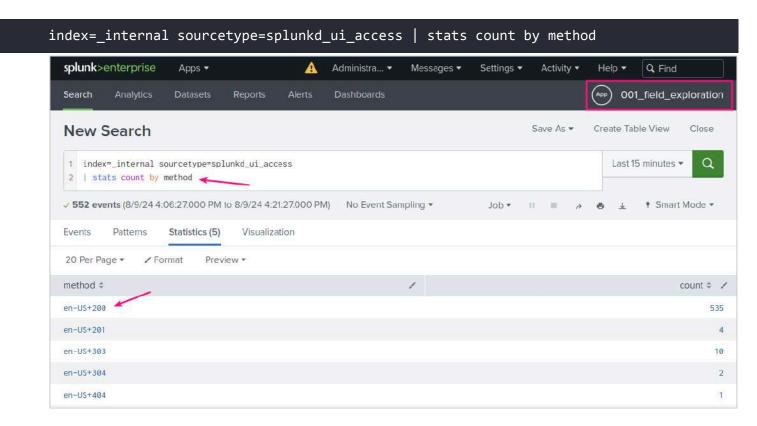
3. Explore Knowledge Object (KO) availability by navigating to the "Search & Reporting" app and running the following search:



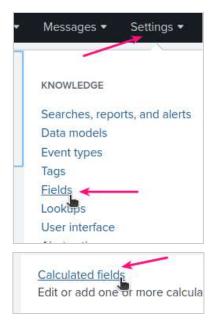
4. Change the app context by clicking on the "Apps" dropdown and selecting "00_field_exploration"



5. Explore the KO availability again by clicking back into the search field and running the same search command



- 6. Observe that the results are different this is just a changed field extract with a synthetic field definition, so there it will appear to be odd. This is simply to demonstrate host context affects access and results.but
- 7. Explore where this context is derived ("Permissions") by browsing to "Settings" > "Fields" > "Calculated Fields" > "Permissions" for the extract



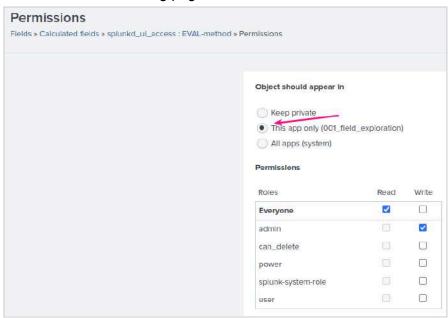
Here set to "Global"



Here set to "App only"



The "Permissions" setting page



8.	Observe the three choices for "Sharing": "Keep Private", "This app only" - App-level context, or "All apps" -
	Global. Compare with the current settings and see that it is currently limited to "This app only" and why the
	field extract was different from the "Search & Report" context

Exercise 2 - Upload an app via CLI

Description

Install a created app via a command line interface (locally on the node)

- Access the app via ssh
- Use the 'splunk install app ...' command to install the app
- Explore what is in the app to understand two of the important basic building blocks of apps, apps.conf
 and default.meta
- Demonstrate availability via a splunk restart

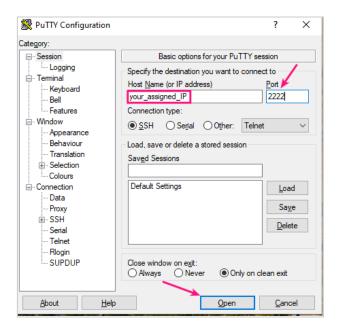
Steps

Access the Enterprise node all-in-one

The command line version for both linux and macOs [note the lowercase "p"] (change "<your assigned IP>" to be the actual assigned IP): with the password "SplunkH00di3"

ssh -p 2222 splunk@<your_assigned_IP>

Windows-style, here with PuTTY - note the GUI (change "<your_assigned_IP>" to be the actual assigned IP): same passwd as above "SplunkH00di3"



Install via 'splunk install app ...'

1. Execute the following command:

/opt/splunk/bin/splunk install app /opt/showlab/APPS-s4a-apps/fin_user_viz.tar.gz -auth admin:5p1unk.conf

2. Explore what has been placed into \$SPLUNK HOME/etc/apps:

find /opt/splunk/etc/apps/fin_user_viz -ls splunk@show-no-config-i-0f8fa34e686e76c6d:/opt/splunk/etc/apps/fin_user_viz\$ find -ls 2839457 4 drwxr-xr-x 5 splunk splunk 4096 Aug 29 17:20 . 4 drwxr-xr-x 2 splunk 2839465 splunk 4096 Aug 29 17:20 ./metadata 101 Aug 29 17:20 ./metadata/default.meta 4 -rw-r--r- 1 splunk splunk 4 -rw----- 1 splunk splunk 2839467 2839480 87 Aug 29 17:20 ./metadata/local.meta 4 drwxr-xr-x 2 splunk 4096 Aug 29 17:20 ./static 2839469 splunk 4 -rw-----1902 Aug 29 17:20 ./static/appIcon_2x.png 2839470 1 splunk splunk 4 -rw----- 1 splunk 639 Aug 29 17:20 ./static/appIcon.png splunk 2839471 139 Aug 29 17:20 ./README 2839472 4 -rw-r--r-- 1 splunk splunk 2839473 4 drwxr-xr-x 3 splunk splunk 4096 Aug 29 17:20 ./default 2839474 4 drwxr-xr-x 3 splunk splunk 4096 Aug 29 17:20 ./default/data 4096 Aug 29 17:20 ./default/data/ui 2839475 4 drwxr-xr-x 4 splunk splunk 2839476 4 drwxr-xr-x 2 splunk splunk 4096 Aug 29 17:20 ./default/data/ui/views 4 -rw-r--r-- 1 splunk 4 drwxr-xr-x 2 splunk 4 -rw-r--r-- 1 splunk splunk 2839477 1361 Aug 29 17:20 ./default/data/ui/views/splunk_ps__users_and_roles.xml 2839478 splunk 4096 Aug 29 17:20 ./default/data/ui/nav 2839479 splunk 233 Aug 29 17:20 ./default/data/ui/nav/default.xml 4 -rw----- 1 splunk 382 Aug 29 17:20 ./default/app.conf 2839489 splunk

3. Observe the settings in default.meta:

```
more /opt/splunk/etc/apps/fin_user_viz/metadata/default.meta
splunk@show-no-config-i-01e760ef443ed0e19:/opt/splunk/etc/apps$ more /opt/splunk/etc/apps/fin_user_viz/metadata/default.meta
# Application-level permissions

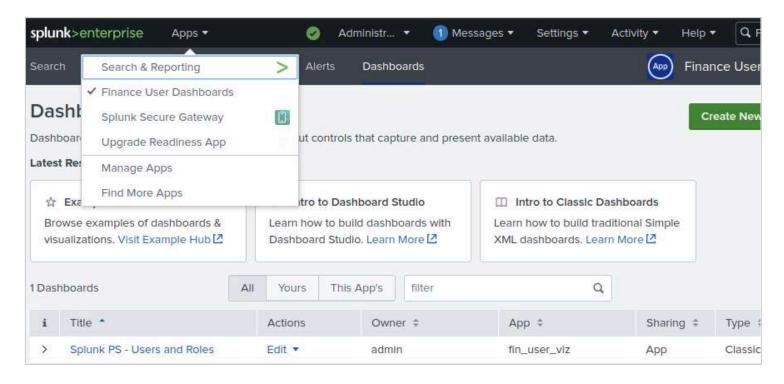
[]
access = read : [ fin_monitoring_admin admin ], write : [ fin_monitoring_admin admin, sc_admin ]
owner = fin_monitoring_admin
```

Owned by the custom role "fin_monitoring_admin", limited to read and write by the same group. Limited access due to "sensitivity".

4. Observe the settings in app.conf:

```
more /opt/splunk/etc/apps/fin_user_viz/default/app.conf
splunk@show-no-config-i-0f8fa34e686e76c6d:/opt/splunk/etc/apps/fin_user_viz$ more /opt/splunk/etc/apps/fin_user_viz/default/app.conf
[package]
id = fin_user_viz
check_for_updates = false
[install]
state = enabled
build = 1
install_source_checksum = 97fea7989bcdfcfe8ae3178843cd5cd5e7384ba0
[launcher]
author = splunkadmin@buttercup.com
description = dashboards for finance user setup visualizations
version = 1.0.0
is_visible = true
label = Finance User Dashboards
version = 1.0.0
name = fin_user_viz
```

5. Validate that the 'Finance User Dashboards' app now appears in Splunk: (the page may need to be reloaded by a browser reload command)



Exercise 3 – Copy to directory

Description

Install a created app via a command linke interface (locally on the node)

- Access the app via ssh
- Use the 'cp <source> \$SPLUNK_HOME<dest>' command to install the app
- Explore what is in the app to understand two of the important basic building blocks of apps, apps.conf
 and default.meta

Demonstrate availability via a splunk restart

Steps

Access the Enterprise node all-in-one

(Follow the steps outlined in Exercise 2)

Using an already created app (to establish a new index on the node)

1. Execute the commands:

```
cp -rp /opt/showlab/APPS-s4a-apps/fin_weblogs_indexes/ /opt/splunk/etc/apps/
splunk@show-no-config-i-0f8fa34e686e76c6d:/opt$ cp -rp /opt/showlab/APPS-s4a-apps/fin_weblogs_indexes/ /opt/splunk/etc/apps/
splunk@show-no-config-i-0f8fa34e686e76c6d:/opt$ []
```

2. Observe the files in the app:

more /opt/splunk/etc/apps/fin_weblogs_indexes/default/app.conf

```
splunk@show-no-config-i-0f8fa34e686e76c6d:/opt$ more /opt/splunk/etc/apps/fin_weblogs_indexes/default/app.conf
[package]
id = fin_weblog_indexes
check_for_updates = false

[install]
state = enabled
build = 1

[launcher]
author = splunkadmin@buttercup.com
description = index for weblogs
version = 1.0.0

[ui]
is_visible = false
label = Finance Index Definitions

[id]
version = 1.0.0
name = fin_weblog_indexes
```

more /opt/splunk/etc/apps/fin_weblogs_indexes/default/indexes.conf

```
splunk@show-no-config-i-0f8fa34e686e76c6d:/opt$ more /opt/splunk/etc/apps/fin_weblogs_indexes/default/indexes.conf
[volume:hot-warm]
path = /opt/splunk/var/lib/splunk
maxVolumeDataSizeMB = 80000
[volume:cold-thawed]
path = /opt/splunk/var/lib/cold_thawed
maxVolumeDataSizeMB = 1000
[weblogs]
homePath = volume:hot-warm/$ index name/db
coldPath = volume:hot-warm/$ index name/colddb
thawedPath = $SPLUNK DB/$ index name/thaweddb
summaryHomePath = volume:hot-warm/$_index_name/summary
tstatsHomePath = volume:hot-warm/$_index_name/datamodel_summary
maxDataSize = auto
maxTotalDataSizeMB = 5000
frozenTimePeriodInSecs = 43200
```

more /opt/splunk/etc/apps/fin_weblogs_indexes/metadata/local.meta

```
splunk@show-no-config-i-0f8fa34e686e76c6d:/opt$ more /opt/splunk/etc/apps/fin_weblogs_indexes/metadata/local.meta
[]
access = read : [ * ], write : [ admin ]
export = system
```

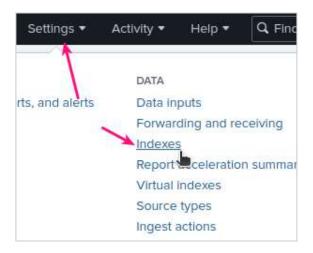
Restart Splunk:

```
splunk@show-no-config-i-0f8fa34e686e76c6d:/opt$ /opt/splunk/bin/splunk restart
Stopping splunkd...
Shutting down. Please wait, as this may take a few minutes.
....
Stopping splunk helpers...
```

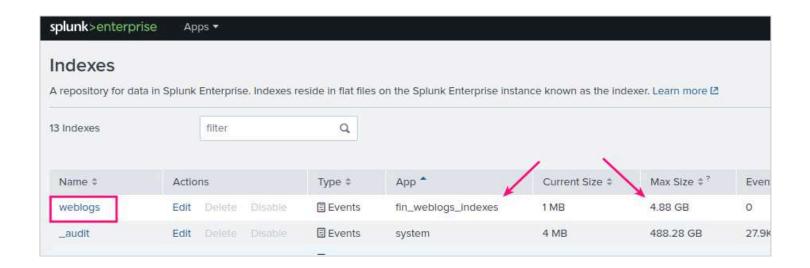
Validate the index exists on the node

4. In the GUI, select "Settings", "Indexes" ...

/opt/splunk/bin/splunk restart



And see the new index created, from the "fin_weblogs_indexes" app, with a max size of 5 gigabytes



Exercise 4 - Upload an app via GUI

Description

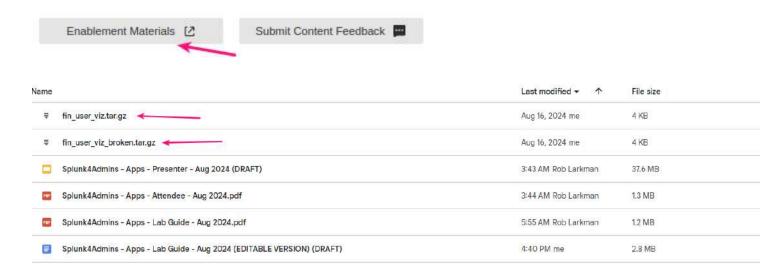
In this exercise we will:

- 1. Build an app, but ensure the correct files are in place
- Click through to "Upload App"
- 3. Generate "App Validation"
 - a. If successful { install }
 - b. else { diagnose, remediate, retry}

Steps

Access your Splunk Cloud instance

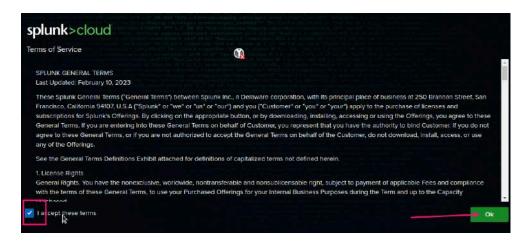
1. From the email, access the SHOW interface enablement documents download the two app files "fin_user_viz.tar.gz" and "fin_user_viz_broken.tar.gz" to your local machine. Remember where they are downloaded to ...



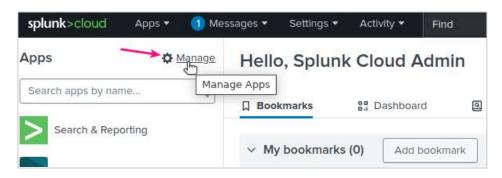
- 2. Access the Splunk Cloud environment by clicking on the Splunk Cloud link provided in the Splunk Show interface.
- 3. Login using the credentials provided by Splunk Show:



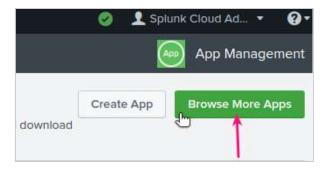
4. Accept the Splunk Cloud Terms of Service by clicking on the box on the lower right and then the green "Ok" on the right:



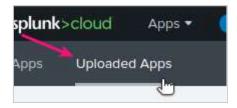
5. Click on "Manage" next to Apps to begin the process



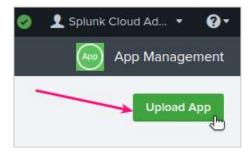
6. Click on "Browse More Apps"



7. Click on "Uploaded Apps"

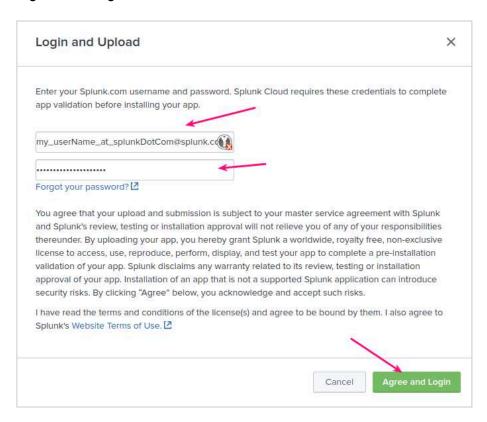


8. Click on "Upload App"

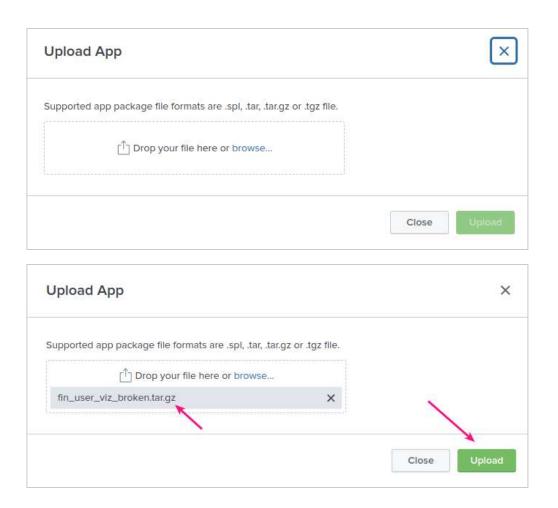


9. The "Login and Upload" dialogue

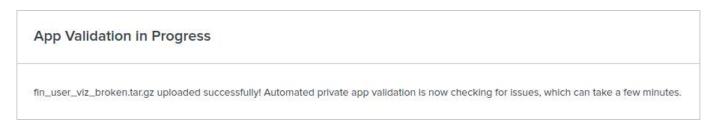
The username and password field should be populated with the admin's splunk.com credentials. Click "Agree and Login" to continue...



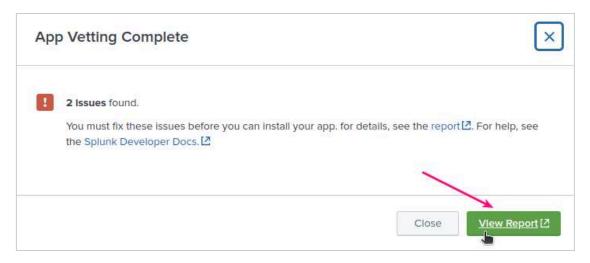
10. The "Upload App" dialogue appears, select the file containing the app you wish to upload (here it is fin_user_viz_broken.tar.gz) and click the green "Upload" button



See the "App Validation In Progress" panel

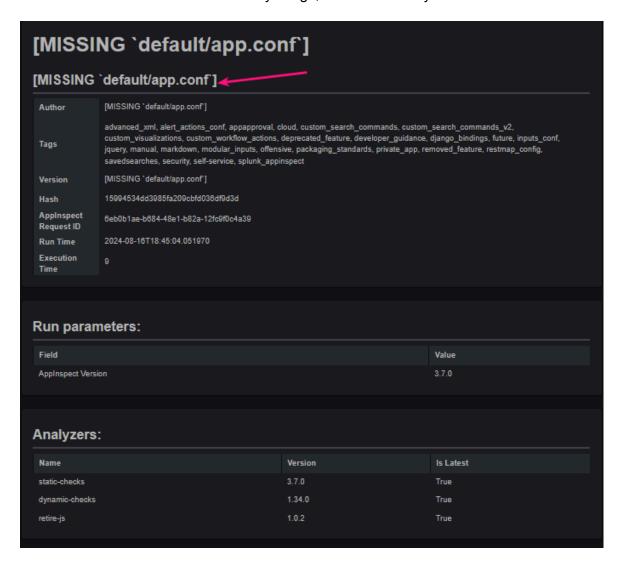


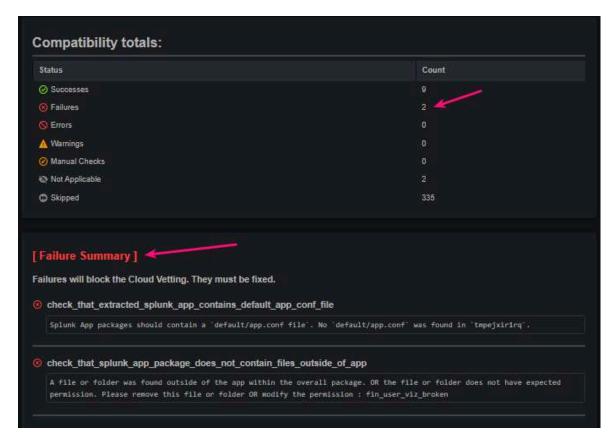
11. Upon completion of the App Vetting process, a response, with a link to review the results. Click the green "View Report" button



Review the report

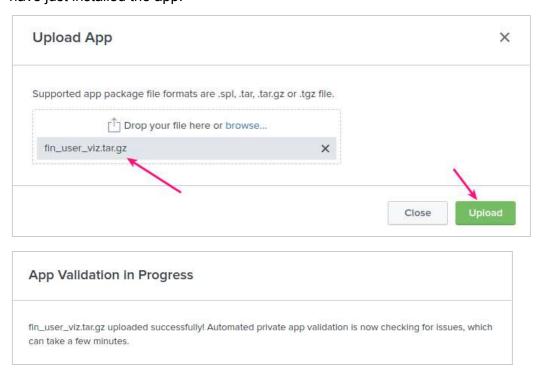
fin_user_viz_broken.tar.gz has a misconfiguration in that the files are all in the "local" directory (as indicated by the 'MISSING default/app.conf' response). Further details are available in the report as to exactly what needs to be remediated. This can be many things, so read carefully.



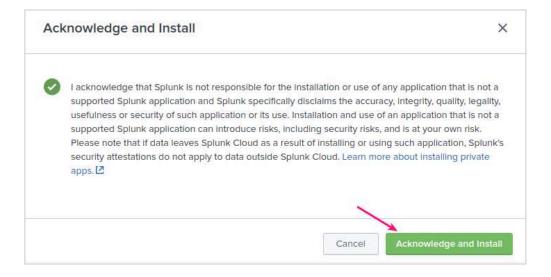


Try another app

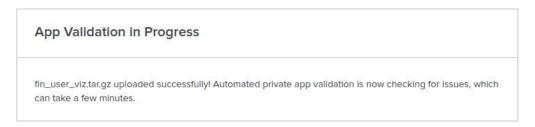
12. Upload the 'fin_user_viz.tar.gz' app and follow through to a 'passing' Vetting process, reach the point of 'passed' vetting and see the "Acknowledge and Install" dialogue. This doesn't appear in Enterprise, it will have just installed the app.



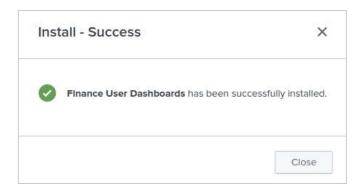
Click the green "Acknowledge and Install" button.



See the "AppValidation - In Progress" dialog

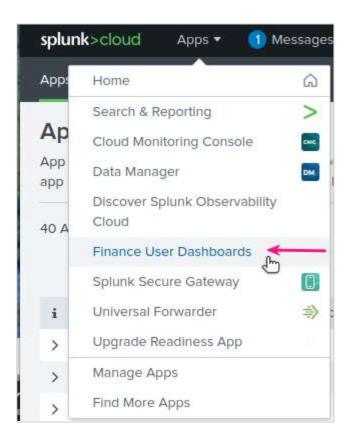


After a moment, see the "Install - Success" interaction, click "Close"

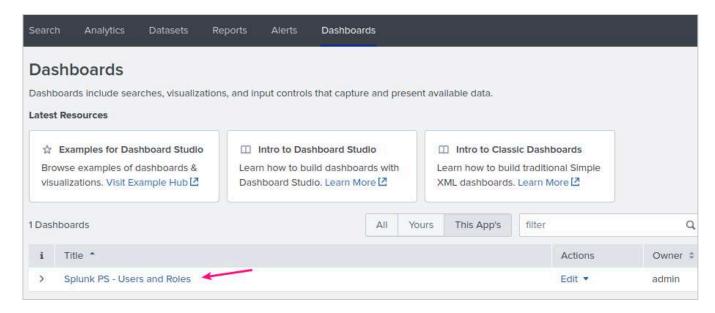


Validate the installation

13. Click on the 'Apps' dropdown and select "Finance User Dashboards".



14. Click on the "Dashboards" submenu and see the "Splunk PS - Users and Roles" dashboard.



Links

What are Splunk Apps and Add-Ons?	
	https://www.splunk.com/en_us/blog/tips-and-tricks/what-are-splunk-apps-and-add-ons.html
· · · · ·	https://dev.splunk.com/enterprise/docs/welcome/#What-is-a -Splunk-app
1 - 1	https://docs.splunk.com/Documentation/Splunk/latest/AdvancedDev/Whatsinthismanual
' '	https://docs.splunk.com/Documentation/Splunk/latest/Admin/Whatsanapp
_	https://docs.splunk.com/Documentation/Splunk/latest/Data/ Usingapps
	https://docs.splunk.com/Documentation/SplunkCloud/latest/ Knowledge/Manageknowledgeobjectpermissions
• • • • • • • • • • • • • • • • • • • •	https://docs.splunk.com/Documentation/SplunkCloud/9.2.24 03/Config/ManageAppPermissions
	https://docs.splunk.com/Documentation/SplunkCloud/latest/ DevApp/Overview
	https://dev.splunk.com/enterprise/docs/releaseapps/manageprivatecloud/
Splunk Add-on Builder	https://splunkbase.splunk.com/app/2962
·	https://docs.splunk.com/Documentation/SplunkCloud/latest/ Admin/SelfServiceAppInstall
Splunkbase Home	https://splunkbase.splunk.com/
	https://dev.splunk.com/enterprise/docs/developapps/manageknowledge/fileprecedence/
	https://docs.splunk.com/Documentation/Splunk/latest/Admin/Wheretofindtheconfigurationfiles
J T	https://docs.splunk.com/Documentation/Splunk/latest/Troubleshooting/Usebtooltotroubleshootconfigurations
Admins Little Helper for Splunk	https://splunkbase.splunk.com/app/6368
<u></u>	https://docs.splunk.com/Documentation/Splunk/latest/Admin/CLladmincommands#:~:text=poll%20bologna%3A1234-,show,-config%2C%20cluster%2Dbundle
	https://lantern.splunk.com/Splunk_Success_Framework/Data_Management/Naming_conventions
	https://docs.splunk.com/Documentation/Splunk/latest/Admin/CLIadmincommands#:~:text=tmp/export.dat-,install,-app
_	https://docs.splunk.com/Documentation/SplunkCloud//Config/ACSIntro
default.meta.conf	https://docs.splunk.com/Documentation/Splunk/latest/Admi

app.conf	https://docs.splunk.com/Documentation/Splunk/latest/Admi n/appconf
App deployment overview	https://docs.splunk.com/Documentation/Splunk/latest/Admin/Deployappsandadd-ons
Administer Splunk Enterprise with the command line interface (CLI)	https://docs.splunk.com/Documentation/Splunk/latest/Admin/AbouttheCLI
Configuration file directories	https://docs.splunk.com/Documentation/Splunk//Admin/Configurationfiledirectories
Edit the configuration file settings directly	https://docs.splunk.com/Documentation/Splunk/latest/Admin/Aboutconfigurationfiles#:~:text=system/default,Edit%20the%20configuration%20file%20settings%20directlyWhile%20you%20can
Use the deployer to distribute apps and configuration updates	https://docs.splunk.com/Documentation/Splunk/latest/DistSearch/PropagateSHCconfigurationchanges
Update common peer configurations and app	https://docs.splunk.com/Documentation/Splunk/latest/Indexer/Updatepeerconfigurations
Administer Splunk Enterprise with configuration files	https://docs.splunk.com/Documentation/Splunk/latest/Admin/Aboutconfigurationfiles
Overview of developing a private Splunk Cloud Platform app	https://docs.splunk.com/Documentation/SplunkCloud/latest/ DevApp/Overview
Manage private apps on your Splunk Cloud Platform deployment	https://docs.splunk.com/Documentation/SplunkCloud/latest/ Admin/PrivateApps
Deploy and manage private apps in Splunk Cloud Platform	https://dev.splunk.com/enterprise/docs/releaseapps/manageprivatecloud/
Install a private app on Victoria Experience	https://docs.splunk.com/Documentation/SplunkCloud/latest/Admin/PrivateApps#:~:text=Platform%20ExperienceInstall%20a%20private%20app%20on%20Victoria%20ExperienceIf%20your%20Splunk
Validate the quality of Splunk apps and add-ons for Splunk Cloud Platform or Splunk Enterprise using Splunk AppInspect	https://dev.splunk.com/enterprise/docs/developapps/testvalidate/appinspect/
Applnspect App for Splunk	https://splunkbase.splunk.com/app/3956
What is SSH (Secure Shell)?	https://www.ssh.com/academy/ssh
Download PuTTY: latest release	https://putty.org/