Scenario

You are a security analyst working at the e-commerce store Buttercup Games. You've been tasked with identifying whether there are any possible security issues with the mail server. To do so, you must explore any failed SSH logins for the root account.

Steps

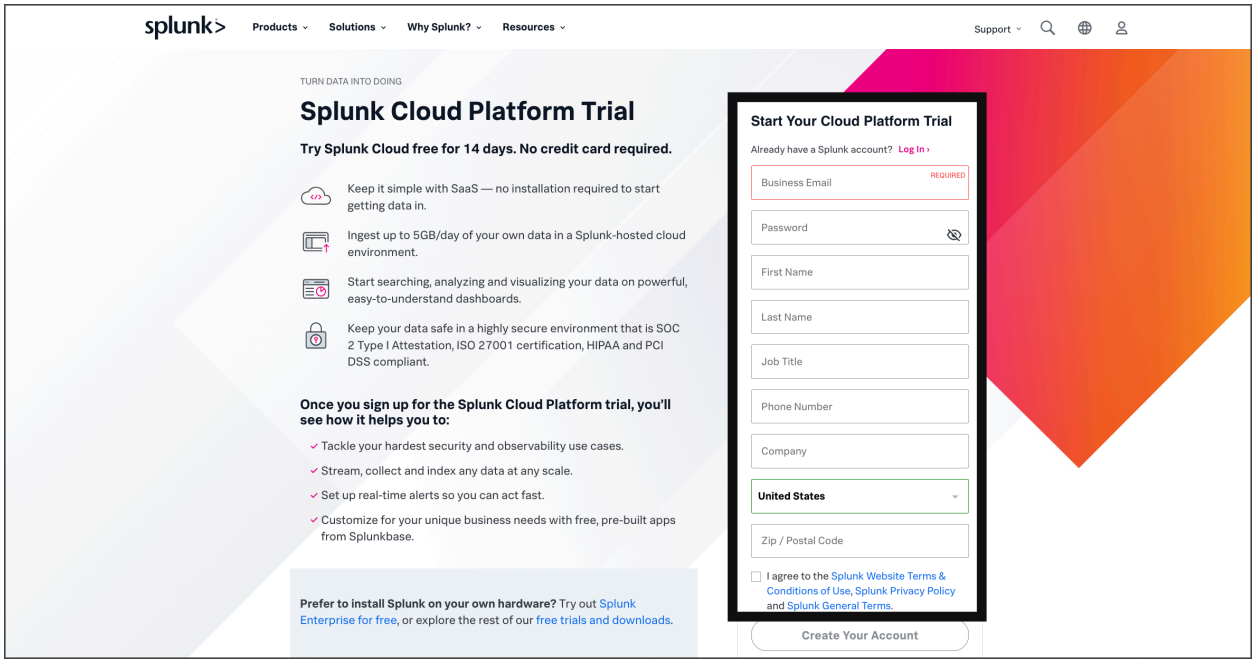
Step 1) Splunk cloud trial and account setup

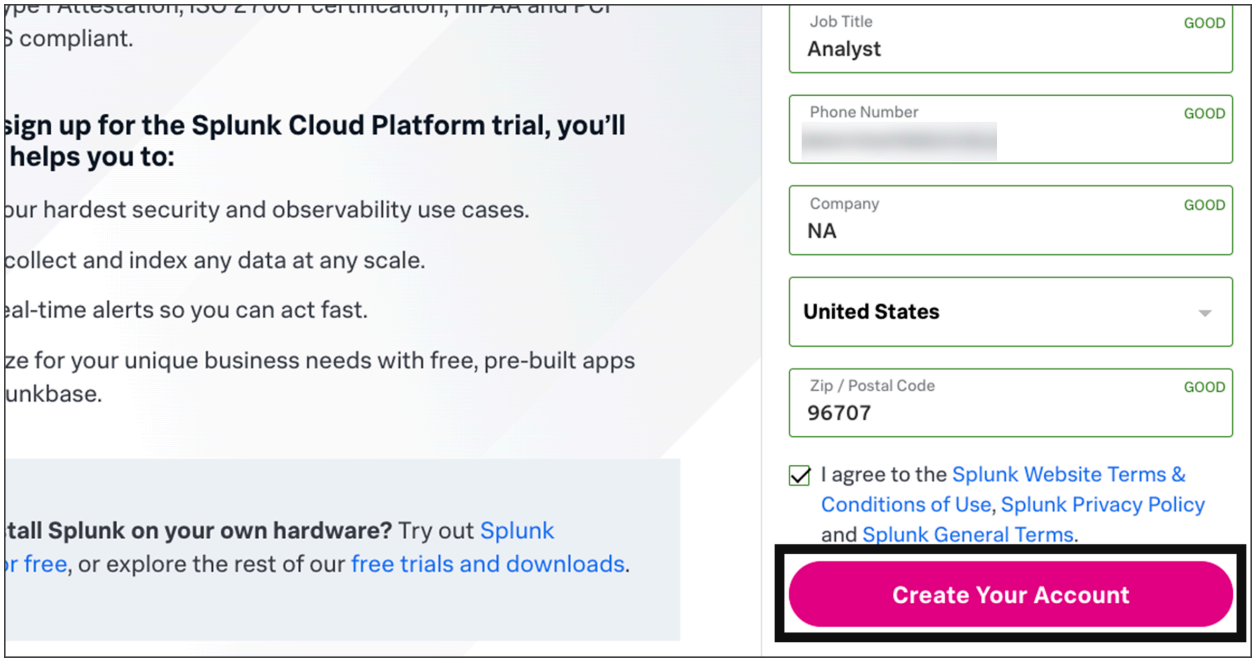
Use this reading for step-by-step instructions on how to create a Splunk Cloud account, activate a Splunk Cloud free trial, and upload data to a Splunk Cloud instance.
The following guide identifies parts of the video that may require adjustment. This reference guide can also serve as a usability reminder when using Splunk Cloud in the future.

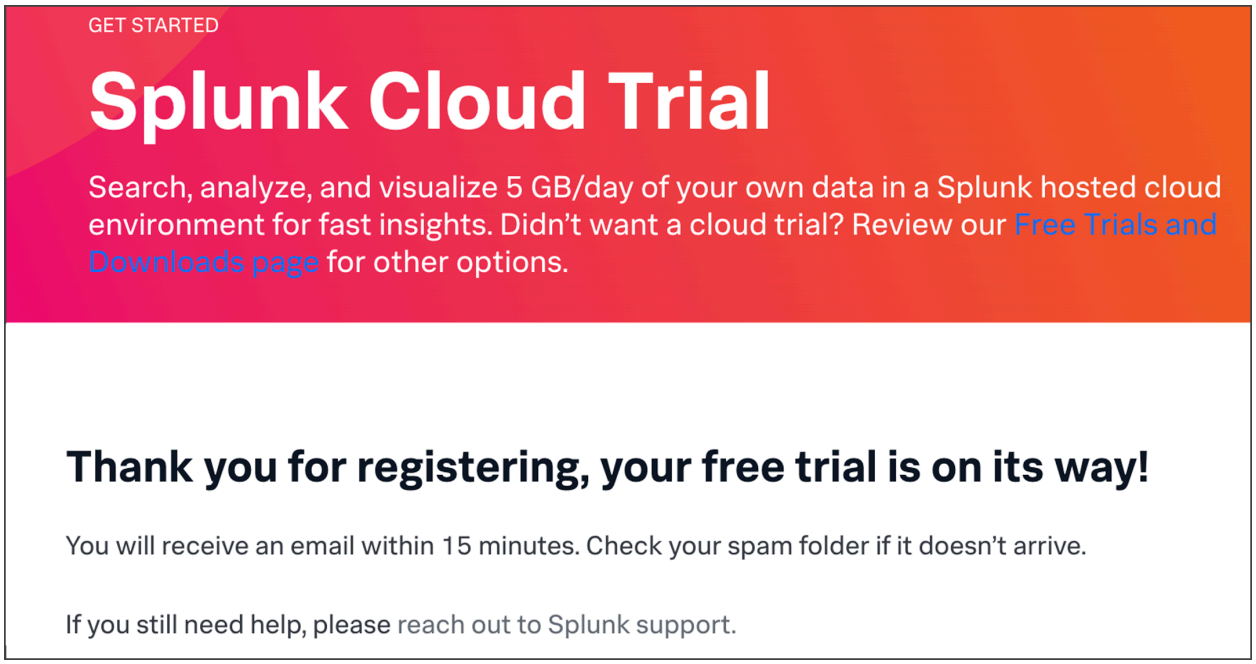
Instructions

Part 1 - Create a Splunk Cloud account

1. Go to the Splunk Cloud Platform Trial page.
2. Fill in the fields in the **Start Your Cloud Platform Trial** sign-up form.
3. Click **Create Your Account**.

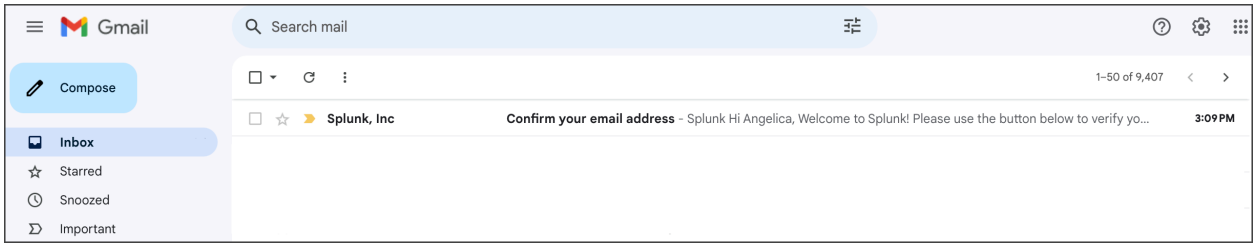



S compliant.
sign up for the Splunk Cloud Platform trial, you'll
helps you to:
our hardest security and observability use cases.
collect and index any data at any scale.
eal-time alerts so you can act fast.
ze for your unique business needs with free, pre-built apps
unkbase.
tall Splunk on your own hardware? Try out Splunk
r free, or explore the rest of our free trials and downloads.
Job Title
GOOD
Analyst
Phone Number
GOOD
Company
GOOD
NA
United States
Zip / Postal Code
GOOD
96707
I agree to the Splunk Website Terms & Conditions of Use, Splunk Privacy Policy and Splunk General Terms.
Create Your Account

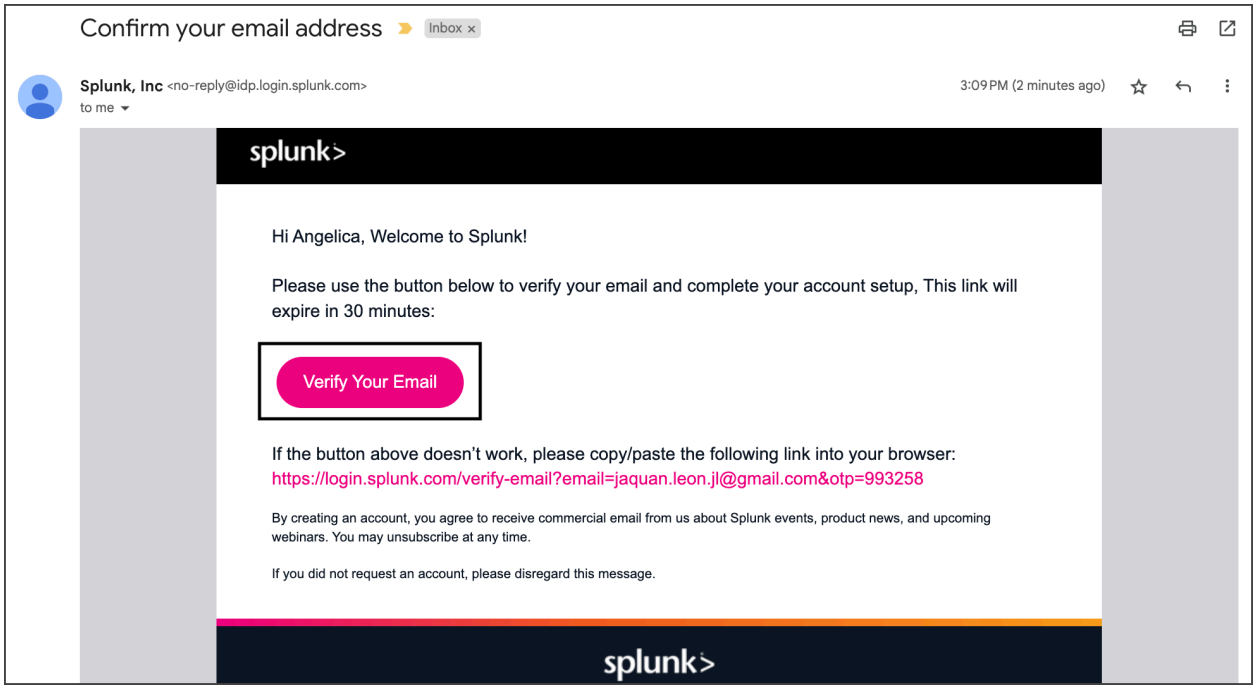

GET STARTED
Splunk Cloud Trial
Search, analyze, and visualize 5 GB/day of your own data in a Splunk hosted cloud environment for fast insights. Didn't want a cloud trial? Review our Free Trials and Downloads page for other options.
Thank you for registering, your free trial is on its way!
You will receive an email within 15 minutes. Check your spam folder if it doesn't arrive.
If you still need help, please reach out to Splunk support.

Part 2 - Verify your email

1. Check the inbox for the email address that you used to sign up for the Splunk account. Find the verification email from Splunk with the subject line **Confirm your email address**.



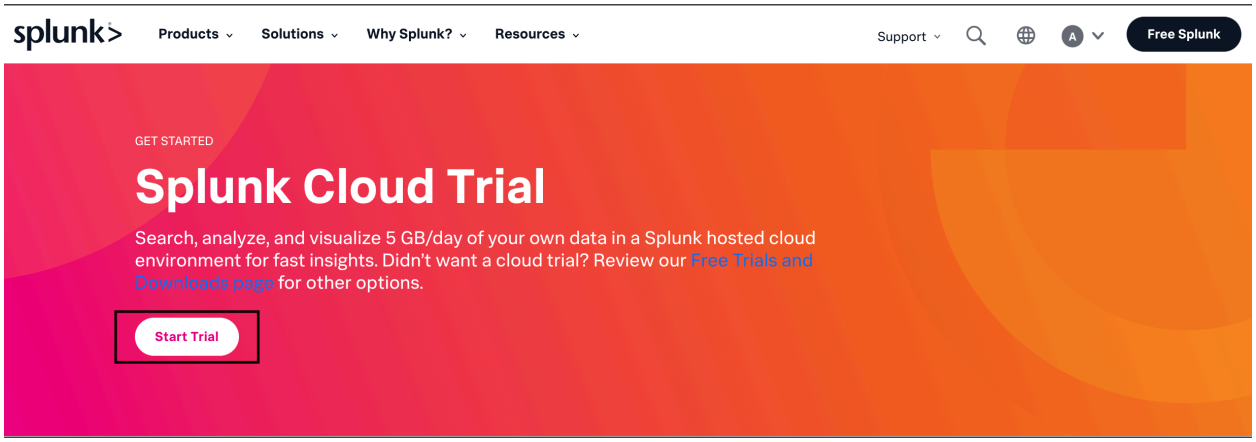
2. Open the email and click the **Verify Your Email** button.

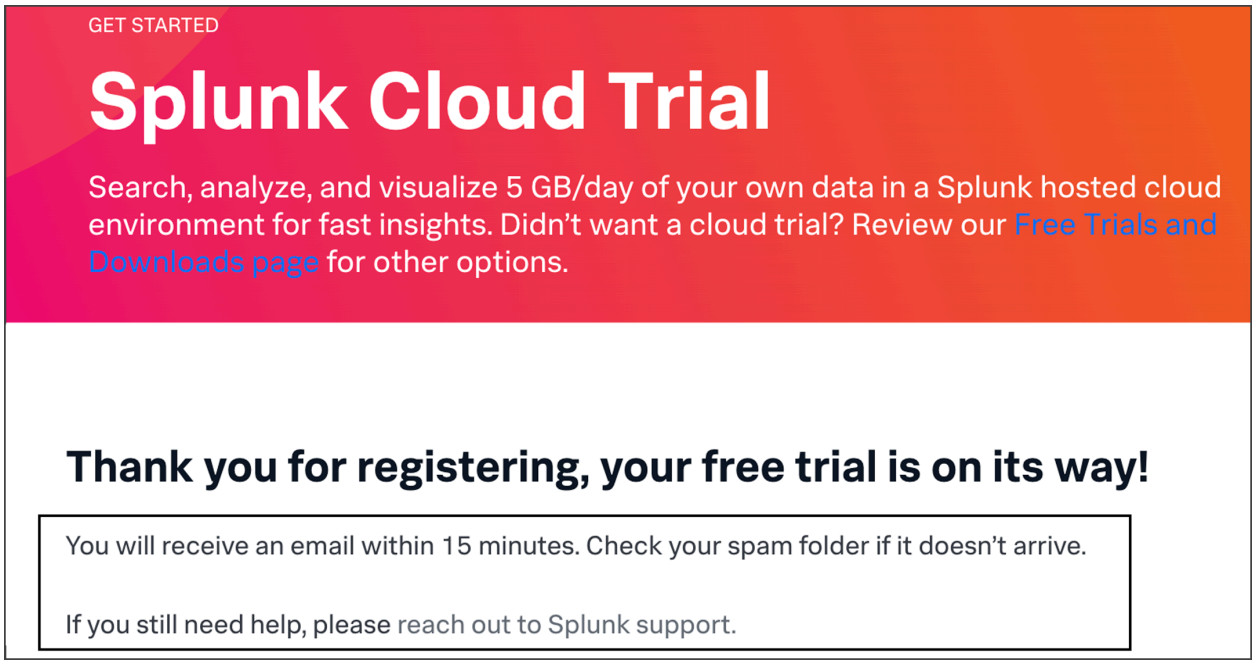


***Note**: Check your spam folder if you didn't receive the verification email.*

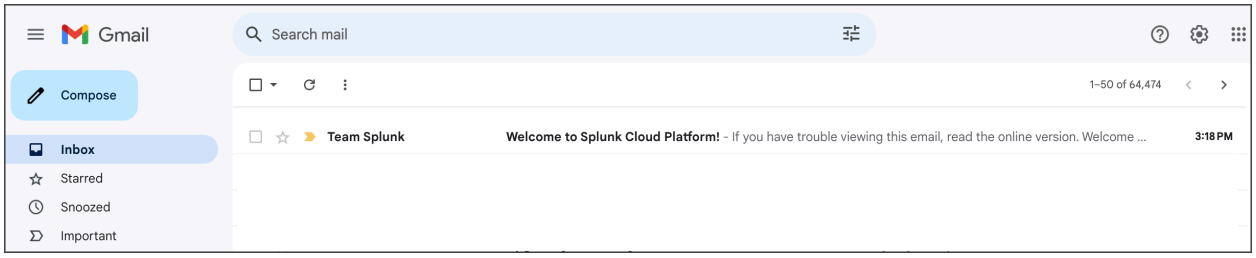
Part 3 - Activate a Splunk Cloud trial

After clicking the **Verify Your Email** button, you'll be redirected to the Splunk Cloud Trial page.
***Note**: You can activate one Splunk Cloud trial instance at a time, and you can use a maximum of three trials per Splunk account. The Splunk Cloud free trial expires after 14 days, so you may want to complete this activity before the free trial expires.*
***Note:** Alternatively, you can also access the Splunk Cloud Trial page by visiting Splunk Cloud Platform Trial and logging into your account, then clicking **Start Trial**.*
1. Click the **Start Trial** button.

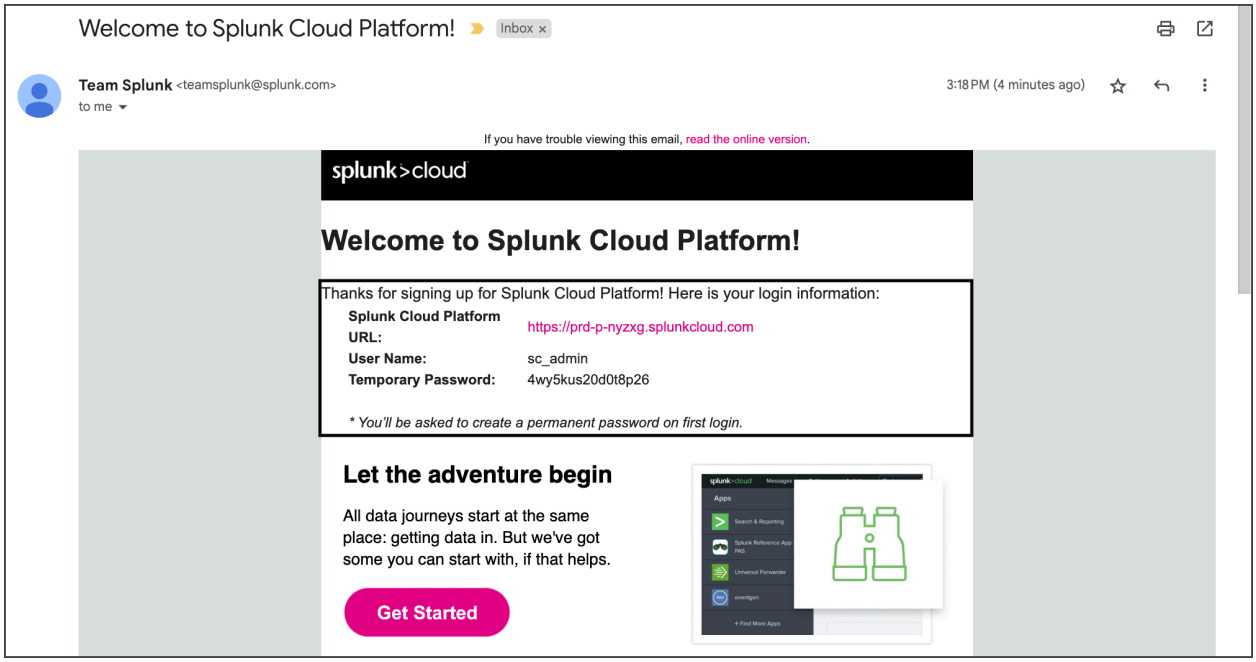




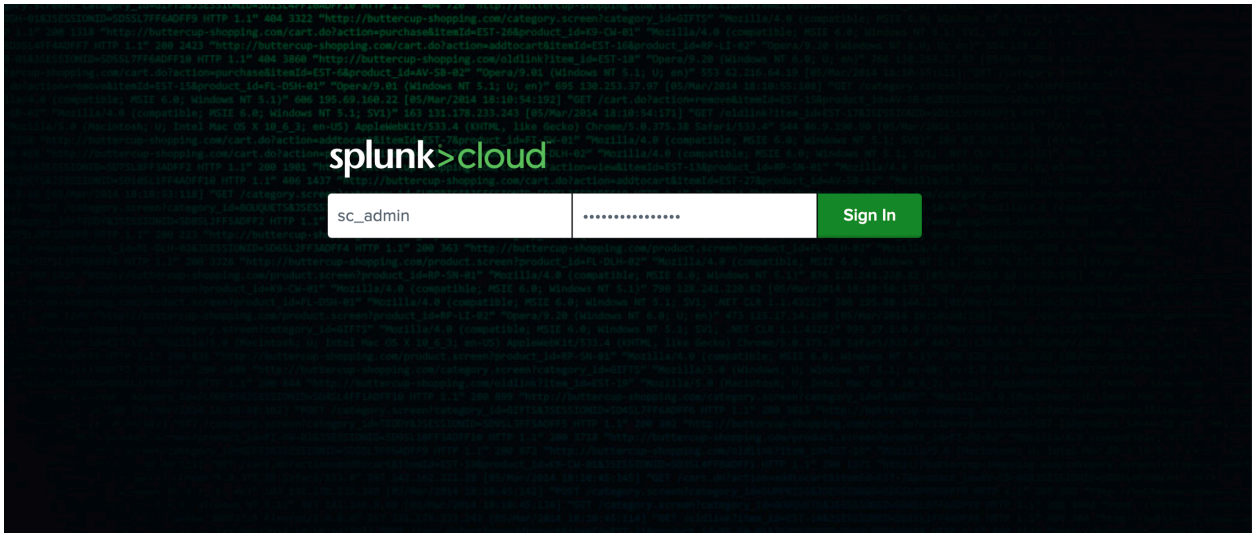
2. Check your inbox for an email from Team Splunk with the subject line **Welcome to Splunk Cloud Platform!**



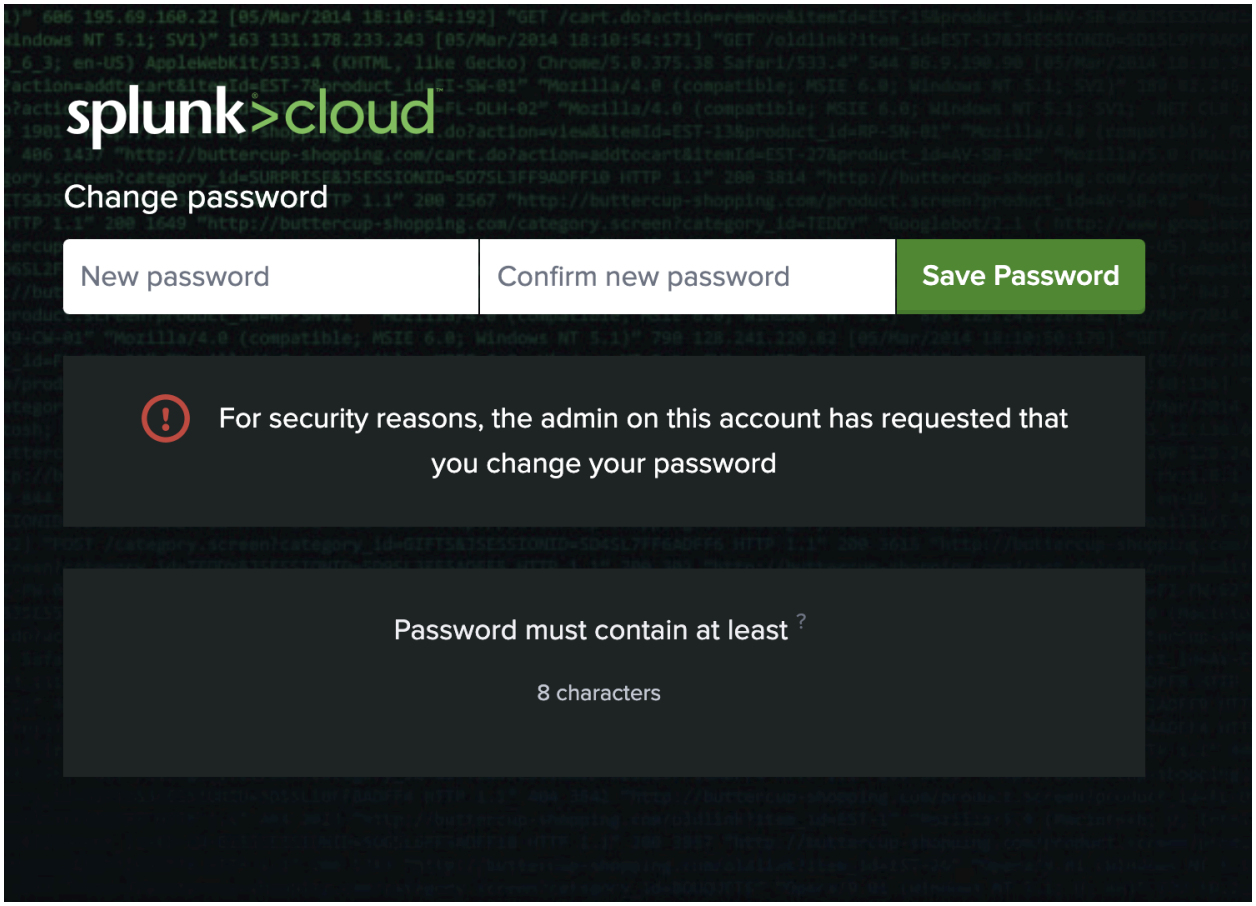
3. Open the email to access your Splunk Cloud login information.
4. Click the link beside **URL** to access the Splunk Cloud Platform.



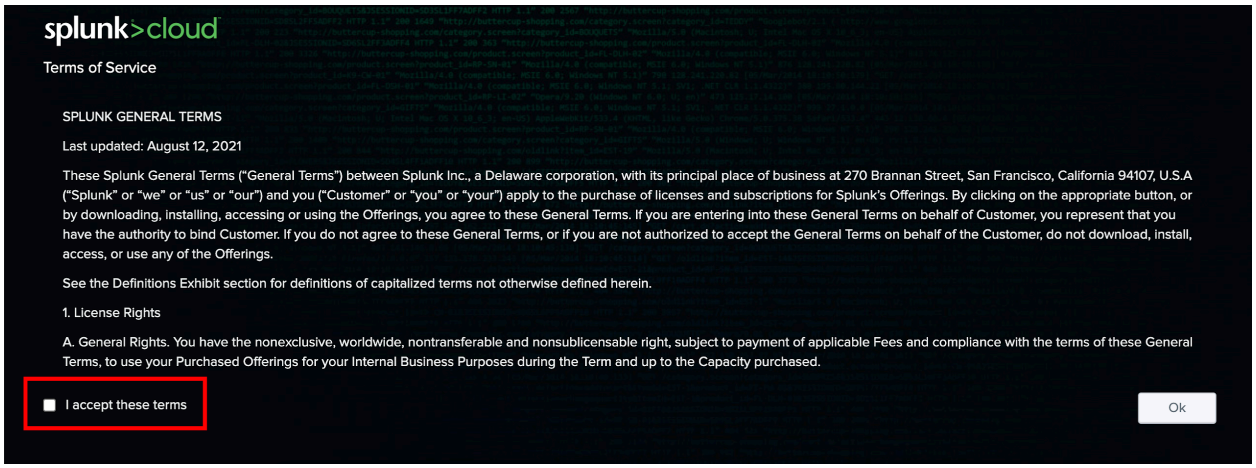
5. Enter the username and password credentials that were included in the email.



6. You will be prompted to change the password of the Splunk Cloud Platform account. Enter a new password and click **Save Password**.



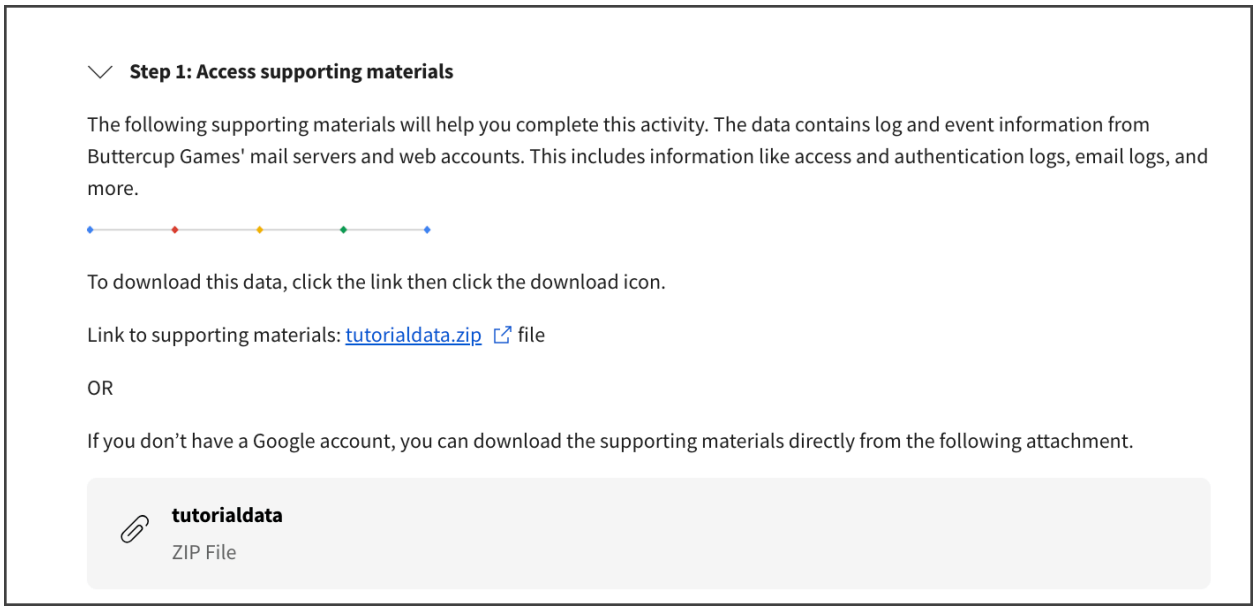
7. Check the box next to **I accept these terms** and click **Ok**.



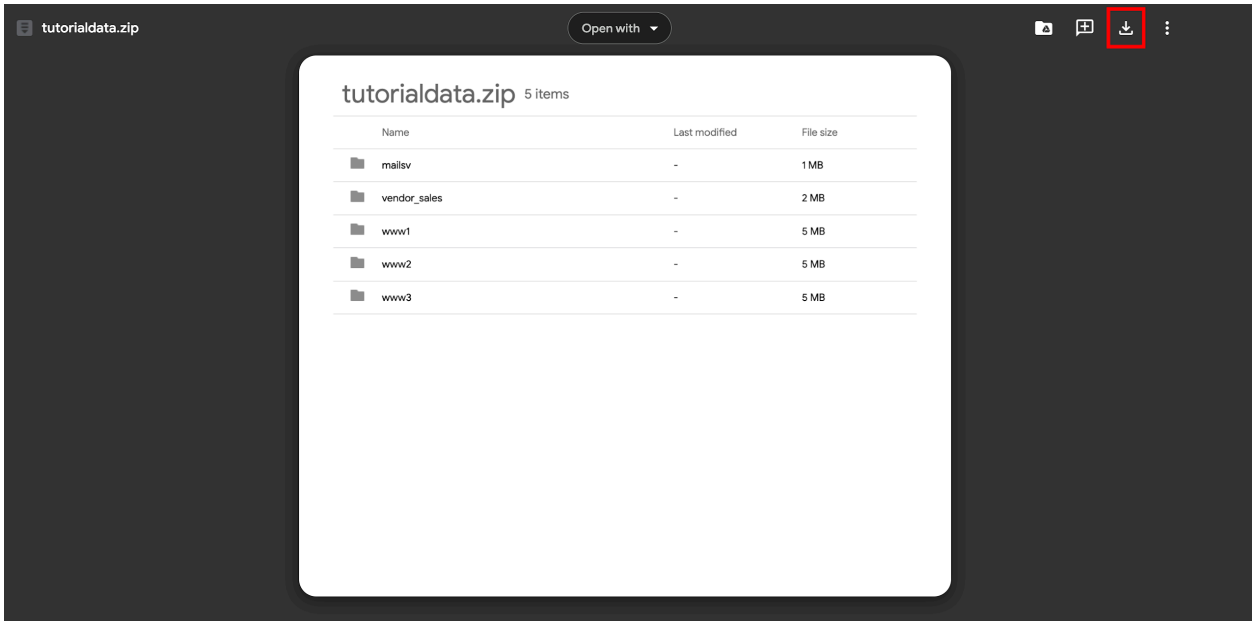
Part 4 - Download and upload Splunk data

After you've accepted the Terms of Service, you'll automatically be redirected to the Splunk Home dashboard.

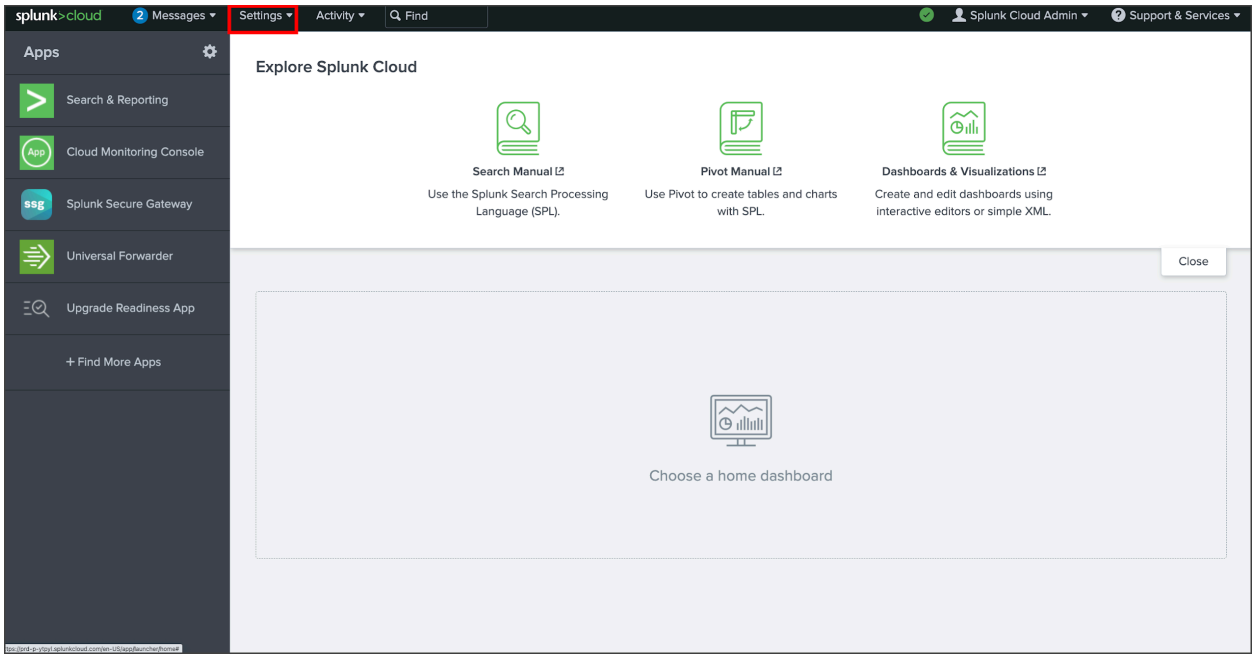
1. Go to Activity: Perform a query with Splunk.
2. Go to **Step 1: Access supporting materials**.

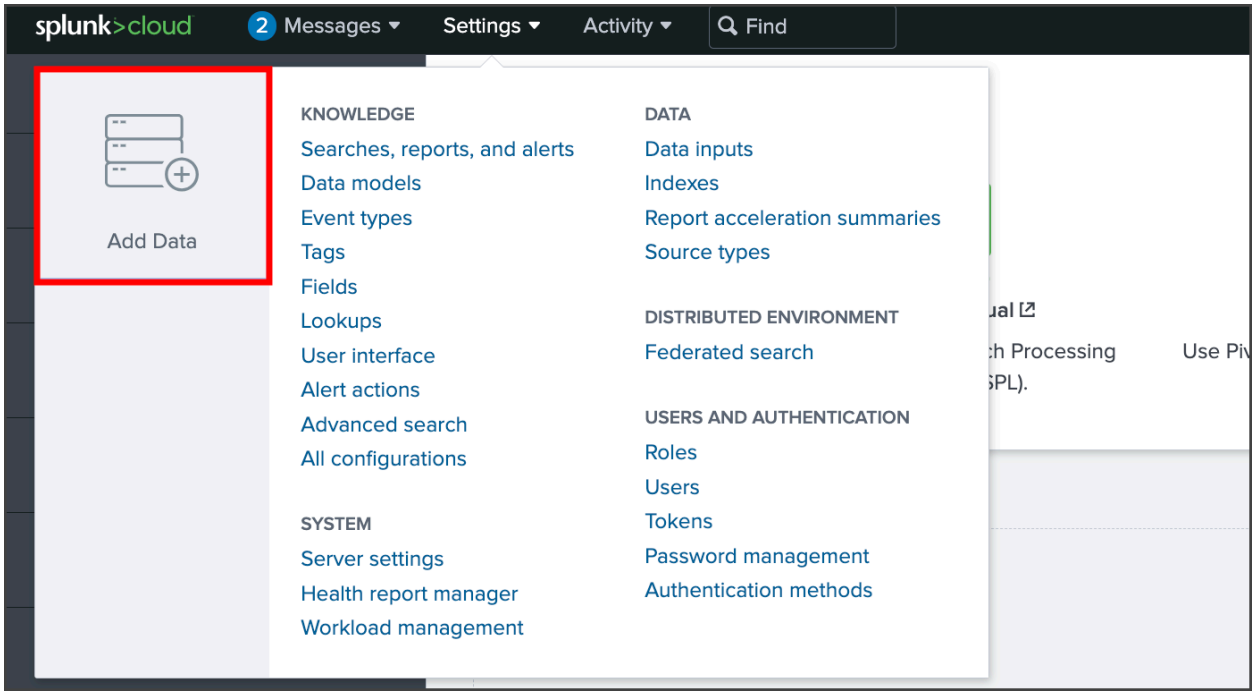


3. Beside **Link to supporting materials** click **tutorialdata.zip**.
4. Click the **download icon** to download the zip file.

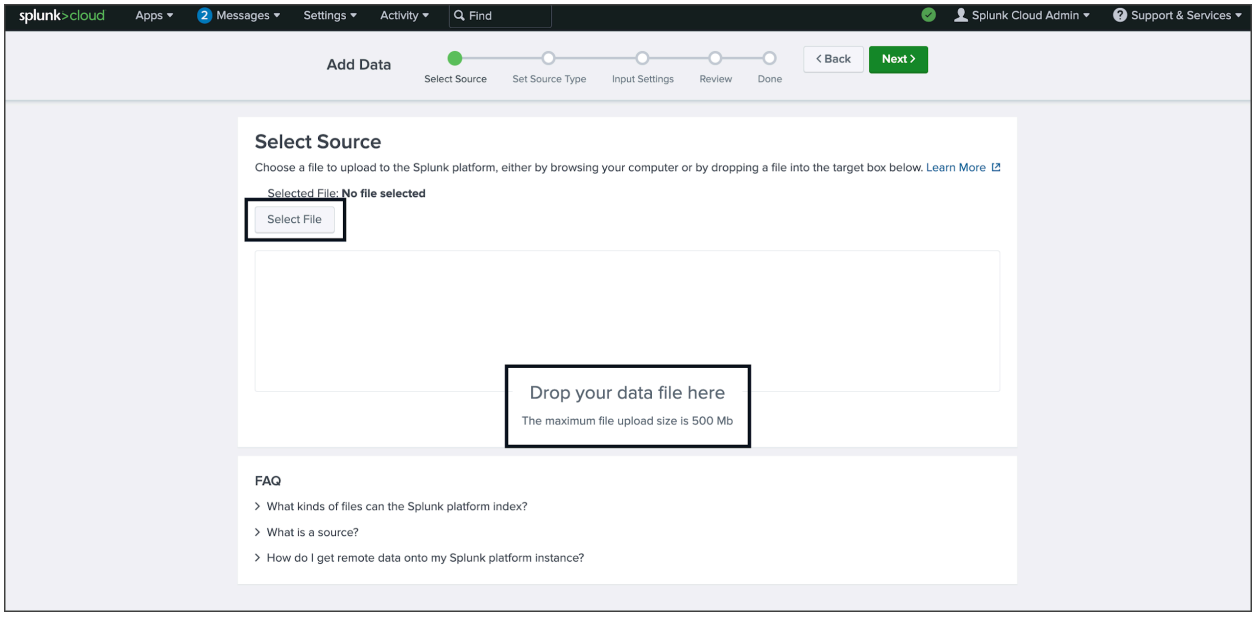


5. Go to the Splunk Home dashboard.
6. On the Splunk bar, click **Settings** and then click **Add Data**.

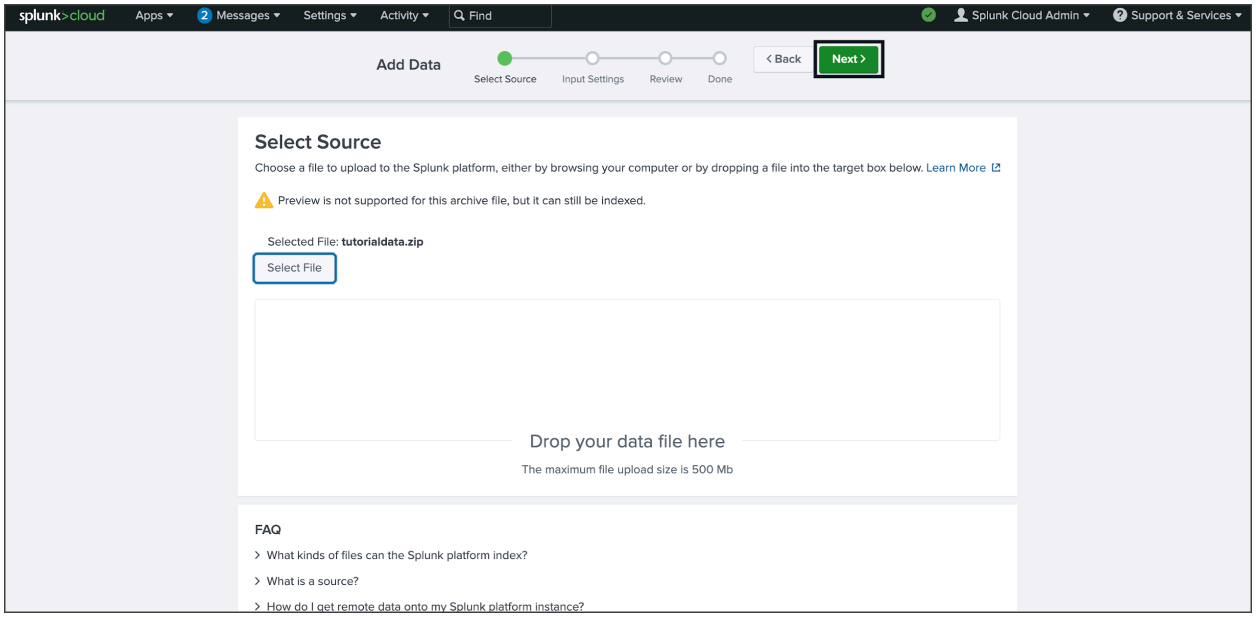




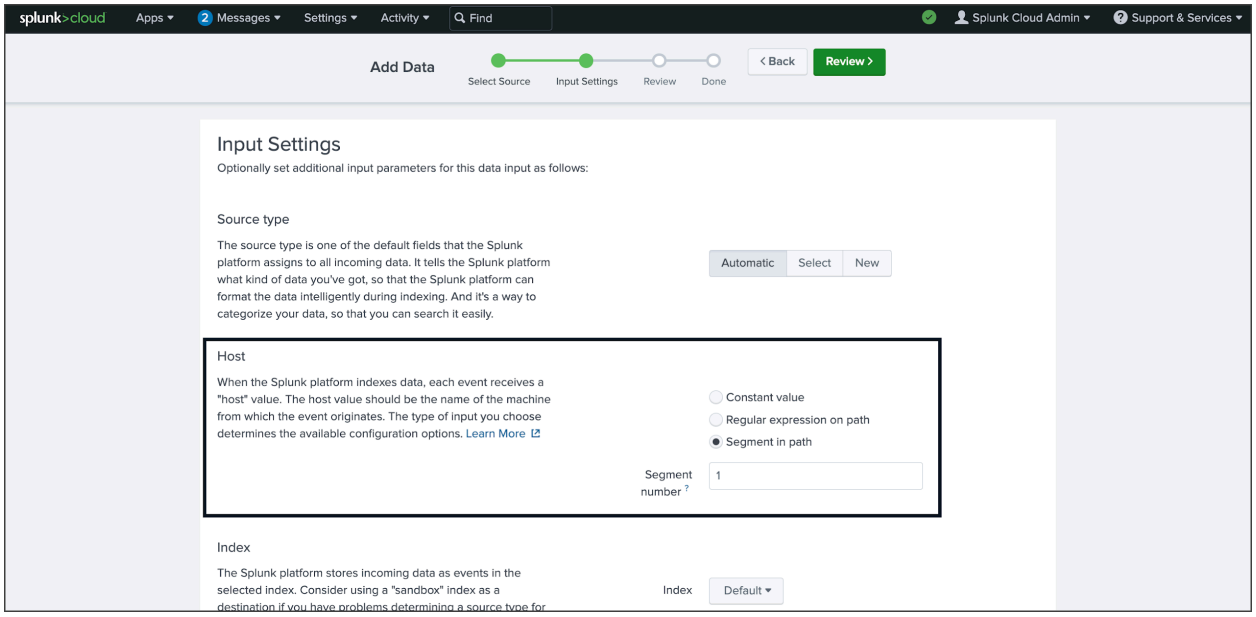
7. Click **Upload**.
8. Click **Select File** to upload the **tutorialdata.zip** file. Alternatively, you can also drag and drop your file in the **Drop your data file here** box.



9. Once the file is uploaded, click **Next** to continue to **Input Settings**.



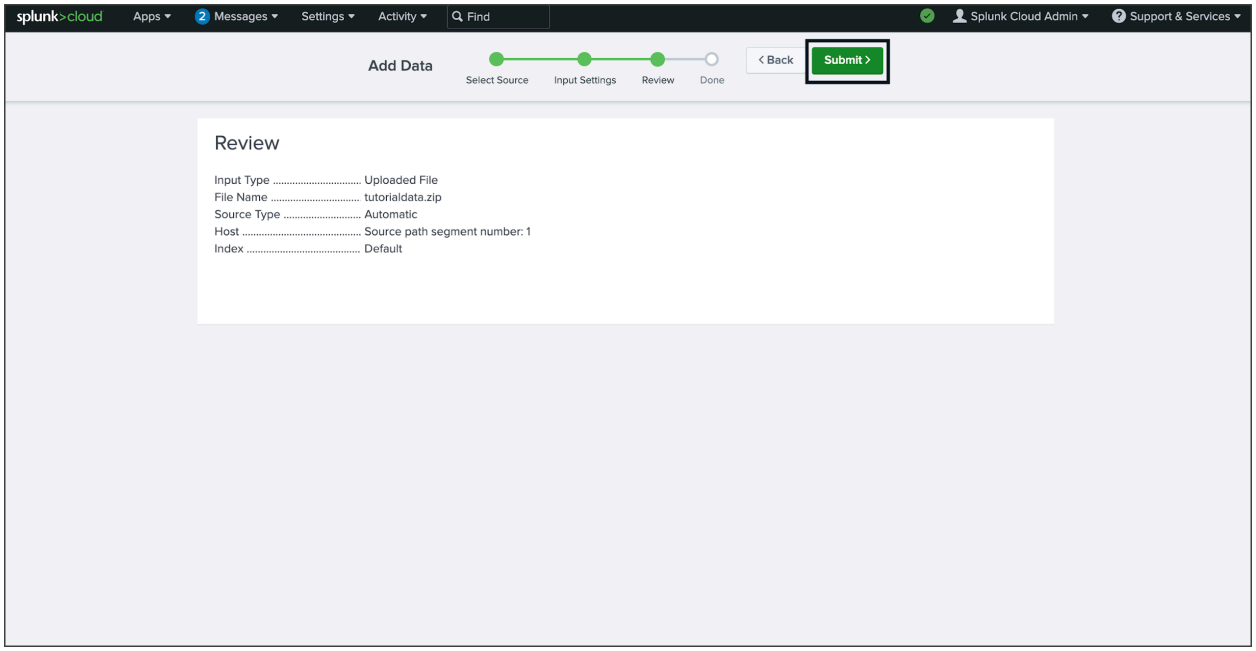
10. By the **Host** section, select **Segment in path** and enter **1** as the segment number.



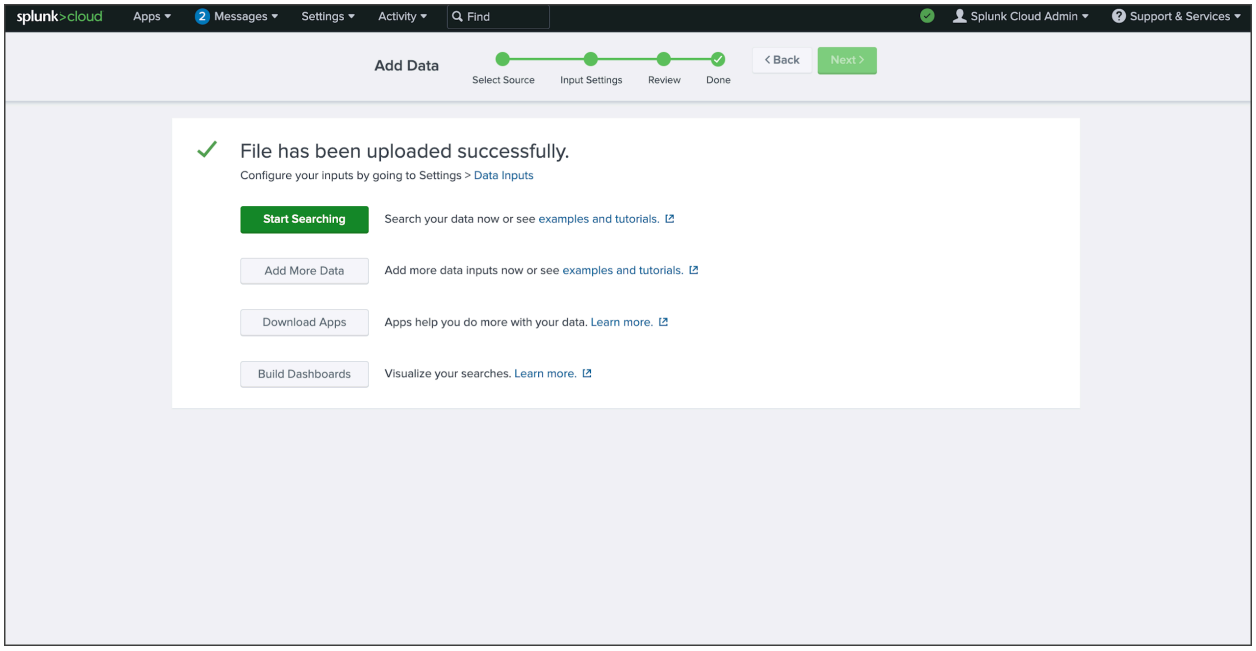
11. Click **Review** and check the details of the upload before you submit. The details should be as follows:

- Input Type: Uploaded File
- File Name: tutorialdata.zip
- Source Type: Automatic
- Host: Source path segment number: 1
- Index: Default

12. After you've verified that the details are correct, click **Submit**.



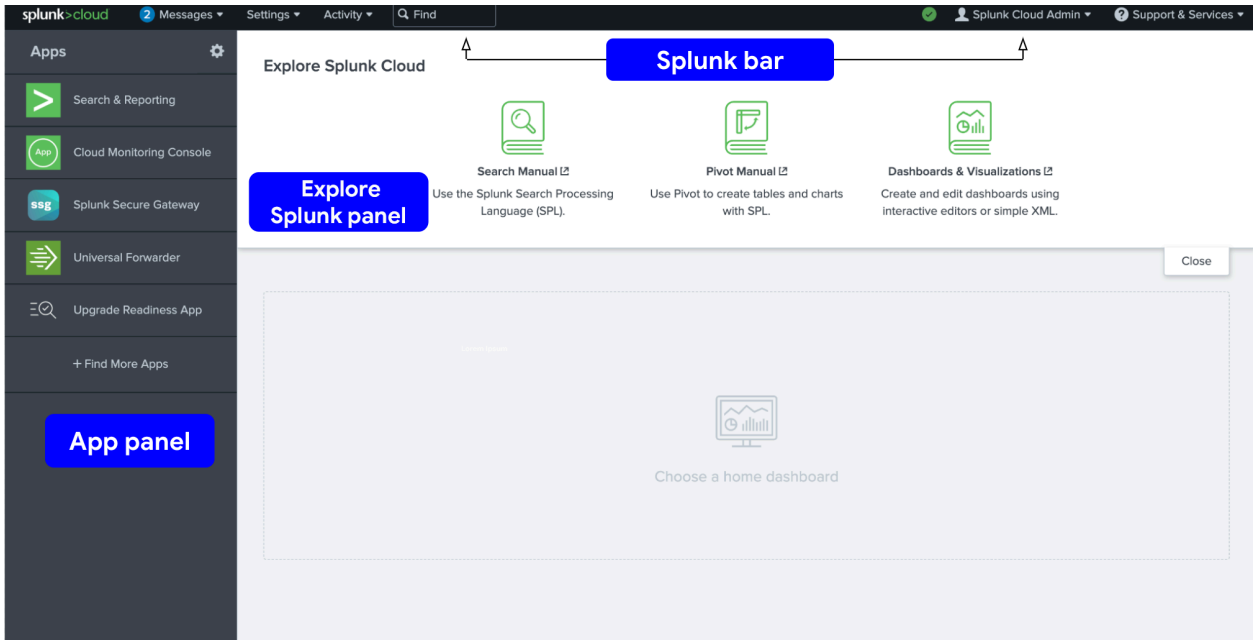
13. Once Splunk has ingested the data, you will receive a confirmation message stating that the file has been uploaded successfully.



14. Click the **Splunk Cloud** logo to return to the home page.

Step 2) Perform a basic search

Take a moment to examine the Splunk Cloud interface by locating the app panel, the Explore Splunk panel, and the Splunk bar.

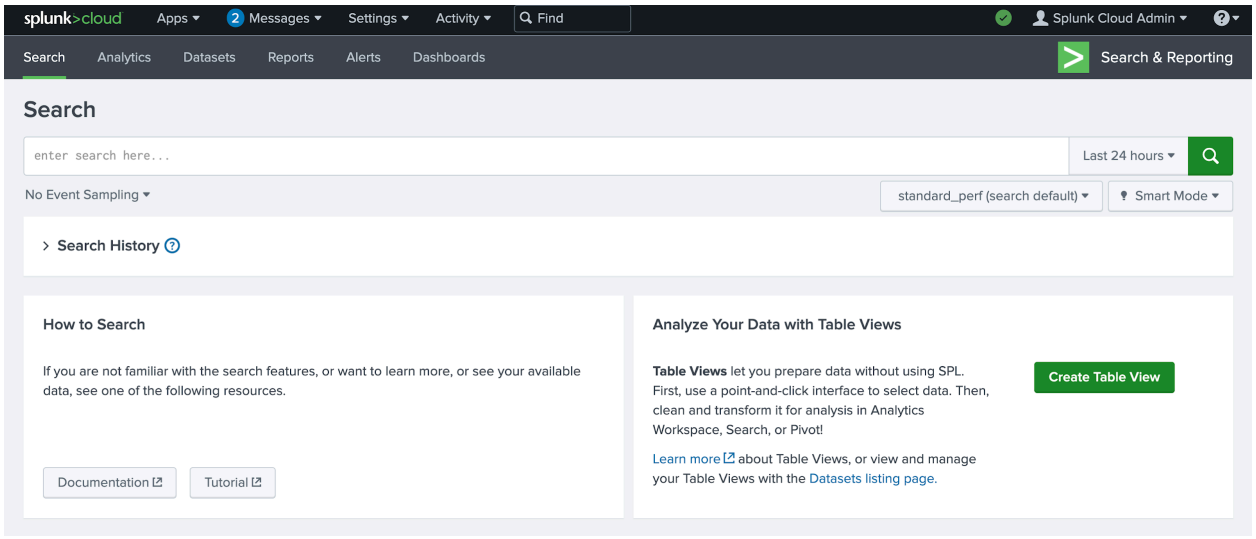


Now that you've uploaded the data into Splunk, perform your first query to confirm that the data has been ingested, indexed, and is searchable. Follow these steps to perform a query:

1. Navigate to Splunk Home. (To return to Splunk Home, click the Splunk Cloud logo on the Splunk Cloud page.)
2. Click Search & Reporting. You may close any pop ups that appear.

In the search bar, enter your search query:
`index=main`

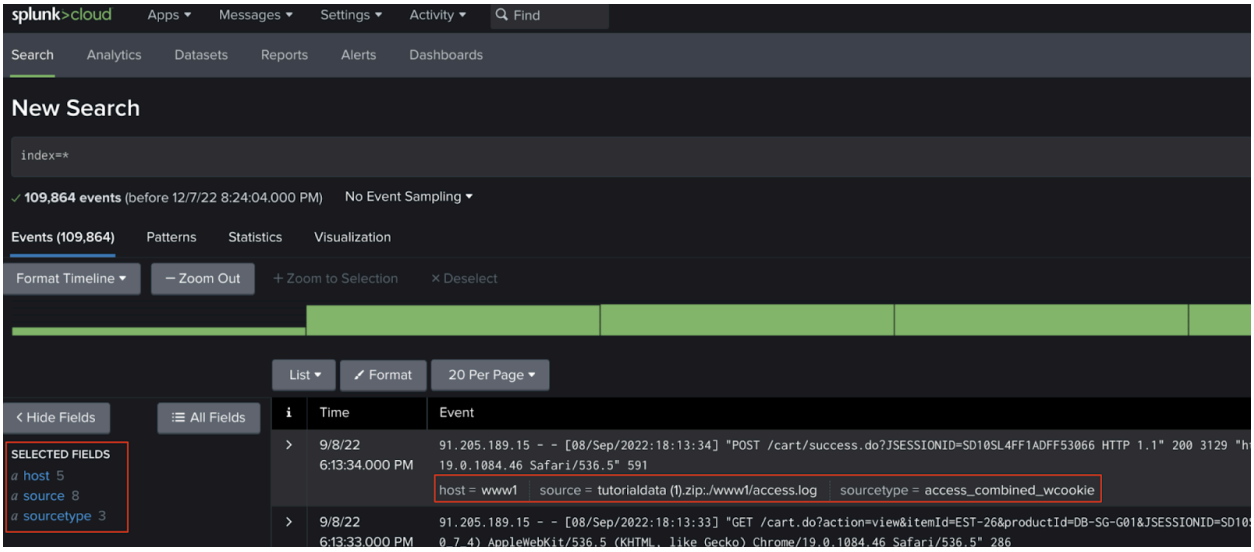
3. This search term specifies the index. An index is a repository for data. Here, the index is a single dataset containing events from an index named main.
4. Select All Time from the time range dropdown to search for all the events across all time.
5. Click the search button. Note that the search button is represented by the magnifying glass icon. Your search should retrieve thousands of events.



Pro tip: It's a best practice to use short time ranges in your searches because a shorter time range returns results faster and uses fewer resources. Adjust the time using the time range dropdown or by using time modifiers in your search.

Step 3) Evaluate the fields

When Splunk indexes data, it attaches fields to each event. These fields become part of the searchable index event data. This helps security analysts easily search for and find the specific data they need. Now that you've run your first query, examine the search results and the fields. For each event the fields are `host`, `source`, and `sourcetype`. Under **SELECTED FIELDS**, examine the same fields.



Examine the field values by clicking on the field under **SELECTED FIELDS**. You should observe the following:

- **host**: The host field specifies the name of the network host from which the event originated. In this search there are five hosts:
    - `mailsv` - Buttercup Games' mail server. Examine events generated from this host.
    - `www1` - This is one of Buttercup Games' web applications.
    - `www2` - This is one of Buttercup Games' web applications.
    - `www3` - This is one of Buttercup Games' web applications.
    - `vendor_sales` - Information about Buttercup Games' retail sales.

- **source**: The source field indicates the file name from which the event originates. You should identify eight sources. Notice `/mailsv/secure.log`, which is a log file that contains information related to authentication and authorization attempts on the mail server.

- **sourcetype**: The sourcetype determines how data is formatted. You should observe three sourcetypes. Examine `secure-2`.

Step 4) Narrow your search

Because you've been tasked with exploring any failed SSH logins for the root account on the mail server, you'll need to narrow the search results for events from the mail server.

Under **SELECTED FIELDS**, click **host** and click **mailsv**.

Notice that a new term has been added to the search bar: `index=main host=mailsv`. The search results have narrowed to over 9000 events that are generated by the mail server.

Step 5) Search for a failed login for root

Now that you've narrowed your search results to events generated by the mail server, continue to narrow the search to locate any failed SSH logins for the root account.

1. Clear the search bar.

Enter `index=main host=mailsv fail* root` into the search bar.

2. This search expands on the search from the previous task and searches for the keyword `fail*`. The wildcard tells Splunk to expand the search term to find other terms that contain the word *fail* such as *failure*, *failed*, etc. Lastly, the keyword `root` searches for any event that contains the term **root**.
3. Click **search**.

Step 6) Evaluate the search results

Your search from the previous task should have retrieved search results for over 300 events. Navigate to other pages of the search results to observe the events not listed on the first page of results.

***Pro tip**: Splunk highlights search terms in search results to make it easier to identify where the search terms appear in the data.*

Step 7) Answer the following

1. How many events are contained in the main index across all time?
    a. Over 100,000
2. Which field identifies the name of a network device or system from which an event originates?
    a. host
3. Which of the following hosts used by Buttercup Games contains log information relevant to financial transactions?
    a. vendor_sales
4. How many failed SSH logins are there for the root account on the mail server?
    a. More than 100

Key takeaways

In this activity, you used Splunk Cloud to perform a search and investigation. Using Splunk Cloud, you were able to:

- Upload sample log data
- Search through indexed data
- Evaluate search results
- Identify different data sources
- Locate failed SSH login(s) for the root account