



Splunk Dashboard for SSH Logs

By Gaurav Ghandat

📌 Objective

The objective of this project is to design and implement a **Splunk dashboard** for monitoring **SSH authentication activity** on Linux servers.

The dashboard helps security analysts:

- Monitor total SSH activity
- Track successful and failed login attempts
- Detect brute-force attacks
- Visualize attack origins using geo-location data

This dashboard is designed with **consistent time filtering** and **security-focused visualizations** for effective threat detection.

💡 Lab Setup

Prerequisites

- Splunk Enterprise / Splunk Free
- SSH log data ingested in JSON format
- Indexed SSH log files:
 - ssh_logs.json
 - ssh_logs_new.json
- Linux servers:
 - LinuxServer
 - LinuxNew

splunk enterprise Apps ▾

Hello, Administrator

Administrator ▾ Messages ▾ Settings ▾ Activity ▾ Help ▾ Find ▾

Home page settings

Apps

Find more apps ▾ Manage

Search apps by name...

Search & Reporting

Audit Trail

Discover Splunk Observability Cloud

Splunk Secure Gateway

Upgrade Readiness App

Bookmarks Dashboard Search history Recently viewed Created by you Shared with you

My bookmarks (0) Add bookmark

Shared with my organization (0) Add bookmark

Shared by me

Shared by other administrators

Splunk recommended (13)

Common tasks Hide for users

Add data Add data from a variety of common sources.

Search your data Turn data into doing with Splunk search.

Visualize your data Create dashboards that work for your data.

Add team members Add your team members to Splunk platform.

Manage permissions Control who has access with roles.

Configure mobile devices Login or manage mobile devices using Splunk Secure Gateway.

Manage alerts Manage the alerts that monitor your data.

Learning & resources Hide for users

Product tours New to Splunk? Take a tour to help you on your way.

Learn more with Splunk Docs Deploy, manage, and use Splunk software with comprehensive guidance.

Get help from Splunk experts Actionable guidance on the Splunk Lantern Customer Success Center.

Extend your capabilities Browse thousands of apps on Splunkbase.

splunk enterprise Apps ▾

Search Analytics Datasets Reports Alerts Dashboards

Administrator ▾ Messages ▾ Settings ▾ Activity ▾ Help ▾ Find ▾

Search & Reporting

Search

enter search here... Time range: Last 24 hours ▾

No Event Sampling ▾ Smart Mode ▾

> Search History [\(0\)](#)

How to Search

If you are not familiar with the search features, or want to learn more, or see your available data, see one of the following resources.

Documentation [\(0\)](#) Tutorial [\(0\)](#) Data Summary [\(0\)](#)

Analyze Your Data with Table Views

Table Views let you prepare data without using SPL. First, use a point-and-click interface to select data. Then, clean and transform it for analysis in Analytics Workspace, Search, or Pivot!

Learn more [about Table Views](#), or view and manage your Table Views with the [Datasets listing page](#).

[Create Table View](#)

127.0.0.1:8000/en-US/app/search/search#

Splunk Enterprise Apps ▾

Search Analytics Datasets Reports Alerts Dashboards

Administrator ▾ Messages ▾ Settings ▾ Activity ▾ Help ▾ Find ▾

Search... Search settings...

No Event Sampling ▾

> Search History [?](#)

How to Search

If you are not familiar with the search features, or want to learn more, or see your available data, see one of the following resources.

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Analyze Your Data with Table Views

Table Views let you prepare data without using clean and transform it for analysis in Analytics. Learn more [about Table Views](#), or view and

Add Data 

Monitoring Console 

KNOWLEDGE Searches, reports, and alerts Data models Event types Tags Fields Lookups User interface Alert actions Advanced search All configurations

DATA Data inputs Forwarding and receiving Indexes Report acceleration summaries Source types Ingest actions

SYSTEM Server settings Server controls Health report manager Instrumentation Licensing Workload management Mobile settings

DISTRIBUTED ENVIRONMENT Agent management Indexer clustering Federation Distributed search

USERS AND AUTHENTICATION Roles Users Tokens Password management Authentication methods

127.0.0.1:8000/en-US/manager/search/adddata

Splunk Enterprise Apps ▾

Administrator ▾ Messages ▾ Settings ▾ Activity ▾ Help ▾ Find ▾

What data do you want to send to the Splunk platform?

Follow guides for onboarding popular data sources

Cloud computing Get your cloud computing data in to the Splunk platform. 10 data sources

Networking Get your networking data in to the Splunk platform. 2 data sources

Operating System Get your operating system data in to the Splunk platform. 1 data source

Security Get your security data in to the Splunk platform. 3 data sources

4 data sources in total

Or get data in with the following methods

Upload files from my computer Local log files Local structured files (e.g. CSV) Tutorial for adding data 

Monitor files and ports on this Splunk platform instance Files - HTTP - WMI - TCP/UDP - Scripts Modular inputs for external data sources 

Forward data from a Splunk forwarder Files - TCP/UDP - Scripts 

Splunk Enterprise Apps ▾

Administrator ▾ Messages ▾ Settings ▾ Activity ▾ Help ▾ Find ▾

Add Data  < Back **Next >**

Select Source Choose a file to upload to the Splunk platform, either by browsing your computer or by dropping a file into the target box below. [Learn More](#) 

Selected File: No file selected

Drop your data file here
The maximum file upload size is 500 Mb

FAQ

- > What kinds of files can the Splunk platform index?
- > What is a source?
- > How do I get remote data onto my Splunk platform instance?

Screenshot showing the Splunk Add Data interface for selecting a data source. A file named "ssh_logs_new.json" is selected from a local file browser window.

The Splunk interface shows the following steps:

- Add Data** (Step 1: Select Source)
- Set Source Type**
- Input Settings**
- Review**
- Done**

Buttons: **Back**, **Next >**

FAQ section:

- > What kinds of files can the Splunk platform index?
- > What is a source?
- > How do I get remote data onto my Splunk platform instance?

Screenshot showing the "Set Source Type" step in the Splunk Add Data interface. The "Timestamp" source type is selected.

Table view of log entries:

	time	auth_attempts	auth_success	conn_state	event_type	history	id.orig_h	id.orig_p	id.resp_h	id.resp_p	missed_bytes	orig_ip_bytes	orig
1	4/24/25 3:50:09.508 PM	1	true	SF	Successful SSH Login	ShADadFF	31184.137182	58221	164.254.24.82	22	0	3234	49
2	4/24/25 3:50:09.508 PM	1	false	SF	Failed SSH Login	ShADadFF	129.164.50.72	26957	164.186.59.85	22	0	1197	21
3	4/24/25 3:50:09.508 PM	8	false	SF	Multiple Failed Authentication Attempts	ShADadFF	135.55.210.223	42848	9114.145.242	22	0	702	13
4	4/24/25 3:50:09.508 PM	1	false	SF	Failed SSH Login	ShADadFF	125.123.103.182	47789	170.170.25.84	22	0	1168	16
5	4/24/25 3:50:09.508 PM	1	true	SF	Successful SSH Login	ShADadFF	4.5.474	30192	123.158.160.191	22	0	876	12
6	4/24/25 3:50:09.508 PM	6	false	SF	Multiple Failed Authentication Attempts	ShADadFF	78.164.1.207	32500	9114.145.242	22	0	1848	28
7	4/24/25 3:50:09.508 PM	0	null	SF	Connection Without Authentication	ShADadFF	11129.222.243	47980	80.101.200.117	22	0	3150	42
8	4/24/25 3:50:09.508 PM	1	false	SF	Failed SSH Login	ShADadFF	74.165.131.224	34955	164.186.59.85	22	0	2350	50
9	4/24/25 3:50:09.508 PM	4	false	SF	Multiple Failed Authentication Attempts	ShADadFF	74.165.131.224	20693	123.158.160.191	22	0	2262	29

splunk enterprise Apps ▾

Add Data Select Source Set Source Type Input Settings Review Done < Back Review >

Input Settings

Optionally set additional input parameters for this data input as follows:

Host

When the Splunk platform indexes data, each event receives a "host" value. The host value should be the name of the machine from which the event originates. The type of input you choose determines the available configuration options. Learn More ↗

Constant value
 Regular expression on path
 Segment in path

Host field value

Index

The Splunk platform stores incoming data as events in the selected index. Consider using a "sandbox" index as a destination if you have problems determining a source type for your data. A sandbox index lets you troubleshoot your configuration without impacting production indexes. You can always change this setting later. Learn More ↗

Index Create a new index

FAQ

> How do indexes work?
> How do I know when to create or use multiple indexes?

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Add Data Select Source Set Source Type Input Settings Review Done < Back Review >

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> How do indexes work?
> How do I know when to create or use multiple indexes?

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Add Data

Administrator ▾ Messages ▾ Settings ▾ Activity ▾ Help ▾ Find ▾

Review

Input Type Uploaded File
 File Name ssh_logs_new.json
 Source Type json
 Host LinuxServer
 Index Default

Done

< Back Submit >

Splunk enterprise Apps ▾

Add Data

Administrator ▾ Messages ▾ Settings ▾ Activity ▾ Help ▾ Find ▾

Review Done

< Back Next >

✓ File has been uploaded successfully.

Configure your inputs by going to [Settings > Data Inputs](#)

Start Searching Search your data now or see examples and tutorials. [Learn more](#)

Extract Fields Create search-time field extractions. Learn more about fields. [Learn more](#)

Add More Data Add more data inputs now or see examples and tutorials. [Learn more](#)

Download Apps Apps help you do more with your data. Learn more. [Learn more](#)

Build Dashboards Visualize your searches. Learn more. [Learn more](#)

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Search Analytics Datasets Reports Alerts Dashboards

Administrator ▾ Messages ▾ Settings ▾ Activity ▾ Help ▾ Find ▾

Search & Reporting

Create New Dashboard

Dashboards

Dashboards include searches, visualizations, and input controls that capture and present available data.

Latest Resources

★ Examples for Dashboard Studio Browse examples of dashboards & visualizations. Visit Example Hub	□ Intro to Dashboard Studio Learn how to build dashboards with Dashboard Studio. Learn More	□ Intro to Classic Dashboards Learn how to build traditional Simple XML dashboards. Learn More
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7 Dashboards

i	★	Title	Actions	Owner	App	Sharing	Type
>	★	Integrity Check of Installed Files	Edit	nobody	search	App	Dashboard Studio
>	★	Job Details Dashboard	Edit	nobody	search	App	Dashboard Studio
>	★	jQuery Upgrade	Edit	nobody	search	App	Classic
>	★	Orphaned Scheduled Searches, Reports, and Alerts	Edit	nobody	search	App	Dashboard Studio
>	★	Scheduled export is now available for Dashboard Studio	Edit	nobody	search	Global	Dashboard Studio
>	★	Successful_Login	Edit	gaurav23	search	Private	Dashboard Studio
>	★	Web Traffic Logs Dashboard	Edit	gaurav23	search	Private	Classic

Splunk Enterprise Apps

Search Analytics Datasets Reports Alerts Dashboards

Administrators Messages Settings Activity Help Find Search & Reporting

Create New Dashboard

Dashboard Title Required

Description Optional

Permissions Private

Dashboard type

Classic Dashboards The traditional Splunk dashboard builder

Dashboard Studio A new builder to create visually-rich, customizable dashboards

Cancel Create

Owner App Sharing Type

Owner	App	Sharing	Type
nobody	search	App	Dashboard Studio
nobody	search	App	Dashboard Studio
nobody	search	App	Classic
nobody	search	App	Dashboard Studio
gaurav23	search	Private	Dashboard Studio
gaurav23	search	Private	Classic

7 Dashboards

Title Integrity Check of Installed Files Job Details Dashboard jQuery Upgrade Orphaned Scheduled Searches, Reports, and Alerts Scheduled export is now available for Dashboard Studio Successful Login Web Traffic Logs Dashboard

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Search Analytics Datasets Reports Alerts Dashboards

Administrators Messages Settings Activity Help Find Search & Reporting

Create New Dashboard

Dashboard Title SSH Logs Dashboard

Description Optional

Permissions Private

Dashboard type

Classic Dashboards The traditional Splunk dashboard builder

Dashboard Studio A new builder to create visually-rich, customizable dashboards

Cancel Create

Owner App Sharing Type

Owner	App	Sharing	Type
nobody	search	App	Dashboard Studio
nobody	search	App	Dashboard Studio
nobody	search	App	Classic
nobody	search	App	Dashboard Studio
gaurav23	search	Global	Dashboard Studio
gaurav23	search	Private	Dashboard Studio
gaurav23	search	Private	Classic

7 Dashboards

Title Integrity Check of Installed Files Job Details Dashboard jQuery Upgrade Orphaned Scheduled Searches, Reports, and Alerts Scheduled export is now available for Dashboard Studio Successful Login Web Traffic Logs Dashboard

Task 0: Setting Up Time Range

Goal

Ensure **consistent time filtering** across all dashboard panels.

Steps

1. Click **Add Time Range Button**

2. Click **Add Input**

3. Select **Time**

4. Click the **Pencil Icon**

5. Set:

- o **Label:** Time Range

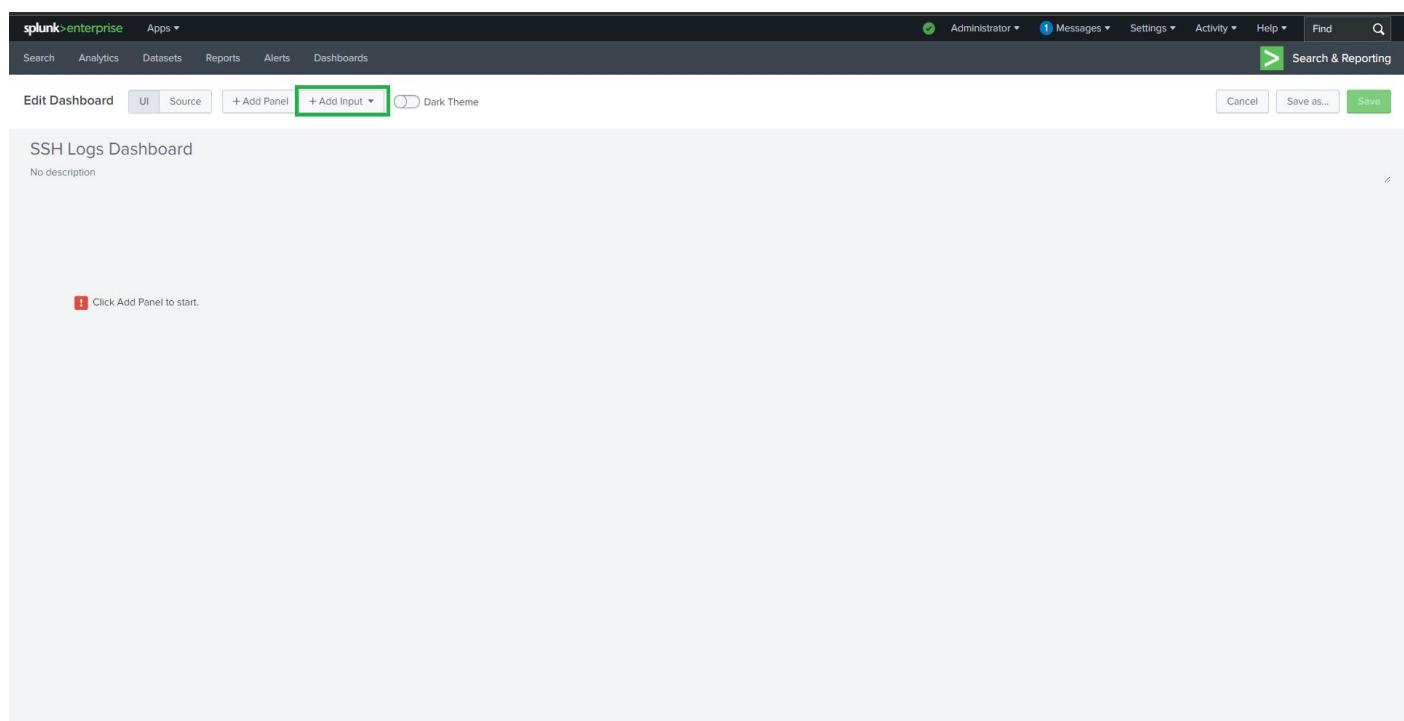
- o **Token:** time_range

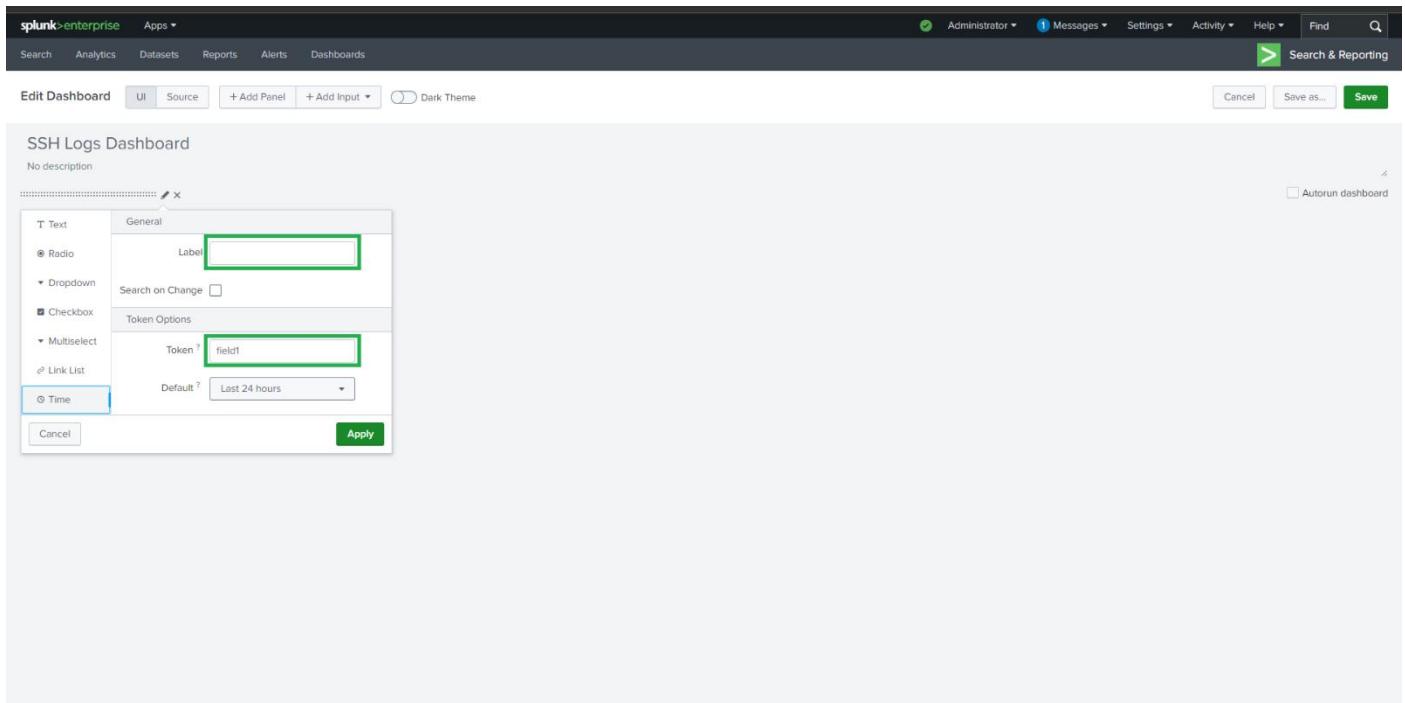
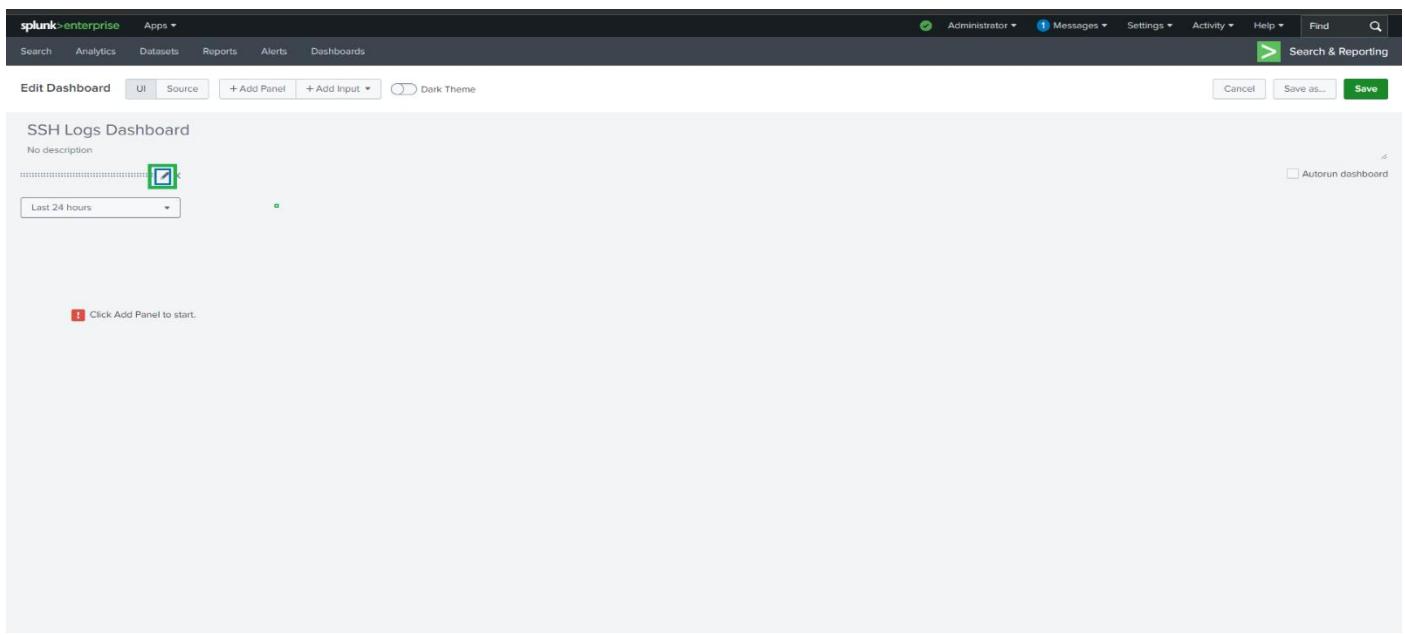
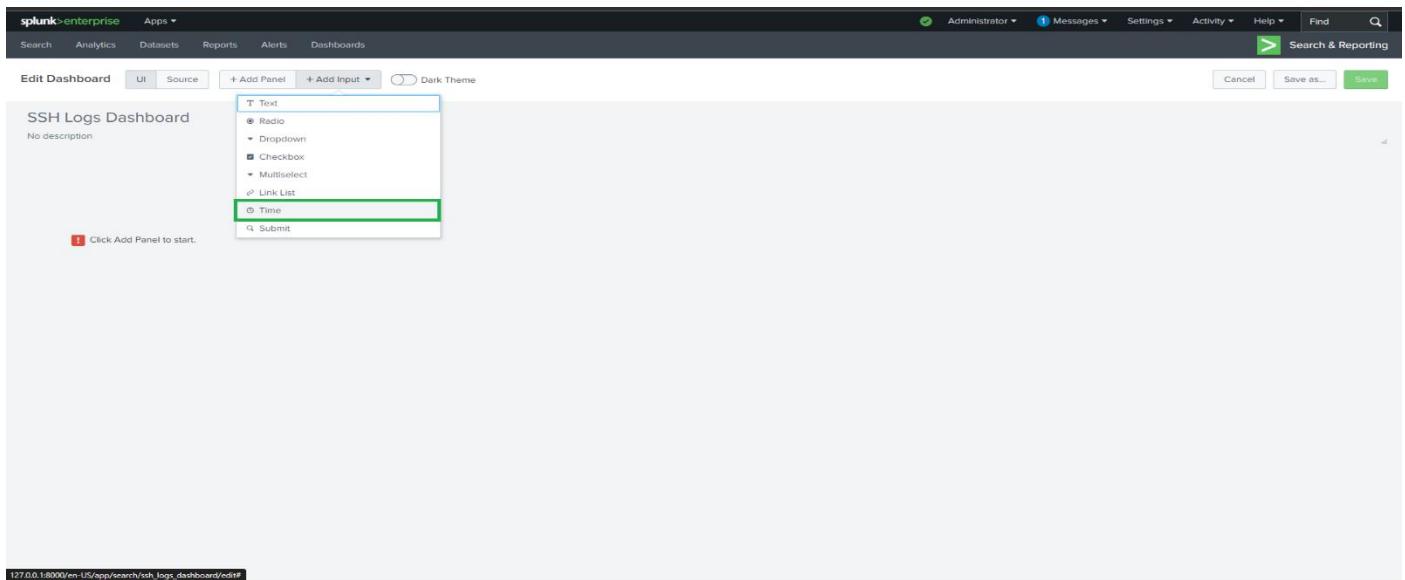
6. Click **Add Input**

7. Select **Submit**

Note:

For **all future panels**, set the **Time Picker** to time_range for consistency.





splunk enterprise Apps ▾

Administrator ▾ Messages ▾ Settings ▾ Activity ▾ Help ▾ Find ▾ Search & Reporting

Search Analytics Datasets Reports Alerts Dashboards

Edit Dashboard UI Source + Add Panel + Add Input Dark Theme Cancel Save as... Save

SSH Logs Dashboard

No description

General

Label Time Range

Search on Change

Token Options

Token ? time_range

Default ? Last 24 hours

Cancel Apply

Autorun dashboard

Presets

Real-time

30 second window
1 minute window
5 minute window
30 minute window
1 hour window
All time (real-time)

Relative

Today
Week to date
Business week to date
Month to date
Year to date
Yesterday
Previous week
Previous business week
Previous month
Previous year

Last 15 minutes
Last 30 minutes
Last 4 hours
Last 24 hours
Last 7 days
Last 30 days

Other

All time

Link List

Time Default ? Last 24 hours

Cancel Apply

Administrator ▾ Messages ▾ Settings ▾ Activity ▾ Help ▾ Find ▾ Search & Reporting

Cancel Save as... Save

Autorun dashboard

splunk enterprise Apps ▾

Administrator ▾ Messages ▾ Settings ▾ Activity ▾ Help ▾ Find ▾ Search & Reporting

Search Analytics Datasets Reports Alerts Dashboards

Edit Dashboard UI Source + Add Panel + Add Input Dark Theme Cancel Save as... Save

SSH Logs Dashboard

No description

General

Label Time Range

Search on Change

Token Options

Token ? time_range

Default ? All time

Cancel Apply

Autorun dashboard

splunk enterprise Apps ▾

Administrator ▾ Messages ▾ Settings ▾ Activity ▾ Help ▾ Find Search & Reporting

Search Analytics Datasets Reports Alerts Dashboards

Edit Dashboard UI Source + Add Panel + Add Input Dark Theme Cancel Save as... Save

SSH Logs Dashboard

No description

Time Range All time

Click Add Panel to start.

splunk enterprise Apps ▾

Administrator ▾ Messages ▾ Settings ▾ Activity ▾ Help ▾ Find Search & Reporting

Search Analytics Datasets Reports Alerts Dashboards

Edit Dashboard UI Source + Add Panel + Add Input Dark Theme Cancel Save as... Save

SSH Logs Dashboard

No description

Time Range All time

T Text Radio Dropdown Checkbox Multiselect Link List Time Submit

Click Add Panel to start.

127.0.0.1:8000/en-US/app/search/ssh_logs_dashboard/edit?form.field1.earliest=-24h%40h&form.field1.latest=now&form.field1.panel_id=1&form.field1.type=Text&form.field1.value=

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Administrator ▾ Messages ▾ Settings ▾ Activity ▾ Help ▾ Find Search & Reporting

Search Analytics Datasets Reports Alerts Dashboards

Edit Dashboard UI Source + Add Panel + Add Input Dark Theme Cancel Save as... Save

SSH Logs Dashboard

No description

Time Range All time Submit

Click Add Panel to start.

Task 1: Authentication Overview Panels

Goal

Provide a **quick overview** of SSH authentication activity.

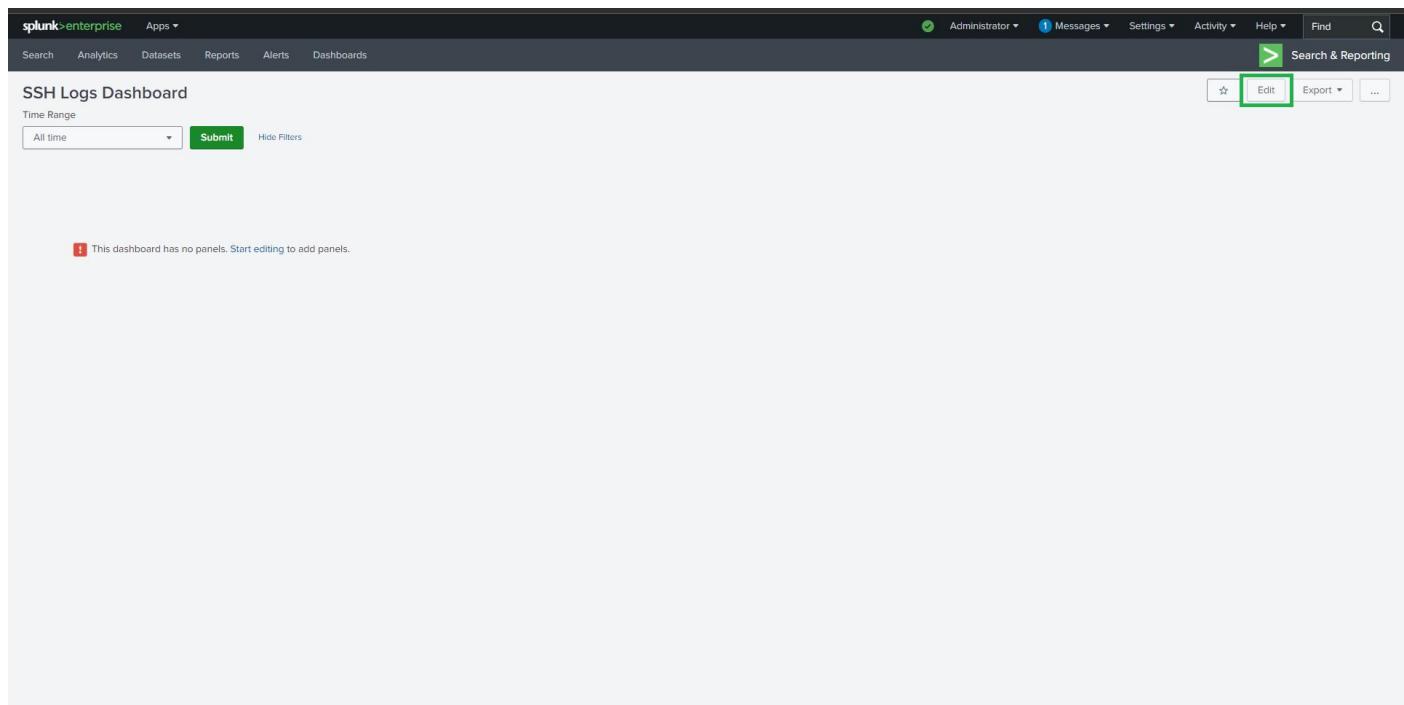
1. Total SSH Events

- **Panel Type:** Single Value
- **Time Picker:** time_range
- **Title:** Total SSH Events

Search Query:

```
source="ssh_logs.json" host="LinuxServer" sourcetype="_json"
```

```
| stats count AS "Total SSH Events"
```



The screenshot shows the Splunk Enterprise web interface. At the top, there's a navigation bar with links for 'splunk-enterprise', 'Apps', 'Search', 'Analytics', 'Datasets', 'Reports', 'Alerts', and 'Dashboards'. On the right side of the header, there are user status indicators ('Administrator'), message notifications ('1 Messages'), settings dropdowns ('Settings', 'Activity', 'Help'), a 'Find' search bar, and a magnifying glass icon. Below the header, the title 'SSH Logs Dashboard' is displayed, along with a 'Time Range' selector set to 'All time' and a 'Submit' button. To the right of the title are buttons for 'Edit' (which is highlighted with a green border), 'Export', and three dots for more options. A message at the bottom left of the dashboard area says, 'This dashboard has no panels. Start editing to add panels.' The main content area is currently empty.

splunk-enterprise Apps ▾

Search Analytics Datasets Reports Alerts Dashboards

Administrator ▾ Messages ▾ Settings ▾ Activity ▾ Help ▾ Find ▾

Edit Dashboard UI Source + Add Panel + Add Input ▾ Dark Theme Cancel Save as... Save

SSH Logs Dashboard
No description

Time Range All time Submit

Click Add Panel to start.

Autorun dashboard

splunk-enterprise Apps ▾

Search Analytics Datasets Reports Alerts Dashboards

Edit Dashboard UI Source + Add Panel + Add Input ▾ Dark Theme

SSH Logs Dashboard
No description

Time Range All time Submit

Click Add Panel to start.

Add Panel Find New (15) Shared Time Picker (time_range)

New Single Value Add to Dashboard

Time Range Use time picker ▾ Last 24 hours

Shared Time Picker (time_range)

Use time picker Tokens Global

Run Search

127.0.0.1:8000/en-US/app/search/shh_logs_dashboard/edit?form.field1.earliest=-24h%40h&form.field1.latest=now&form.time_range.earliest=0&form.time_range.latest=#

splunk-enterprise Apps ▾

Search Analytics Datasets Reports Alerts Dashboards

Edit Dashboard UI Source + Add Panel + Add Input ▾ Dark Theme

SSH Logs Dashboard
No description

Time Range All time Submit

Click Add Panel to start.

Add Panel Find New (15) Shared Time Picker (time_range)

New Single Value Add to Dashboard

Time Range Shared Time Picker (time_range)

Content Title optional

Search String enter search here...

Run Search

Splunk Enterprise Dashboard

SSH Logs Dashboard

No description

Time Range: All time

Click Add Panel to start.

Add Panel

New (15)

- Events
- Statistics Table
- Line Chart
- Area Chart
- Column Chart
- Bar Chart
- Pie Chart
- Scatter Chart
- Bubble Chart
- Radial Gauge
- Filler Gauge
- Marker Gauge
- Cluster Map
- Choropleth Map

New from Report (8)

Clone from Dashboard (8)

Add Prebuilt Panel (0)

New Single Value

Add to Dashboard

Time Range: Shared Time Picker (time_range)

Content Title: Total SSH Events

Search String:

```
source="ssh_logs_new.json" host="LinuxServer" sourcetype="json"
| stats count AS "Total SSH Events"
```

Run Search

Splunk Enterprise Dashboard

SSH Logs Dashboard

No description

Time Range: All time

No title

Total SSH Events

Chart: 42

1,200

Splunk Enterprise Dashboard

SSH Logs Dashboard

No description

Time Range: All time

No title

Total SSH Events

Chart: 42

1,200

Color Settings

General

Color

Number Format

Use Colors: Yes

Color by: Value

Ranges:

- from min to 0
- from 0 to 30
- from 30 to 70
- from 70 to 100
- from 100 to max

Color Mode: 42

SSH Logs Dashboard

No description

Time Range

All time

Total SSH Events

1,200

2. Successful Logins

- **Panel Type:** Single Value
- **Time Picker:** time_range
- **Title:** Successful Logins

Search Query:

```
source="ssh_logs.json" host="LinuxServer" sourcetype="_json"  
event_type="Successful SSH Login"  
| stats count AS "Successful Logins"
```

SSH Logs Dashboard

No description

Time Range

All time

Total SSH Events

1,200

Splunk Enterprise Apps ▾

Search Analytics Datasets Reports Alerts Dashboards

Edit Dashboard UI Source + Add Panel + Add Input Dark Theme

SSH Logs Dashboard
No description

Time Range All time Submit

Total SSH Events

1,200

Add Panel Find New (15)

- Events
- Statistics Table
- Line Chart
- Area Chart
- Column Chart
- Bar Chart
- Pie Chart
- Scatter Chart
- Bubble Chart
- Single Value
- Radial Gauge
- Filler Gauge
- Marker Gauge
- Cluster Map
- Choropleth Map

New from Report (8)

Clone from Dashboard (8)

Add Prebuilt Panel (0)

New Single Value Add to Dashboard

Time Range Shared Time Picker (time_range)

Use time picker Last 24 hours

Run Search

127.0.0.1:8000/en-US/app/search/ssh_logs_dashboard/edit?form.field1.earliest=-24h%40h&form.field1.latest=now&form.time_range.earliest=0s&form.time_range.latest=

Splunk Enterprise Apps ▾

Search Analytics Datasets Reports Alerts Dashboards

Edit Dashboard UI Source + Add Panel + Add Input Dark Theme

SSH Logs Dashboard
No description

Time Range All time Submit

No title

Total SSH Events

1,200

Add Panel Find New (15)

- Events
- Statistics Table
- Line Chart
- Area Chart
- Column Chart
- Bar Chart
- Pie Chart
- Scatter Chart
- Bubble Chart
- Single Value
- Radial Gauge
- Filler Gauge
- Marker Gauge
- Cluster Map
- Choropleth Map

New from Report (8)

Clone from Dashboard (8)

Add Prebuilt Panel (0)

New Single Value Add to Dashboard

Time Range Shared Time Picker (time_range)

Content Title optional

Search String enter search here...

Run Search

Splunk Enterprise Apps ▾

Search Analytics Datasets Reports Alerts Dashboards

Edit Dashboard UI Source + Add Panel + Add Input Dark Theme

SSH Logs Dashboard
No description

Time Range All time Submit

No title

Total SSH Events

1,200

Add Panel Find New (15)

- Events
- Statistics Table
- Line Chart
- Area Chart
- Column Chart
- Bar Chart
- Pie Chart
- Scatter Chart
- Bubble Chart
- Single Value
- Radial Gauge
- Filler Gauge
- Marker Gauge
- Cluster Map
- Choropleth Map

New from Report (8)

Clone from Dashboard (8)

Add Prebuilt Panel (0)

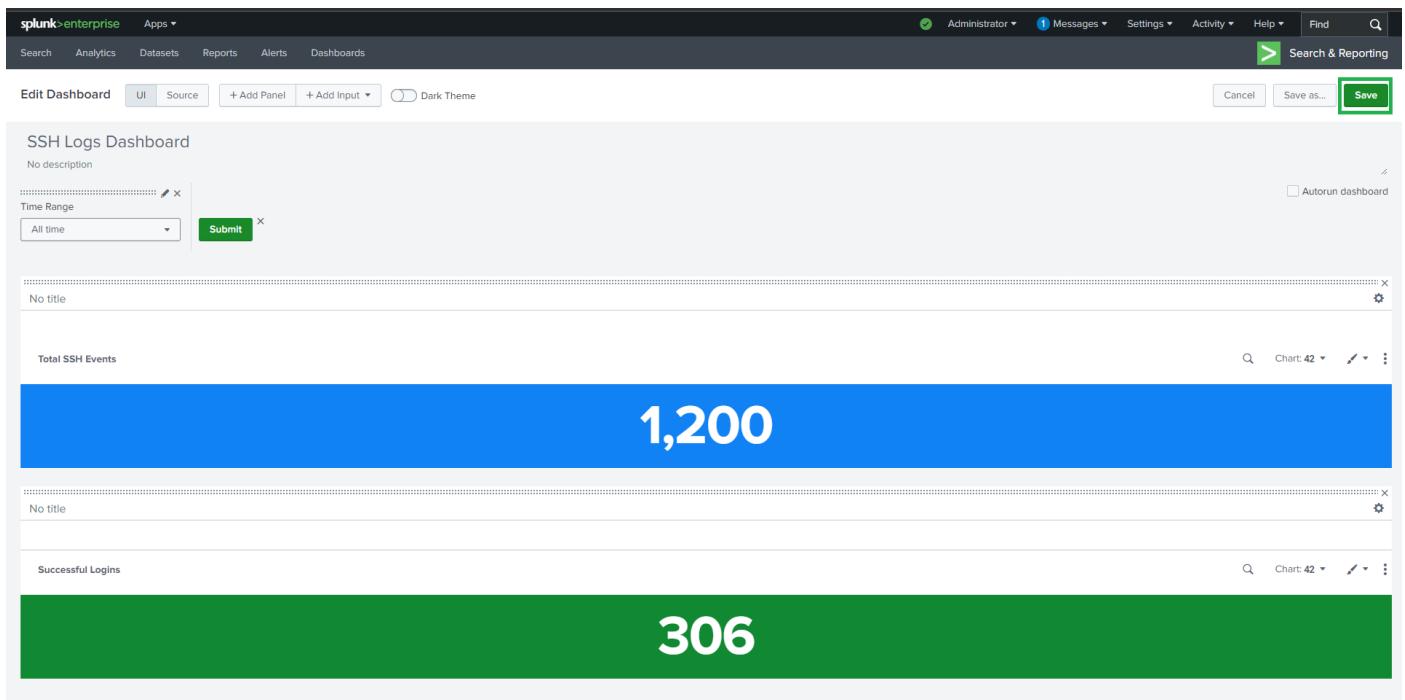
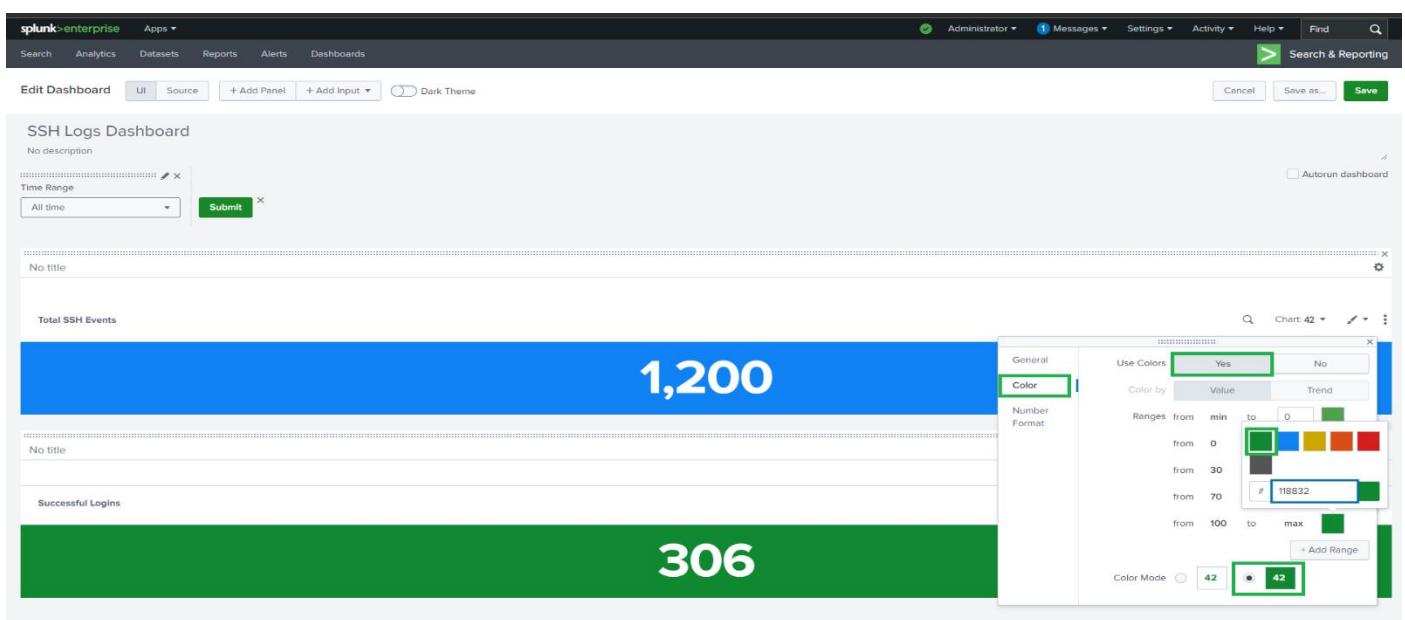
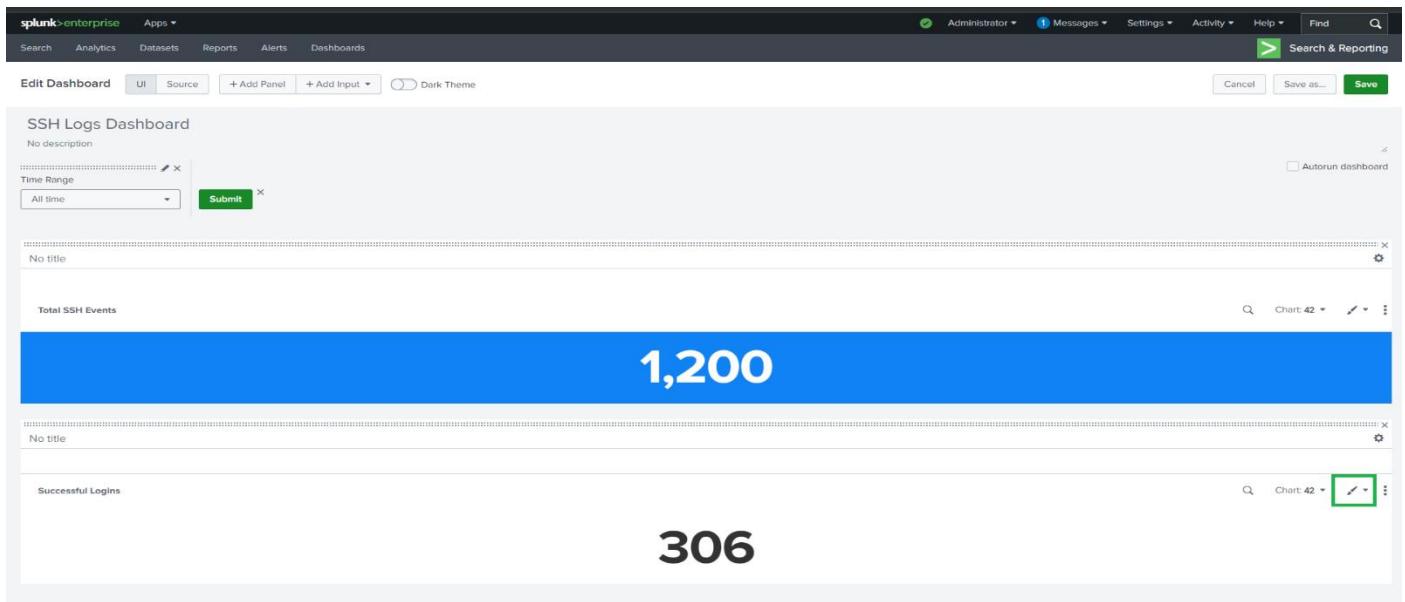
New Single Value Add to Dashboard

Time Range Shared Time Picker (time_range)

Content Title Successful Logins

Search String source="ssh_logs_new.json" host="LinuxServer" sourcetype="json" event_type="Successful SSH Login" | stats count AS "Successful Logins"

Run Search



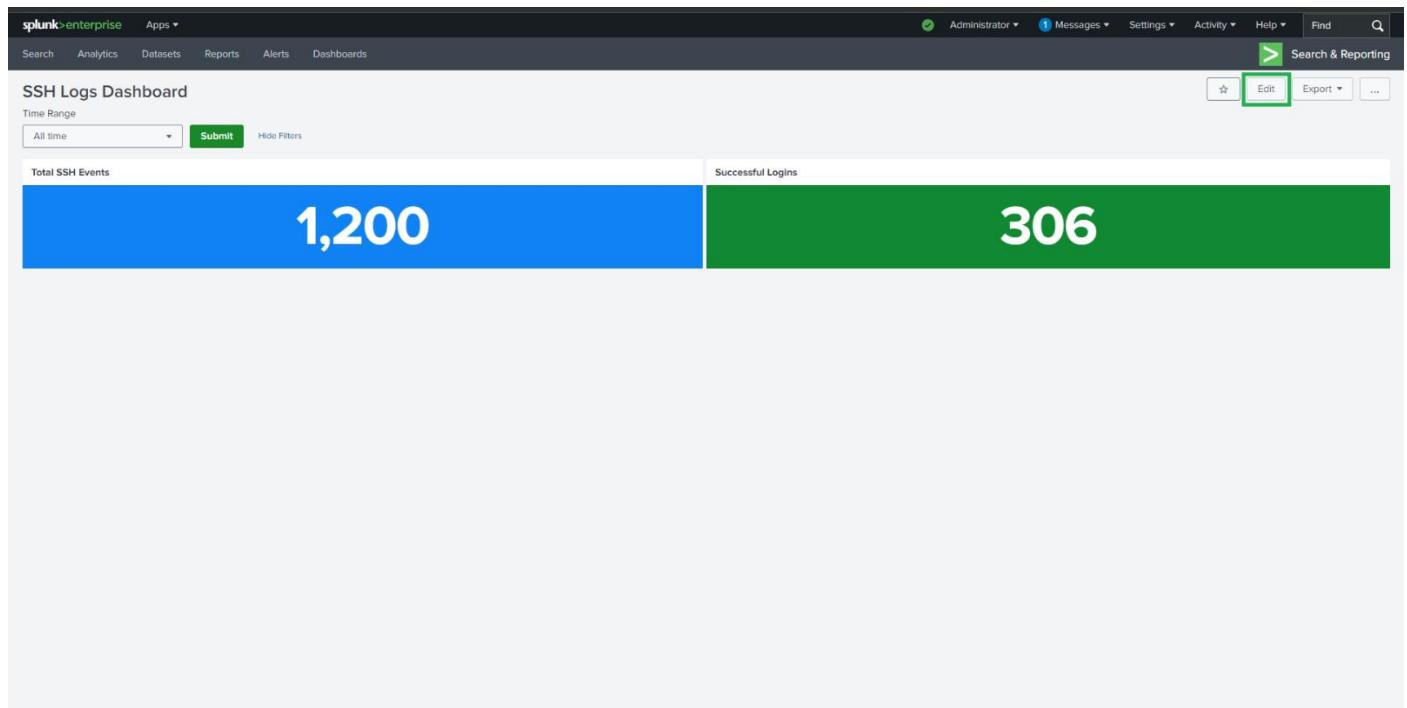
3. Failed Logins

- **Panel Type:** Single Value
- **Time Picker:** time_range
- **Title:** Failed Logins

Search Query:

```
source="ssh_logs.json" host="LinuxServer" sourcetype="_json" event_type="Failed SSH Login"
```

```
| stats count AS "Failed Login"
```



Splunk Enterprise Dashboard

SSH Logs Dashboard

No description

Time Range: All time

Submit

Total SSH Events: 1,200

Successful Logins

Add Panel

New Single Value

Add to Dashboard

Time Range: Shared Time Picker (time_range)

Content Title: optional

Search String: enter search here...

Run Search

Panel Options:

- New (15)
 - Events
 - Statistics Table
 - Line Chart
 - Area Chart
 - Column Chart
 - Bar Chart
 - Pie Chart
 - Scatter Chart
 - Bubble Chart
 - Single Value
 - Radial Gauge
 - Filler Gauge
 - Marker Gauge
 - Cluster Map
 - Choropleth Map
- New from Report (8)
- Clone from Dashboard (8)
- Add Prebuilt Panel (0)

Splunk Enterprise Dashboard

SSH Logs Dashboard

No description

Time Range: All time

Submit

Total SSH Events: 1,200

Successful Logins

Add Panel

New Single Value

Add to Dashboard

Time Range: Shared Time Picker (time_range)

Content Title: Failed Logins

Search String: source="ssh_logs_new.json" host="LinuxServer" sourcetype =".json" event_type="Failed SSH Login" | stats count AS "Failed Login"

Run Search

Panel Options:

- New (15)
 - Events
 - Statistics Table
 - Line Chart
 - Area Chart
 - Column Chart
 - Bar Chart
 - Pie Chart
 - Scatter Chart
 - Bubble Chart
 - Single Value
 - Radial Gauge
 - Filler Gauge
 - Marker Gauge
 - Cluster Map
 - Choropleth Map
- New from Report (8)
- Clone from Dashboard (8)
- Add Prebuilt Panel (0)

Splunk Enterprise Dashboard

SSH Logs Dashboard

No description

Time Range: All time

Submit

Total SSH Events: 1,200

Successful Logins: 306

Failed Logins: 305

Save as... Save Cancel

Autorun dashboard

Panel Options:

- New (15)
 - Events
 - Statistics Table
 - Line Chart
 - Area Chart
 - Column Chart
 - Bar Chart
 - Pie Chart
 - Scatter Chart
 - Bubble Chart
 - Single Value
 - Radial Gauge
 - Filler Gauge
 - Marker Gauge
 - Cluster Map
 - Choropleth Map
- New from Report (8)
- Clone from Dashboard (8)
- Add Prebuilt Panel (0)

splunk > enterprise Apps ▾

Administrator ▾ 1 Messages ▾ Settings ▾ Activity ▾ Help ▾ Find Q

Search Analytics Datasets Reports Alerts Dashboards

Edit Dashboard UI Source + Add Panel + Add Input ▾ Dark Theme Cancel Save as... Save

SSH Logs Dashboard

No description

Time Range All time Submit

No title No title

Total SSH Events Chart: 42

Successful Logins Chart: 42

1,200

Failed Logins Chart: 42

305

Color

Use Colors Yes No

Color by Value Trend

Number Format

Ranges: from min to 0

from 0 to 30

from 70 to max

d41ff1

+ Add Range

Color Mode 42 42

127.0.0.1:8000/en-US/app/search/sh_logs_dashboard/edit?form.field1.earliest=-24h%40h&form.field1.latest=now&form.time_range.earliest=0&form.time_range.latest=

splunk > enterprise Apps ▾

Administrator ▾ 1 Messages ▾ Settings ▾ Activity ▾ Help ▾ Find Q

Search Analytics Datasets Reports Alerts Dashboards

Edit Dashboard UI Source + Add Panel + Add Input ▾ Dark Theme Cancel Save as... Save

SSH Logs Dashboard

No description

Time Range All time Submit

No title No title

Total SSH Events Chart: 42

Successful Logins Chart: 42

1,200

Failed Logins Chart: 42

305

Format visualization

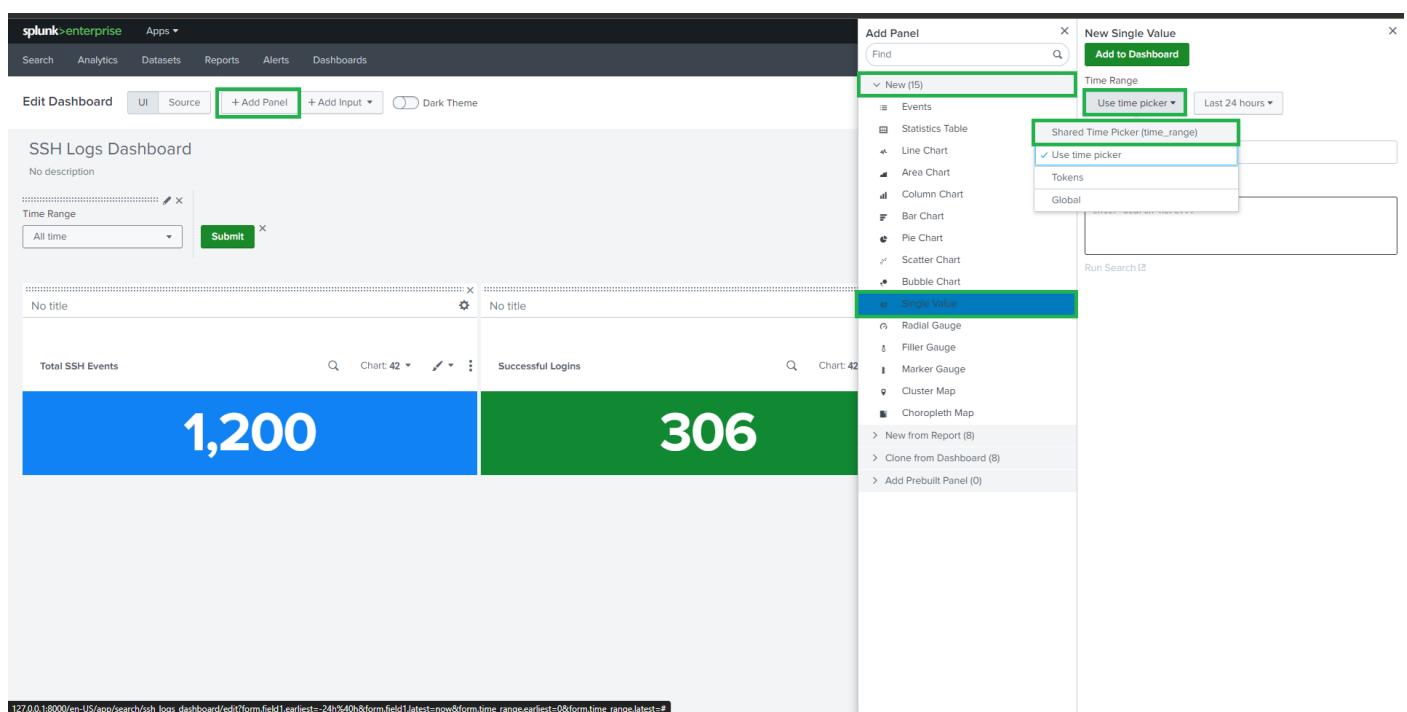
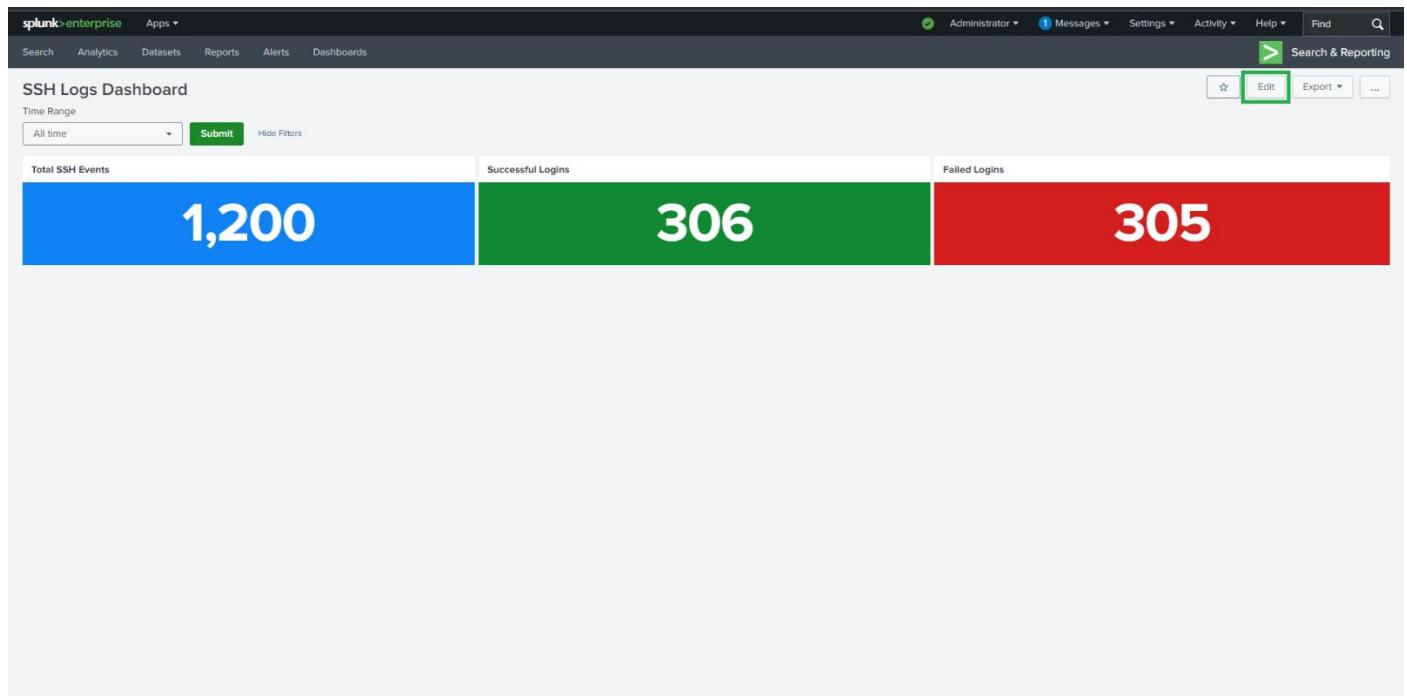
4. Connection Without Authentication (Invalid Users)

- **Panel Type:** Single Value
- **Time Picker:** time_range
- **Title:** Invalid User Attempts

Search Query:

```
index=auth "sshd" "invalid user"
```

```
| stats count AS "Invalid User Attempts"
```



splunk>enterprise Apps ▾

Search Analytics Datasets Reports Alerts Dashboards

Edit Dashboard UI Source + Add Panel + Add Input Dark Theme

SSH Logs Dashboard
No description

Time Range All time Submit

No title No title

Total SSH Events Chart: 42 Successful Logins Chart: 42

1,200 306

Add Panel Find New (5)
Events Statistics Table Line Chart Area Chart Column Chart Bar Chart Pie Chart Scatter Chart Bubble Chart Single Value
Radial Gauge Filler Gauge Marker Gauge Cluster Map Choropleth Map New from Report (8) Clone from Dashboard (8) Add Prebuilt Panel (0)

New Single Value Add to Dashboard Time Range Shared Time Picker (time_range)
Content Title optional Search String enter search here... Run Search

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Search Analytics Datasets Reports Alerts Dashboards

Edit Dashboard UI Source + Add Panel + Add Input Dark Theme

SSH Logs Dashboard
No description

Time Range All time Submit

No title No title

Total SSH Events Chart: 42 Successful Logins Chart: 42

1,200 306

Add Panel Find New (5)
Events Statistics Table Line Chart Area Chart Column Chart Bar Chart Pie Chart Scatter Chart Bubble Chart Single Value
Radial Gauge Filler Gauge Marker Gauge Cluster Map Choropleth Map New from Report (8) Clone from Dashboard (8) Add Prebuilt Panel (0)

New Single Value Add to Dashboard Time Range Shared Time Picker (time_range)
Content Title Invalid User Attempts Search String source="ssh_logs_new.json" host="LinuxServer" sourcetype ="json" event_type="Connection without Authentication" | stats count AS "Connection without Authentication" Run Search

splunk>enterprise Apps ▾

Administrator 1 Messages Settings Activity Help Find Search & Reporting

Edit Dashboard UI Source + Add Panel + Add Input Dark Theme Cancel Save as... Save

SSH Logs Dashboard
No description

Time Range All time Submit

No title No title No title

Total SSH Events Chart: 42 Successful Logins Chart: 42 Failed Logins Chart: 42

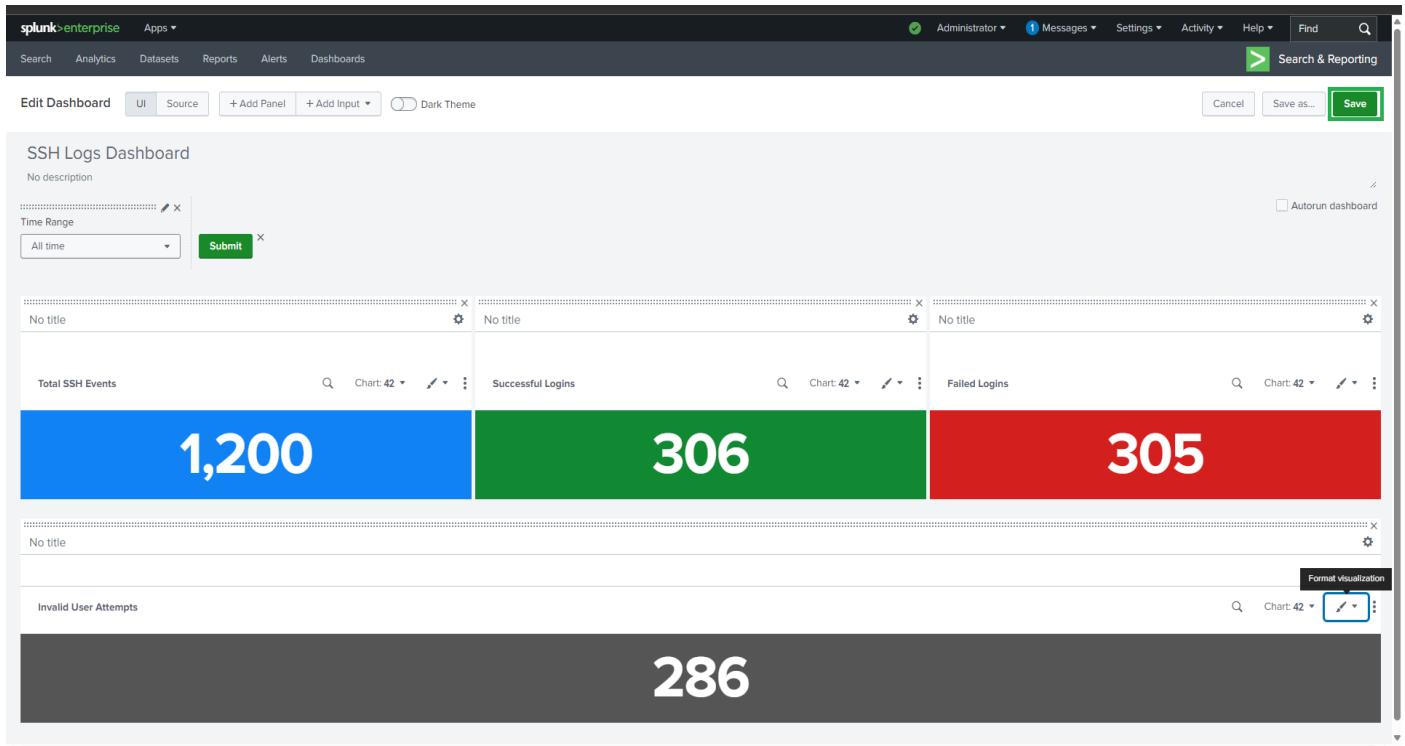
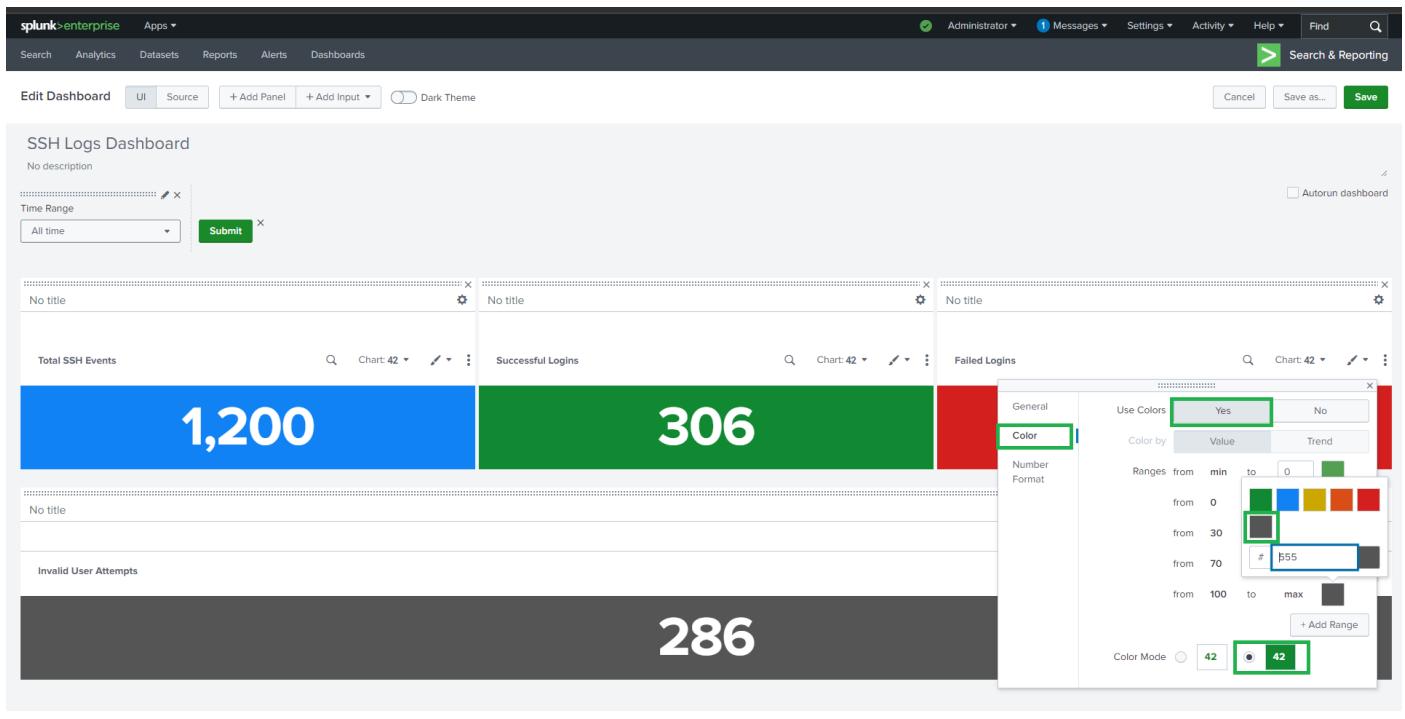
1,200 306 305

Autorun dashboard

No title

Invalid User Attempts Chart: 42

286



Task 2: Login Activity Trends

Goal

Analyze login patterns over time and **detect anomalies or attack behavior**.

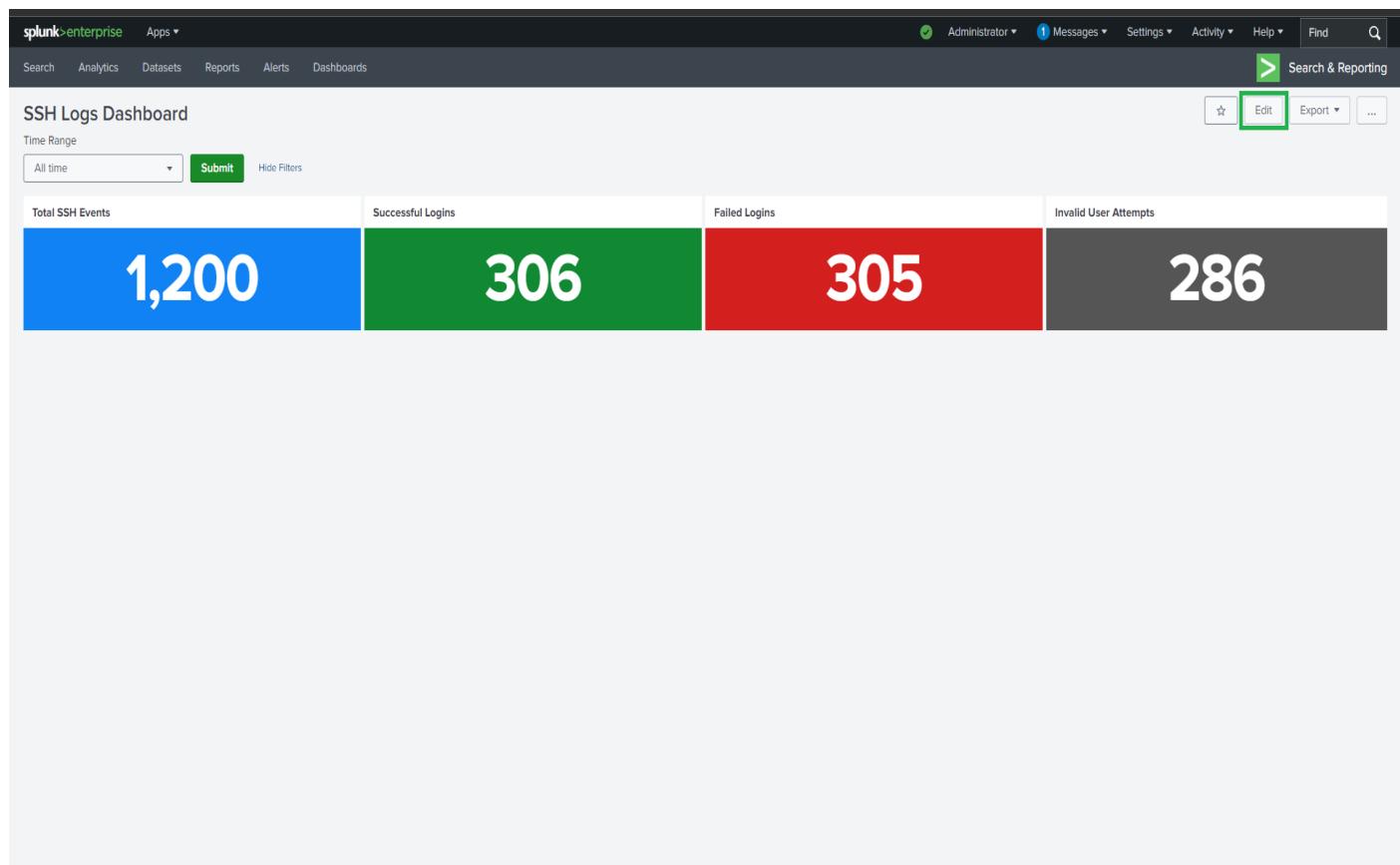
1. Failed Logins by Username

- **Panel Type:** Bar Chart
- **Time Picker:** time_range
- **Title:** Failed Logins by Username

Search Query:

```
source="ssh_logs_new.json" host="LinuxNew" sourcetype="_json" event_type="Failed SSH Login"
```

```
| top username
```



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Edit Dashboard UI Source + Add Panel + Add Input Dark Theme

SSH Logs Dashboard
No description

Time Range All time Submit

No title No title No title

Total SSH Events 1,200 Successful Logins 306 Failed Logins 3

Add Panel Find New (15)

- Events
- Statistics Table
 - Line Chart
 - Area Chart
 - Column Chart
- Bar Chart
- Pie Chart
- Scatter Chart
- Bubble Chart
- Single Value
- Radial Gauge
- Filler Gauge
- Marker Gauge
- Cluster Map
- Choropleth Map

New from Report (8)
Clone from Dashboard (8)
Add Prebuilt Panel (0)

New Single Value Add to Dashboard

Time Range Shared Time Picker (time_range)
Use time picker
Tokens Global

Run Search

127.0.0.1:8000/en-US/app/search/ssh.logs.dashboard/edit?form.field1.earliest=-24h%40h&form.field1.latest=now&form.time.range.earliest=0&form.time.range.latest=*

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Search Analytics Datasets Reports Alerts Dashboards

Edit Dashboard UI Source + Add Panel + Add Input Dark Theme

SSH Logs Dashboard
No description

Time Range All time Submit

No title No title No title

Total SSH Events 1,200 Successful Logins 306 Failed Logins 3

Add Panel Find New (15)

- Events
- Statistics Table
 - Line Chart
 - Area Chart
 - Column Chart
- Bar Chart
- Pie Chart
- Scatter Chart
- Bubble Chart
- Single Value
- Radial Gauge
- Filler Gauge
- Marker Gauge
- Cluster Map
- Choropleth Map

New from Report (8)
Clone from Dashboard (8)
Add Prebuilt Panel (0)

New Single Value Add to Dashboard

Time Range Shared Time Picker (time_range)
Content Title optional
Search String enter search here...
Run Search

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Search Analytics Datasets Reports Alerts Dashboards

Edit Dashboard UI Source + Add Panel + Add Input Dark Theme

SSH Logs Dashboard
No description

Time Range All time Submit

No title No title No title

Total SSH Events 1,200 Successful Logins 306 Failed Logins 3

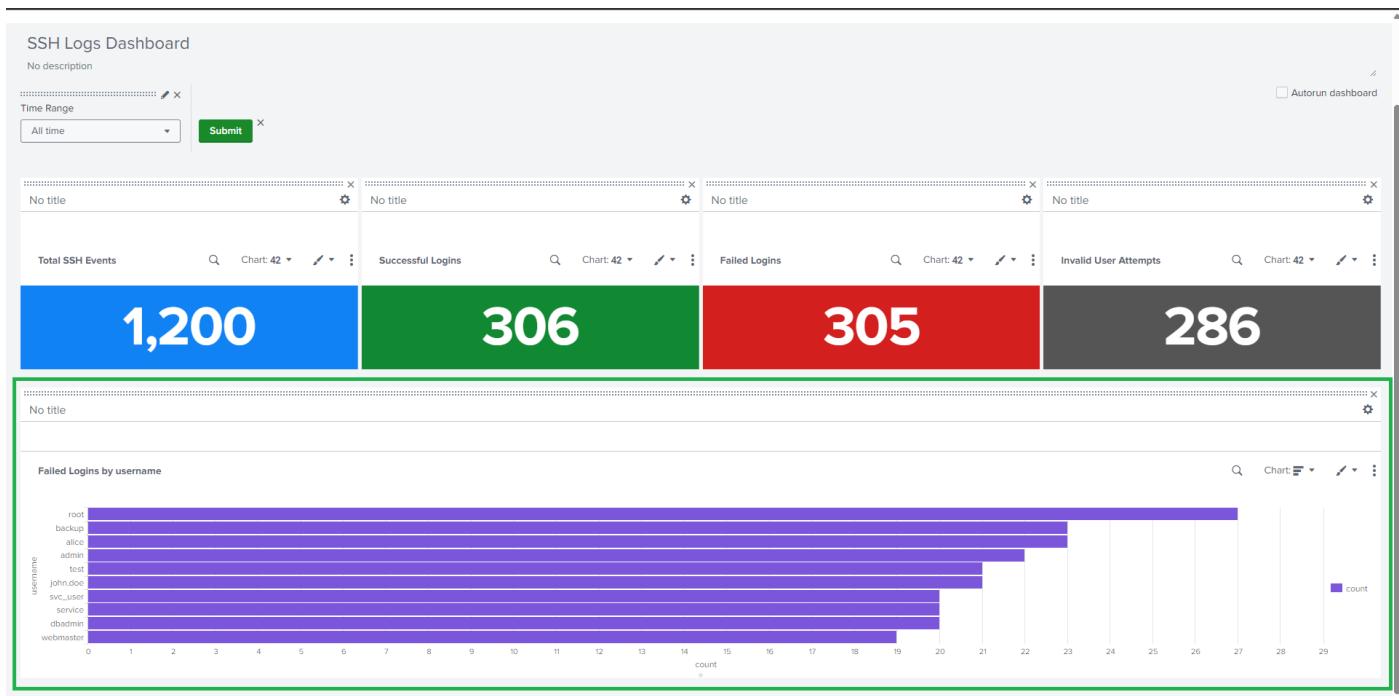
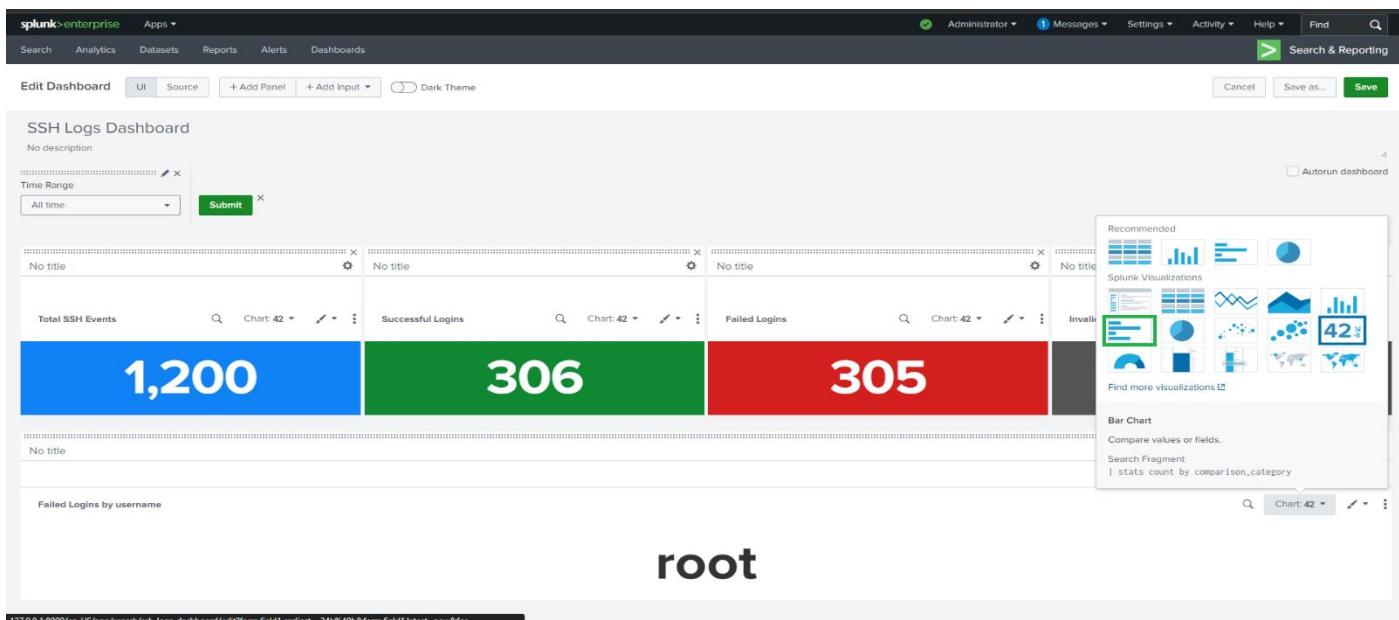
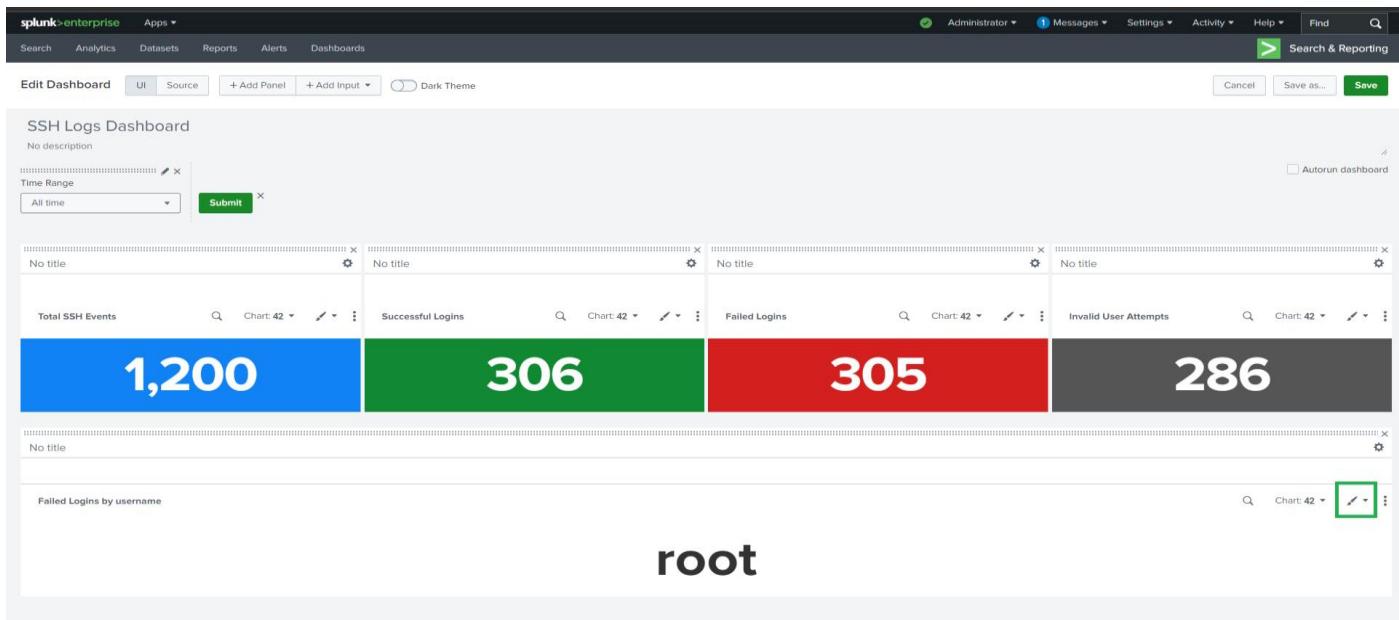
Add Panel Find New (15)

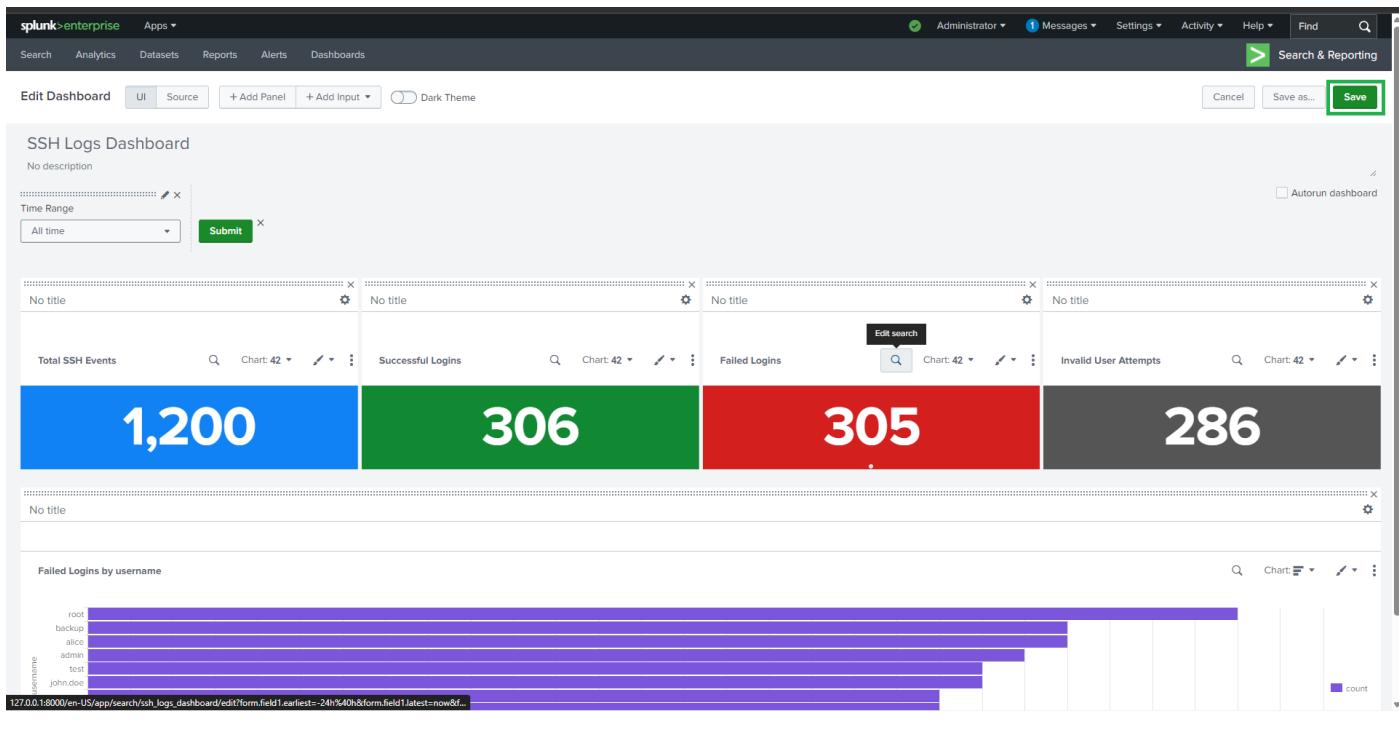
- Events
- Statistics Table
 - Line Chart
 - Area Chart
 - Column Chart
- Bar Chart
- Pie Chart
- Scatter Chart
- Bubble Chart
- Single Value
- Radial Gauge
- Filler Gauge
- Marker Gauge
- Cluster Map
- Choropleth Map

New from Report (8)
Clone from Dashboard (8)
Add Prebuilt Panel (0)

New Single Value Add to Dashboard

Time Range Shared Time Picker (time_range)
Content Title Failed Logins by username
Search String source="ssh_logs_new.json" host="linuxserver" sourcetype="json" event_type="Failed SSH Login" | top username
Run Search





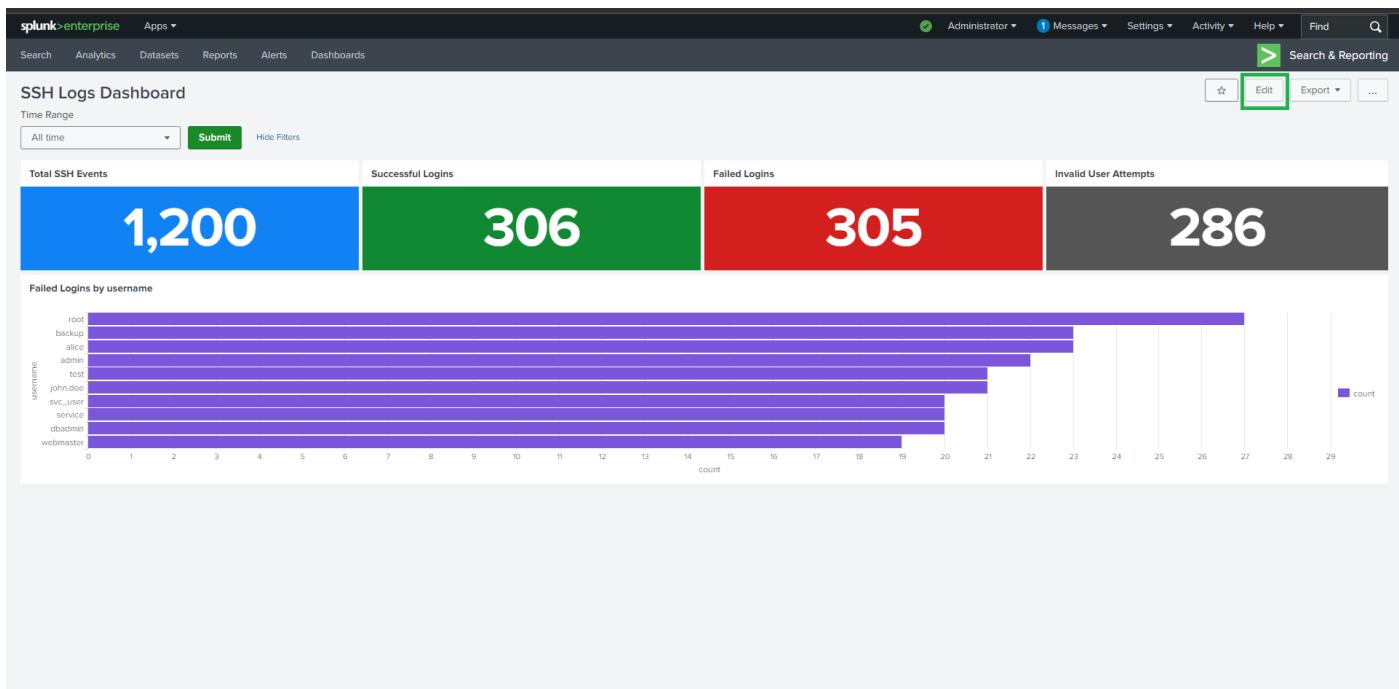
2. Possible Brute Force Attempts by IP Address

- Panel Type:** Statistics Table
- Time Picker:** time_range
- Title:** Possible Brute Force by IP Address

Search Query:

```
source="ssh_logs_new.json" host="LinuxNew" sourcetype="_json"
event_type="Multiple Failed Authentication Attempts"
```

```
| top id.orig_h
```



Splunk Enterprise Dashboard: SSH Logs Dashboard

Time Range: All time

Total SSH Events: 1,200

Successful Logins: 306

Failed Logins: 3

Failed Logins by username:

username	Count
root	1
backup	1
alice	1
admin	1
test	1
john.doe	1
svc_user	1
unknown	1

Add Panel: New (15) - Shared Time Picker (time_range)

New Single Value: Add to Dashboard

Time Range: Use time picker, Last 24 hours

Content Title: optional

Search String: enter search here...

Splunk Enterprise Dashboard: SSH Logs Dashboard

Time Range: All time

Total SSH Events: 1,200

Successful Logins: 306

Failed Logins: 3

Failed Logins by username:

username	Count
root	1
backup	1
alice	1
admin	1
test	1
john.doe	1
svc_user	1
unknown	1

Add Panel: New (15) - Shared Time Picker (time_range)

New Single Value: Add to Dashboard

Time Range: Shared Time Picker (time_range)

Content Title: optional

Search String: enter search here...

Splunk Enterprise Dashboard: SSH Logs Dashboard

Time Range: All time

Total SSH Events: 1,200

Successful Logins: 306

Failed Logins: 3

Failed Logins by username:

username	Count
root	1
backup	1
alice	1
admin	1
test	1
john.doe	1
svc_user	1
unknown	1

Add Panel: New (15) - Shared Time Picker (time_range)

New Single Value: Add to Dashboard

Time Range: Shared Time Picker (time_range)

Content Title: Possible Brute Force b IP Address

Search String: source="ssh_logs_new.json" host="linuxserver" sourcetype="json" event_type="Multiple Failed Authentication Attempts" | top id.orig_ip

Total SSH Events Successful Logins Failed Logins Invalid User Attempts

1,200 **306** **305** **286**

No title

Failed Logins by username

username	count
root	27
backup	22
alice	21
admin	20
test	19
john.doe	18
svc_user	17
service	16
dbadmin	15
webmaster	14

No title

Possible Brute Force b IP Address

83.195.24.226

Total SSH Events Successful Logins Failed Logins Invalid User Attempts

1,200 **306** **305** **286**

No title

Failed Logins by username

username	count
root	23
backup	22
alice	21
admin	20
test	19
john.doe	18
svc_user	17
service	16
dbadmin	15
webmaster	14

No title

Possible Brute Force b IP Address

83.195.24.226

127.0.0.1:8000/en-US/app/search/shh_logs_dashboard/edit?form.field1.earliest=-24h%40h&form.field1.latest=now&form.time_range.earliest=08&form.time_range.latest=

No title

Failed Logins by username

username	count
root	27
backup	23
alice	21
admin	20
test	19
john.doe	18
svc_user	17
service	16
dbadmin	15
webmaster	14

No title

Possible Brute Force b IP Address

id.orig_h \$	count	percent
83.195.24.226	13	4.290429
25.47.52.197	13	4.290429
191.47.156.160	11	3.630363
52.173.49.103	10	3.300330
170.86.212.161	10	3.300330
168.154.125.86	10	3.300330
110.177.195.150	10	3.300330
74.165.131.224	9	2.970297
110.16.7.177	9	2.970297
34.243.90.209	8	2.640264

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Search Analytics Datasets Reports Alerts Dashboards

Edit Dashboard UI Source + Add Panel + Add Input Dark Theme

Cancel Save as... Save

SSH Logs Dashboard

No description

Time Range: All time Submit

Autorun dashboard

Total SSH Events: 1,200

Successful Logins: 306

Failed Logins: 305

Invalid User Attempts: 286

Failed Logins by username:

username	count
root	13
backup	13
alice	11
admin	10
test	10
john.doe	10
svc_user	10
service	10

Possible Brute Force by IP Address:

id.orig_h	count	percent
83.195.24.226	13	4.290429
25.47.52.197	13	4.290429
191.47.156.160	11	3.630363
52.173.49.103	10	3.300330

Task 3: Visualizing Brute Force Attacks Using Geo-Location

Goal

Identify **geographical sources** of brute-force SSH attacks.

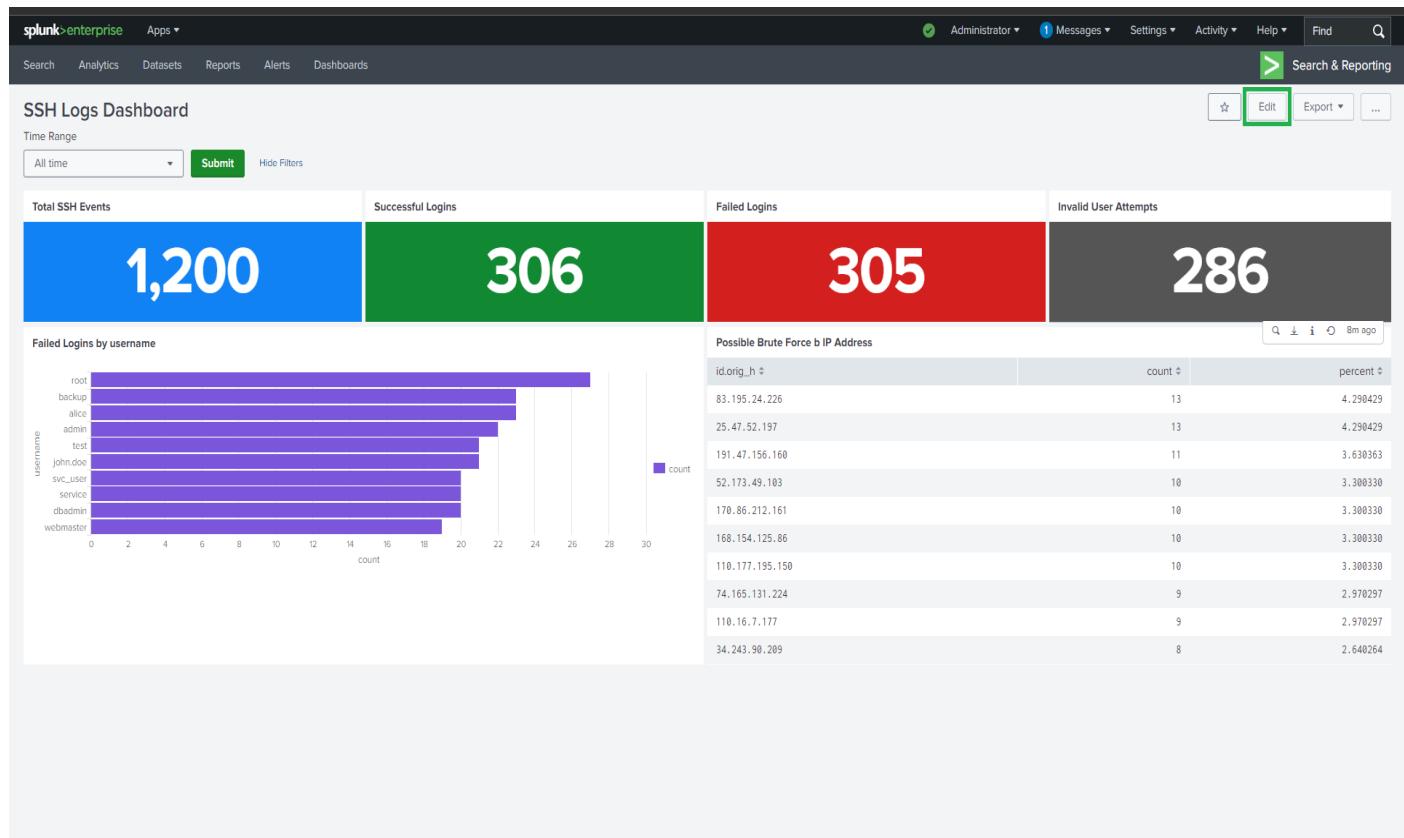
1. Brute Force Attack with Geo-Location

- **Panel Type:** Choropleth Map
- **Time Picker:** time_range
- **Title:** Brute Force Attack with Geo-Location

Search Query:

```
source="ssh_logs_new.json" host="LinuxNew" sourcetype="_json"  
event_type="Multiple Failed Authentication Attempts"
```

```
| table id.orig_h  
| iplocation id.orig_h  
| stats count by Country  
| geom geo_countries featureIdField="Country"
```



Splunk Enterprise Dashboard

SSH Logs Dashboard

No description

Time Range: All time

Total SSH Events: 1,200

Successful Logins: 306

Failed Logins: 3

Failed Logins by username:

username	count
root	1200
backup	100
alice	80
admin	60
test	40
john.doe	20

Possible Brute Force b IP Address:

id.orig_h	count
83.195.24.226	1200
25.47.52.197	306
191.47.156.160	3
52.173.49.103	0

Add Panel: New (15)

New Single Value: Add to Dashboard

Time Range: Use time picker (time_range) Last 24 hours

Shared Time Picker (time_range): Use time picker

Tokens: Global

Splunk Enterprise Dashboard

SSH Logs Dashboard

No description

Time Range: All time

Total SSH Events: 1,200

Successful Logins: 306

Failed Logins: 3

Failed Logins by username:

username	count
root	1200
backup	100
alice	80
admin	60
test	40
john.doe	20

Possible Brute Force b IP Address:

id.orig_h	count
83.195.24.226	1200
25.47.52.197	306
191.47.156.160	3
52.173.49.103	0

Add Panel: New (15)

New Single Value: Add to Dashboard

Time Range: Shared Time Picker (time_range)

Content Title: optional

Search String: enter search here...

Splunk Enterprise Dashboard

SSH Logs Dashboard

No description

Time Range: All time

Total SSH Events: 1,200

Successful Logins: 306

Failed Logins: 3

Failed Logins by username:

username	count
root	1200
backup	100
alice	80
admin	60
test	40
john.doe	20

Possible Brute Force b IP Address:

id.orig_h	count
83.195.24.226	1200
25.47.52.197	306
191.47.156.160	3
52.173.49.103	0

Add Panel: New (15)

New Single Value: Add to Dashboard

Time Range: Shared Time Picker (time_range)

Content Title: Brute Force attack with geo-location

Search String:

```
source="ssh_logs_new.json" host="linuxserver" sourcetype="json" event_type="Multiple Failed Authentication Attempts"
| table id.orig_h
| iplocation id.orig_h
| stats count by Country
| geom geo_countries featureIdField="Country"
```

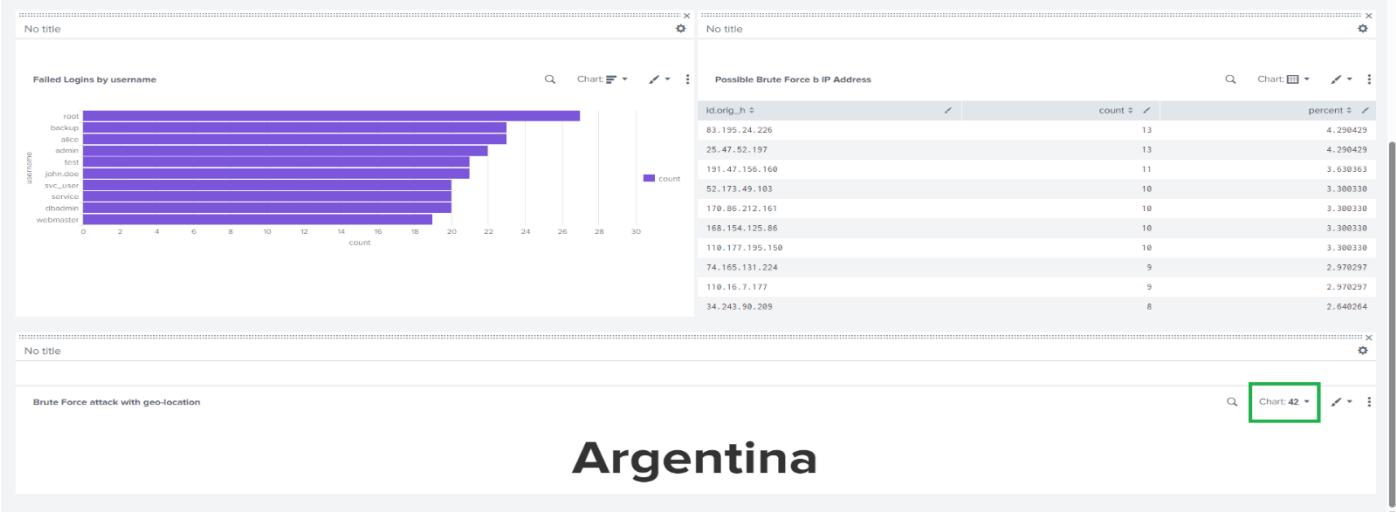
Run Search ↗

1,200

306

305

286

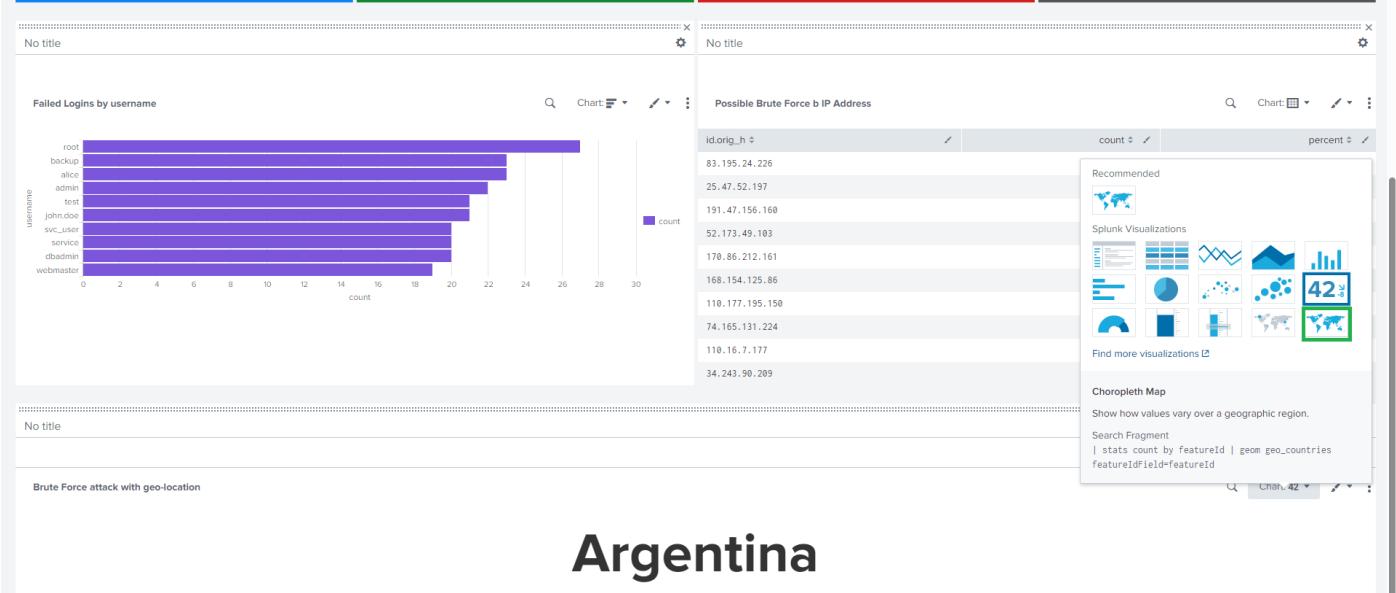


1,200

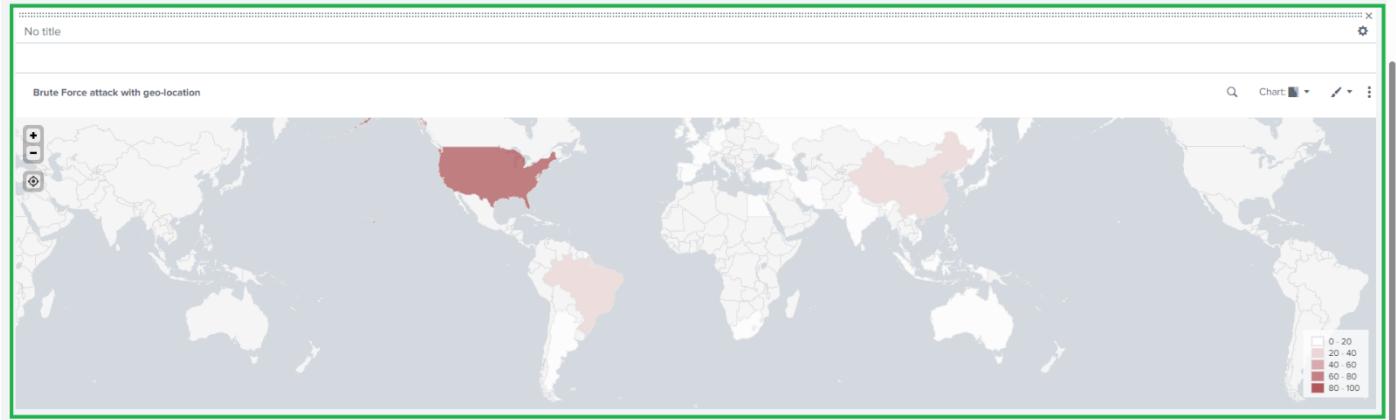
306

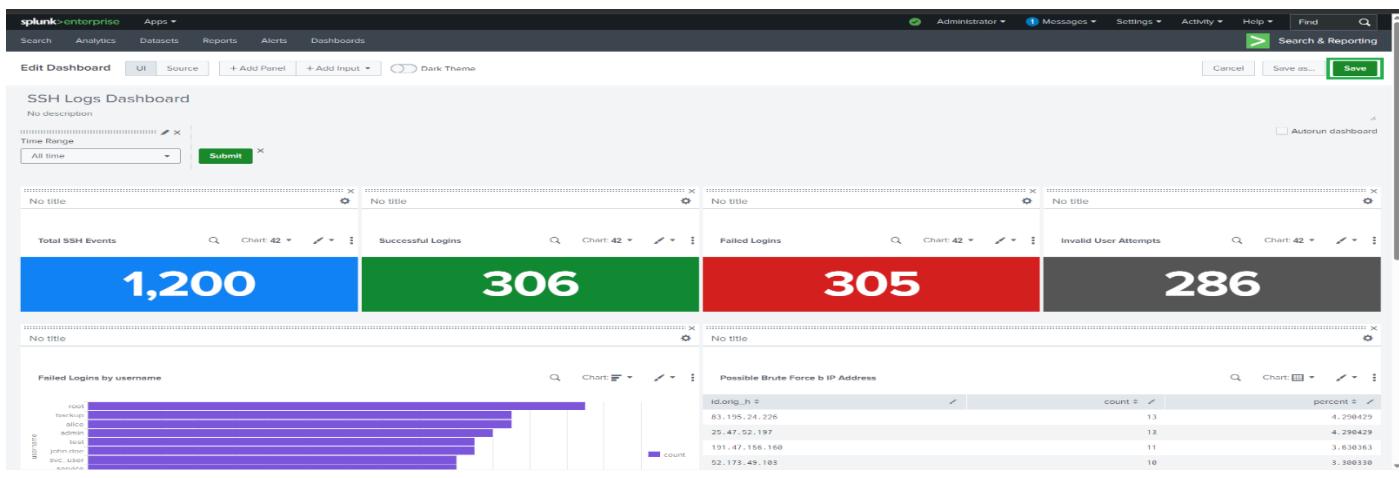
305

286



127.0.0.1:8000/en-US/app/search/sh_logs_dashboard/edit?form.field1.earliest=-24n%40h&form.field1.latest=now&...





🚀 Key Outcomes

- Centralized SSH authentication monitoring
- Early detection of brute-force attacks
- Improved visibility using geo-location analysis
- Consistent time-based analysis across panels

🛡️ Security Use Case

This dashboard can be used by:

- SOC Analysts
- Blue Teams
- System Administrators
- Cybersecurity Students

to detect unauthorized access attempts and respond to SSH-based attacks efficiently.

