

# Activity Overview

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In this activity, you'll be introduced to the Splunk platform. Then, you'll use Splunk Cloud to upload data, perform basic searches on the data, and answer a series of questions. Follow the instructions in the [Follow-along guide for Splunk sign-up](#) to complete the following before you begin using Splunk:

- Create a Splunk account
- Activate a free trial of Splunk Cloud
- Upload data into Splunk Cloud

Please note that this activity is optional and will not affect your completion of the course. So far, you've learned that SIEM tools, such as Splunk, are an important part of a security analyst's toolbox because they provide a platform for storing, analyzing, and reporting on data from different sources. You also explored some basic searches using Splunk's querying language, called Search Processing Language (SPL), which included the use of pipes and wildcards.

Creating effective searches is an important skill because it enables you to quickly and accurately find the information you are looking for within a large amount of data. Quick and accurate searching is especially useful during incident response, because you might need to swiftly identify and address a security incident. Effective search techniques also help you efficiently identify patterns, trends, and anomalies within data.

## Scenario

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Review the following scenario. Then complete the step-by-step instructions.

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.

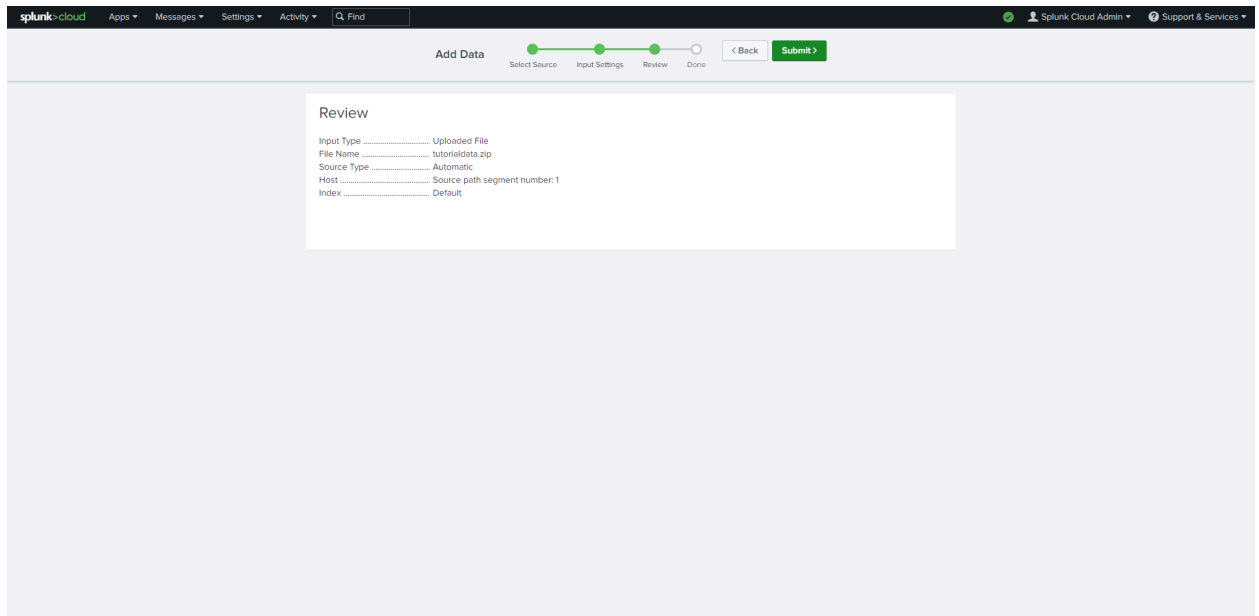
The following are the details of the data in a zipped file which you will upload it into Splunk:

- `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.

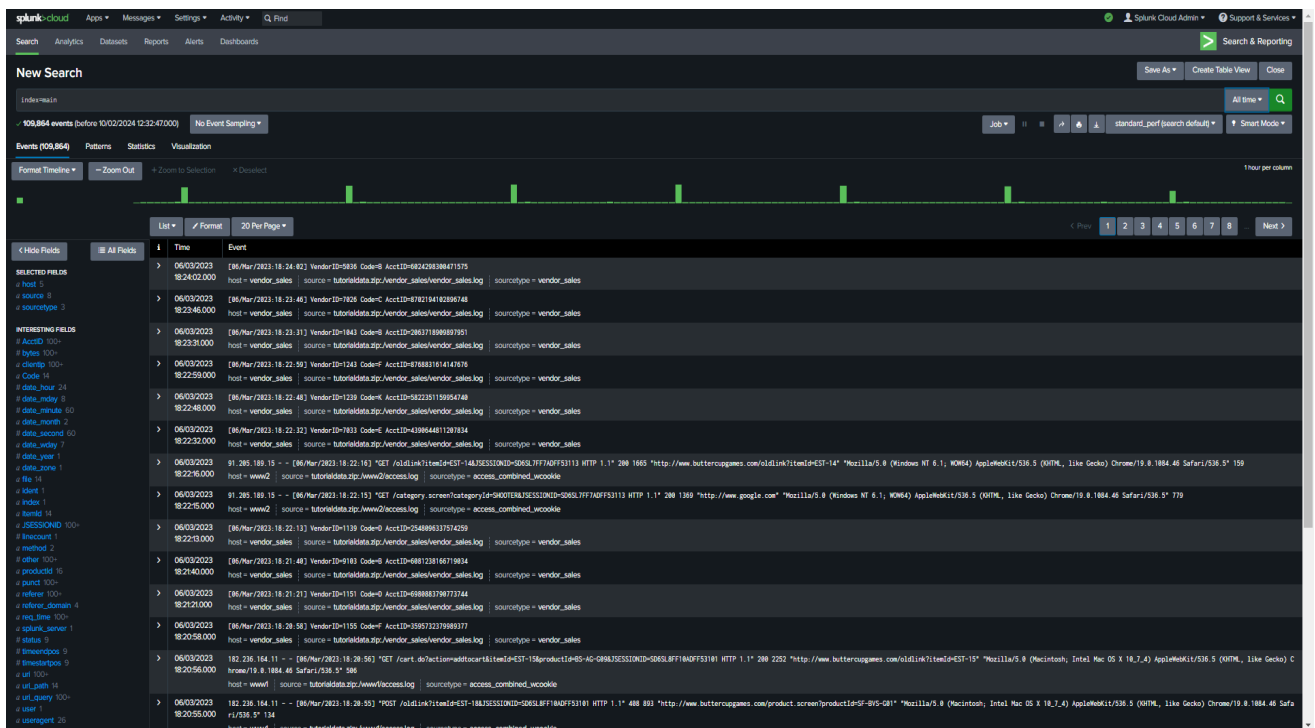
`vendor_sales` - Information about Buttercup Games' retail sales.

### Step by Step

1. Login/signup to Splunk.
2. Add Data on the Splunk bar.
3. Upload data into Splunk.
4. Select file and upload `tutorialdata.zip`



5. Navigate to Search and Reporting tab, type on the search bar `index=main` to view repository for data and select `All time` to view all the events across all time.



6. Let's have a look at three common components: host, source, sourcetype.

- Host: Specifies the device or system that generated the event.

**New Search**

index=main

100,864 events (before 10/02/2024 12:32-47:00) No Event Sampling

Events (100,864) Patterns Statistics Visualization

Format Timeline Zoom Out Zoom In Selection Disabled

1 hour per column

Host

5 Values, 100% of events

| Values       | Count  | %      |
|--------------|--------|--------|
| vendor_sales | 38,344 | 27.53% |
| aws1         | 24,221 | 22.84% |
| aws2         | 22,975 | 28.81% |
| aws3         | 22,305 | 28.50% |
| aws4         | 9,829  | 8.84%  |

Reports: Top values by time, Rare values

Events with this field

Time Event

06/03/2023 18:24:02 VendorID=9838 Code=6 AcctID=482426386471575

Event Actions

Type Field Value Actions

Selected host vendor\_sales sales.log

Selected Yes No

Source: Indicates the original location of the event data within a specific device or system.

**New Search**

index=main

100,864 events (before 10/02/2024 12:32-47:00) No Event Sampling

Events (100,864) Patterns Statistics Visualization

Format Timeline Zoom Out Zoom In Selection Disabled

1 hour per column

Source

8 Values, 100% of events

| Values   | Count  | %      |
|--|--------|--------|
| tutorialdata.zip/vendor_sales/vendor_sales.log | 38,344 | 27.53% |
| tutorialdata.zip/./aws1/access.log             | 13,828 | 12.48% |
| tutorialdata.zip/./aws2/access.log             | 12,992 | 11.82% |
| tutorialdata.zip/./aws2/access.log             | 12,912 | 11.75% |
| tutorialdata.zip/./aws1/secure.log             | 18,363 | 9.64%  |
| tutorialdata.zip/./aws1/secure.log             | 9,863  | 8.87%  |
| tutorialdata.zip/./aws2/secure.log             | 9,829  | 8.84%  |
| tutorialdata.zip/./aws2/secure.log             | 9,863  | 8.81%  |

Reports: Top values by time, Rare values

Events with this field

Time Event

06/03/2023 18:24:02 VendorID=9838 Code=6 AcctID=482426386471575

Event Actions

Type Field Value Actions

Selected source tutorialdata.zip/vendor\_sales/vendor\_sales.log

Selected Yes No

Sourcetype: Defines the format and structure of the event data. It tells Splunk how to parse and interpret the information.

The screenshot shows the Splunk Cloud interface with a search for `index=main host=mailsv`. The search results show a list of events, including a failed SSH login for the root account. A modal window is open showing the 'sourcetype' field with a value of 'vendor\_sales'.

7. On the mail server, we have to explore any failed SSH logins for the root account. To do this, I wrote on the search bar: ``index=main host=mailsv`` to list over 9000 events that are generated by the mail server.

The screenshot shows the Splunk Cloud interface with a search for `index=main host=mailsv`. The search results show a list of events, including a failed SSH login for the root account. A modal window is open showing the 'sourcetype' field with a value of 'vendor\_sales'.

8. Finally, let's Search for a failed login for root. On the search bar, enter `index=main host=mailsv fail* root`. This tells Splunk to expand the search term to find other terms that contain the word fail such as failure, failed, etc. In addition, the keyword root searches for any event that contains the term root.

**Splunk Cloud** Apps Messages Settings Activity Q. find

Search Analytics Datasets Reports Alerts Dashboards

**New Search** Save As Create Table View Close

Under watch: host=mail01v Pa21v root

346 events (before 10/02/2024 12:46:46.000) No Event Sampling

Jobs 11 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 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