SOC Workshop

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Backup

Zeek Exercises

1: Command line zeek

Run zeek from the command line

- On the zeek container, ”zeekctl stop” (it runs as a daemon at startup)
- Gather a pcap file, ”tcpdump –w /opt/pocketsoc-ng/data/somedata.pcap”
- Trigger “curl webserver” from client
- Tcpdump –r /opt/pocketsoc/data/somedata.pcap to test
- Use “zeek –r /opt/pocketsoc/data/somedata.pcap –C ” to analyse pcap
- Check the logs in the current directory

OUTCOME

This shows that we can capture a set of traffic, and run zeek against it directly to obtain a set of logs. We will see later how we can achieve the same with zeek running as a daemon

2: zeek as a daemon

Run zeek as a daemon again

- Run “zeekctl start”
- cd /opt/zeek/logs/current/
- Trigger “curl webserver” from client
- Check the logs – these should contain similar results!

OUTCOME

We can compare the logs we see with zeek running as a daemon and those from running from the command line: note that the config we use may be different depending on what options are given to the command line

3: using tcpreplay to replay pcaps

Replay the captured pcap into the zeek daemon

- Run “tcpreplay –i eth0 /opt/pocketsoc-ng/data/somedata.pcap”
- cd /opt/zeek/logs/current/
- Check the logs – these should also contain similar results!

OUTCOME

We can use this method to replay prepared packet captures into a “normal” running zeek instance and perform the same analysis as if the traffic were live. This is particularly useful for validation purposes

4: main Zeek configuration

Zeek config

- Main config files are in “/opt/zeek/etc” and “/opt/zeek/share/zeek/site/”
- “networks.cfg node.cfg zeekctl.cfg” and “local.zeek”

Zeek intel config

- Observe the last config block in “local.zeek” following yesterday’s lecture

OUTCOME

We have looked at the key config files for Zeek

5: Zeek alerting: I

5. Check alerting configuration
    - Going to use the CERN Mattermost for alerting in a private channel

- Webhook stored in `/opt/pocketsoc/data/webhook`

5: Zeek alerting: II

- On zeek node, cd /opt/zeek/share/zeek/site/
- In local.zeek, check the following is present

```
@load ./mattermost.zeek

hook Notice::policy(n: Notice::Info)
{
    if ( n$note == Intel::Notice )
    {
    add n$actions[Notice::ACTION_MATTERMOST];
    }
}
```

5: Zeek alerting: III

- We use mattermost.zeek to call a helper script that actually does the webhook call
  - This is inefficient – there is a better way of doing this that will be implemented for the next time I use this
- We can test this now: on the zeek node, run

  /opt/pocketsoc-ng/bin/notifier.sh “Hi there!”

- We (or at least I ☺) should see an update in the channel

6: Summary so far

- Now we have tested that we can:
  - Gather a packet capture file
  - Run zeek from the cli
  - Check the Zeek logs for recent activity
  - Use the helper script to raise a notification independently of Zeek

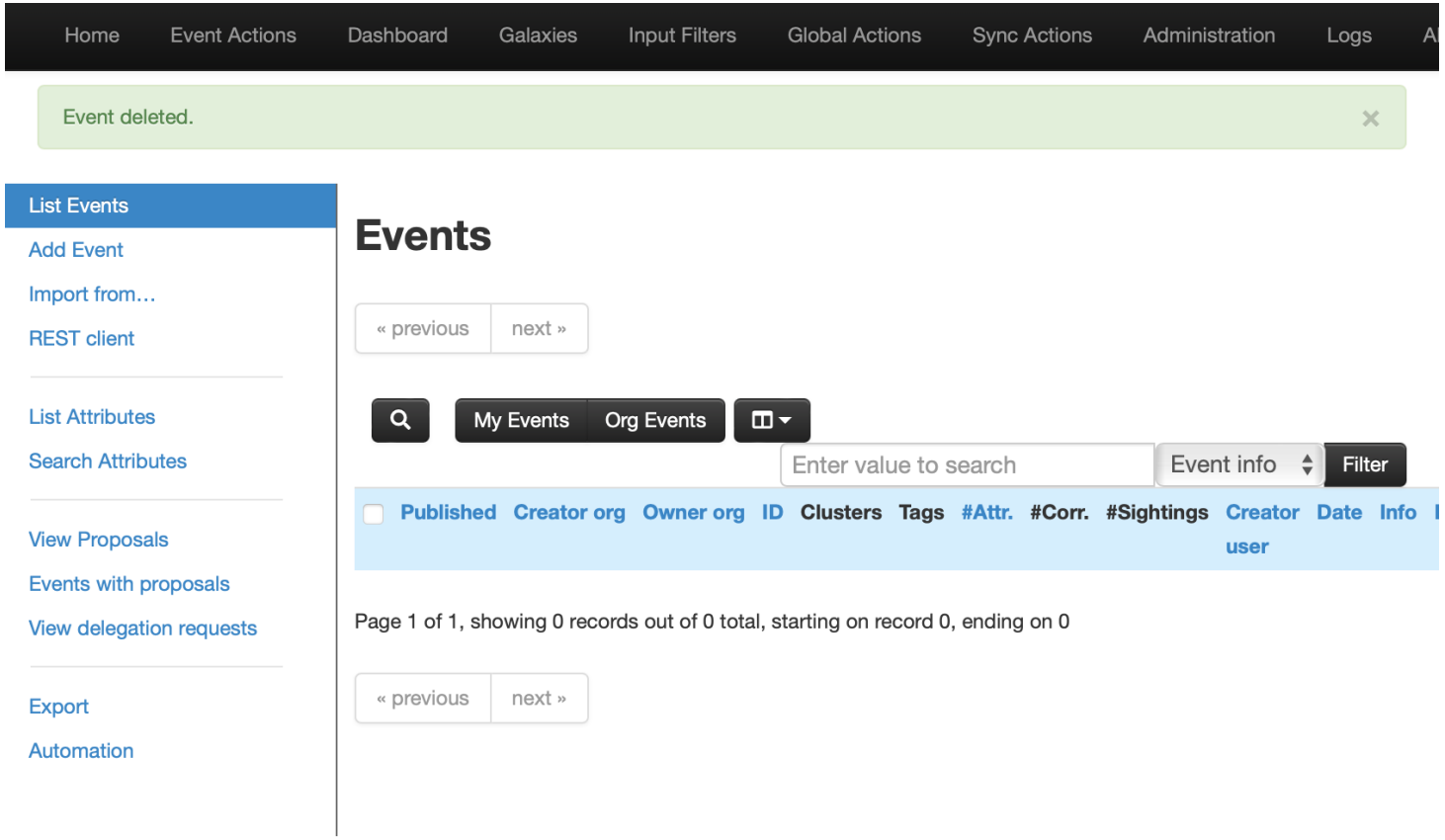
- Now let’s do some alerting from a detection!
  - First: MISP

MISP Exercises

First steps: MISP

- Username: admin@admin.test
- Password: $password

First steps: MISP



MISP exercises

- Log into your MISP instance
- https://scsc-2022-[01-39].cern.ch
  - admin@admin.test + $password
- We want to create an event with the webserver as `ip_dst`
  - And a filehash too if we want
- Start with an event

MISP exercises

- Click “add an event” and we’ll work through the steps
- We want to add a “network” object
- Ip_dst= the webserver IP (should be 172.18.0.2)
  - On the client container, you should be able to `dig webserver` to confirm
- Make sure that To IDS is clicked
- Publish (no email)

MISP exercises

- On the events page, check that you have one event!
- Next, we want to download this to Zeek
- In MISP, go to Global Actions -> My Profile and copy your authkey
- In Zeek, `export authkey=$AUTHKEY` and `/opt/pocketsoc-ng/bin/pull_misp.sh`
  - Should see a list of the intel in /opt/zeek/feeds/intel.txt

MISP exercises

- Now, trigger the “bad” activity! Either:
  - On the client node, curl the webserver one more time OR
  - On the zeek node, we can replay the pcap file into zeek again

- tcpreplay –i eth0 $pcapfile

- Either of these should
  - Create a new entry in /opt/zeek/logs/current/intel.log
  - Raise an alert in mattermost

Building a MISP network

- Use scsc-2022-00.cern.ch as our central instance
- I have prepopulated it with “sync users” that will let you sync your instance to mine

- User: scsc@scsc-2022-[01-39].cern.ch
- Password: the same password

- You should now see the scsc-2022-00.cern.ch events

Building a MISP network

- **In the -00 instance**, again go to Global actions -> My profile and copy the **different** authkey

- **On your instance** go to “Sync actions -> List Servers” and click on “New Servers”

Building a MISP network

Base URL: https://scsc-2022-00.cern.ch
Instance Name: Central
Organisation Type: Local
Local organization type: PocketSOC
Authkey: the key you copied from the **-00** instance
Enabled synchronisation methods: Pull
Allow self signed certificates (unsecure): check

(This shouldn't be needed, this is on my snaglist)

-> **Submit**

Building a MISP network

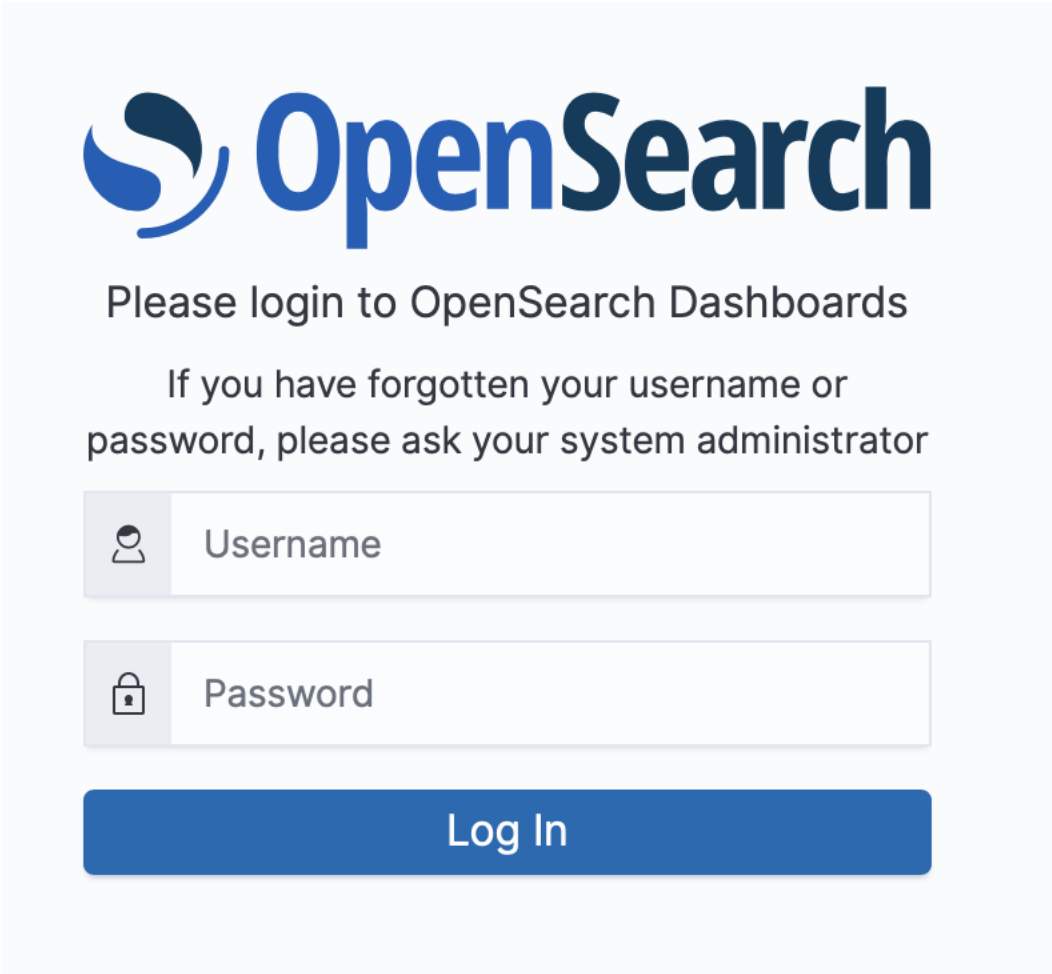
- Check the server list (or click list servers)
- **RUN** Connection test
- If this fails, we can look at it
- On the far right side of that row, click the down arrow (hover text: pull all to pull all events

- That’s it!

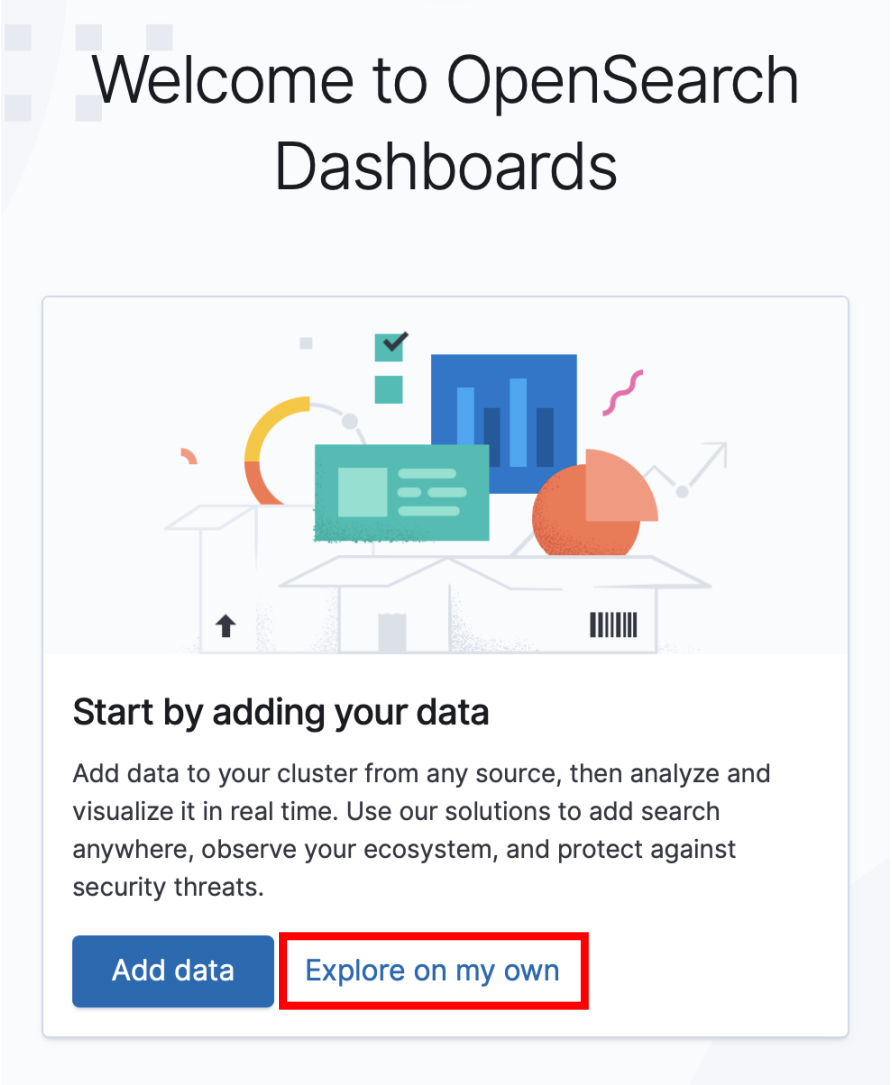
- You can also set up regular synching **which will only pull deltas**

First steps: OpenSearch Dashboards

- Username: admin
- Password: $password



First steps: OpenSearch Dashboards



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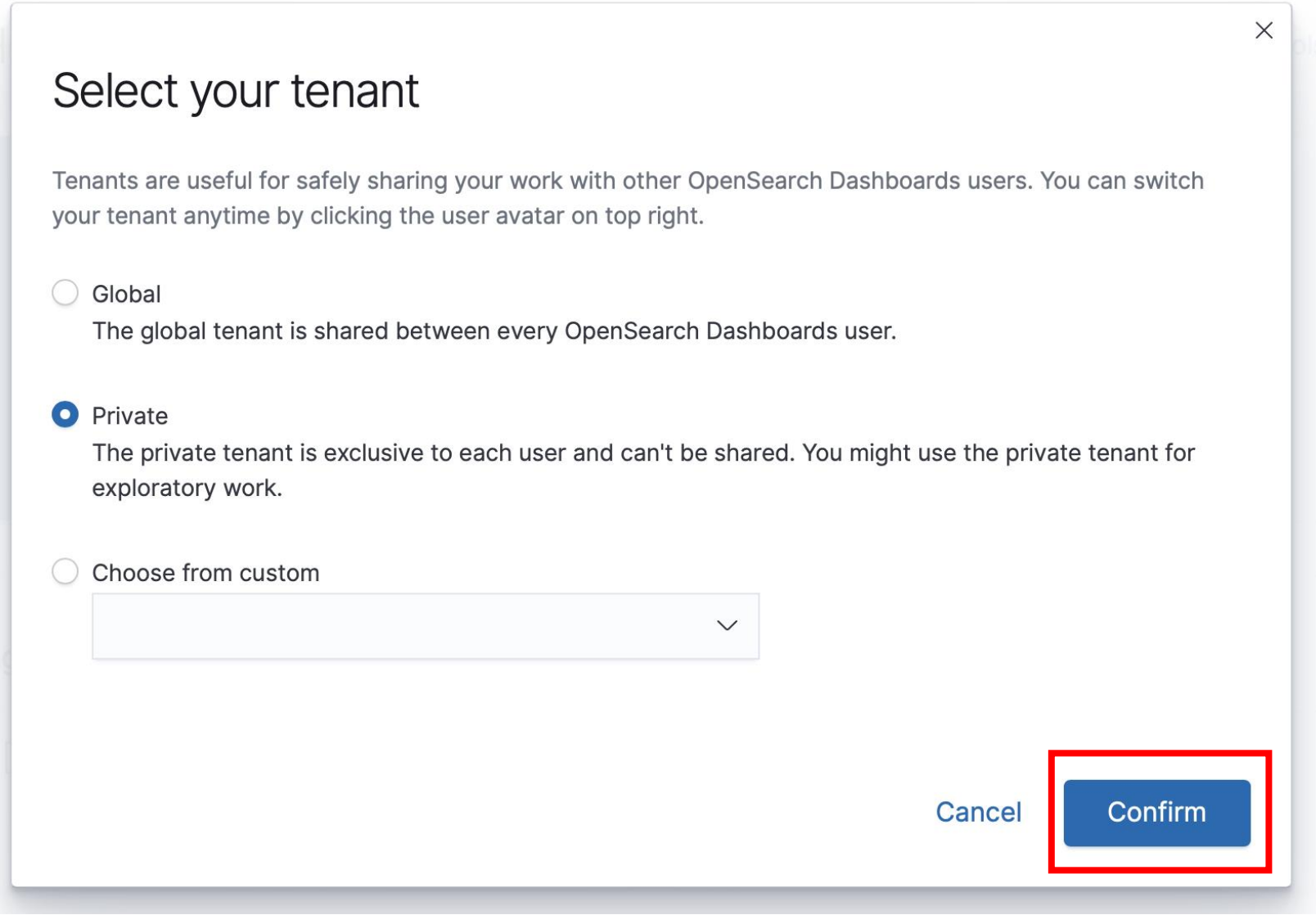
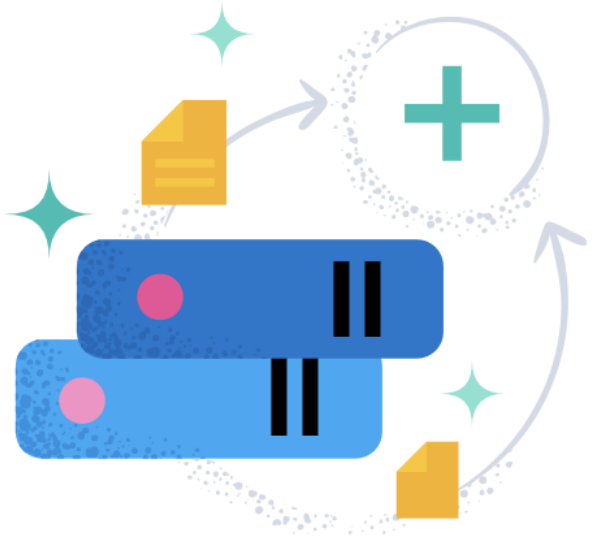


First steps: OpenSearch Dashboards

You have data in OpenSearch.

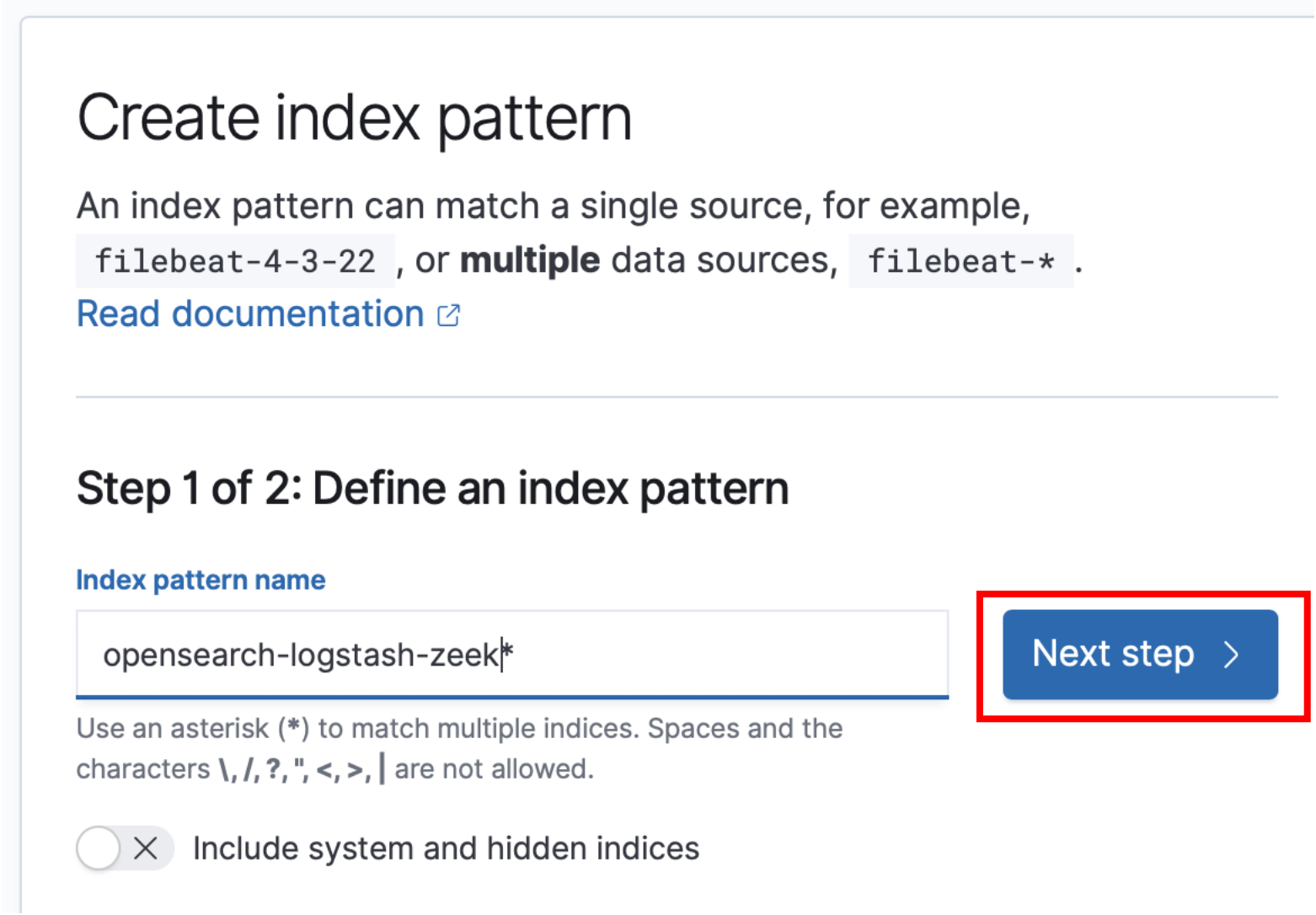
Now, create an index pattern.

OpenSearch Dashboards requires an index pattern to identify which indices you want to explore. An index pattern can point to a specific index, for example, your log data from yesterday, or all indices that contain your log data.



⊕ Create index pattern

First steps: OpenSearch Dashboards



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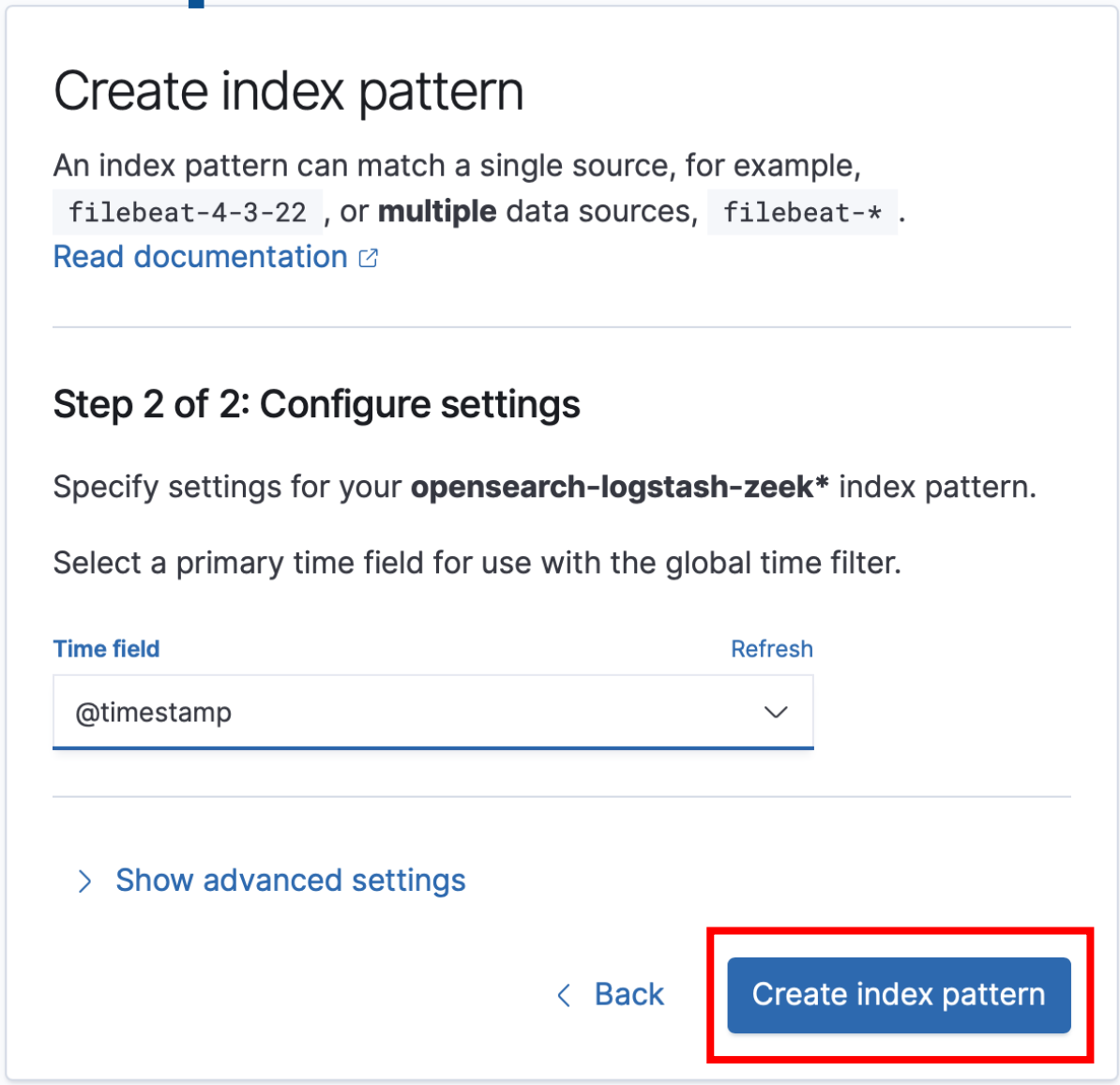

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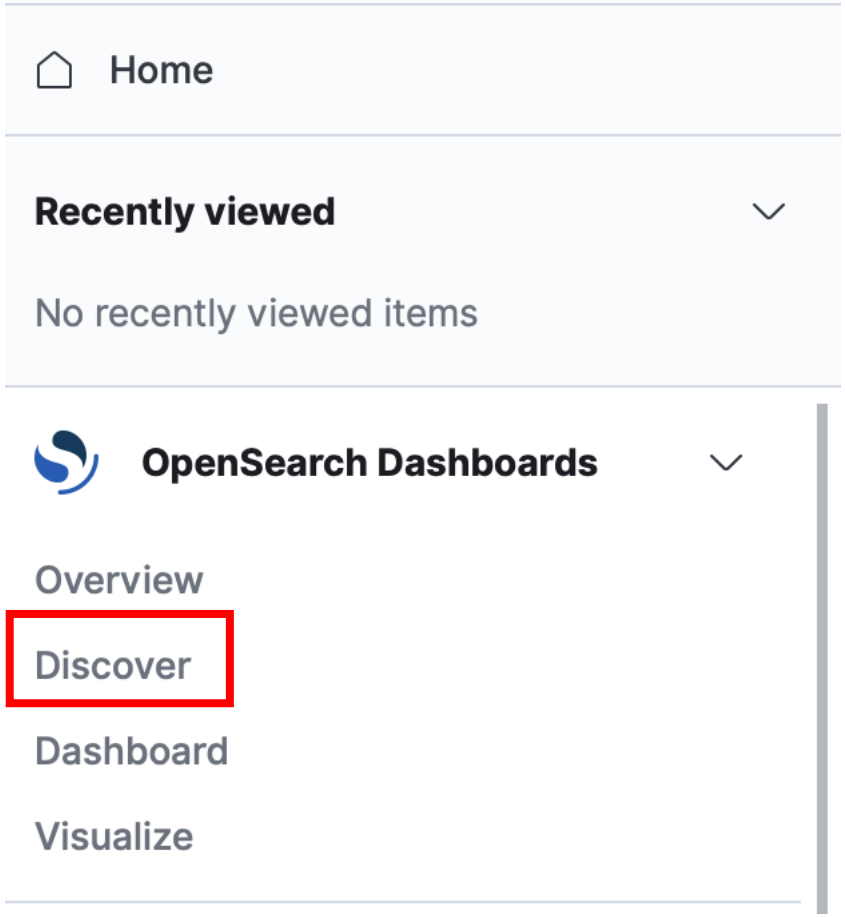

First steps: OpenSearch Dashboards