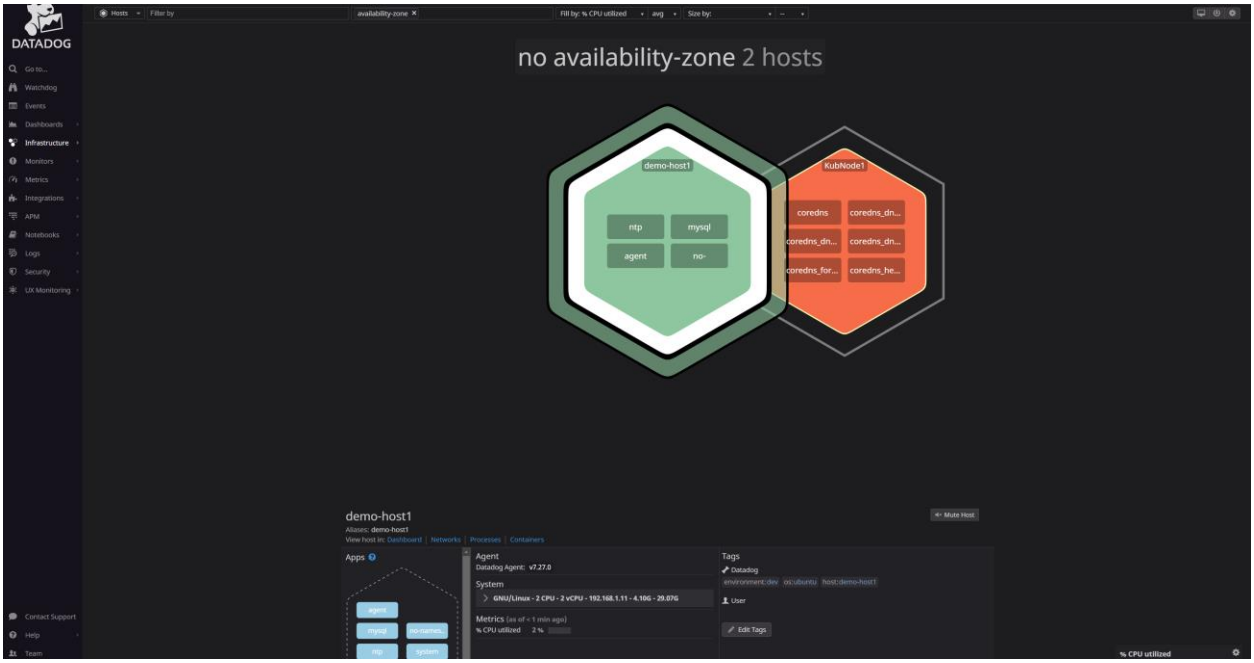
Collecting Metrics:

Adding Tags to host:

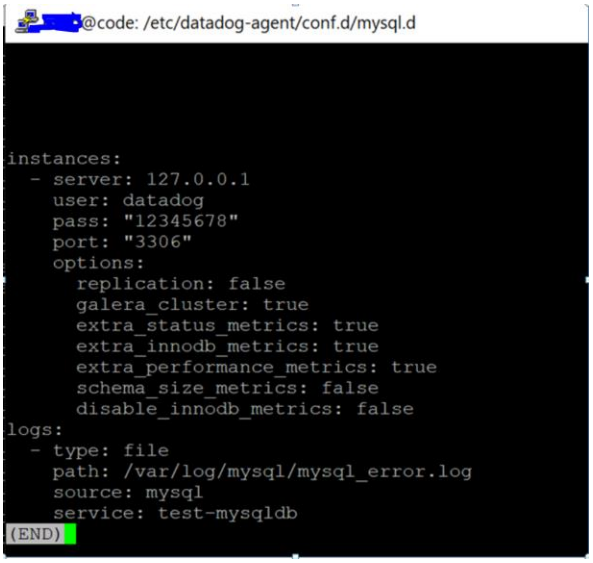
```
tags: ["environment:dev", "os:ubuntu"]

## @param env - string - optional
## The environment name where the agent is running. Attached in-app to every
## metric, event, log, trace, and service check emitted by this Agent.
#
# env: <environment name>
```



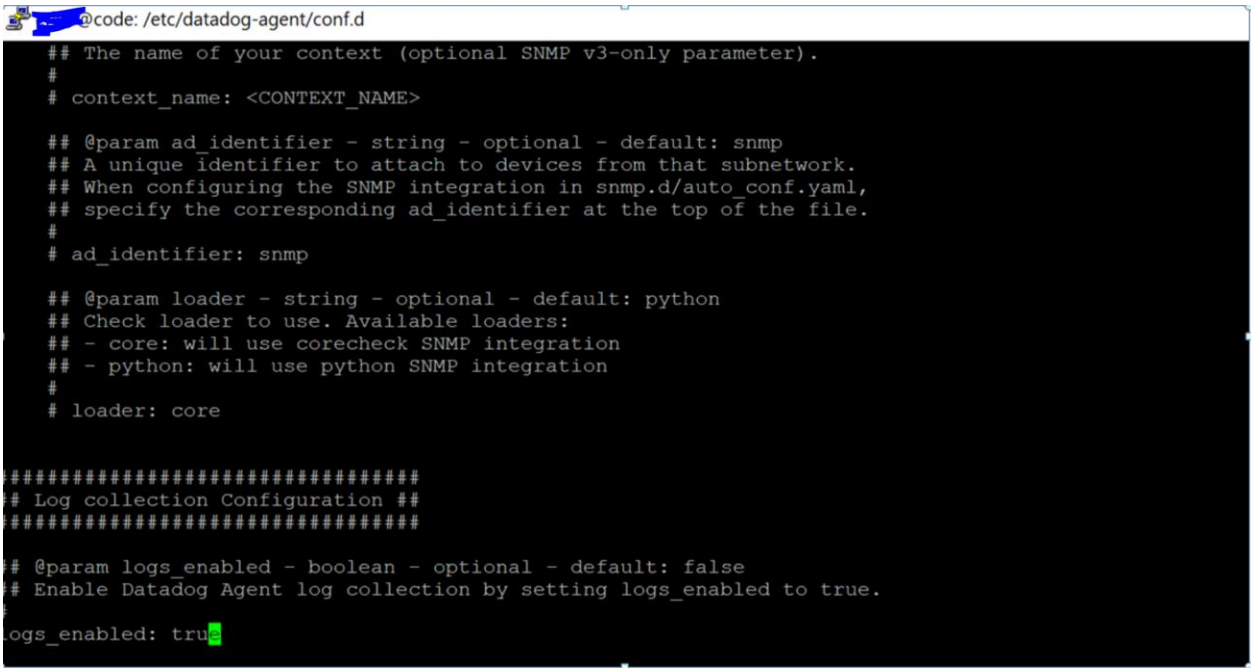
MySql Integration and Log Collection

```
[redacted]@code:~$ mysql -u datadog --password=[redacted] -e "show status" | \
> grep Uptime && echo -e "\033[0;32mMySQL user - OK\033[0m" || \
> echo -e "\033[0;31mCannot connect to MySQL\033[0m"
mysql: [Warning] Using a password on the command line interface can be insecure.
Uptime  948
Uptime_since_flush_status       948
MySQL user - OK
[redacted]@code:~$
```

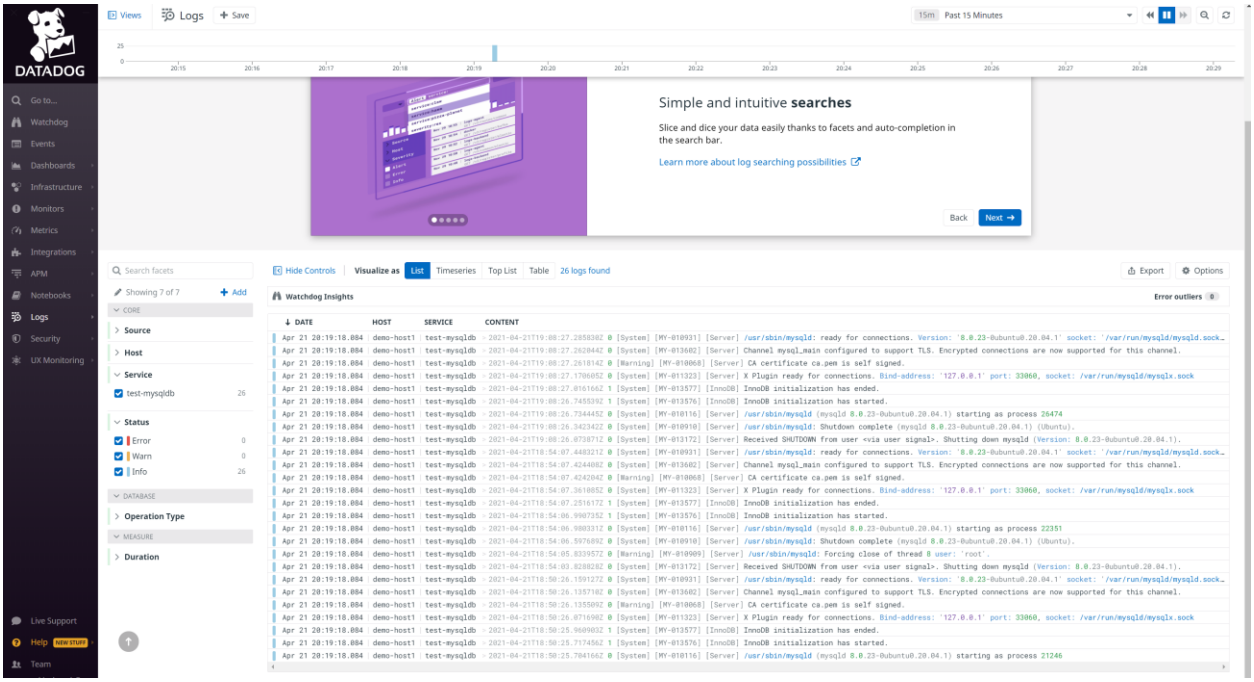
Mysql integration config with error log collection



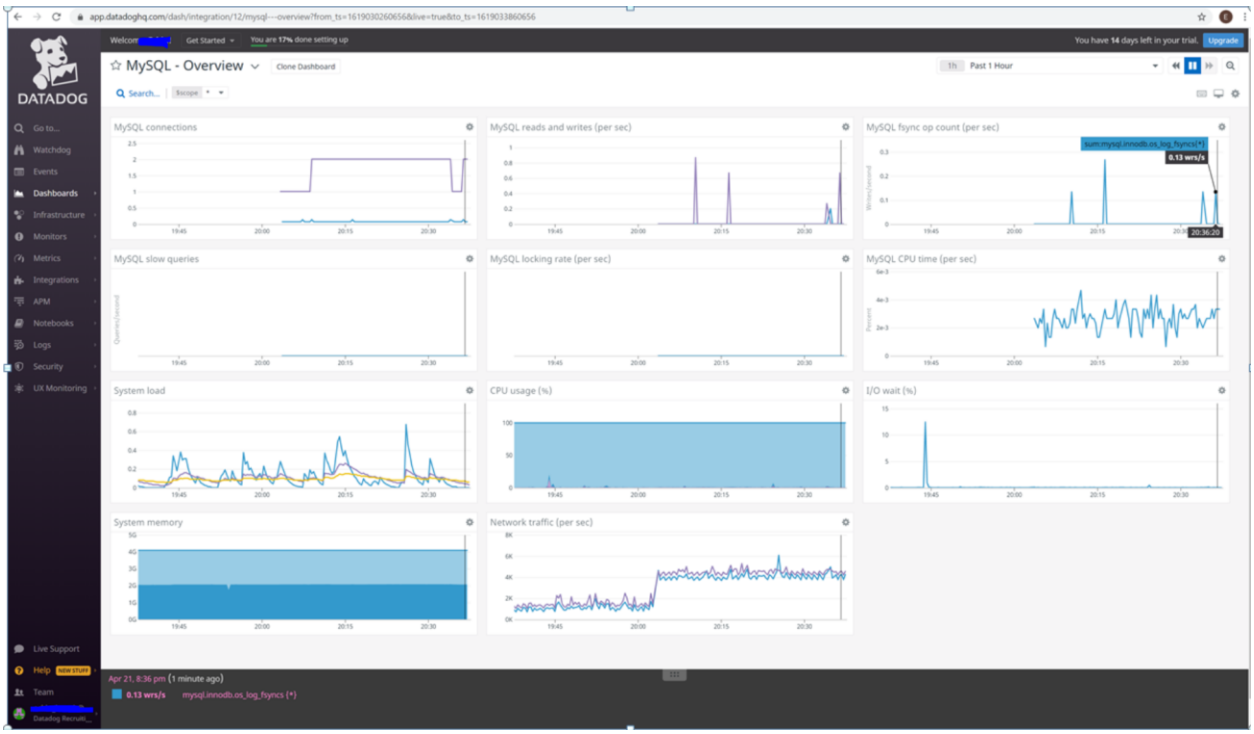
Enable Logging in the agent config



Mysql Logs

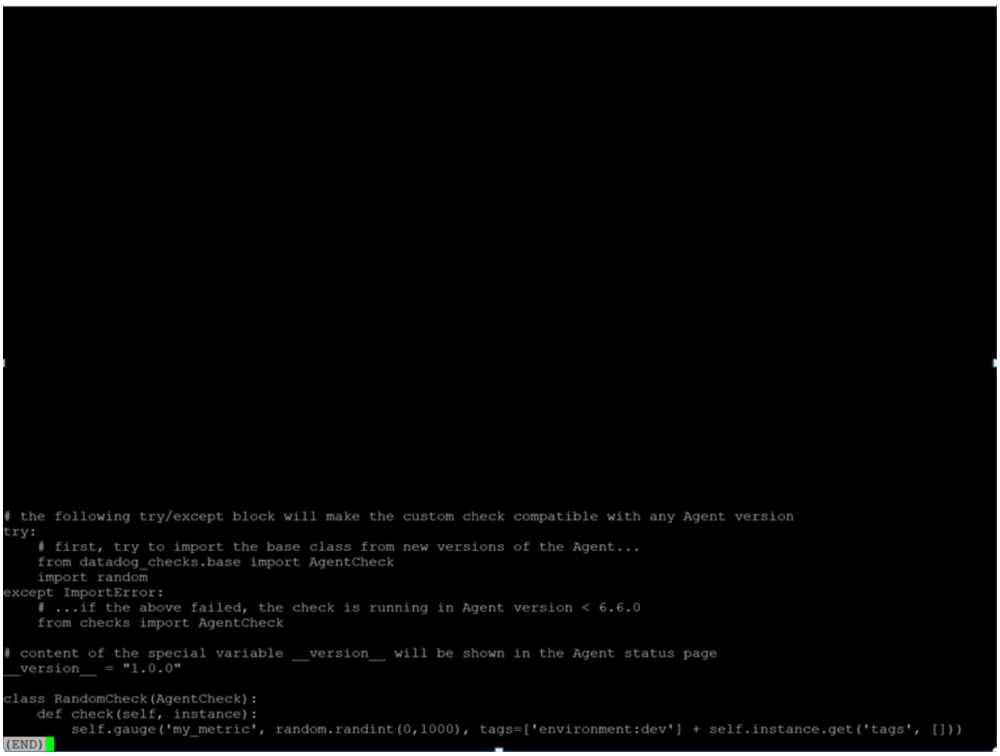


Mysql Metrics



Check sends a random metric between 0,1000 name my_metric

/etc/datadog-agent/checks.d/random_metric.py



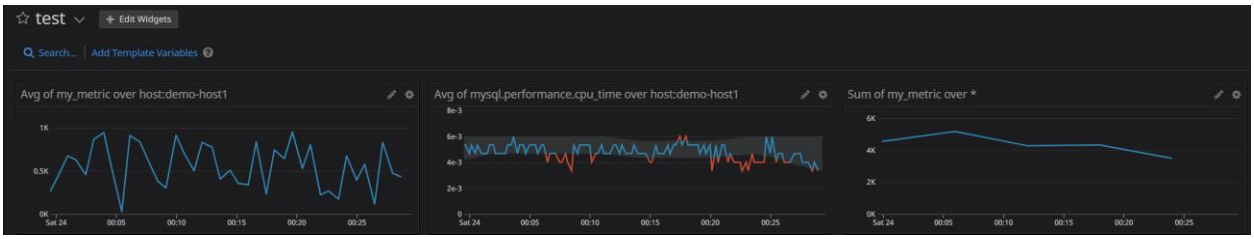
```
# the following try/except block will make the custom check compatible with any Agent version
try:
    # first, try to import the base class from new versions of the Agent...
    from datadog_checks.base import AgentCheck
    import random
except ImportError:
    # ...if the above failed, the check is running in Agent version < 6.6.0
    from checks import AgentCheck

# content of the special variable __version__ will be shown in the Agent status page
__version__ = "1.0.0"

class RandomCheck(AgentCheck):
    def check(self, instance):
        self.gauge('my_metric', random.randint(0,1000), tags=['environment:dev'] + self.instance.get('tags', []))
(END)
```

/etc/datadog-agent/conf.d/random_metric.yaml (interval = 45 sec)

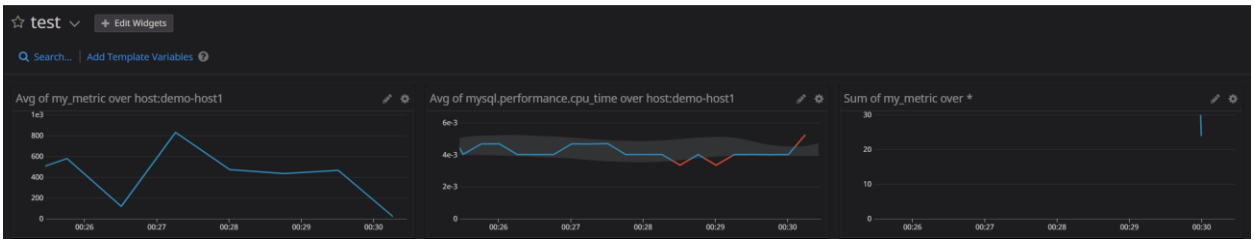
```
init_config:

instances:
  - min_collection_interval: 45
(END)
```

Visualizing Data:

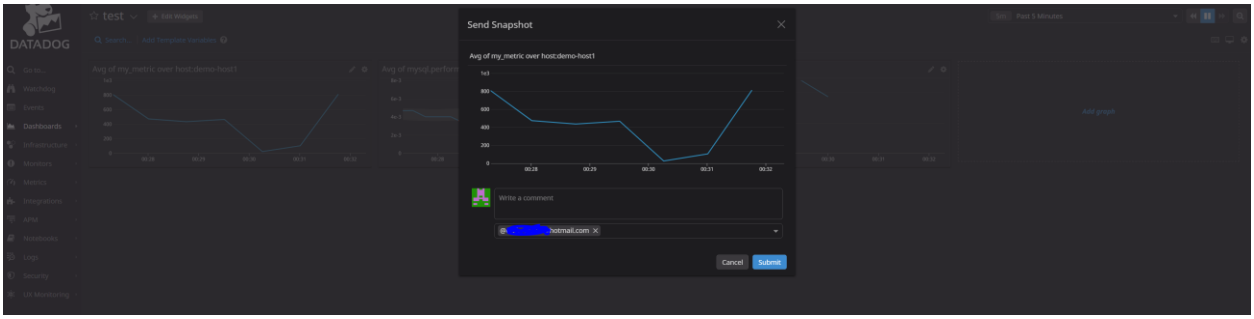
Dashboard



Set the Timeboard's timeframe to the past 5 minute

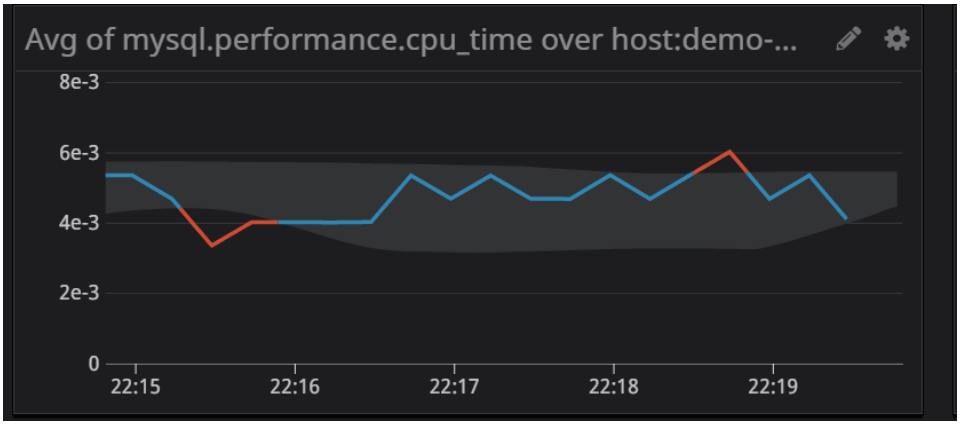


Snapshot

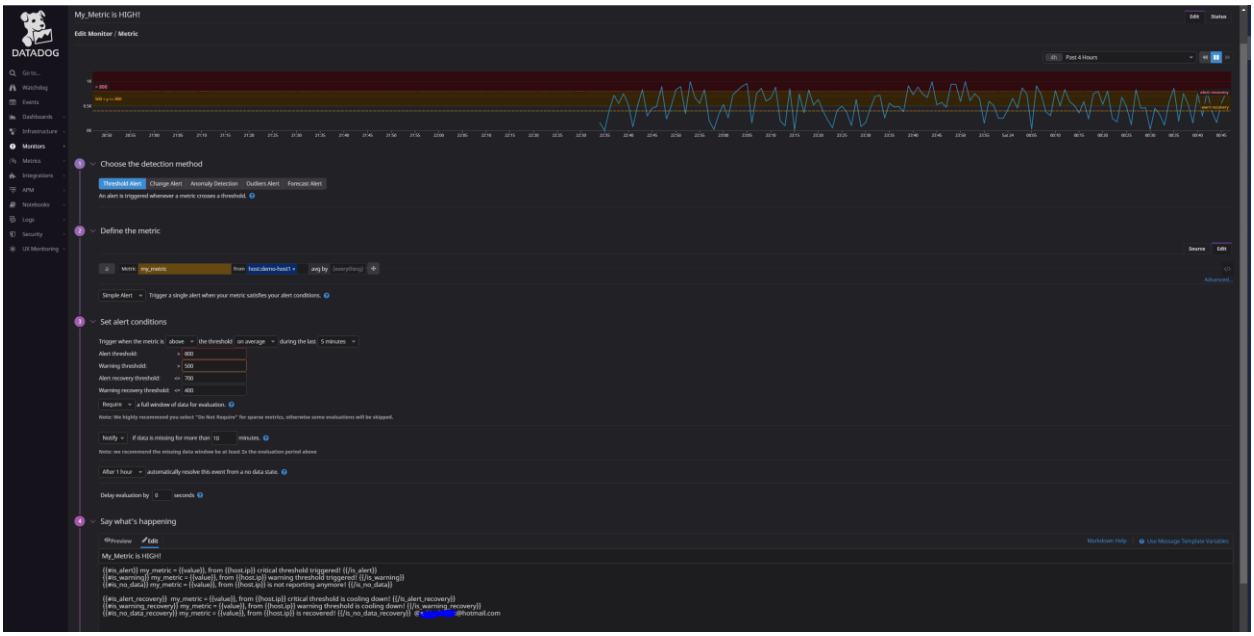


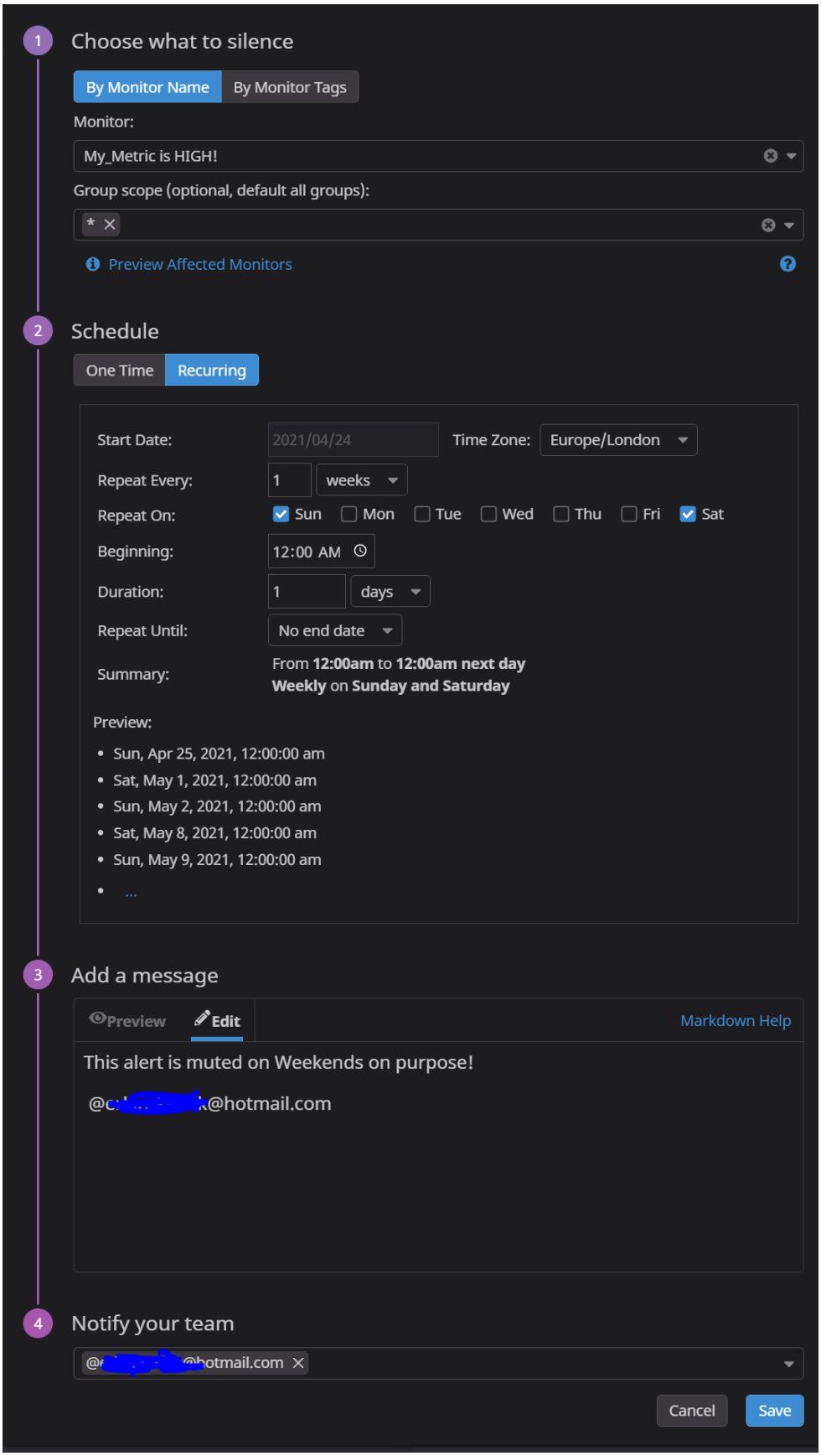
- **Bonus Question**: What is the Anomaly graph displaying?

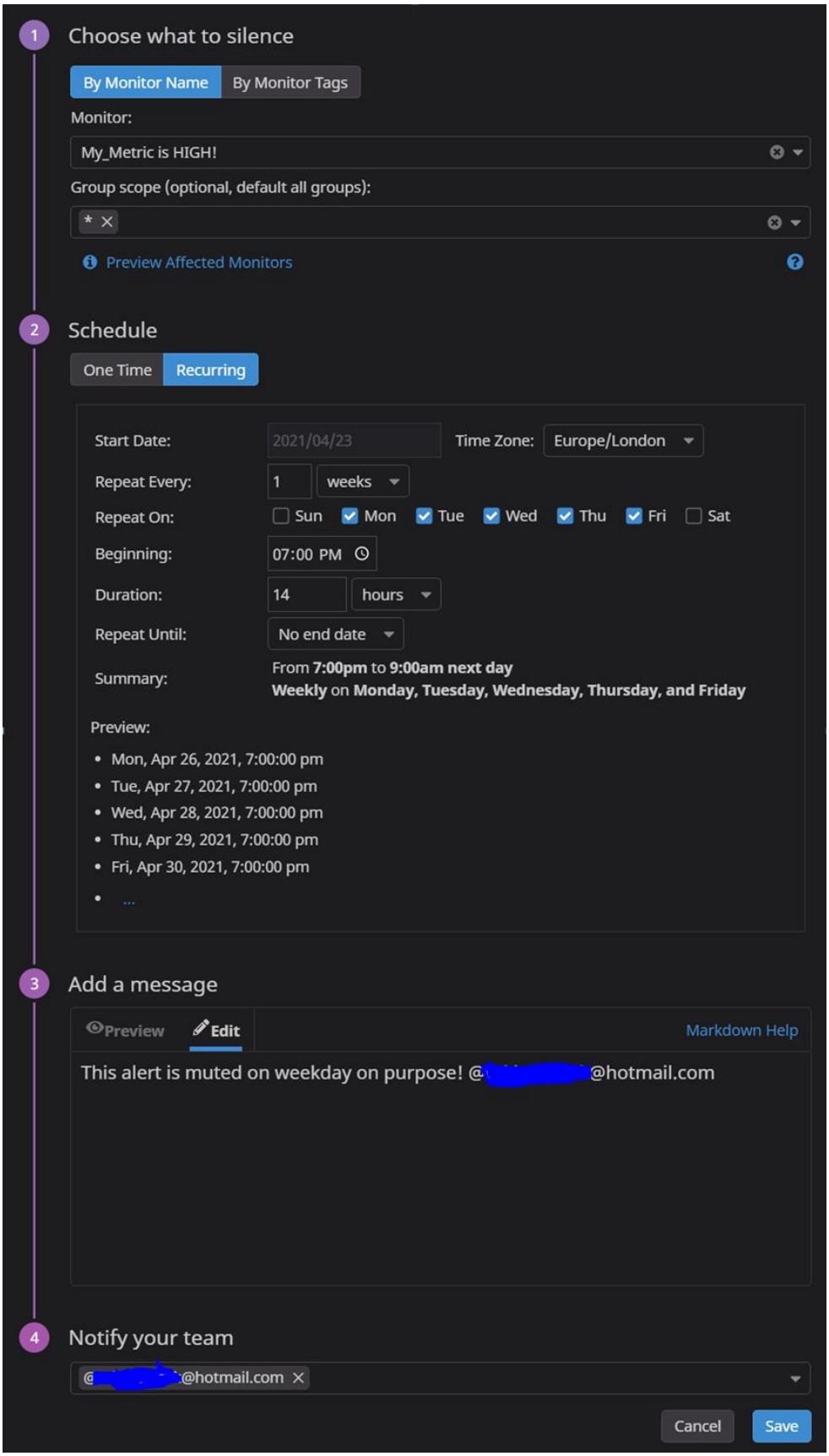
Shows the deviation of the metric based on the “bounds” sensitivity.



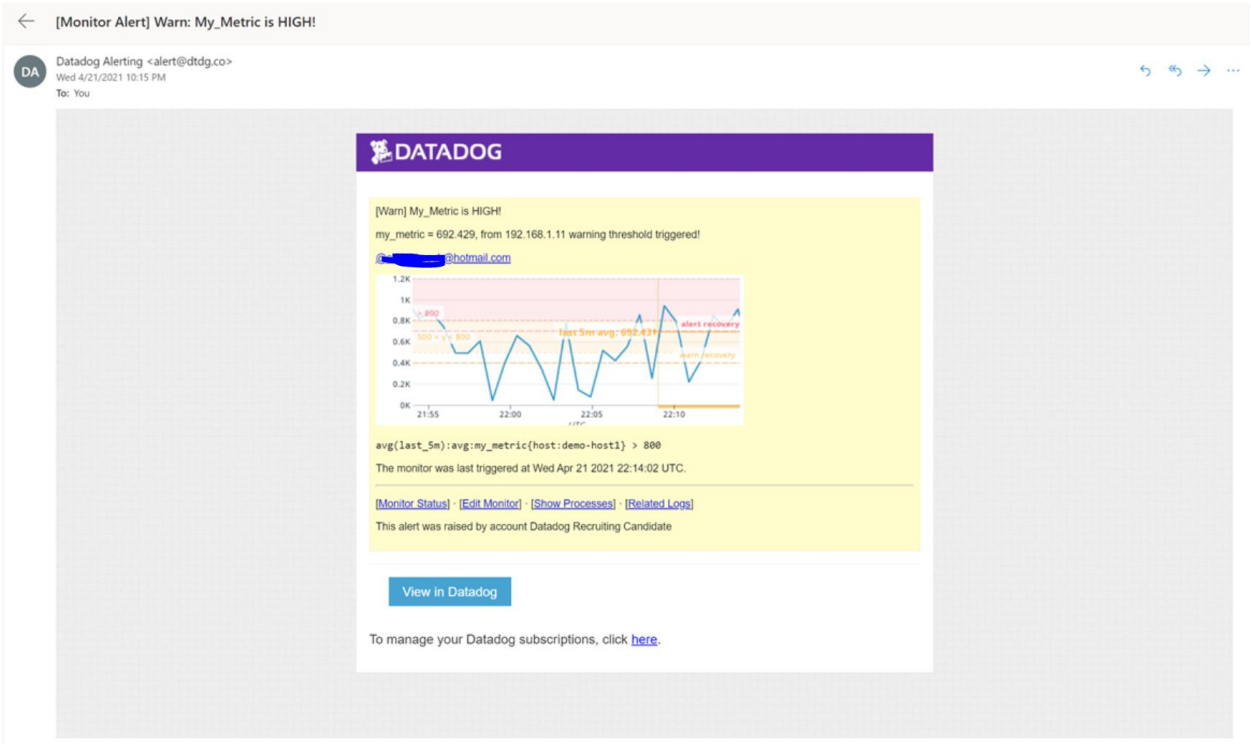
Monitoring Data



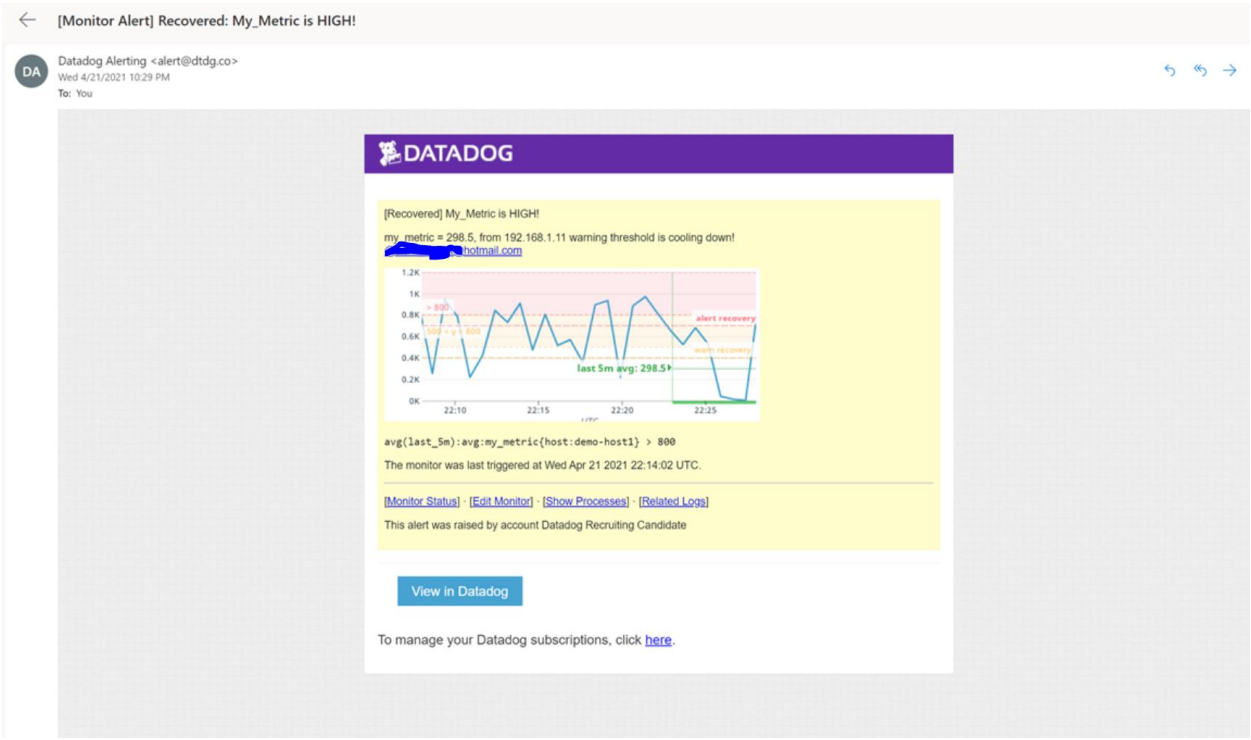

1
Choose what to silence
By Monitor Name
By Monitor Tags
Monitor:
My_Metric is HIGH!
Group scope (optional, default all groups):
*
Preview Affected Monitors
2
Schedule
One Time
Recurring
Start Date:
2021/04/24
Time Zone:
Europe/London
Repeat Every:
1
weeks
Repeat On:
Sun
Mon
Tue
Wed
Thu
Fri
Sat
Beginning:
12:00 AM
Duration:
1
days
Repeat Until:
No end date
Summary:
From 12:00am to 12:00am next day
Weekly on Sunday and Saturday
Preview:
Sun, Apr 25, 2021, 12:00:00 am
Sat, May 1, 2021, 12:00:00 am
Sun, May 2, 2021, 12:00:00 am
Sat, May 8, 2021, 12:00:00 am
Sun, May 9, 2021, 12:00:00 am
...
3
Add a message
Preview
Edit
Markdown Help
This alert is muted on Weekends on purpose!
@[redacted]@hotmail.com
4
Notify your team
@[redacted]@hotmail.com
Cancel
Save


1
Choose what to silence
By Monitor Name
By Monitor Tags
Monitor:
My_Metric is HIGH!
Group scope (optional, default all groups):
*
Preview Affected Monitors
2
Schedule
One Time
Recurring
Start Date:
2021/04/23
Time Zone:
Europe/London
Repeat Every:
1
weeks
Repeat On:
Sun
Mon
Tue
Wed
Thu
Fri
Sat
Beginning:
07:00 PM
Duration:
14
hours
Repeat Until:
No end date
Summary:
From 7:00pm to 9:00am next day
Weekly on Monday, Tuesday, Wednesday, Thursday, and Friday
Preview:
Mon, Apr 26, 2021, 7:00:00 pm
Tue, Apr 27, 2021, 7:00:00 pm
Wed, Apr 28, 2021, 7:00:00 pm
Thu, Apr 29, 2021, 7:00:00 pm
Fri, Apr 30, 2021, 7:00:00 pm
...
3
Add a message
Preview
Edit
Markdown Help
This alert is muted on weekday on purpose! @[redacted]@hotmail.com
4
Notify your team
@[redacted]@hotmail.com
Cancel
Save

Warning Threshold breached



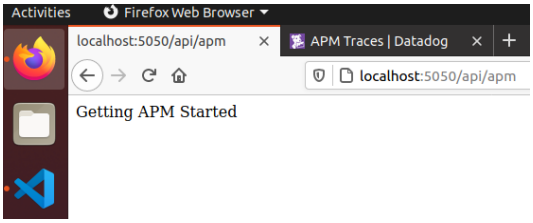
Warning Threshold Recovered

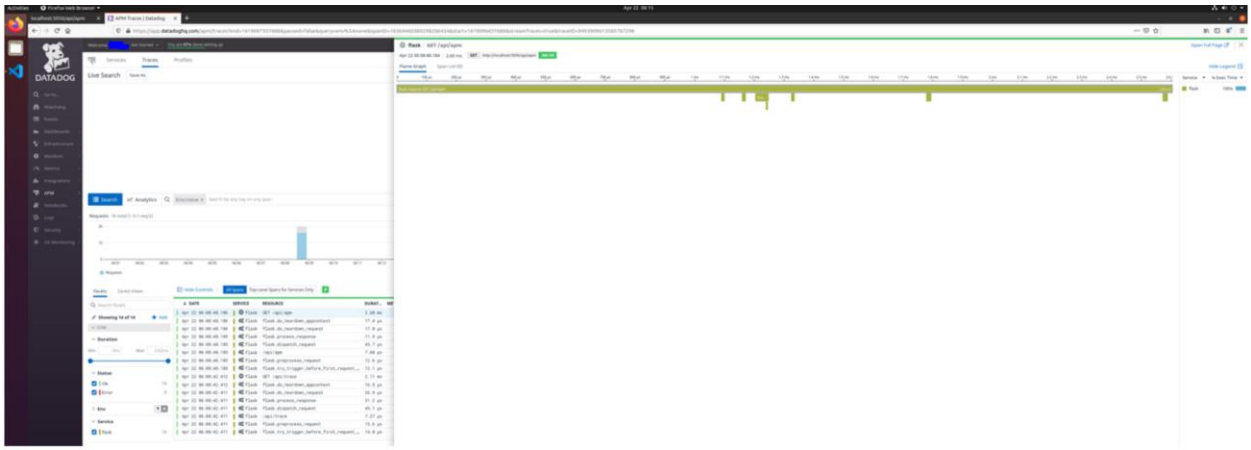


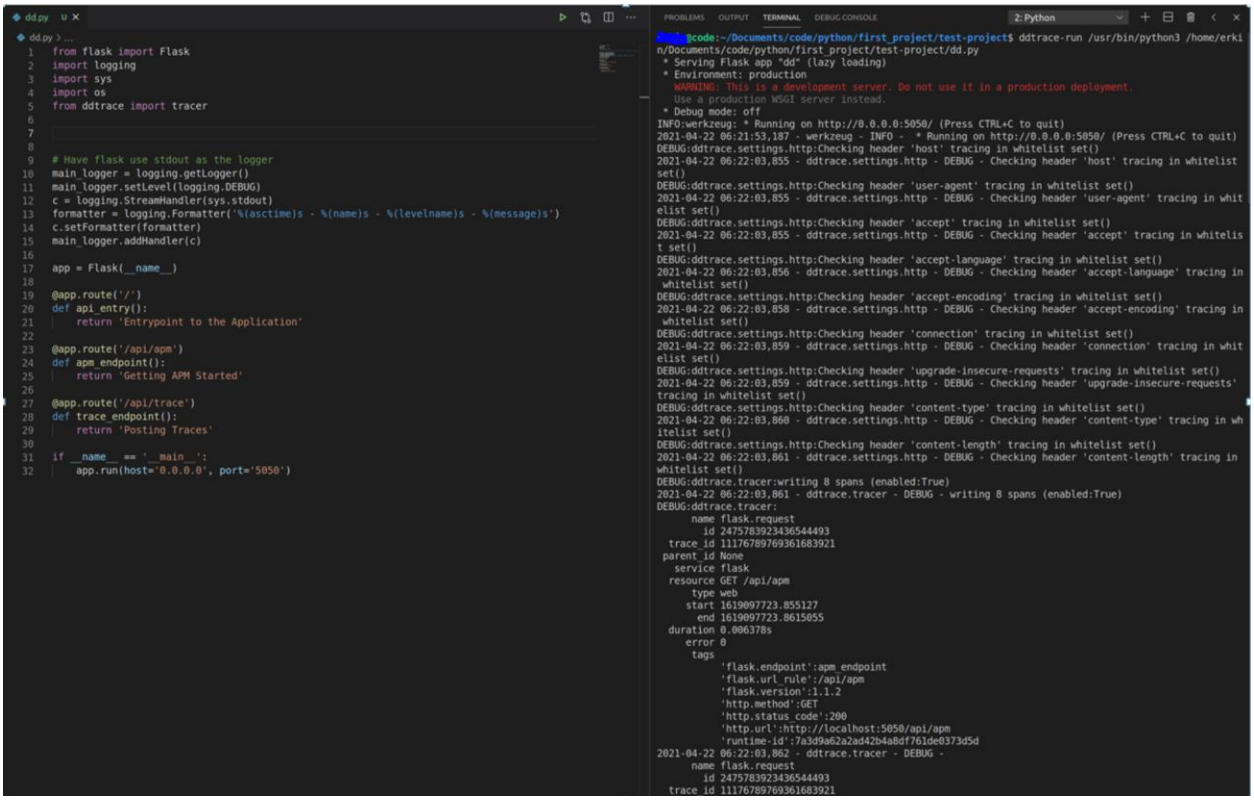
Collecting APM Data:

```
[redacted]@code:~$ pip install ddtrace
Defaulting to user installation because normal site-packages is not writeable
Collecting ddtrace
  Downloading ddtrace-0.48.0-cp38-cp38-manylinux2010_x86_64.whl (2.3 MB)
     |[redacted]| 2.3 MB 4.4 MB/s
Requirement already satisfied: protobuf>=3 in /usr/lib/python3/dist-packages (fr
om ddtrace) (3.6.1)
Collecting tenacity>=5
  Downloading tenacity-7.0.0-py2.py3-none-any.whl (23 kB)
Requirement already satisfied: six>=1.9.0 in /usr/lib/python3/dist-packages (fro
m tenacity>=5->ddtrace) (1.14.0)
Installing collected packages: tenacity, ddtrace
Successfully installed ddtrace-0.48.0 tenacity-7.0.0
[redacted]@code:~$
```

```
[redacted]@code:~$ systemctl --type=service
  UNIT                                LOAD   ACTIVE SUB     DESCRIPTION
  accounts-daemon.service             loaded active running Accounts Service
  acpid.service                       loaded active running ACPI event daemon
  alsa-restore.service                loaded active exited  Save/Restore Sound Card State
  apparmor.service                    loaded active exited  Load AppArmor profiles
  apport.service                      loaded active exited  LSB: automatic crash report generation
  avahi-daemon.service                loaded active running Avahi mDNS/DNS-SD Stack
  bluetooth.service                   loaded active running Bluetooth service
  colord.service                      loaded active running Manage, Install and Generate Color Profiles
  console-setup.service               loaded active exited  Set console font and keymap
  cron.service                        loaded active running Regular background program processing daemon
  cups-browsed.service                loaded active running Make remote CUPS printers available locally
  cups.service                        loaded active running CUPS Scheduler
  datadog-agent-process.service       loaded active running Datadog Process Agent
  datadog-agent-trace.service         loaded active running Datadog Trace Agent (APM)
  datadog-agent.service               loaded active running Datadog Agent
```



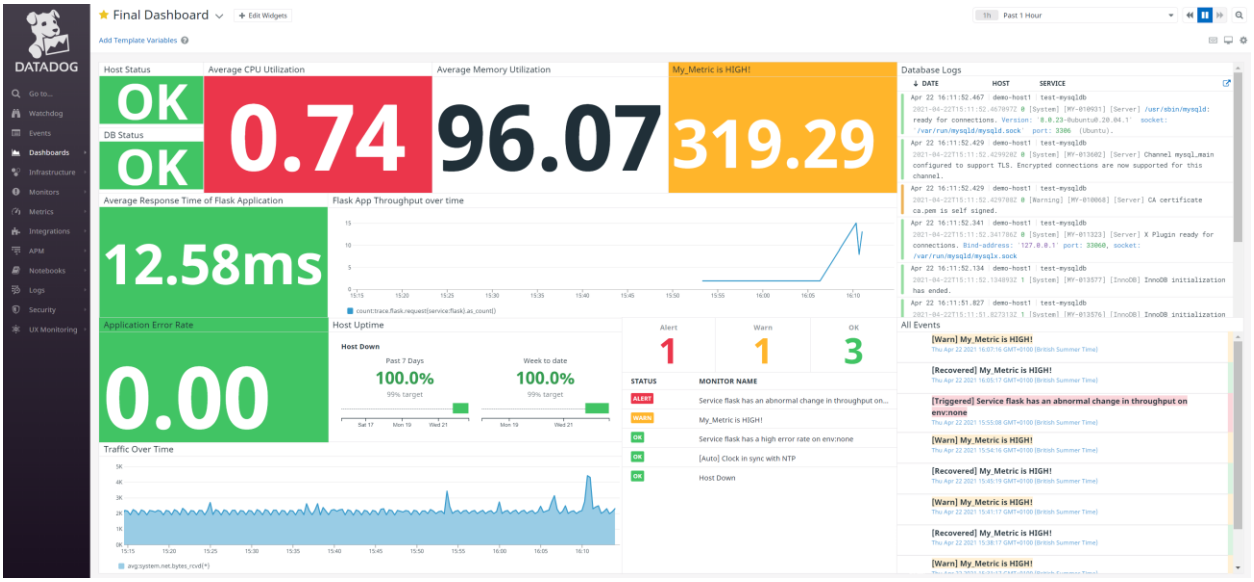




Dashboard Link: https://app.datadoghq.com/dashboard/53h-5f8-cmh/final-dashboard?from_ts=1619093890680&live=true&to_ts=1619097490680

Service: Is the application itself

Resource: An action within the application



Kubernetes Integration:

```
  933  helm repo add datadog https://helm.datadoghq.com
  934  helm repo add stable https://charts.helm.sh/stable
  935  helm repo update
  936  helm install datadog-agent -f values.yaml  --set datadog.apiKey=2ac363121e9d08ba5b384b9698fd8f60 datadog/datadog --set targetSy
stem=linux
  937  kg pods
```

Enable APM:

Values.yaml

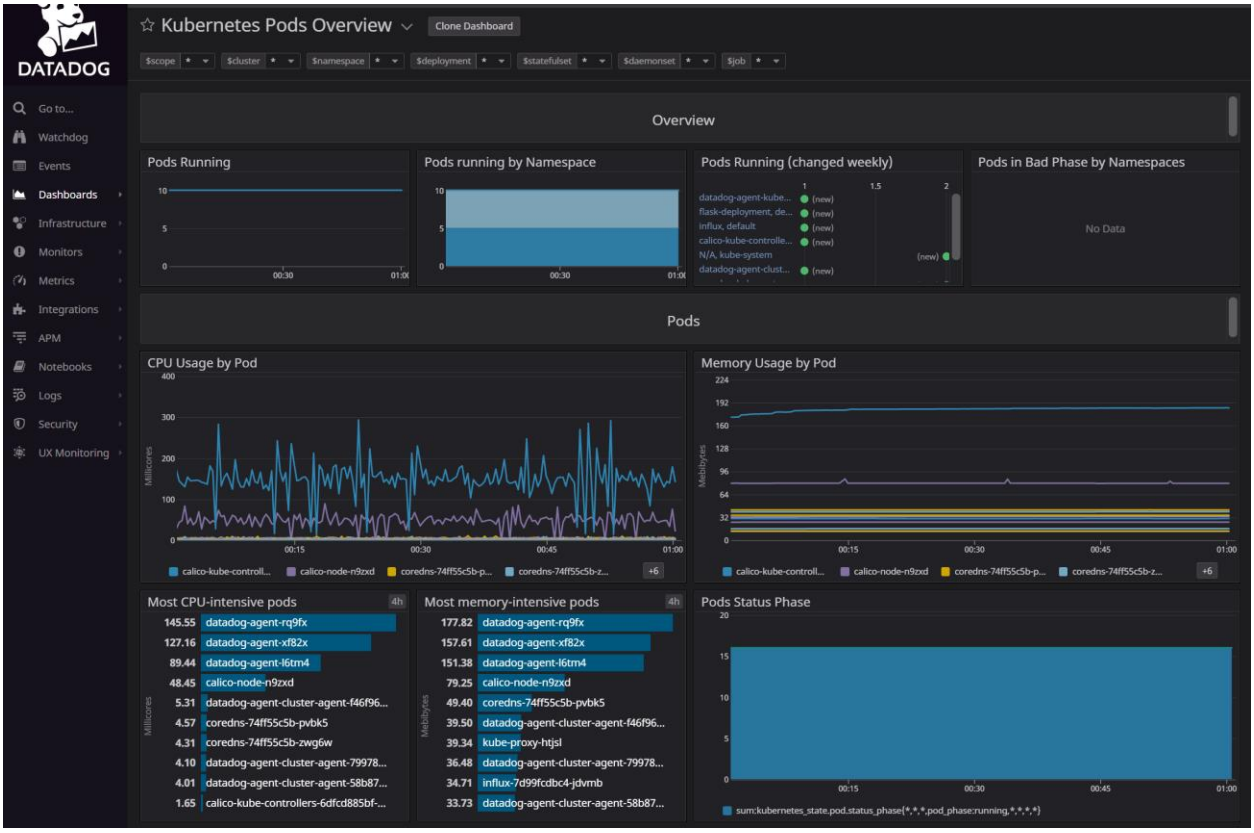
```
## Enable apm agent and provide custom configs
apm:
  # datadog.apm.enabled -- Enable this to enable APM and tracing, on port 8126
  ## ref: https://github.com/DataDog/docker-dd-agent#tracing-from-the-host
  enabled: true
```

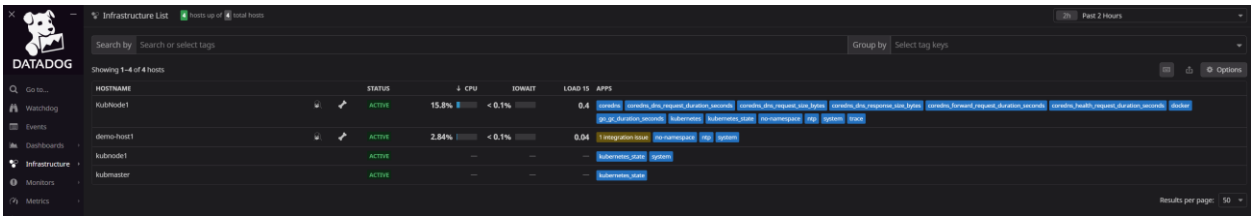
Update DD Helm Chart(A couple of changes were required in values.yaml to complete kubernetes integration)

```
 1002  vi values.yaml
 1003  helm upgrade -f values.yaml datadog-agent datadog/datadog
```

```
[redacted]@KubMaster:~/dd$ helm upgrade -f values.yaml datadog-agent datadog/datadog
Release "datadog-agent" has been upgraded. Happy Helming!
NAME: datadog-agent
LAST DEPLOYED: Fri Apr 23 10:08:22 2021
NAMESPACE: default
STATUS: deployed
REVISION: 2
TEST SUITE: None
NOTES:
Datadog agents are spinning up on each node in your cluster. After a few
minutes, you should see your agents starting in your event stream:
    https://app.datadoghq.com/event/stream

The Datadog Agent is listening on port 8126 for APM service.
[redacted]@KubMaster:~/dd$ vi values.yaml
```

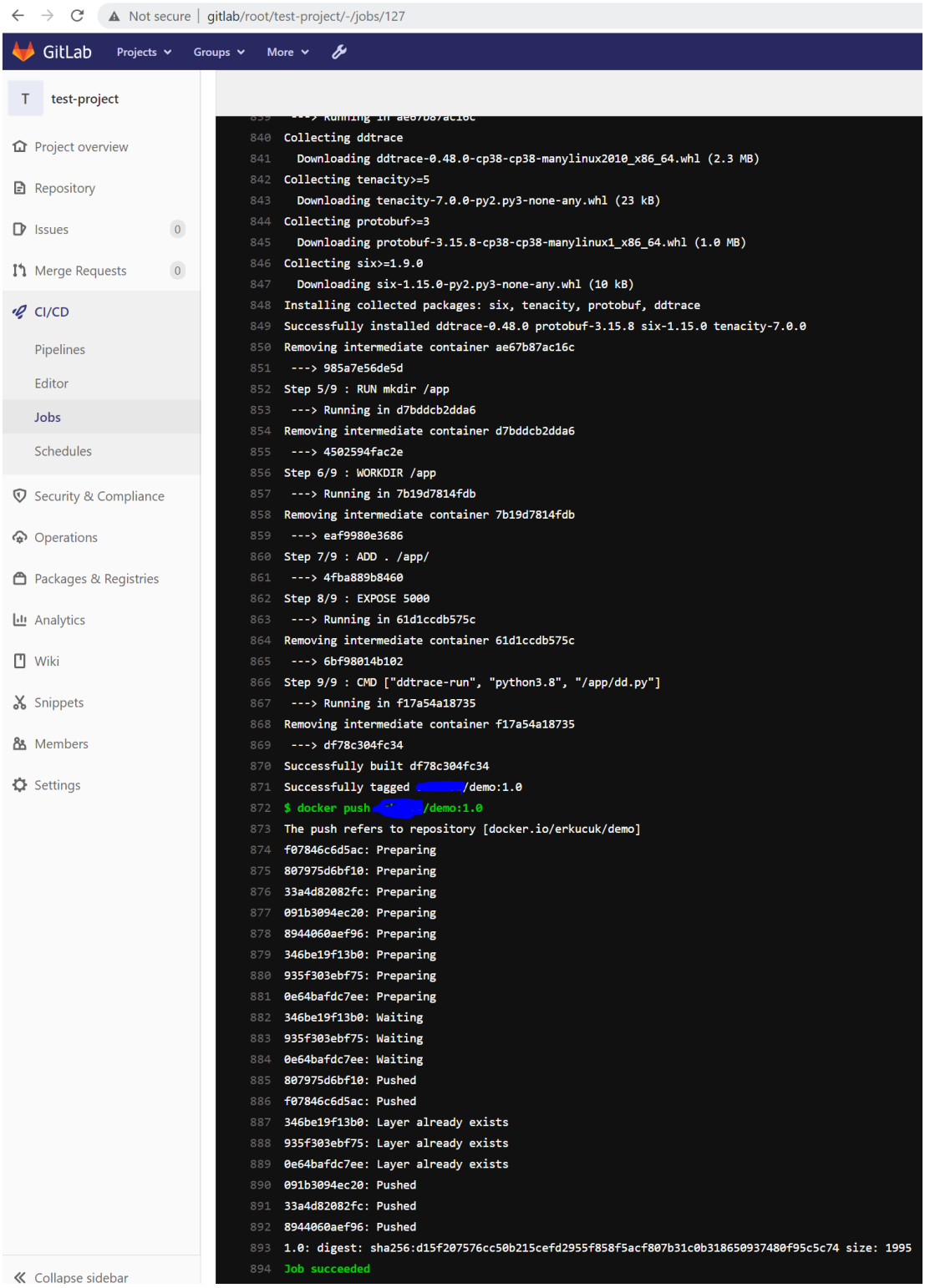
Pods Dashboard





Same Flask App running in K8s

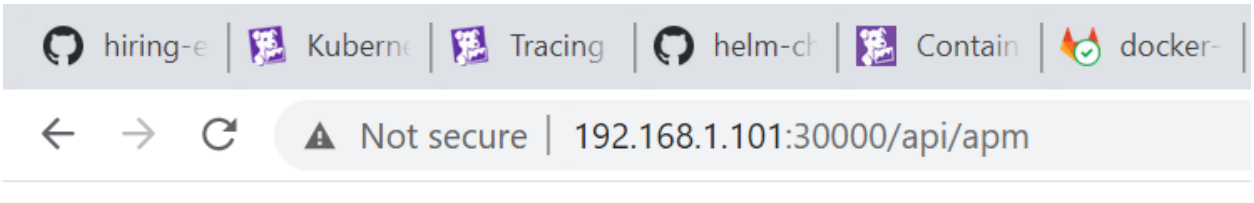
Docker Image creation and push to registry



Running Flask App as a deployment

```
apiVersion: apps/v1
kind: Deployment
metadata:
  name: flask-deployment
  labels:
    app: flask
spec:
  replicas: 1
  selector:
    matchLabels:
      app: flask
  template:
    metadata:
      labels:
        app: flask
    spec:
      containers:
      - name: flask
        image: [redacted]/demo:1.0
        imagePullPolicy: Always
        env:
          - name: DD_AGENT_HOST
            valueFrom:
              fieldRef:
                fieldPath: status.hostIP
        ports:
        - containerPort: 5050
      imagePullSecrets:
      - name: regcred
dd_dep.yaml (END)
```

Verify the deployment working



Check trace collection for the service running in Kubernetes