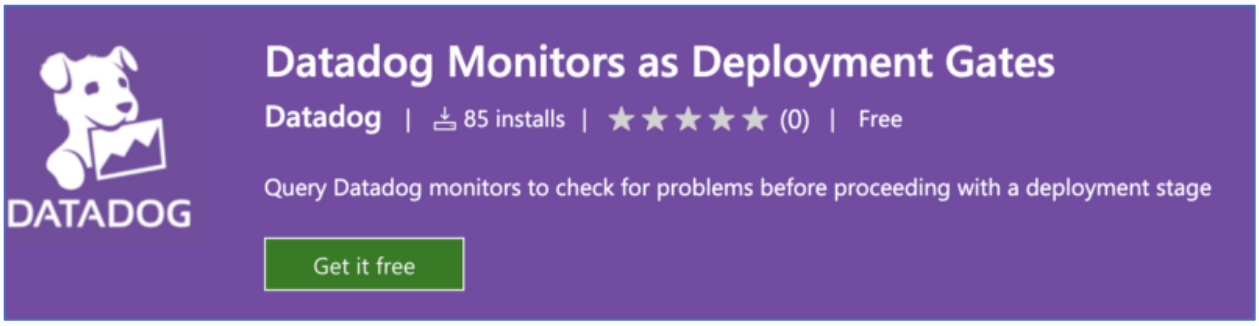
Azure DevOps Monitor with DataDog

Datadog is the essential monitoring platform for cloud infrastructure, applications, and logs.

They bring together data from servers, containers, databases, and third-party services to make your stack entirely observable.

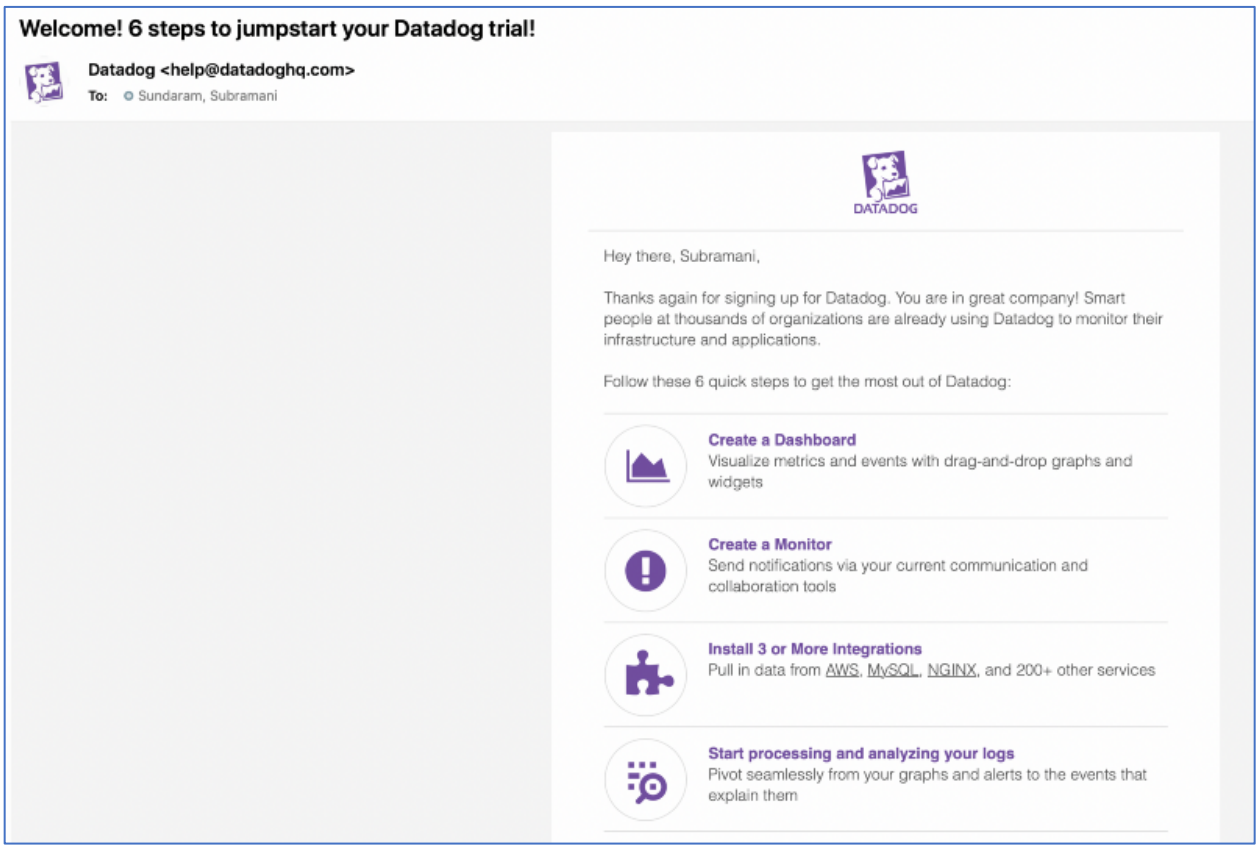
By adding this extension, we'll be able to utilize any monitors in Datadog to stop problematic deployments in their tracks by adding Datadog Monitors as gates in your Azure Pipelines.



https://marketplace.visualstudio.com/items?itemName=Datadog.datadog-monitors

How to install and work on Datadog agent :

1. We need to first register ourself on the Datadog with the details such as email id and name and other details.



2. Then we need to install the agent on our local machine whether we are using Windows or Mac or Linux .
3. Download the agent and then run the script given below :

```
Subramanis-MacBook-Pro:Desktop subramanisundaram$ cd ../Downloads/
Subramanis-MacBook-Pro:Downloads subramanisundaram$ mkdir datadog-agent
Subramanis-MacBook-Pro:Downloads subramanisundaram$ cd datadog-agent/
Subramanis-MacBook-Pro:datadog-agent subramanisundaram$ DD_AGENT_MAJOR_VERSION=7 DD_API_KEY=9cb1be2ba211586627ed03207540f951 bas
h -c "$(curl -L https://raw.githubusercontent.com/DataDog/datadog-agent/master/cmd/agent/install_mac_os.sh)"
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100  6536  100  6536    0     0  20203      0 --:--:-- --:--:-- --:--:-- 20235

* Downloading datadog-agent
######################################################################## 100.0%

* Installing datadog-agent, you might be asked for your sudo password...
Password:
```

```
Password:

    - Mounting the DMG installer...

    - Unpacking and copying files (this usually takes about a minute) ...

    - Unmounting the DMG installer ...

* A datadog.yaml configuration file already exists. It will not be overwritten.



Your Agent is running properly. It will continue to run in the
background and submit metrics to Datadog.

You can check the agent status using the "datadog-agent status" command
or by opening the webui using the "datadog-agent launch-gui" command.

If you ever want to stop the Agent, please use the Datadog Agent App or
the launchctl command. It will start automatically at login.
```

4. Then we need to start the Datadog agent by running the command and then we can see the agent is running and then we can start configuring the Integrations.

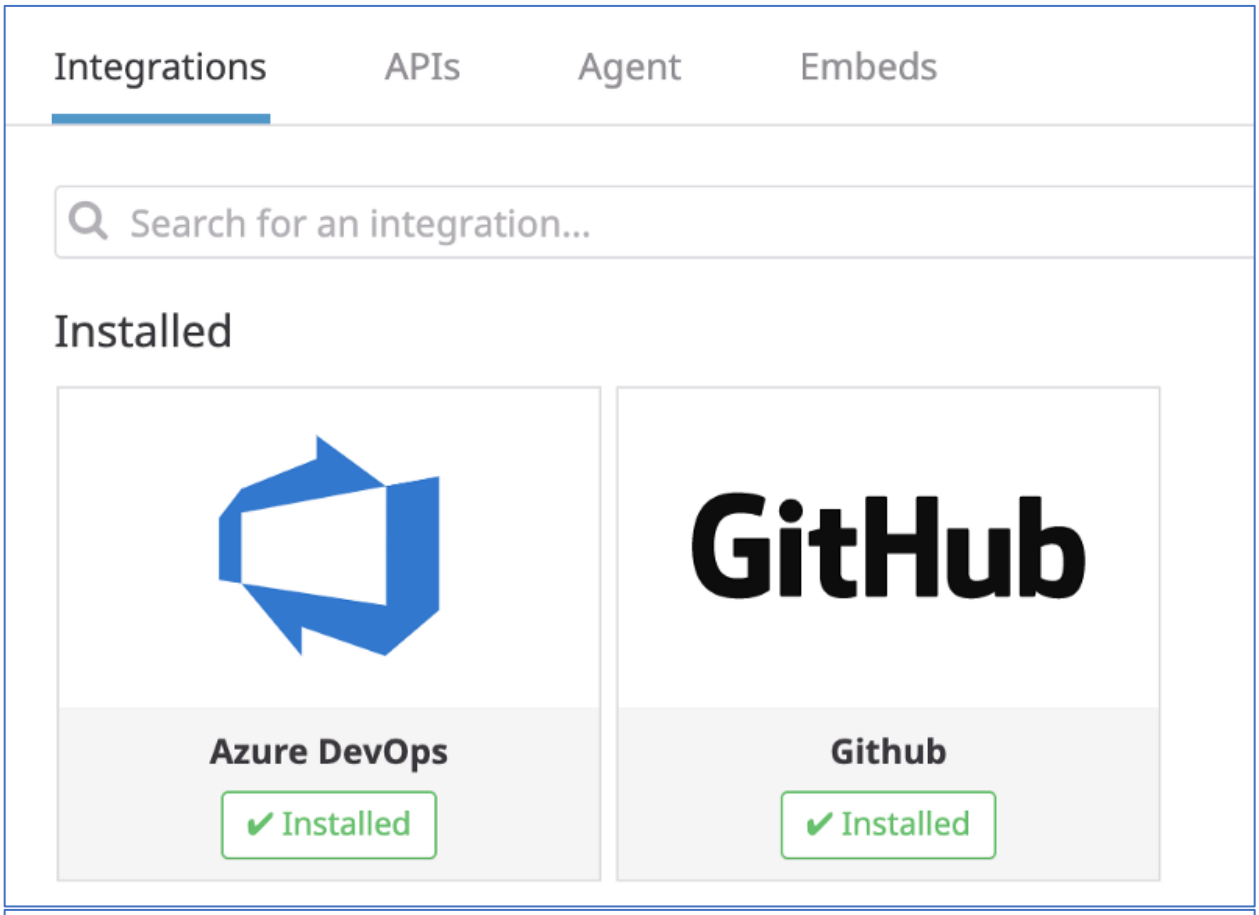
```
Subramanis-MacBook-Pro:bin subramanisundaram$ datadog-agent --help

The Datadog Agent faithfully collects events and metrics and brings them
to Datadog on your behalf so that you can do something useful with your
monitoring and performance data.

Usage:
  datadog-agent [command]

Available Commands:
  check           Run the specified check
  config          Print the runtime configuration of a running agent
  configcheck     Print all configurations loaded & resolved of a running agent
  diagnose        Execute some connectivity diagnosis on your system
  dogstatsd-stats Print basic statistics on the metrics processed by dogstatsd
  flare           Collect a flare and send it to Datadog
  health          Print the current agent health
  help            Help about any command
  hostname        Print the hostname used by the Agent
  import          Import and convert configuration files from previous versions of the Agent
  integration     Datadog integration manager
  jmx
  launch-gui      starts the Datadog Agent GUI
  run             Run the Agent
  secret          Print information about decrypted secrets in configuration.
  status          Print the current status
  stop            Stops a running Agent
  tagger-list     Print the tagger content of a running agent
  version         Print the version info

Flags:
  -c, --cfgpath string   path to directory containing datadog.yaml
  -h, --help             help for datadog-agent
  -n, --no-color         disable color output
```

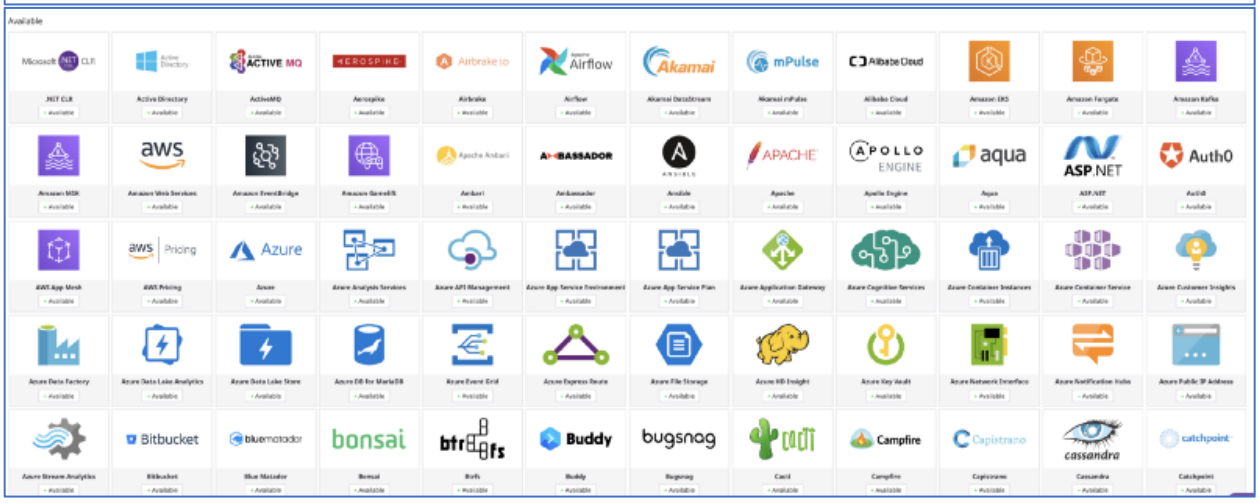
```
Subramanis-MacBook-Pro:bin subramanisundaram$ vi /opt/datadog-agent/etc/datadog.yaml
Subramanis-MacBook-Pro:bin subramanisundaram$ datadog-agent run
2020-06-01 13:34:04 +04 | CORE | INFO | (cmd/agent/app/run.go:179 in StartAgent) | Starting Datadog Agent v7.19.2
2020-06-01 13:34:04 +04 | CORE | INFO | (cmd/agent/app/run.go:210 in StartAgent) | Hostname is: Subramanis-MacBook-Pro.local
2020-06-01 13:34:05 +04 | CORE | ERROR | (cmd/agent/app/run.go:239 in StartAgent) | Error while starting GUI: listen tcp 127.0.0
.1:5002: bind: address already in use
2020-06-01 13:34:05 +04 | CORE | INFO | (pkg/forwarder/forwarder.go:231 in Start) | Forwarder started, sending to 1 endpoint(s)
with 1 worker(s) each: "https://7-19-2-app.agent.datadoghq.com" (1 api key(s))
2020-06-01 13:34:05 +04 | CORE | ERROR | (pkg/dogstatsd/server.go:136 in NewServer) | can't listen: listen udp 127.0.0.1:8125: b
ind: address already in use
2020-06-01 13:34:05 +04 | CORE | ERROR | (cmd/agent/app/run.go:262 in StartAgent) | Could not start dogstatsd: listening on neit
her udp nor socket, please check your configuration
2020-06-01 13:34:05 +04 | CORE | INFO | (cmd/agent/app/run.go:277 in StartAgent) | logs-agent disabled
2020-06-01 13:34:05 +04 | CORE | INFO | (pkg/tagger/tagger.go:152 in tryCollectors) | docker tag collector successfully started
2020-06-01 13:34:05 +04 | CORE | INFO | (pkg/collector/runner/runner.go:92 in NewRunner) | Runner started with 4 workers.
2020-06-01 13:34:05 +04 | CORE | INFO | (pkg/collector/python/init.go:303 in Initialize) | Initializing rtloader with python3 /o
pt/datadog-agent/embedded
2020-06-01 13:34:05 +04 | CORE | INFO | (pkg/collector/python/datadog_agent.go:120 in LogMessage) | - | (ddyaml.py:123) | monkey
 patching yaml.load...
2020-06-01 13:34:05 +04 | CORE | INFO | (pkg/collector/python/datadog_agent.go:120 in LogMessage) | - | (ddyaml.py:127) | monkey
 patching yaml.load_all...
2020-06-01 13:34:05 +04 | CORE | INFO | (pkg/collector/python/datadog_agent.go:120 in LogMessage) | - | (ddyaml.py:131) | monkey
```

5. Then login to this site (https://app.datadoghq.com/) with the username and password that we will receive over the email .

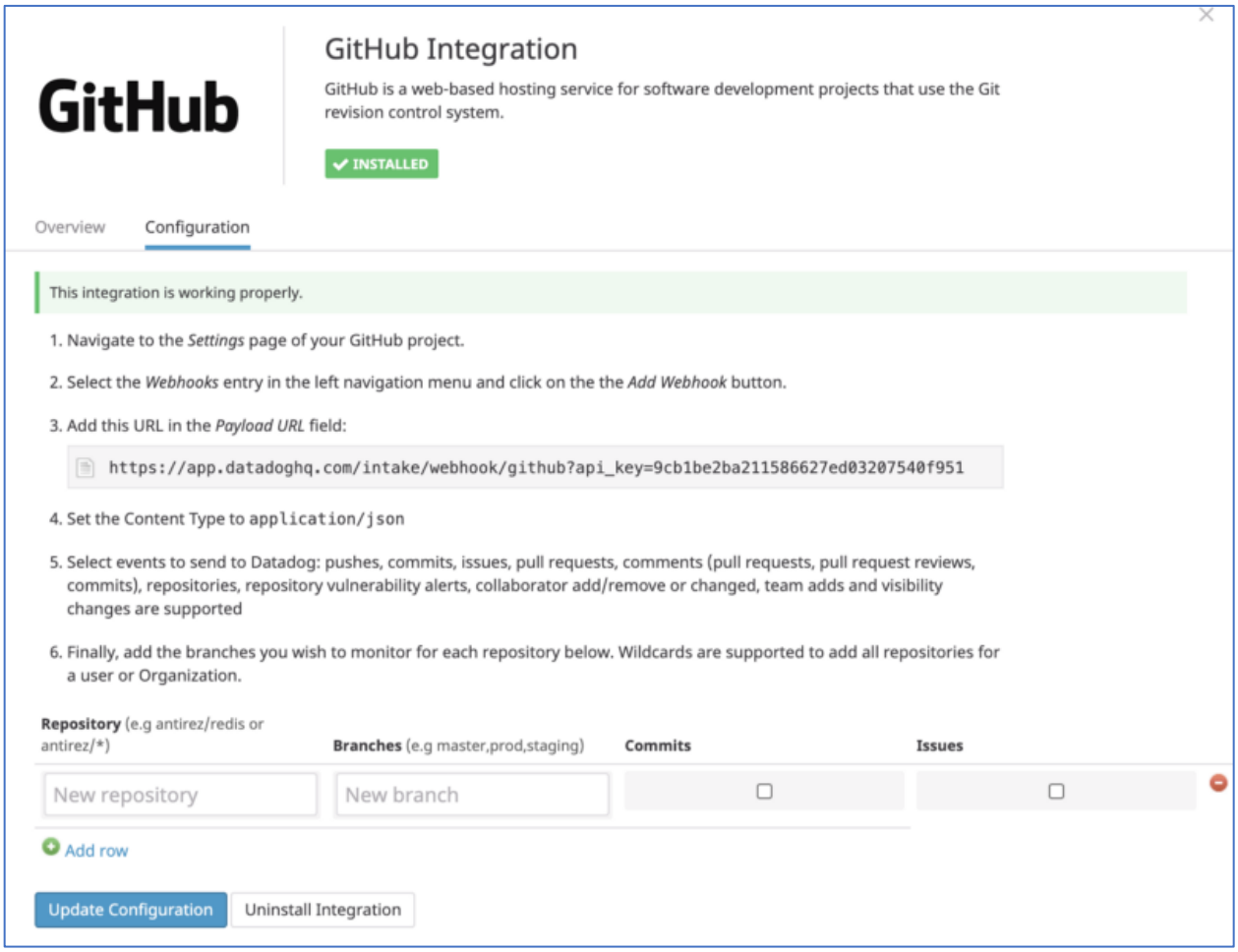
6. Click on the Integrations section and choose which one we wanted to get integrated with . In my case i have choosen the GITHUB and AZURE DEVOPS.

There are more than 100+ options available for Azure , AWS , Docker , Ansible, etc etc . We can choose which one we want and based on that we need to do our configurations .

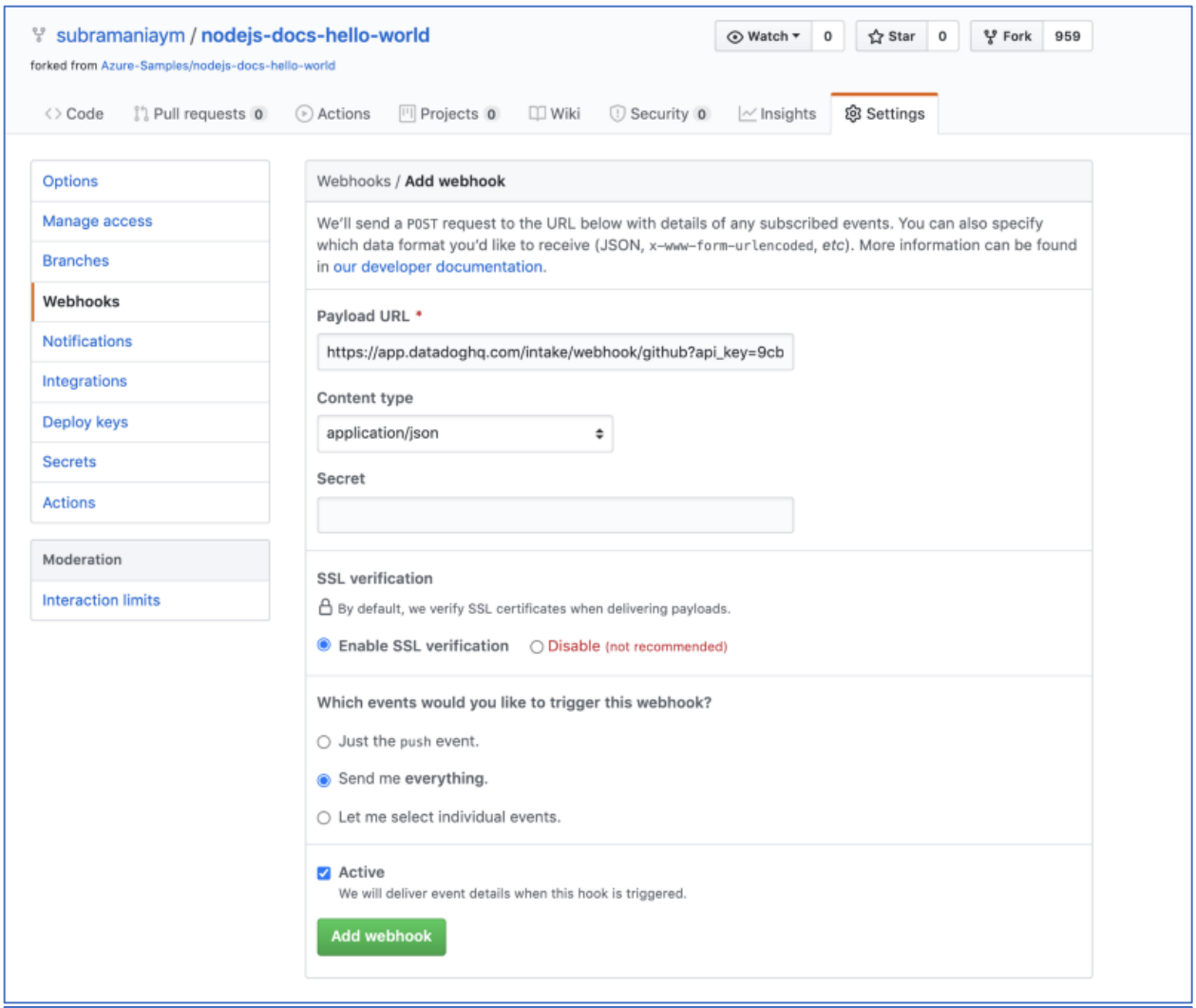


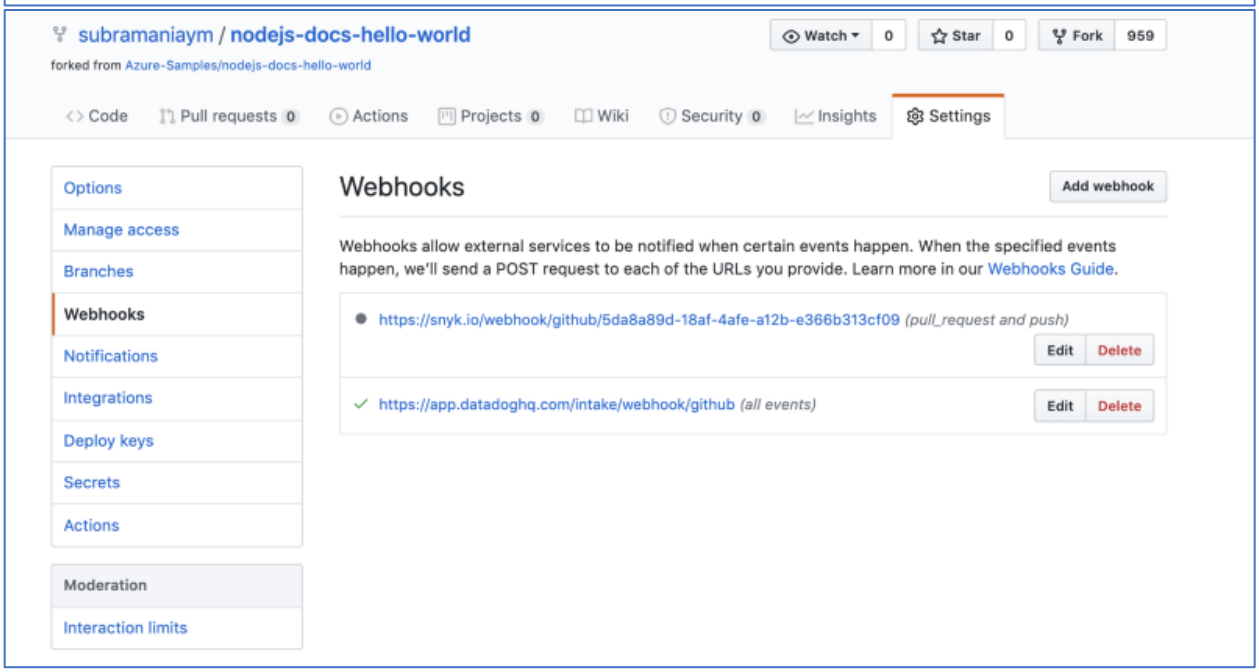


7. After choosing the GITHUB , we need to click on the configuration tab and see what is the configuration that we need to do on the GITHUB side .

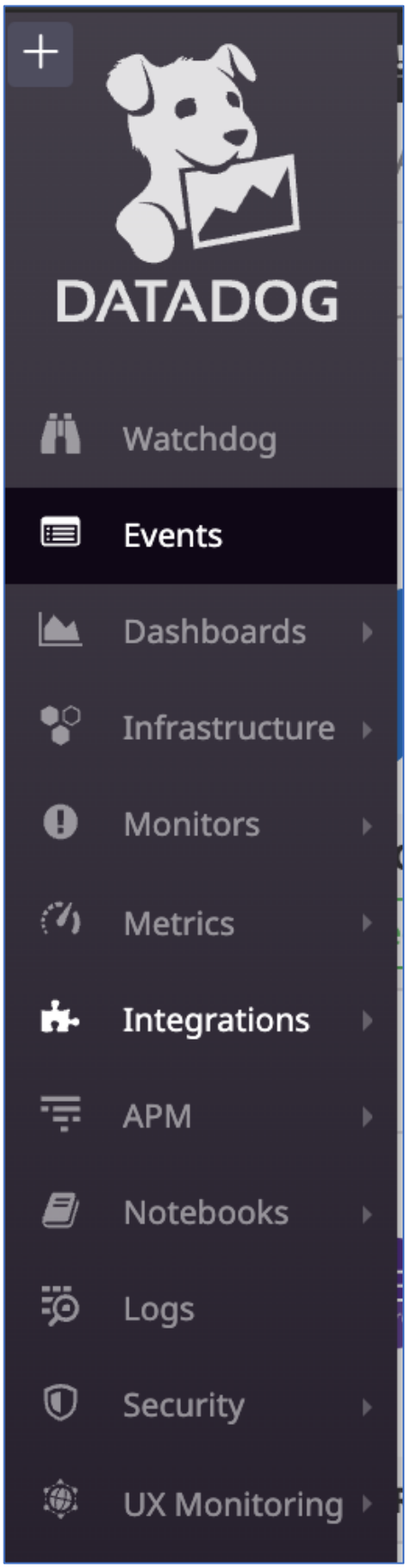


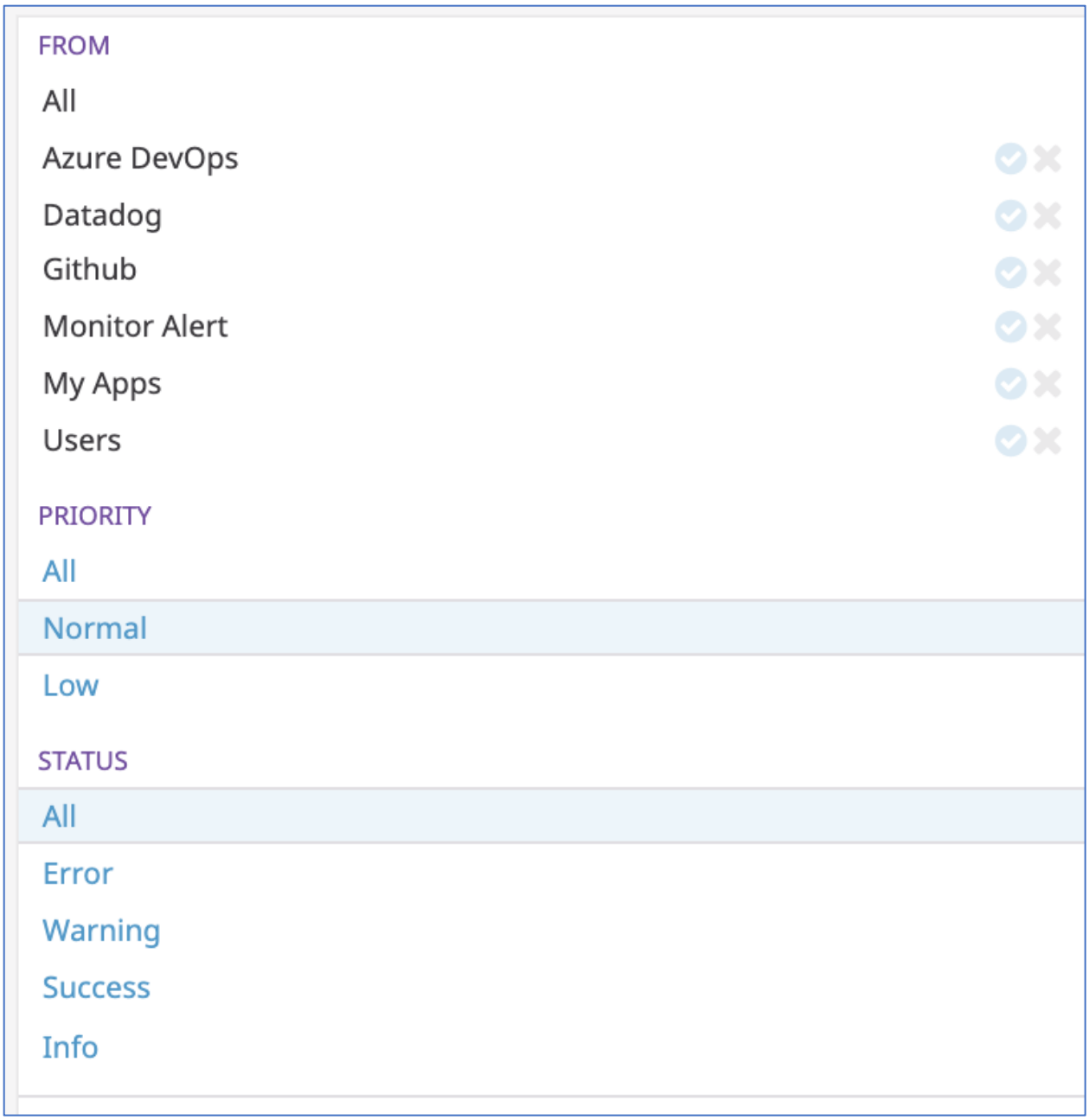
After copying this Webhook from here , i need to go to Github and go to settings and then paste it there so that i can get all the changes done on the GITHUB to the Datadog and i can monitor it as events across.


subramaniaym / nodejs-docs-hello-world
forked from Azure-Samples/nodejs-docs-hello-world
Watch 0
Star 0
Fork 959
Code
Pull requests 0
Actions
Projects 0
Wiki
Security 0
Insights
Settings
Options
Manage access
Branches
Webhooks
Notifications
Integrations
Deploy keys
Secrets
Actions
Moderation
Interaction limits
Webhooks / Add webhook
We'll send a POST request to the URL below with details of any subscribed events. You can also specify which data format you'd like to receive (JSON, x-www-form-urlencoded, etc). More information can be found in our developer documentation.
Payload URL *
https://app.datadoghq.com/intake/webhook/github?api_key=9cb
Content type
application/json
Secret
SSL verification
By default, we verify SSL certificates when delivering payloads.
Enable SSL verification
Disable (not recommended)
Which events would you like to trigger this webhook?
Just the push event.
Send me everything.
Let me select individual events.
Active
We will deliver event details when this hook is triggered.
Add webhook


subramaniaym / nodejs-docs-hello-world
forked from Azure-Samples/nodejs-docs-hello-world
Watch 0
Star 0
Fork 959
Code
Pull requests 0
Actions
Projects 0
Wiki
Security 0
Insights
Settings
Options
Manage access
Branches
Webhooks
Notifications
Integrations
Deploy keys
Secrets
Actions
Moderation
Interaction limits
Webhooks
Add webhook
Webhooks allow external services to be notified when certain events happen. When the specified events happen, we'll send a POST request to each of the URLs you provide. Learn more in our Webhooks Guide.
https://snyk.io/webhook/github/5da8a89d-18af-4afe-a12b-e366b313cf09 (pull_request and push)
Edit
Delete
https://app.datadoghq.com/intake/webhook/github (all events)
Edit
Delete

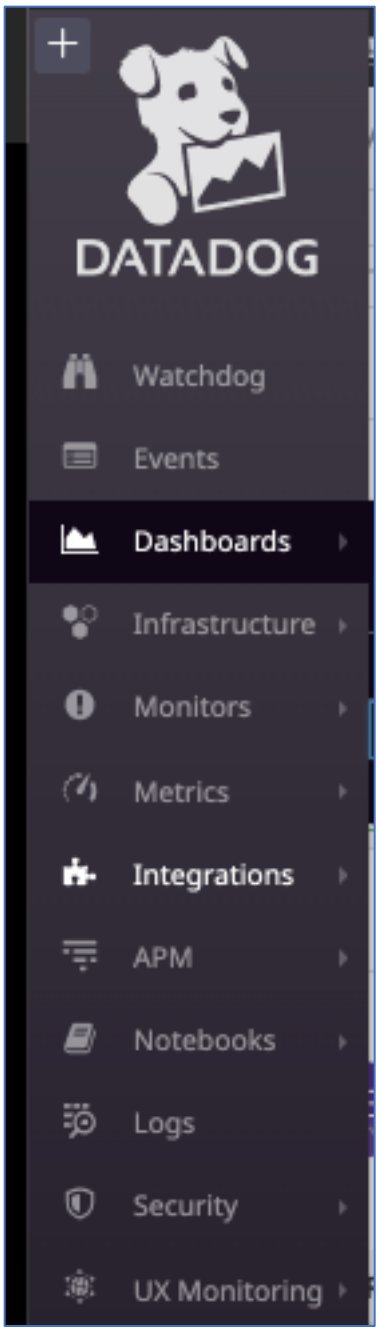
8. Now after the above setup , we need to go to the below events and check the items that we are doing on GITHUB will be reflected here .


DATADOG
Watchdog
Events
Dashboards
Infrastructure
Monitors
Metrics
Integrations
APM
Notebooks
Logs
Security
UX Monitoring



We can choose the Azure Devops and GitHub events from the above checkbox and then we can start seeing the events on what ever is happening on both the tools.

Then we need to go to the Menu and Dashboards and then choose the Azure Devops Dashboard accordingly.


DATADOG
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Metrics
Integrations
APM
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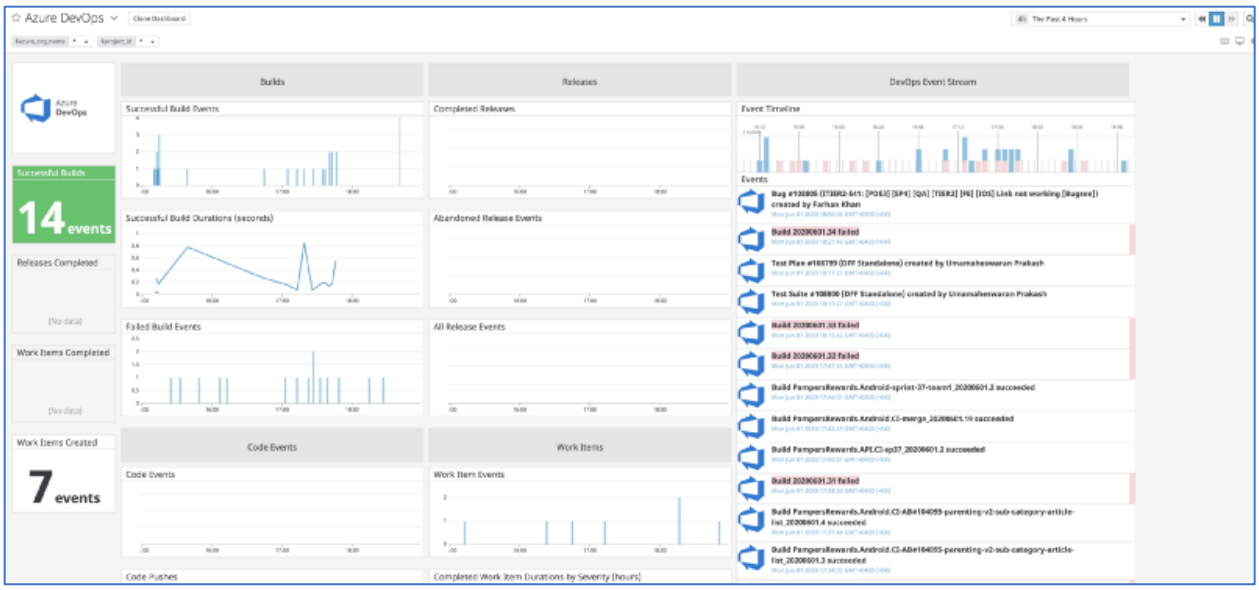
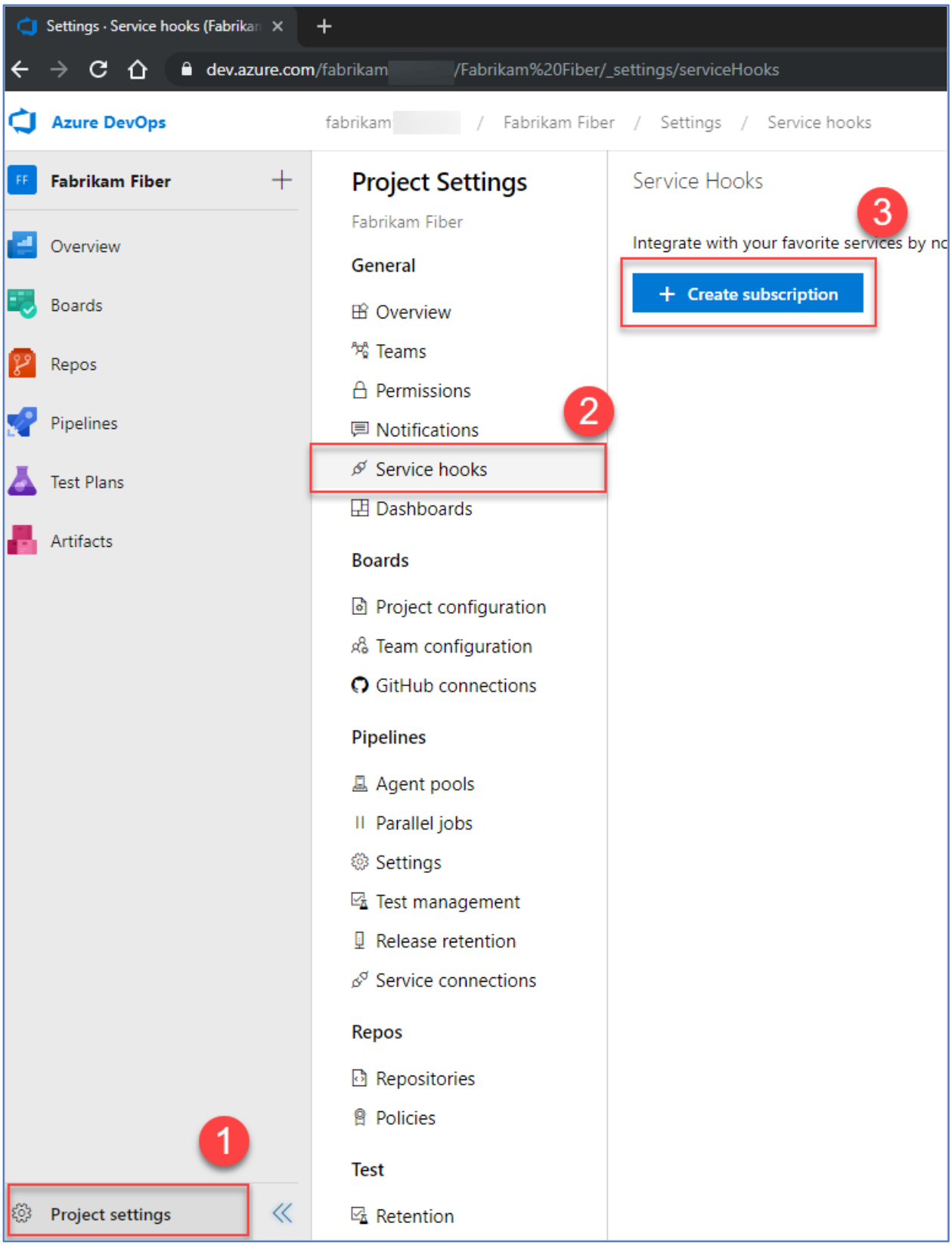
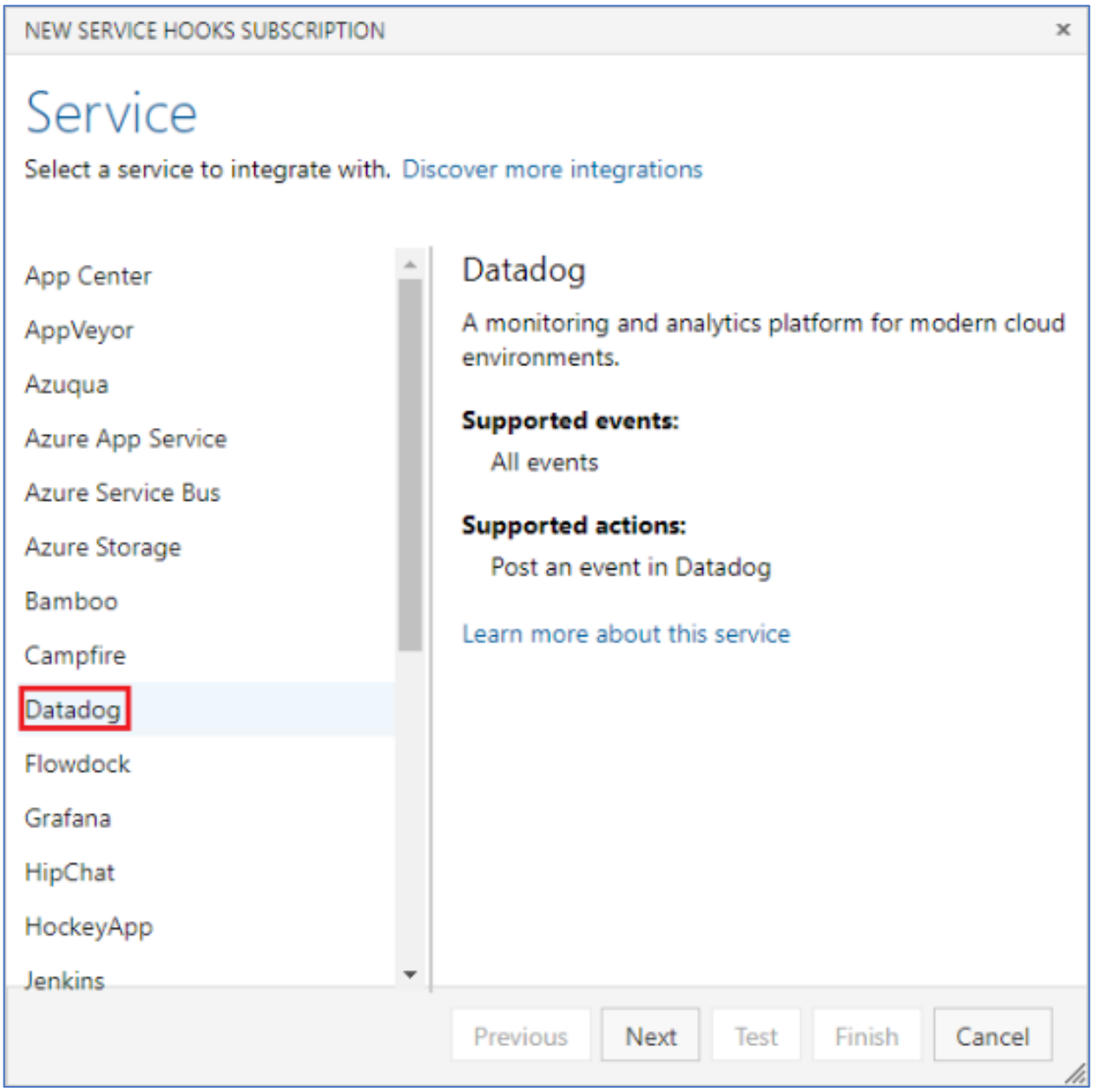
Logs
Security
UX Monitoring

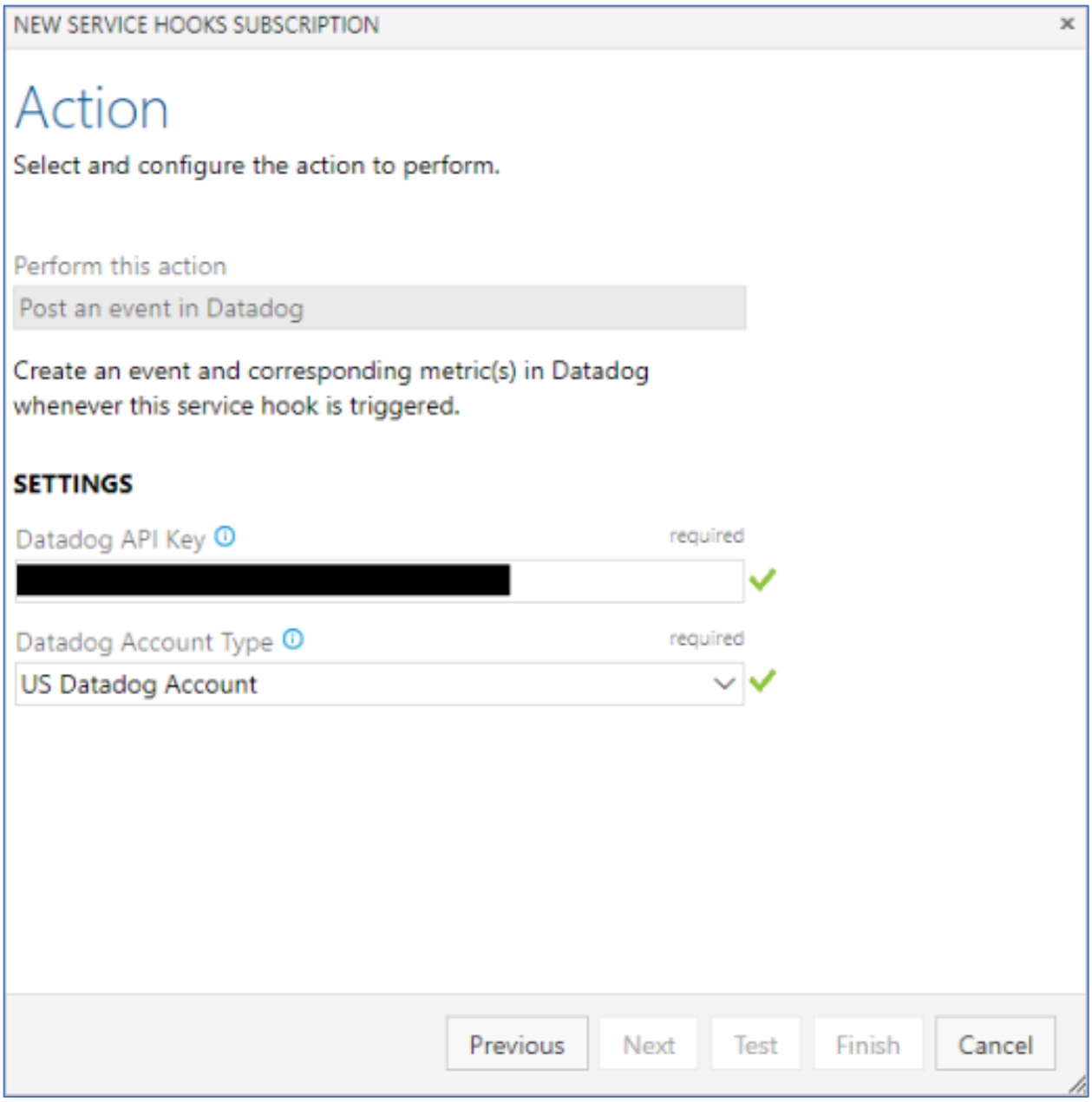


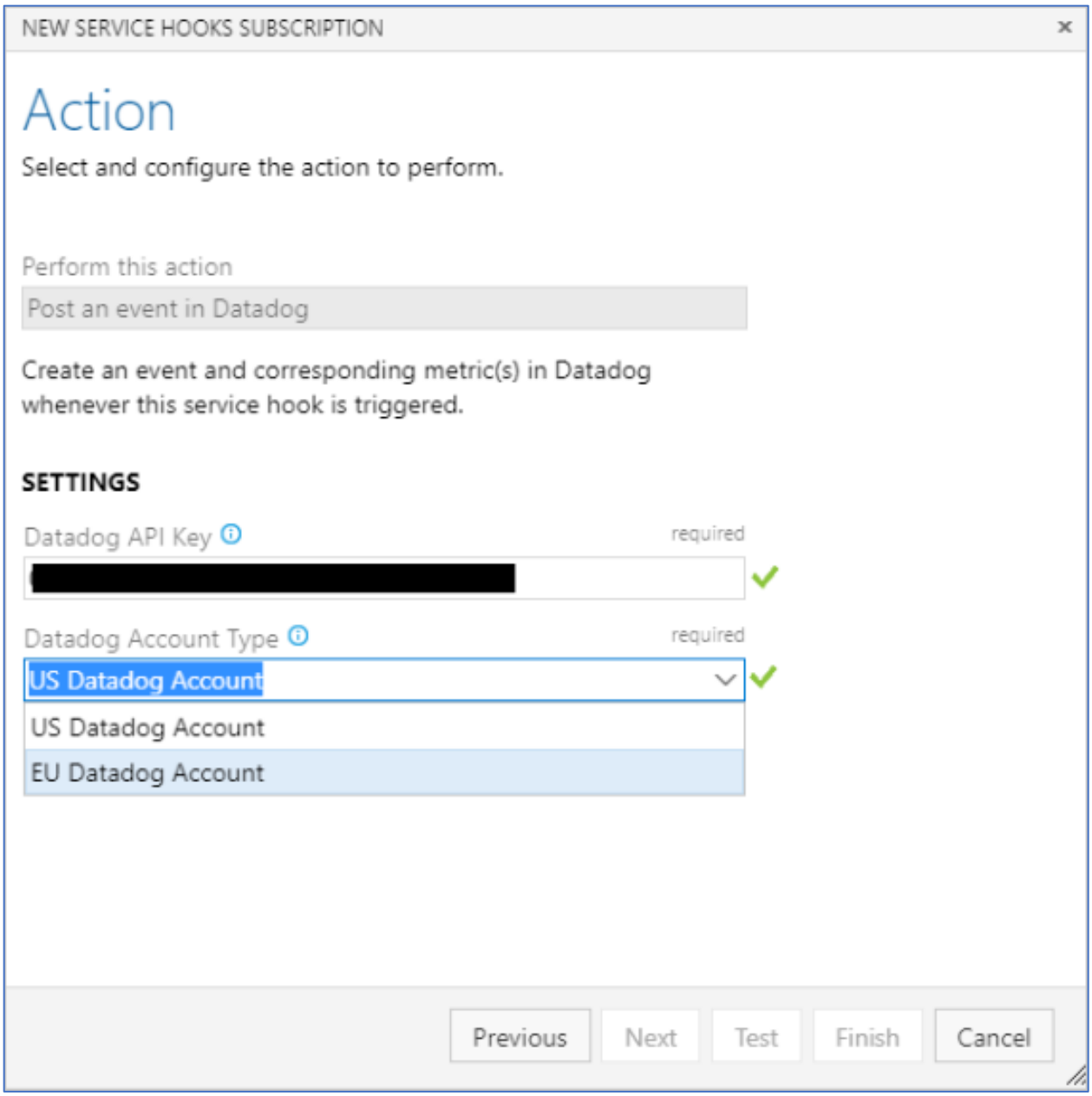
Create a service hook for Azure DevOps Services and TFS with Datadog :

- Before we do the above step and above integration , we need to follow this one like we need to setup the service end point .
- Create events and metrics in Datadog in response to events from Azure DevOps Services. Use these metrics and events in Datadog to create dashboards, troubleshoot issues, and create monitors to alert you of critical issues. Accepts all Azure DevOps event types.
- We need to get the Datadog API key and then put it on the service hook of Azure Devops .


Settings · Service hooks (Fabrikam
dev.azure.com/fabrikam /Fabrikam%20Fiber/_settings/serviceHooks
Azure DevOps
fabrikam / Fabrikam Fiber / Settings / Service hooks
Fabrikam Fiber
Overview
Boards
Repos
Pipelines
Test Plans
Artifacts
Project settings
1
Project Settings
Fabrikam Fiber
General
Overview
Teams
Permissions
Notifications
2
Service hooks
Dashboards
Boards
Project configuration
Team configuration
GitHub connections
Pipelines
Agent pools
Parallel jobs
Settings
Test management
Release retention
Service connections
Repos
Repositories
Policies
Test
Retention
Service Hooks
3
Integrate with your favorite services by nc
+ Create subscription


NEW SERVICE HOOKS SUBSCRIPTION
Service
Select a service to integrate with. Discover more integrations
App Center
AppVeyor
Azuqua
Azure App Service
Azure Service Bus
Azure Storage
Bamboo
Campfire
Datadog
Flowdock
Grafana
HipChat
HockeyApp
Jenkins
Datadog
A monitoring and analytics platform for modern cloud environments.
Supported events:
All events
Supported actions:
Post an event in Datadog
Learn more about this service
Previous
Next
Test
Finish
Cancel


NEW SERVICE HOOKS SUBSCRIPTION
Action
Select and configure the action to perform.
Perform this action
Post an event in Datadog
Create an event and corresponding metric(s) in Datadog whenever this service hook is triggered.
SETTINGS
Datadog API Key
required
Datadog Account Type
required
US Datadog Account
Previous
Next
Test
Finish
Cancel



- Test the service hook subscription and finish the wizard.
- Repeat steps 2–5 for each event type you want to send to Datadog. Datadog accepts and encourages users to send all event types.
- Now that the service hooks are configured, go to Datadog to see events and metrics start to flow into your environment.

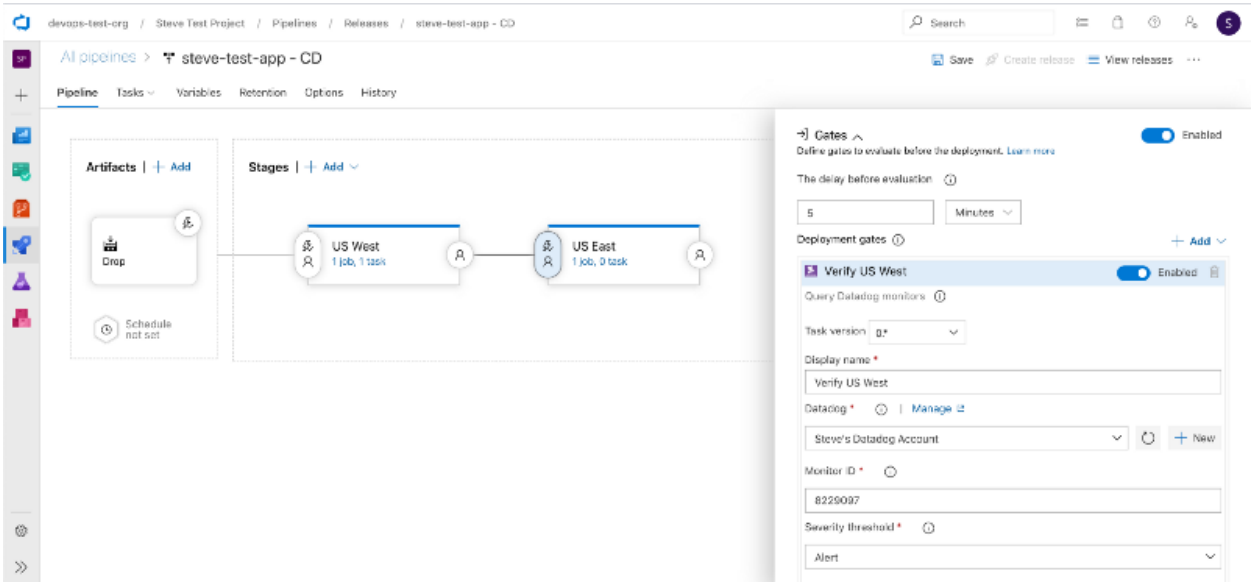
Datadog Monitors as Deployment Gates:

Consider a canary deployment that updates an e-commerce website in stages across different regions. To ensure the update was successful before rolling it out to the next region, you might want to check the status of various health indicators in the recently updated region, such as:

- the memory and CPU utilization of hosts in that region
- the number of error logs from your shopping cart application
- the results of an automated browser check, which verifies that the website's regional endpoint loads quickly and responds correctly to simulated user actions

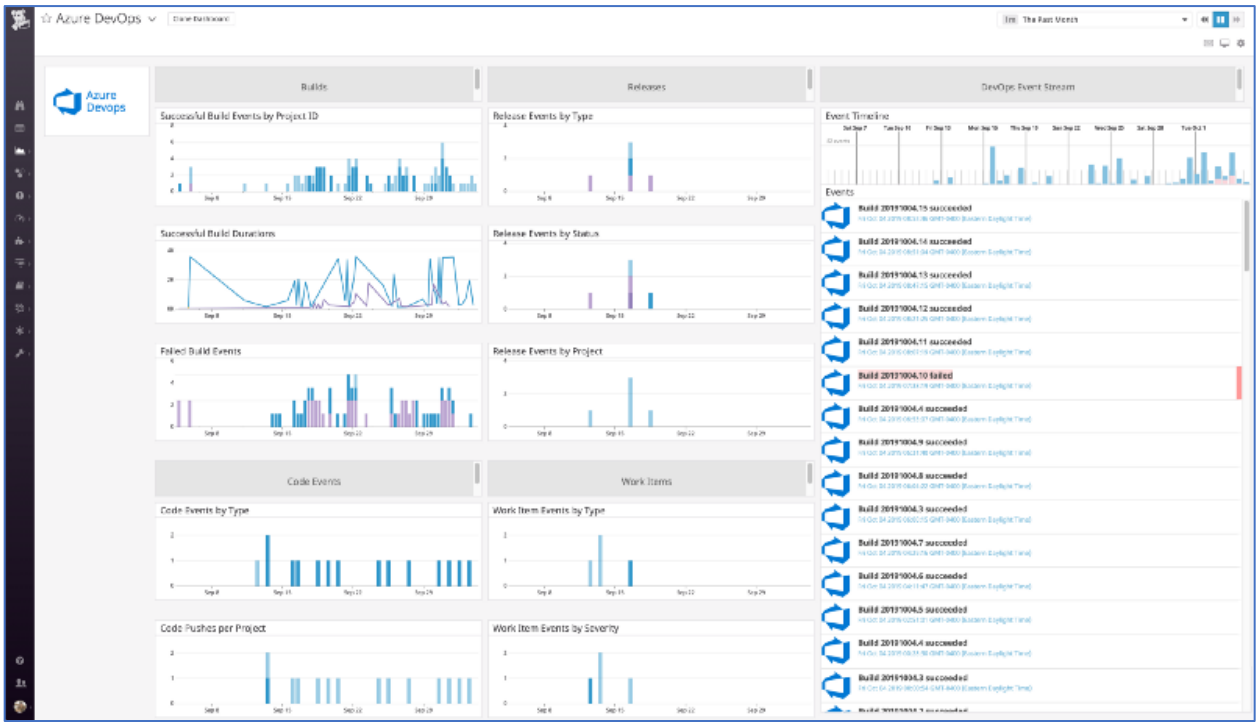
In Datadog, we can create individual monitors for everything you want to know about, and then combine them using a composite monitor, using simple logic statements to specify a desired combination of monitor conditions.

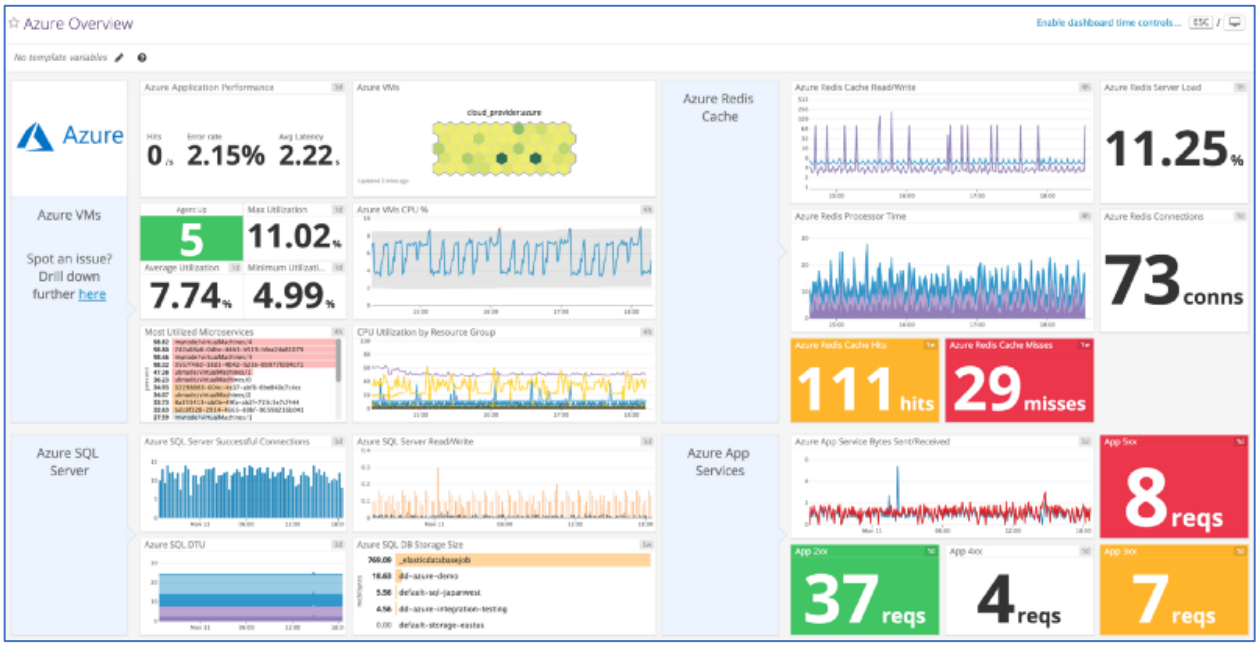
Then, we can set that composite monitor as a gate between the two stages of a pipeline to automatically stop a deployment if an unhealthy state is detected in Datadog.



We can define the health of our service, using Datadog monitors as gates in Azure DevOps can help you ensure that your deployments go off without a hitch.

Once after all the steps are completed , we will be seeing the below Dashboard which is our real time monitoring .





For any DevSecOps Assessment Services or Migration of DevOps tools please reach out to me on the below details.

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Subramani Sundaram

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Dubai, United Arab Emirates · **Contact info**

3i Infotech Ltd.