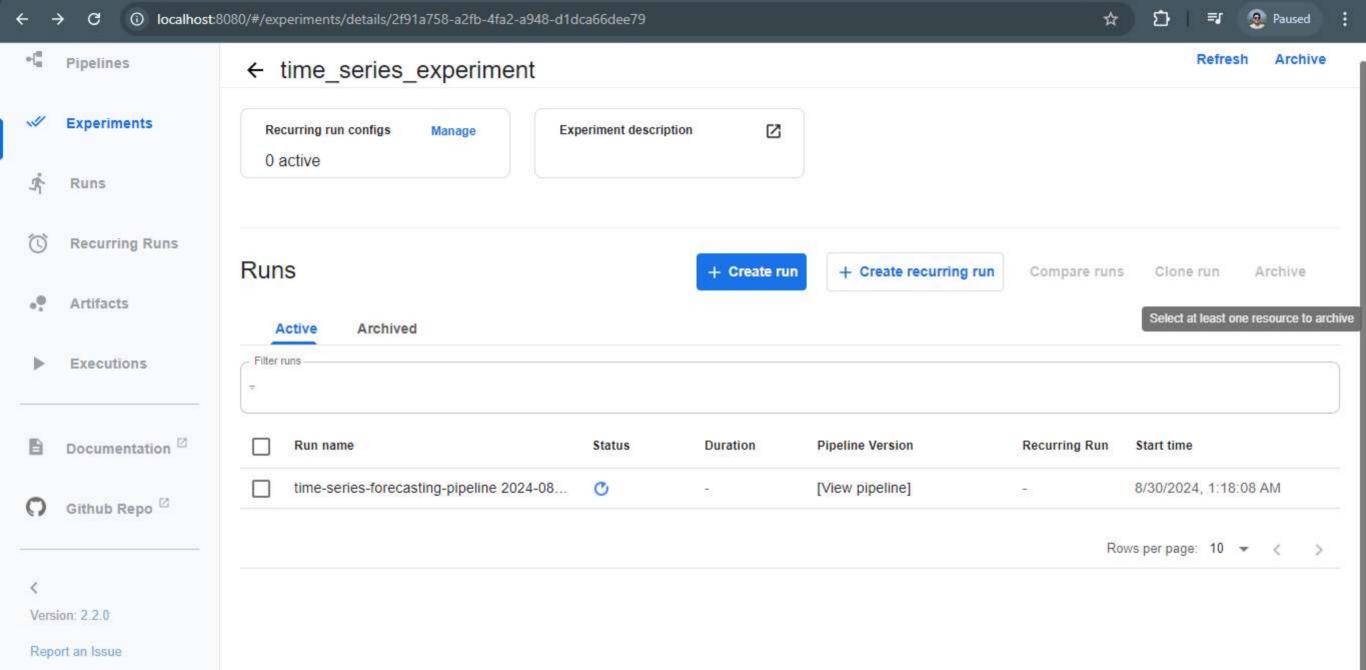
## **Port Forwarding**

Kubeflow ML Pipeline

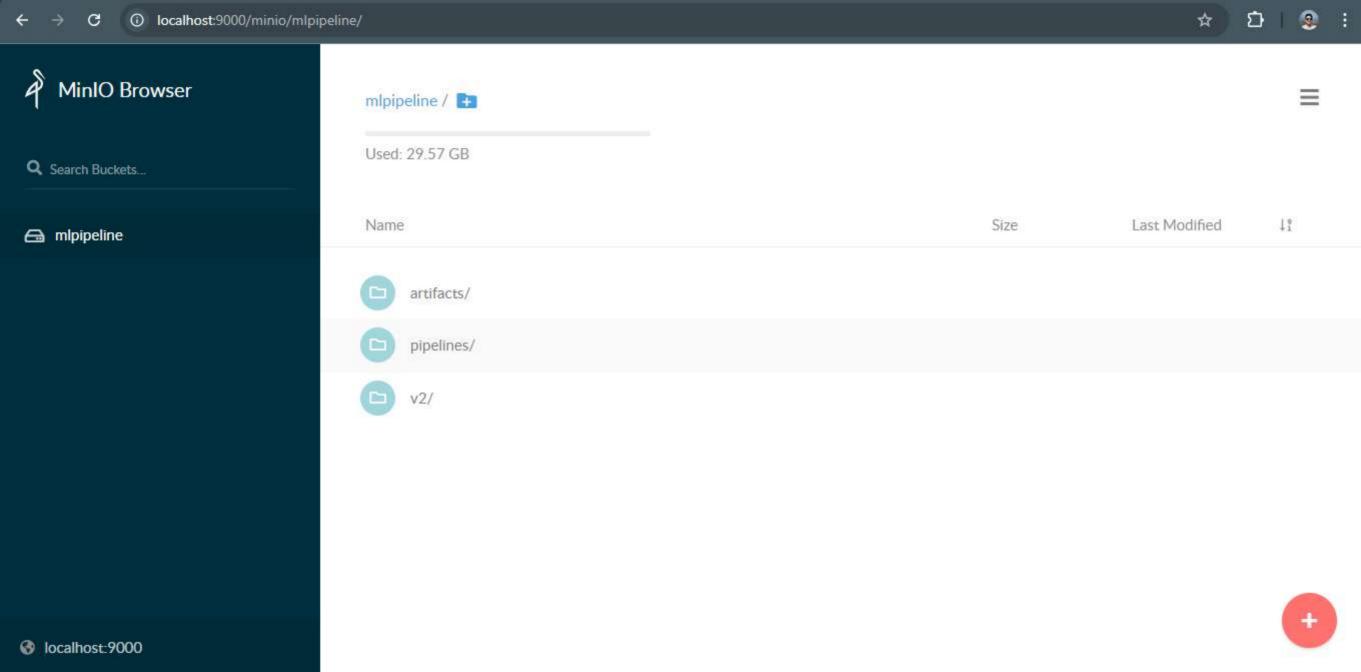
```
Command Prompt - kubectl port-forward -n kubeflow svc/ml-pipeline-ui 8080:80
C:\Users\Harshav Kumar.QUANTIPHI-2611>kubectl port-forward -n kubeflow svc/ml-pipeline-ui 8080:80
Forwarding from 127.0.0.1:8080 -> 3000
Forwarding from [::1]:8080 -> 3000
Handling connection for 8080
```



## Minio Storage Browser

Select Command Prompt - kubectl port-forward svc/minio-service -n kubeflow 9005:9000	_	×
C:\Users\Harshav Kumar.QUANTIPHI-2611>kubectl port-forward svc/minio-service -n kubeflow 9005:9000 Forwarding from 127.0.0.1:9005 -> 9000 Forwarding from [::1]:9005 -> 9000		

1 have 137



Push Gateway

Command Prompt - kubectl port-forward pushgateway-649f76c576-ktjr5 -n kubeflow 9090:9091	_	×
C:\Users\Harshav Kumar.QUANTIPHI-2611>kubectl port-forward pushgateway-649f76c576-ktjr5 -n kubeflow 9090:9 Forwarding from 127.0.0.1:9090 -> 9091 Forwarding from [::1]:9090 -> 9091	091	١



☆







#### **Runtime Information**

**Started** 2024-08-30 09:06:34.98380338 +0000 UTC m=+0.089660329

#### **Build Information**

branch	HEAD
buildDate	20240608-15:04:08
buildUser	root@2167597b1e9c
goVersion	go1.22.4
revision	d1ca1a6a426126a09a21f745e8ffbaba550f9643
version	1.9.0

#### Startup Flags

# **Kubernetes Pods**

	av Kumar.QUANTIPHI-2611>kubectl get pod -A NAME	DEADN	CT ATTO	prominer.	
NAMESPACE		READY	STATUS	RESTARTS	AGE
cert-manager	cert-manager-cainjector-5fd6444f95-mvmwr cert-manager-d894bbbd4-8fqwj	1/1	Running	2 (20h ago)	47h
cert-manager		1/1	Running	4 (4h36m ago)	47h 47h
cert-manager	cert-manager-webhook-869674f96f-7vx2m	1/1	Running	2 (20h ago)	
default	grafana-6b47fb7fcc-7httz	1/1	Running	0	4h9m
istio-ingress	istio-ingress-6dc54f868c-qb74w	1/1	Running	2 (20h ago)	47h
istio-system	istiod-dd95d7bdc-fcxbz	1/1	Running	2 (20h ago)	47h
kserve	kserve-controller-manager-c47cbb7c6-7lvjg	2/2	Running	4 (20h ago)	47h
kube-system	coredns-76f75df574-5x5ph	1/1	Running	2 (20h ago)	2d
kube-system	coredns-76f75df574-hfvfr	1/1	Running	2 (20h ago)	2d
kube-system	etcd-docker-desktop	1/1	Running	2 (20h ago)	2d
kube-system	kube-apiserver-docker-desktop	1/1	Running	2 (10h ago)	2d
kube-system	kube-controller-manager-docker-desktop	1/1	Running	2 (20h ago)	2d
kube-system	kube-proxy-plf6b	1/1	Running	2 (20h ago)	2d
kube-system	kube-scheduler-docker-desktop	1/1	Running	3 (20h ago)	2d
kube-system	storage-provisioner	1/1	Running	3 (20h ago)	2d
kube-system	vpnkit-controller	1/1	Running	2 (20h ago)	2d
kubeflow	cache-deployer-deployment-cf9646b9c-cj79z	1/1	Running	2 (10h ago)	2d
kubeflow	cache-server-56d4959c9-qjddl	1/1	Running	2	2d
kubeflow	metadata-envoy-deployment-9c7db86d8-h6p72	1/1	Running	2 (20h ago)	2d
kubeflow	metadata-grpc-deployment-d94cc8676-m2h54	1/1	Running	13 (10h ago)	2d
kubeflow	metadata-writer-cd5dd8f7-56jxk	1/1	Running	5 (10h ago)	2d
kubeflow	minio-5dc6ff5b96-wfh8p	1/1	Running	1 (20h ago)	22h
kubeflow	ml-pipeline-64d6db5897-h27dh	1/1	Running	9 (10h ago)	2d
kubeflow	ml-pipeline-persistenceagent-77947c888d-9rqvk	1/1	Running	5 (20h ago)	2d
kubeflow	ml-pipeline-scheduledworkflow-676478b778-8xrvx	1/1	Running	2 (20h ago)	2d
kubeflow	ml-pipeline-ui-87b9d4fb6-n5rcl	1/1	Running	5 (10h ago)	2d
kubeflow	ml-pipeline-viewer-crd-8574556b89-c7hpp	1/1	Running	2 (20h ago)	2d
kubeflow	ml-pipeline-visualizationserver-5d7c54f495-zjh6s	1/1	Running	4 (10h ago)	2d
kubeflow	mysql-5b446b5744-mnjwg	1/1	Running	2 (10h ago)	2d
kubeflow	pushgateway-649f76c576-cklmx	1/1	Running	1 (20h ago)	32h
kubeflow	time-series-forecasting-pipeline-t9qzf-system-container-driver-1004890888	0/2	Completed	0	77m
kubeflow	time-series-forecasting-pipeline-t9qzf-system-container-driver-1454437353	0/2	Completed	0	87m
kubeflow	time-series-forecasting-pipeline-t9qzf-system-container-driver-2173917223	0/2	Completed	0	82m
kubeflow	time-series-forecasting-pipeline-t9qzf-system-container-driver-2509487930	0/2	Completed	0	76m
kubeflow	time-series-forecasting-pipeline-t9qzf-system-container-driver-3017979400	0/2	Completed	6	87m
kubeflow	time-series-forecasting-pipeline-t9qzf-system-container-driver-367540469	0/2	Pending	0	75m
kubeflow	time-series-forecasting-pipeline-t9qzf-system-container-driver-3841924042	0/2	Completed	0	82m
kubeflow	time-series-forecasting-pipeline-t9qzf-system-container-impl-1826784948	0/2	Completed	0	76m
kubeflow	time-series-forecasting-pipeline-t9qzf-system-container-impl-1950387465	0/2	Completed	0	82m
kubeflow	time-series-forecasting-pipeline-t9qzf-system-container-impl-3233997223	0/2	Completed	0	87m
kubeflow	time-series-forecasting-pipeline-t9qzf-system-container-impl-796461220	0/2	Completed	0	82m
kubeflow	time-series-forecasting-pipeline-t9qzf-system-container-impl-819196798	0/2	Completed	0	76m
kubeflow	time-series-forecasting-pipeline-t9qzf-system-dag-driver-1608447141	0/2	Completed	e	106m
kubeflow	weather-forcast-service-predictor-646846cb68-5n8d5	1/1	Running	0	75m
kubeflow	workflow-controller-679dcfdd4f-6nzwd	1/1	Running	2 (20h ago)	2d

C:\Users\Harshav Kumar.QUANTIPHI-2611>



















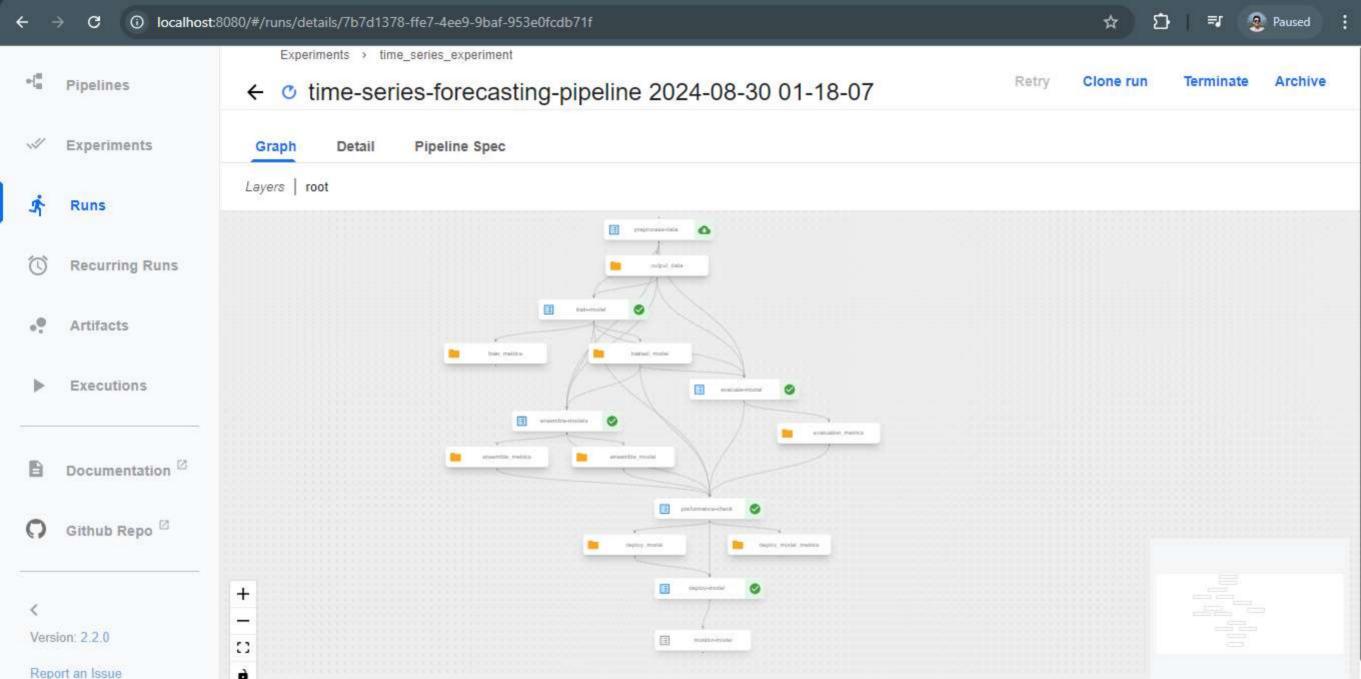




o

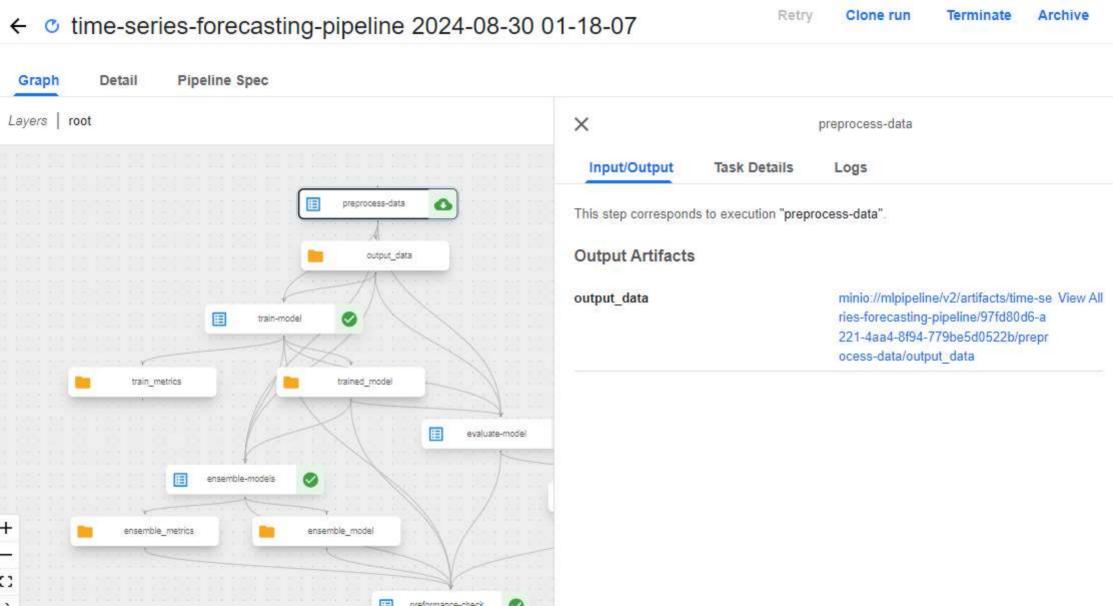
×





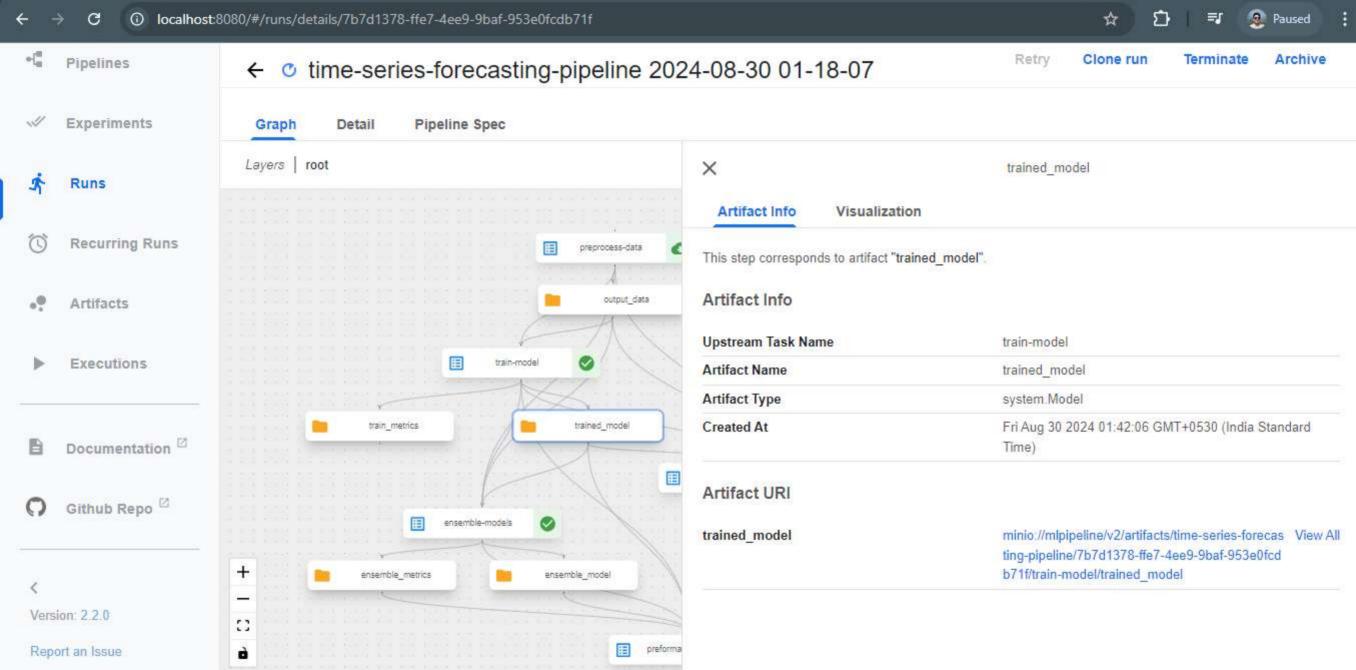
## **Kubeflow experiment Components**

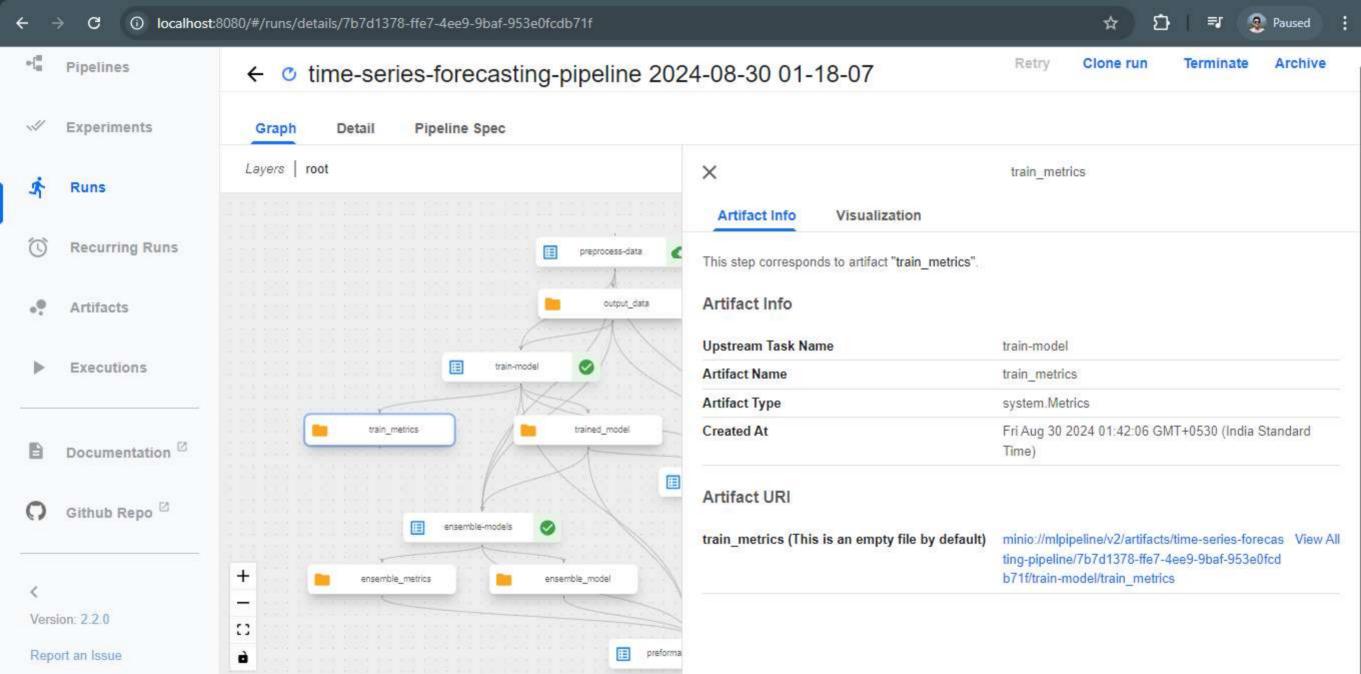


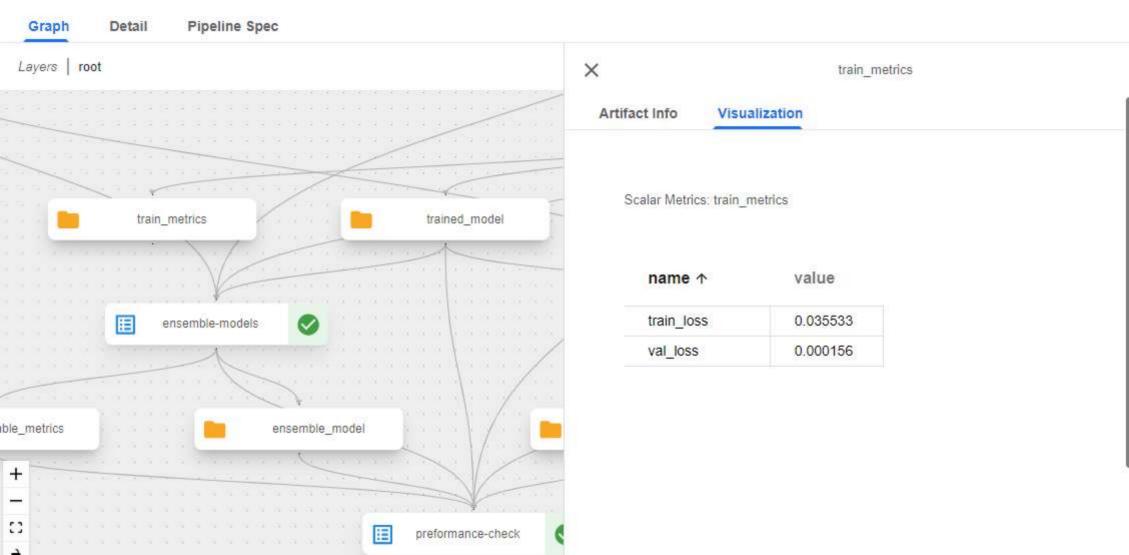




## Training Model using LSTM architecture Component







## Training Model using ensemble of models architecture Component



663 time="2024-08-29T20:17:26.128Z" level=info msg="sub-process exited" argo=true error="<nil>"



Terminate





Archive



Experiments

Runs

Recurring Runs

Artifacts

Executions

Documentation 2

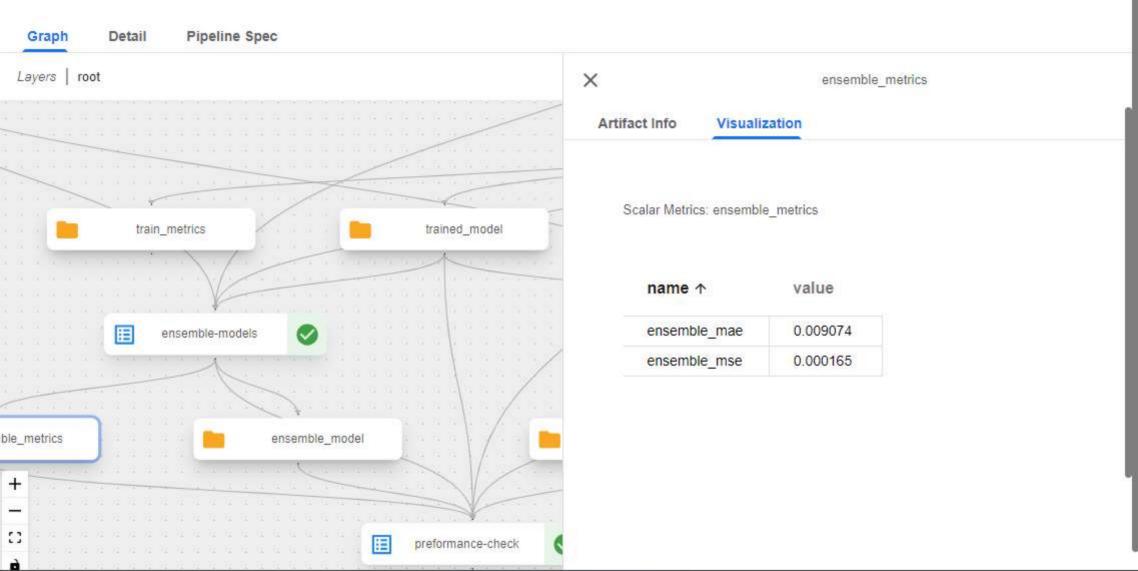
Github Repo

Version: 2.2.0

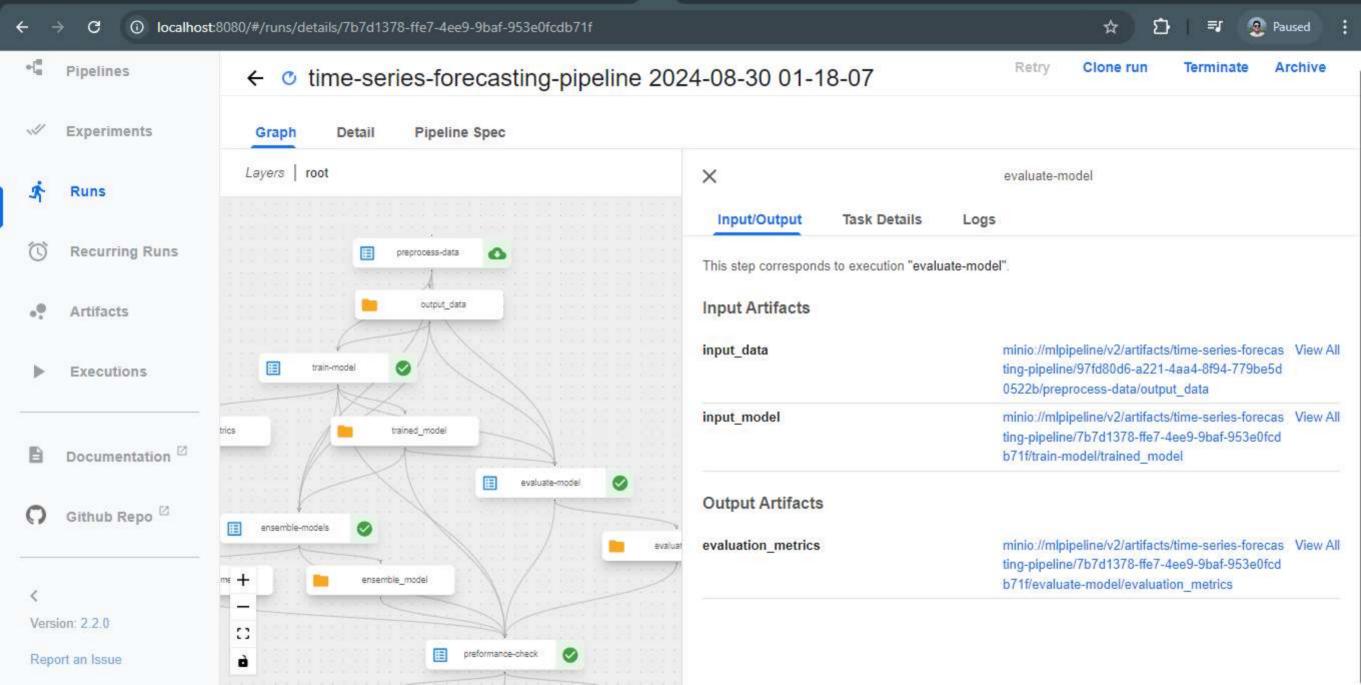
Report an Issue

```
Retry
                                                                                                                               Clone run
← time-series-forecasting-pipeline 2024-08-30 01-18-07
             Detail
                         Pipeline Spec
 Graph
Layers root
                                                                     X
                                                                                                                  ensemble-models
                                              output_data
                                                                       Input/Output
                                                                                          Task Details
                                                                                                            Logs
                                                                                  "name": "",
                                                                                  "uri": "minio://mlpipeline/v2/artifacts/time-series-forecasting-pipeline/7b7d1378-ffe7
                                                                                  "metadata": {}
                                                                   640
                                          trained model
                                                                    642
                                                                   644 }
                                                                                                   28 launcher_v2.go:446] Local filepath "/minio/mlpipeline/v2/artifacts
                                                                    645 W0829 20:17:24.586519
                                                                                                   28 object_store.go:175] uploadFile(localFilePath="/minio/mlpipeline/
                                                                   646 10829 20:17:24.663823
                                                                   647 10829 20:17:24.672780
                                                                                                   28 object_store.go:175] uploadFile(localFilePath="/minio/mlpipeline/\
                                                                    648 10829 20:17:24.686498
                                                                                                   28 object_store.go:175] uploadFile(localFilePath="/minio/mlpipeline/\
                      ensemble-models
                                                                                                   28 object_store.go:175] uploadFile(localFilePath="/minio/mlpipeline/\
                                                                    649 10829 20:17:24.697354
                                                                   650 10829 20:17:24.709045
                                                                                                   28 object_store.go:175] uploadFile(localFilePath="/minio/mlpipeline/\
                                                                                                   28 object_store.go:175] uploadFile(localFilePath="/minio/mlpipeline/\
                                                                    651 10829 20:17:24.717634
         ensemble metrics
                                     ensemble model
                                                                                                   28 object_store.go:175] uploadFile(localFilePath="/minio/mlpipeline/\
                                                                    652 I0829 20:17:24.727207
                                                                   653 10829 20:17:24.737860
                                                                                                   28 object_store.go:175] uploadFile(localFilePath="/minio/mlpipeline/
                                                                    654 10829 20:17:24.761619
                                                                                                   28 object store.go:175] uploadFile(localFilePath="/minio/mlpipeline/
                                                                                                   28 object_store.go:175] uploadFile(localFilePath="/minio/mlpipeline/\
                                                                    655 10829 20:17:24.770032
                                                                                                   28 object store.go:175] uploadFile(localFilePath="/minio/mlpipeline/
                                                                    656 10829 20:17:24.779712
                                                    preformance-check
                                                                    657 I0829 20:17:24.788580
                                                                                                   28 object_store.go:175] uploadFile(localFilePath="/minio/mlpipeline/\
                                                                                                   28 object_store.go:175] uploadFile(localFilePath="/minio/mlpipeline/\
                                                                    658 I0829 20:17:24.798480
                                                                                                   28 object_store.go:175] uploadFile(localFilePath="/minio/mlpipeline/
                                                                    659 10829 20:17:24.816111
                                                                    560 I0829 20:17:24.825066
                                                                                                   28 object store.go:175] uploadFile(localFilePath="/minio/mlpipeline/
                                        deploy model
                                                                                                   28 launcher v2.go:151] publish success.
                                                                    661 10829 20:17:24.902850
                                                                    662 time="2024-08-29T20:17:25.186Z" level=info msg="sub-process exited" argo=true error="<nil>"
```

664



## Evaluating Trained Model Component



Performance Check for best model to deploy Component



10.07

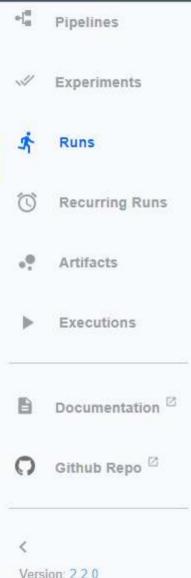
Clone run

Retry

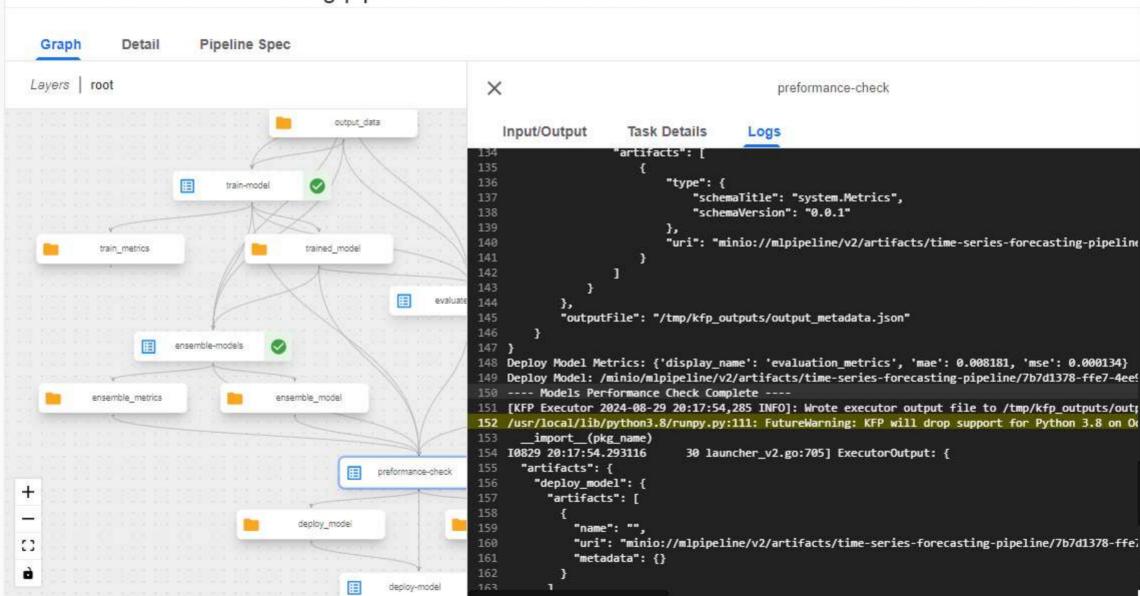
Terminate

Paused

Archive



Report an Issue



## Deploy model using kserve Component

## Monitor Deploy Model using Prometheus Component

```
monitor-model
  Input/Output
                     Task Details
                                        Logs
     File "/usr/local/lib/python3.8/site-packages/kfp/dsl/executor main.py", line
       output file = executor.execute()
     File "/usr/local/lib/python3.8/site-packages/kfp/dsl/executor.py", line 361,
       result = self.func(**func kwargs)
     File "/tmp/tmp.NKZbnyhsuU/ephemeral component.py", line 34, in monitor model
       push to gateway('pushgateway:9091', job='model monitoring', registry=regist
     File "/usr/local/lib/python3.8/site-packages/prometheus client/exposition.py"
       use gateway('PUT', gateway, job, registry, grouping key, timeout, handler)
     File "/usr/local/lib/python3.8/site-packages/prometheus client/exposition.py"
       handler(
     File "/usr/local/lib/python3.8/site-packages/prometheus client/exposition.py"
       resp = build opener(base handler).open(request, timeout=timeout)
     File "/usr/local/lib/python3.8/urllib/request.py", line 525, in open
       response = self. open(req. data)
64
     File "/usr/local/lib/python3.8/urllib/request.py", line 542, in open
       result = self._call_chain(self.handle_open, protocol, protocol +
     File "/usr/local/lib/python3.8/urllib/request.py", line 502, in _call_chain
       result = func(*args)
     File "/usr/local/lib/python3.8/urllib/request.py", line 1383, in http_open
       return self.do_open(http.client.HTTPConnection, req)
     File "/usr/local/lib/python3.8/urllib/request.py", line 1357, in do_open
       raise URLError(err)
71
   urllib.error.URLError: <urlopen error [Errno -3] Temporary failure in name reso
                              29 launcher v2.go:151] publish success.
73 I0830 09:48:22.018157
                              29 main.go:49] failed to execute component: exit sta
74 F0830 09:48:22.018288
75 time="2024-08-30T09:48:22.979Z" level=info msg="sub-process exited" argo=true e
76 Error: exit status 1
77 time="2024-08-30T09:48:23.894Z" level=info msg="sub-process exited" argo=true e
```

78 Frrom evit status 1

#### **Kserve Deployment logs**

C:\Users\Harshav Kumar.QUANTIPHI-2611>\_

























## **Prometheus Dashboard**





