



Deploying application on Azure with HPA

Asliddin Oripov





Akaunting

Akaunting is a free, open-source, and online accounting software for small businesses and freelancers

270K

Download Users

150K

Cloud Users

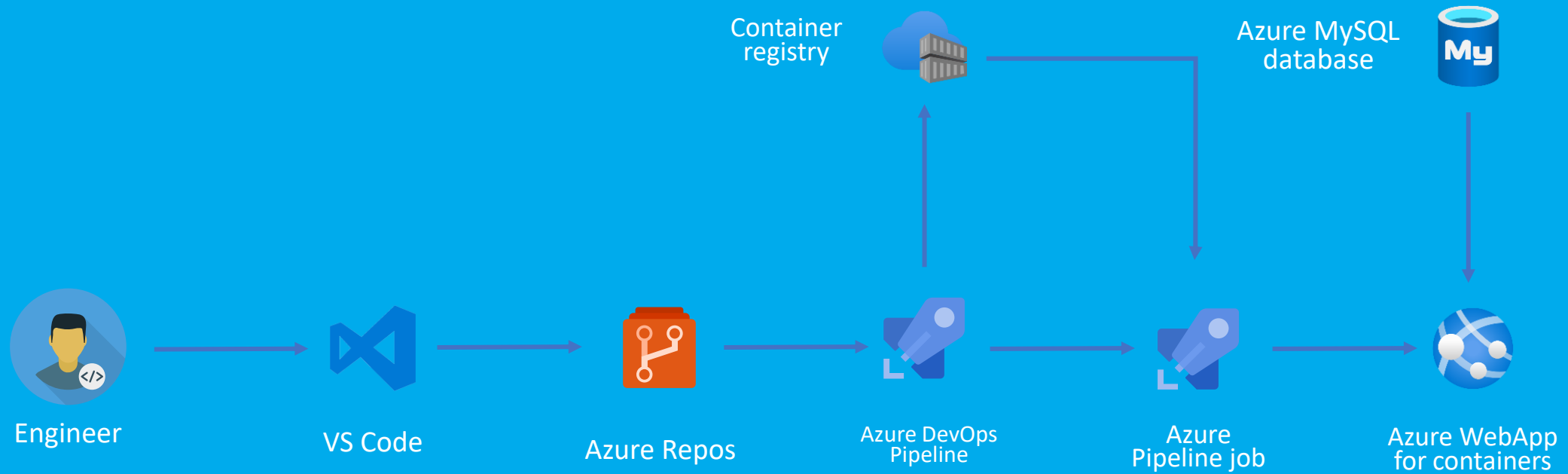
100K

Community Contributors

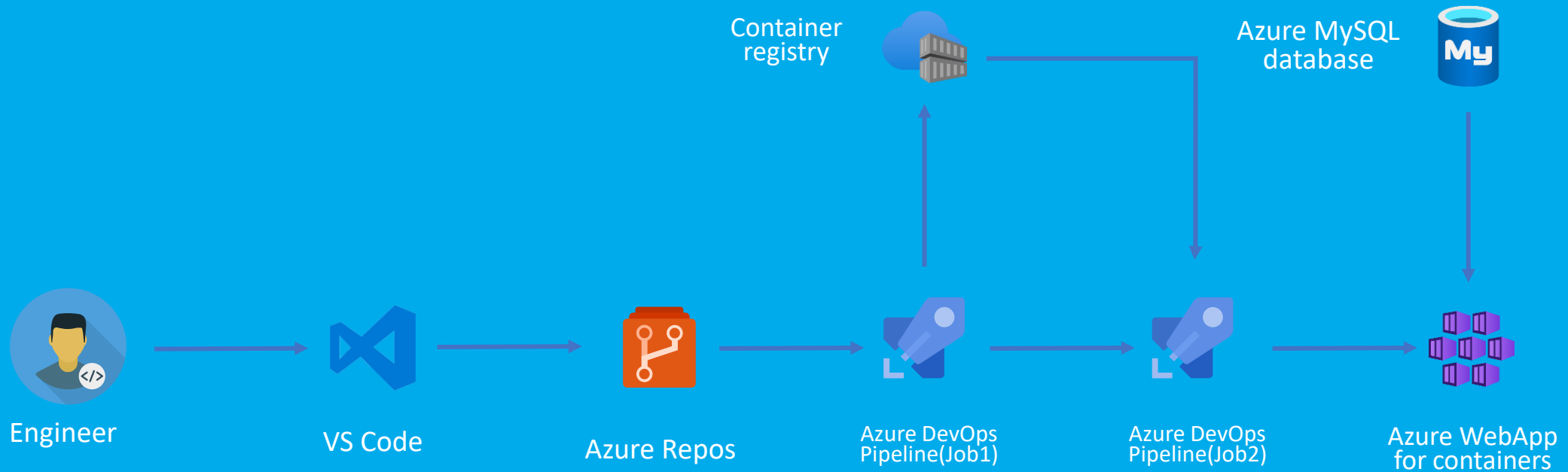
Dockerfile

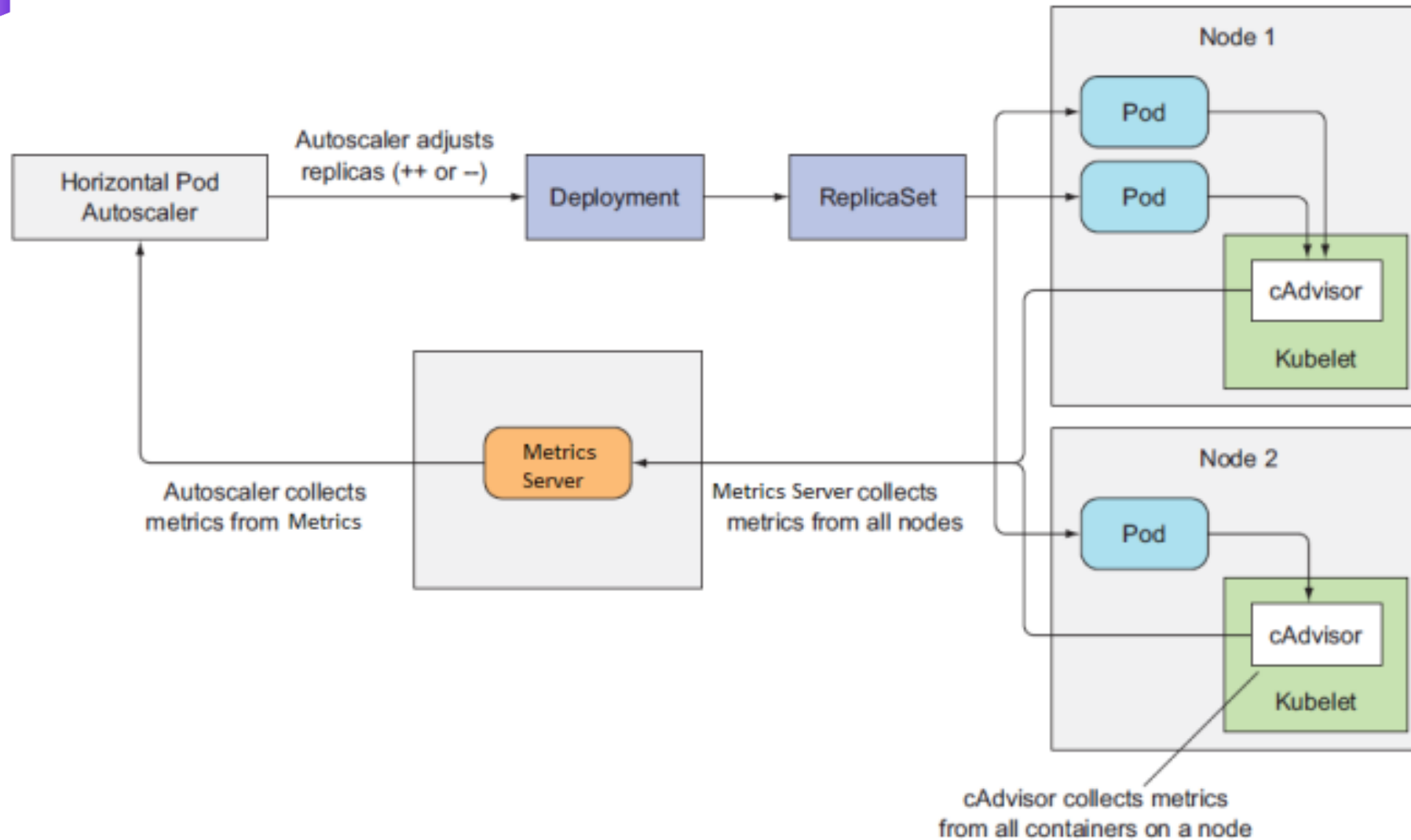
```
FROM webdevops/php-nginx:7.4-alpine          # alpine image
RUN apk add oniguruma-dev libxml2-dev        # php docker extensions
RUN docker-php-ext-install \
    bcmath \
    ctype \
    fileinfo \
    json \
    mbstring \
    pdo_mysql \
    tokenizer \
    xml
COPY --from=composer:latest /usr/bin/composer /usr/bin/composer # copy files from compose image
ENV WEB_DOCUMENT_ROOT /app
ENV APP_ENV production
WORKDIR /app
COPY . .
RUN composer install --no-plugins --no-scripts --no-interaction --optimize-autoloader --no-dev
RUN php artisan config:cache
RUN php artisan route:cache
RUN php artisan view:cache
RUN chmod -R 777 storage && chmod -R 777 bootstrap/cache && chmod -R 777 public
```

Concept 1 (Azure App service)



Concept 2 (Azure Kubernetes Service with Horizontal Pod Autoscaling)





```
#deployment.yml
apiVersion : apps/v1
kind: Deployment
metadata:
  name: akaunting
spec:
  replicas: 1
  selector:
    matchLabels:
      app: akaunting
  template:
    metadata:
      labels:
        app: akaunting
    spec:
      containers:
        - name: akaunting
          image: akaunting.azurecr.io/akaunting
          ports:
            - containerPort: 80
          resources:
            # limit is 500 milli core
            requests:
              cpu: 500m
            limits:
              cpu: 500m
```

```
#hpa.yml
apiVersion: autoscaling/v2beta2
kind: HorizontalPodAutoscaler
metadata:
  name: akaunting-hpa
  namespace: default
spec:
  scaleTargetRef:
    apiVersion: apps/v1
    kind: Deployment
    name: akaunting
  maxReplicas: 10
  minReplicas: 1
  metrics:
    # configuration for resource
    - type: Resource
      resource:
        name: cpu
        target:
          type: Utilization
          # utilize after 5% cpu usage
          averageUtilization: 5
```

```
slowhttptest -c 1000 -H -g -o outputfile -i 10 -r 200 -t GET -u http://13.88.222.185 -p 2
```

The screenshot shows a Kali Linux desktop environment. In the background, a Mozilla Firefox browser window is open, displaying a 'Server Not Found' error for the URL `http://13.88.222.185/`. The browser's address bar shows the URL, and the page content is mostly obscured by the terminal window in the foreground.

In the foreground, a terminal window is open, displaying the output of the `slowhttptest` command. The terminal shows the following configuration and results:

```
URL: http://13.88.222.185/
verb: GET
cookie:
Content-Length header value: 4096
follow up data max size: 12
interval between follow up data: 10 seconds
connections per seconds: 5000
probe connection timeout: 2 seconds
test duration: 240 seconds
using proxy: no proxy

Tue Sep 21 06:35:59 2021:
slow HTTP test status on 60th second:

initializing: 0
pending: 0
connected: 1000
error: 0
closed: 0
service available: NO

Tue Sep 21 06:36:02 2021:
Test ended on 63th second
Exit status: No open connections left
CSV report saved to outputfile.csv
HTML report saved to outputfile.html

(kali@kali)-[~]
$
```

The terminal window also shows the system clock as 06:37 AM and the battery level at 60%.


```
MINGW64:/
aslid@LAPTOP-A9PQ3E1H MINGW64 /
$ kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
akaunting-559b5b7f4d-b8vlg         1/1     Running   0           13h
akaunting-559b5b7f4d-pdjjq         1/1     Running   0           2m22s
akaunting-559b5b7f4d-tgpdg         0/1     Pending   0           2m22s

aslid@LAPTOP-A9PQ3E1H MINGW64 /
$ kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
akaunting-559b5b7f4d-b8vlg         1/1     Running   0           13h
akaunting-559b5b7f4d-pdjjq         1/1     Running   0           3m35s
akaunting-559b5b7f4d-tgpdg         0/1     ContainerCreating   0           3m35s

aslid@LAPTOP-A9PQ3E1H MINGW64 /
$ kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
akaunting-559b5b7f4d-b8vlg         1/1     Running   0           13h
akaunting-559b5b7f4d-pdjjq         1/1     Running   0           3m39s
akaunting-559b5b7f4d-tgpdg         0/1     ContainerCreating   0           3m39s

aslid@LAPTOP-A9PQ3E1H MINGW64 /
$
```

```
MINGW64:/
aslid@LAPTOP-A9PQ3E1H MINGW64 /
$ kubectl get nodes
NAME                                STATUS    ROLES    AGE     VERSION
aks-agentpool-56912325-vmss000000  Ready    agent    24h     v1.20.9
aks-agentpool-56912325-vmss000009  Ready    agent    2m56s   v1.20.9
aks-agentpool-56912325-vmss00000a  Ready    agent    119s    v1.20.9

aslid@LAPTOP-A9PQ3E1H MINGW64 /
$ kubectl get nodes -w
NAME                                STATUS    ROLES    AGE     VERSION
aks-agentpool-56912325-vmss000000  Ready    agent    37h     v1.20.9
aks-agentpool-56912325-vmss000000  Ready    agent    37h     v1.20.9
aks-agentpool-56912325-vmss00000b  NotReady  <none>    0s      v1.20.9
aks-agentpool-56912325-vmss00000b  NotReady  <none>    0s      v1.20.9
aks-agentpool-56912325-vmss00000b  NotReady  <none>    0s      v1.20.9
aks-agentpool-56912325-vmss00000b  NotReady  <none>    0s      v1.20.9
aks-agentpool-56912325-vmss00000b  Ready     <none>    0s      v1.20.9
aks-agentpool-56912325-vmss00000b  Ready     <none>    0s      v1.20.9
aks-agentpool-56912325-vmss00000b  Ready     <none>    10s     v1.20.9
aks-agentpool-56912325-vmss00000b  Ready     agent     20s     v1.20.9
aks-agentpool-56912325-vmss00000b  Ready     agent     38s     v1.20.9
aks-agentpool-56912325-vmss00000b  Ready     agent     90s     v1.20.9
```

PROBLEMS	OUTPUT	TERMINAL	DEBUG	CONSOLE
akaunting-hpa	Deployment/akaunting	0%/5%	1	50
akaunting-hpa	Deployment/akaunting	0%/5%	1	50
akaunting-hpa	Deployment/akaunting	0%/5%	1	50
akaunting-hpa	Deployment/akaunting	0%/5%	1	50
akaunting-hpa	Deployment/akaunting	0%/5%	1	50
PS C:\Users\aslid\source\ExadelIntern\azure_devops\akaunting\manifests> kubectl get hpa -w				
NAME	REFERENCE	TARGETS	MINPODS	MAXPODS
akaunting-hpa	Deployment/akaunting	0%/5%	1	50
akaunting-hpa	Deployment/akaunting	0%/5%	1	50
akaunting-hpa	Deployment/akaunting	13%/5%	1	50
akaunting-hpa	Deployment/akaunting	13%/5%	1	50
akaunting-hpa	Deployment/akaunting	0%/5%	1	50
akaunting-hpa	Deployment/akaunting	0%/5%	1	50
akaunting-hpa	Deployment/akaunting	0%/5%	1	50
akaunting-hpa	Deployment/akaunting	0%/5%	1	50

Monnitoring

Workloads

Workloads N

- Cron Jobs
- Daemon Sets
- Deployments
- Jobs
- Pods
- Replica Sets
- Replication Controllers
- Stateful Sets

Service N

- Ingresses
- Services

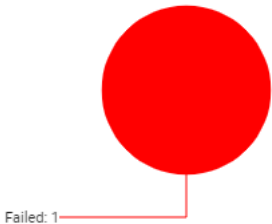
Config and Storage

- Config Maps N
- Persistent Volume Claims N
- Secrets N
- Storage Classes

Cluster

- Cluster Role Bindings
- Cluster Roles
- Namespaces
- Network Policies N

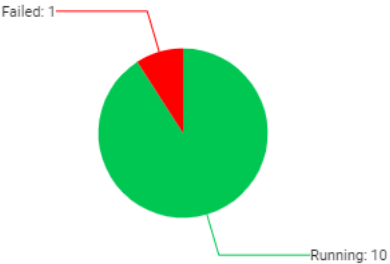
Workload Status



Deployments




Pods





Replica Sets

Deployments

Name	Namespace	Images	Labels	Pods	Created ↑
 akaunting	default	akaunting.azurecr.io/akaunting:165	-	4 / 10	a day ago

Pods

Name	Namespace	Images	Labels	Node	Status	Restarts	CPU Usage (cores)	Memory Usage (bytes)	Created ↑
 akaunting-f9867d8f9-8v9vs	default	akaunting.azurecr.io/akaunting:165	app: akaunting pod-template-hash: f9867d8f9		Pending	0	-	-	10 seconds ago
 akaunting-f9867d8f9-xxmjl	default	akaunting.azurecr.io/akaunting:165	app: akaunting		Pending	0	-	-	10 seconds ago

Logging

Home > Resource groups > akaunting-rg > akaunt-kube

akaunt-kube | Logs

Kubernetes service

Search (Ctrl+/)

- Configuration
- Settings
 - Node pools
 - Cluster configuration
 - Networking
 - Deployment center (preview)
 - Policies
 - Properties
 - Locks
- Monitoring
 - Insights
 - Alerts
 - Metrics
 - Diagnostic settings
 - Advisor recommendations
 - Logs
 - Workbooks
- Automation
 - Tasks (preview)
 - Export template
- Support + troubleshooting
 - Resource health
 - New Support Request

New Query 1*
akaunt-kube
Select scope
Run
Time range: Set in query
Save
Share
New alert rule
Export
Pin to dashboard
Format query

```
2 // ** This query requires a parameter to run. Container Logs table is used Log lines collected from stdout and stderr streams for containers. This query will find rows in the ContainerLogs table
3 where LogEntry has specified String.
4 //This query requires a parameter to work.
5 //The ContainerLog table holds Log lines collected from stdout and stderr streams for containers.
6 //Note: the query runs by default for the last 24 hours. Use the time pikcer to adjust time span for query
7 let FindString = "[php-fpm:access]" //Please update term you would like to find in LogEntry here
8 ContainerLog
9 | where LogEntry has FindString
10 | where TimeOfCommand > ago(24h)
11 | take 100
```

Results | Chart | Columns | Display time (UTC+00:00) | Group columns

Completed 00:01.5 100 records

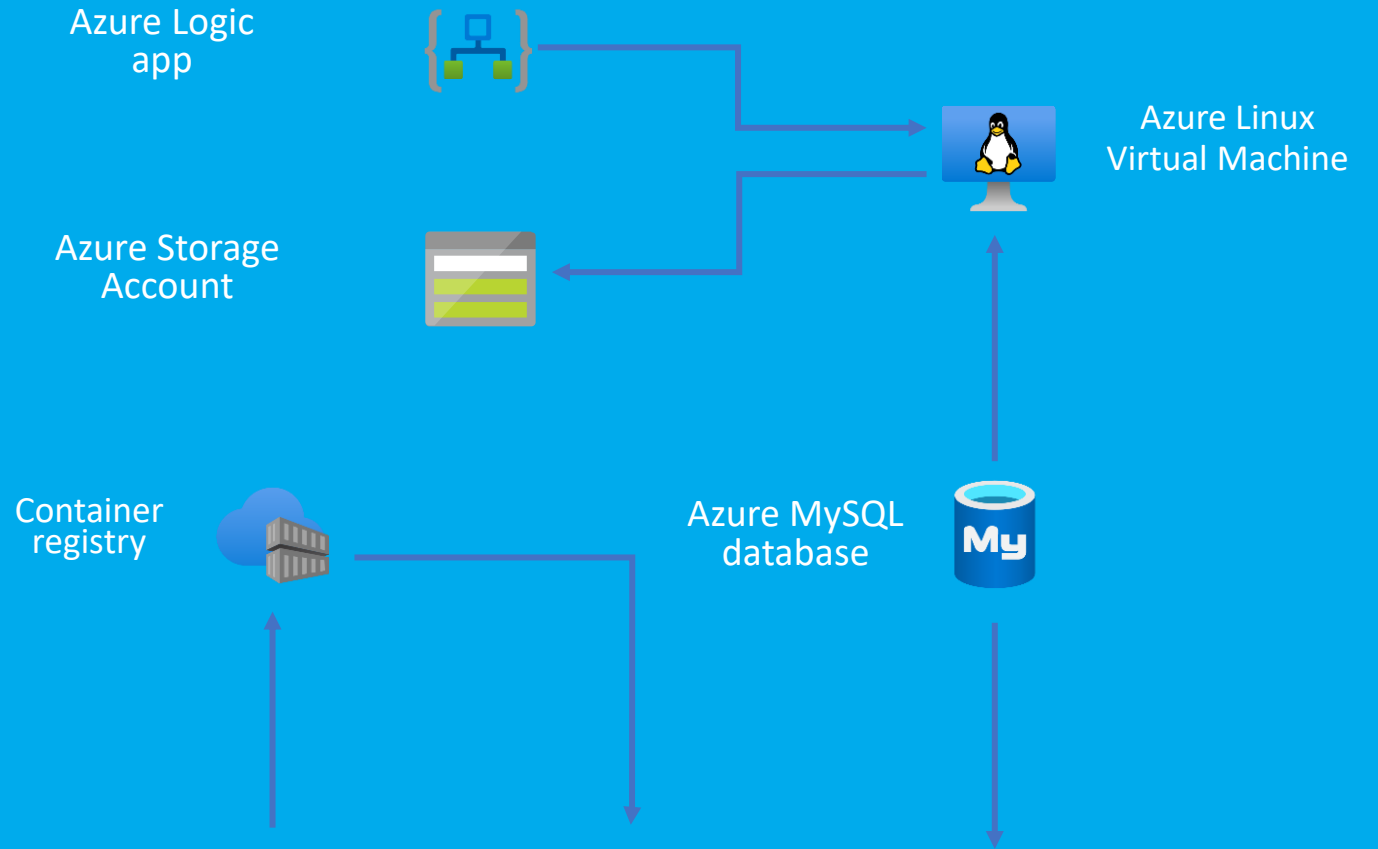
TimeGenerated [UTC]	ContainerID	Computer	TimeOfCommand [UTC]	LogEntry	LogEntrySource
9/15/2021, 6:51:21.362 AM	1ba1640b2404a3b8374c52f67b1b7f9db2253fb6dc0fc32c171797...	aks-agentpool-56912325-vmss00...	9/15/2021, 6:51:22.000 AM	[php-fpm:access] 127.0.0.1 - 15/Sep/2021:06:51:21 +0000 "GET /i...	stderr
9/15/2021, 6:51:21.923 AM	1ba1640b2404a3b8374c52f67b1b7f9db2253fb6dc0fc32c171797...	aks-agentpool-56912325-vmss00...	9/15/2021, 6:51:22.000 AM	[php-fpm:access] 127.0.0.1 - 15/Sep/2021:06:51:21 +0000 "GET /i...	stderr
9/15/2021, 6:51:22.193 AM	1ba1640b2404a3b8374c52f67b1b7f9db2253fb6dc0fc32c171797...	aks-agentpool-56912325-vmss00...	9/15/2021, 6:51:22.000 AM	[php-fpm:access] 127.0.0.1 - 15/Sep/2021:06:51:22 +0000 "GET /...	stderr
9/15/2021, 6:51:23.558 AM	1ba1640b2404a3b8374c52f67b1b7f9db2253fb6dc0fc32c171797...	aks-agentpool-56912325-vmss00...	9/15/2021, 6:51:37.000 AM	[php-fpm:access] 127.0.0.1 - 15/Sep/2021:06:51:23 +0000 "GET /...	stderr
9/15/2021, 6:51:23.827 AM	1ba1640b2404a3b8374c52f67b1b7f9db2253fb6dc0fc32c171797...	aks-agentpool-56912325-vmss00...	9/15/2021, 6:51:37.000 AM	[php-fpm:access] 127.0.0.1 - 15/Sep/2021:06:51:23 +0000 "GET /...	stderr
9/15/2021, 6:51:25.388 AM	1ba1640b2404a3b8374c52f67b1b7f9db2253fb6dc0fc32c171797...	aks-agentpool-56912325-vmss00...	9/15/2021, 6:51:37.000 AM	[php-fpm:access] 127.0.0.1 - 15/Sep/2021:06:51:25 +0000 "GET /...	stderr
9/15/2021, 6:51:26.611 AM	1ba1640b2404a3b8374c52f67b1b7f9db2253fb6dc0fc32c171797...	aks-agentpool-56912325-vmss00...	9/15/2021, 6:51:37.000 AM	[php-fpm:access] 127.0.0.1 - 15/Sep/2021:06:51:26 +0000 "GET /...	stderr
9/15/2021, 6:52:55.586 AM	1ba1640b2404a3b8374c52f67b1b7f9db2253fb6dc0fc32c171797...	aks-agentpool-56912325-vmss00...	9/15/2021, 6:53:07.000 AM	[php-fpm:access] 127.0.0.1 - 15/Sep/2021:06:52:55 +0000 "GET /...	stderr
9/15/2021, 6:52:56.174 AM	1ba1640b2404a3b8374c52f67b1b7f9db2253fb6dc0fc32c171797...	aks-agentpool-56912325-vmss00...	9/15/2021, 6:53:07.000 AM	[php-fpm:access] 127.0.0.1 - 15/Sep/2021:06:52:55 +0000 "GET /...	stderr
9/15/2021, 6:52:56.436 AM	1ba1640b2404a3b8374c52f67b1b7f9db2253fb6dc0fc32c171797...	aks-agentpool-56912325-vmss00...	9/15/2021, 6:53:07.000 AM	[php-fpm:access] 127.0.0.1 - 15/Sep/2021:06:52:56 +0000 "GET /...	stderr
9/15/2021, 6:52:57.435 AM	1ba1640b2404a3b8374c52f67b1b7f9db2253fb6dc0fc32c171797...	aks-agentpool-56912325-vmss00...	9/15/2021, 6:53:07.000 AM	[php-fpm:access] 127.0.0.1 - 15/Sep/2021:06:52:57 +0000 "GET /...	stderr
9/15/2021, 6:52:59.283 AM	1ba1640b2404a3b8374c52f67b1b7f9db2253fb6dc0fc32c171797...	aks-agentpool-56912325-vmss00...	9/15/2021, 6:53:07.000 AM	[php-fpm:access] 127.0.0.1 - 15/Sep/2021:06:52:59 +0000 "GET /...	stderr

Schema and Filter

Page 1 of 2 50 items per page 1 - 50 of 100 items

Bakup

1. Every day Logic App turns VM on
2. `crontab` runs `muscle_backup.sh`
3. after backing up `muscle_backup.sh` sends `deallocate` signal to Azure VM to reduce service cost



Webhook

asliddinoripov / akaunting / Settings / Service hooks

Project Settings

akaunting

- General
- Overview
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- Notifications
- Service hooks**
- Dashboards
- Boards
- Project configuration
- Team configuration
- GitHub connections
- Pipelines
- Agent pools
- Parallel jobs
- Settings
- Test management
- Release retention
- Service connections
- XAML build services
- Repos
- Repositories
- Artifacts
- Storage

Service Hooks

Integrate with your favorite services by notifying them when events happen in your project.

[+ Create subscription](#)

Service

Select a service to integrate with. [Discover more integrations](#)

- Grafana
- HipChat
- HockeyApp
- Jenkins
- Microsoft Teams
- MyGet
- Office 365
- Slack
- Trello
- UserVoice
- Web Hooks**
- Workplace Messaging Apps
- Zapier
- Zendesk

Web Hooks

Provides event communication via HTTP

Supported events:

All events

Supported actions:

Post via HTTP

[Learn more about this service](#)

Previous Next Test Finish Cancel

NEW SERVICE HOOKS SUBSCRIPTION

Trigger

Select an event to trigger on and configure any filters.

Trigger on this type of event

Code pushed

Remember that selected events are visible to users of the target service, even if they don't have permission to view the related artifact.

FILTERS

Repository optional

akaunting

Branch optional

main

Pushed by a member of group: optional

[Any]

Previous Next Test Finish Cancel

Security

Azure DevOps

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- Overview
- Boards
- Repos
- Pipelines
- Pipelines
- Environments
- Releases
- Library**
- Task groups
- Deployment groups
- Test Plans
- Artifacts

Library

Variable groups | **Secure files** | + Secure file | Security | Help

Name ↓↑	Date modified	Modified by
.env	9/9/2021	Asliddin Oripov

Project settings <<

```
#download secure file
- task: DownloadSecureFile@1
  name: env_files
  inputs:
    secureFile: '.env'

#copy secure file into deployment
- script: |
    cp $(env_files.secureFilePath) .
    ls -l -a
```

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 <https://github.com/gitlantis>