Kubernetes Example Install Journal 3.3.2 GA install with 1.2.0 helm charts

Wednesday, 15 June 2022   3:10 PM

Objective

To take an existing CluedIn 3.3.0 environment standard setup that was manually installed in Azure Kuberenetes Services (AKS) and upgrade to 3.3.2 GA with latest cluedin-platform 1.2.0 helm charts reusing the node pools. There are extra and optional steps left in here so you get the full experience of an upgrade. This is not a quick start guide.

Background

Kubectl, Azure Portal and Lens (https://k8slens.dev/) will be used.
Helm and other dependances were installed and updated using https://chocolatey.org/

Latest release notes
> https://cluedin-io.github.io/Releases/3.3/3.3.2
> https://github.com/CluedIn-io/Charts/releases/tag/cluedin-platform-1.2.0

> link to all release notes ever https://documentation.cluedin.net/release-notes

Documentation portal
> https://documentation.cluedin.net/

Journal

Scripts from https://github.com/CluedIn-io/ImpTools/tree/master/k8s/pwsh were used.

I keep a separate copy of those scripts per cluster that I manage, and I run login.ps1 to ensure I'm in the correct context.

(respective files here on my laptop C:\rudi.harris\k8s\cluedin\apac-demo)

values yaml currently is based off
https://github.com/CluedIn-io/ImpTools/blob/35d33298295612d4c387bc2c983ad92f36f95b86/k8s/pwsh/prd-medium-sizing/values.3.3.0.cluedin-platform-1.0.0.yml

final file is here (but redacted)
https://github.com/CluedIn-io/ImpTools/blob/master/k8s/pwsh/prd-medium-sizing/values.3.3.2.cluedin-platform-1.2.0.yml

helm upgrade file is here
https://github.com/CluedIn-io/ImpTools/blob/master/k8s/pwsh/prd-medium-sizing/helm_upgrade-3.3.2.ps1

login to cluster

```
PS C:\rudi.harris\k8s\cluedin\apac-demo> .\login.ps1
Switched to context "APAC-demo-k8s".
NAME                              STATUS    ROLES    AGE    VERSION
aks-corepool-17590510-vmss00000l      Ready     agent    8d     v1.20.9
aks-datapool-17590510-vmss000016      Ready     agent    8d     v1.20.9
aks-datapool-17590510-vmss000017      Ready     agent    8d     v1.20.9
aks-generalpool-17590510-vmss000016   Ready     agent    8d     v1.20.9
aks-generalpool-17590510-vmss000017   Ready     agent    8d     v1.20.9
aks-processpool-17590510-vmss00000l   Ready     agent    8d     v1.20.9
cluedin-haproxy-ingress           LoadBalancer   10.0.90.9    20.193.9.158    80:30025/TCP,443:30007/TCP
                112d
Server:  dns.opendns.com
Address:  208.67.222.222

Non-authoritative answer:
Name:    k1.cluedin.me
Address:  20.193.9.158
```

check what is currently running on the existing cluster - basically nothing

```
PS C:\rudi.harris\k8s\cluedin\apac-demo> .\gp.ps1
NAME                                READY   STATUS    RESTARTS   AGE
cluedin-prometheus-node-exporter-82gqx   1/1     Running   0          5d21h
cluedin-prometheus-node-exporter-clgnn   1/1     Running   0          5d21h
```
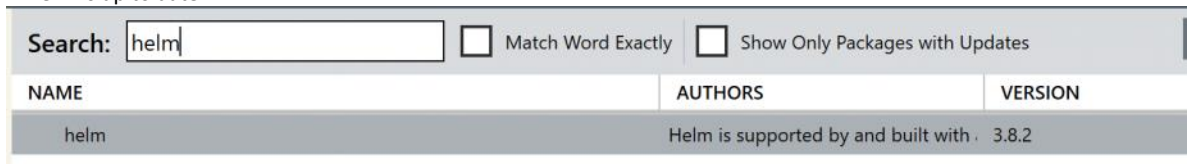
```
cluedin-prometheus-node-exporter-d6p67   1/1     Running   0         5d21h
cluedin-prometheus-node-exporter-dfwxn   1/1     Running   0         5d21h
cluedin-prometheus-node-exporter-grl6k   1/1     Running   0         5d21h
cluedin-prometheus-node-exporter-msv44   1/1     Running   0         5d21h
```
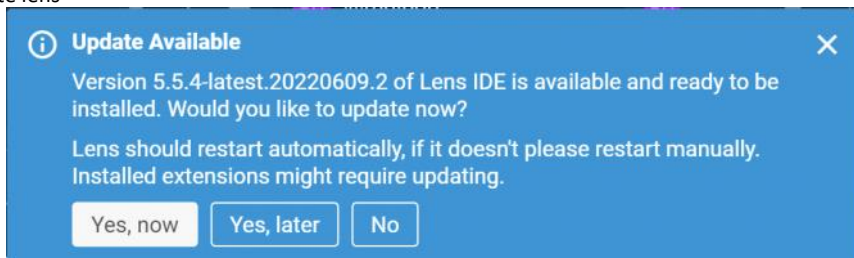
check dependances for helm and kube and update accordingly
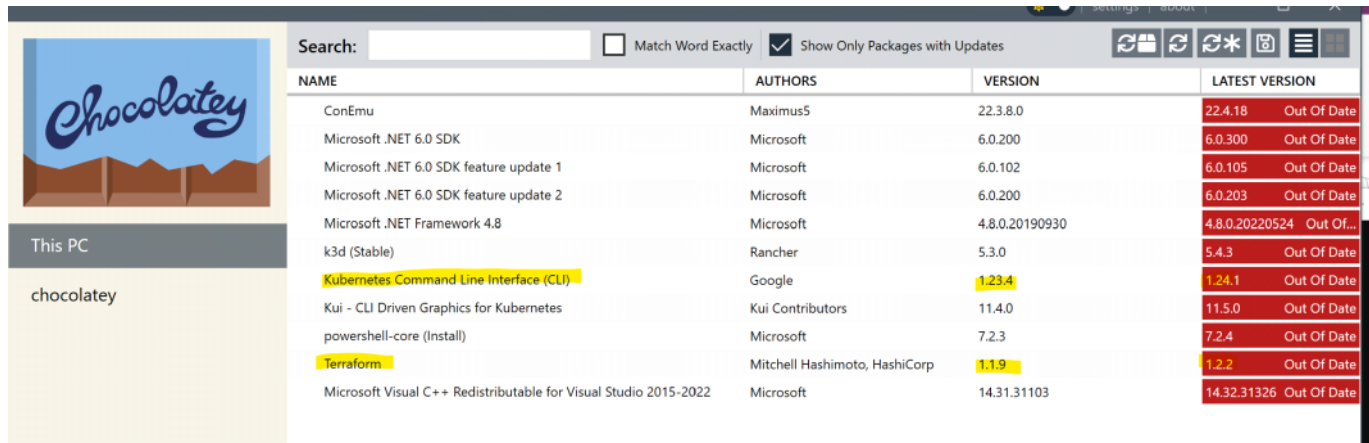
confirm helm is up to date

update lens

update repos and values yaml based on release notes and such

note: we have already added the cluedin chart repo before this step

```
PS C:\rudi.harris\k8s\cluedin\apac-demo> helm repo update
Hang tight while we grab the latest from your chart repositories...
...Successfully got an update from the "vmware-tanzu" chart repository
...Successfully got an update from the "cluedin" chart repository
...Successfully got an update from the "haproxy-ingress" chart repository
Update Complete. ⎈Happy Helming!⎈
```

simplify the repos

```
PS C:\rudi.harris\k8s\cluedin\apac-demo> helm repo list
NAME            URL
haproxy-ingress https://haproxy-ingress.github.io/charts
cluedin         https://cluedin-io.github.io/Charts/
vmware-tanzu    https://vmware-tanzu.github.io/helm-charts

PS C:\rudi.harris\k8s\cluedin\apac-demo> helm repo remove haproxy-ingress vmware-tanzu
"haproxy-ingress" has been removed from your repositories
"vmware-tanzu" has been removed from your repositories

PS C:\rudi.harris\k8s\cluedin\apac-demo> helm repo list
NAME     URL
cluedin  https://cluedin-io.github.io/Charts/
```

examine what is available in lens and current state

clone yaml in prep for update

original yaml is based on
https://github.com/CluedIn-
io/ImpTools/blob/35d33298295612d4c387bc2c983ad92f36f95b86/k8s/pwsh/prd-
medium-sizing/values.3.3.0.cluedin-platform-1.0.0.yml

edit new yaml
update refs from 3.3.0 to 3.3.2

remove the neo4j pinning

add development settings until we are happy (change to Production or comment out later)

```
application:
  bootstrap: ...
    environment: "Development"    # Environment (e.g Production or Development)
```

check our nugets

use

from the microsoft store

latest sqlserver

newer version of libpostal

let's add eventhub

https://github.com/CluedIn-io/CluedIn.Connector.AzureEventHubs/blob/1cc04b9461ea456bd5dec1373234d5c8edc2ba60/src/Connector.SqlServer/Connector/AzureEventHubConnector.cs#L103-L132

CluedIn.Connector.AzureEventHub
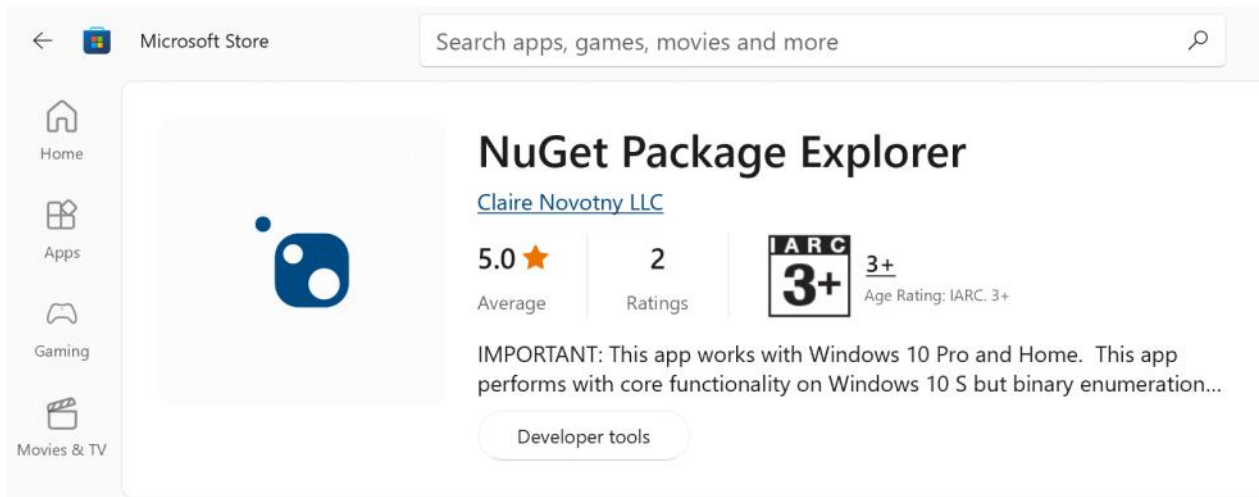
open download hide all versions

Version	Downloads	Published
3.3.0	0	3 months ago
3.3.0-ama.15	0	4 months ago
3.3.0-ama.13	0	4 months ago
3.3.0-ama.11	0	4 months ago
3.3.0-ama.10	0	4 months ago
3.3.0-ama.8	0	4 months ago

Description

CluedIn.Connector.AzureEventHub provides the ability to post Hubs

Version:	3.3.0
Author(s):	CluedIn ApS
License:	
Readme:	
Date published:	Tuesday, 22 February 2022

values yaml to try

let's check the release notes to see if we want to try the upgrade or blow away the existing volumes etc

from

Version	App Version
1.0.0	3.3.0

to

https://cluedin-io.github.io/Releases/3.3/3.3.1

If you are upgrading for a version prior to 3.3.0, please follow the Upgrade Guide to update existing CluedIn installations.

https://github.com/CluedIn-io/Charts/releases/tag/cluedin-platform-1.1.0

Particularly
https://cluedin-io.github.io/Releases/3.3/3.3.2
https://github.com/CluedIn-io/Charts/releases/tag/cluedin-platform-1.2.0

so it should just work 🙌

Apply latest values yaml from above

(will also need to update the cert and potentally update the public IP address in DNS for k1.cluedin.me)

```
PS C:\rudi.harris\k8s\cluedin\apac-demo> cat .\helm_upgrade-3.3.2.ps1
helm upgrade cluedin-demo cluedin/cluedin-platform `
  -n cluedin `
  --install `
  --version 1.2.0 `
  --values values.3.3.2.cluedin-platform-1.2.0.yml
```

cert issue - that is because we installed the web cert manually so this is fine 👍

```
PS C:\rudi.harris\k8s\cluedin\apac-demo> .\helm_upgrade-3.3.2.ps1
Error: UPGRADE FAILED: cannot patch "cluedin-server-tls-certificate" with kind Certificate:
Internal error occurred: failed calling webhook "webhook.cert-manager.io": Post
"https://cluedin-cert-manager-webhook.cluedin.svc:443/mutate?timeout=10s": dial tcp
10.0.168.161:443: connect: connection refused && cannot patch "cluedin-selfsigned-ca" with kind
Certificate: Internal error occurred: failed calling webhook "webhook.cert-manager.io": Post
"https://cluedin-cert-manager-webhook.cluedin.svc:443/mutate?timeout=10s": dial tcp
10.0.168.161:443: connect: connection refused && cannot patch "cluedin-ca-issuer" with kind
Issuer: Internal error occurred: failed calling webhook "webhook.cert-manager.io": Post
"https://cluedin-cert-manager-webhook.cluedin.svc:443/mutate?timeout=10s": dial tcp
```

10.0.168.161:443: connect: connection refused && cannot patch "cluedin-selfsigned-issuer" with kind Issuer: Internal error occurred: failed calling webhook "webhook.cert-manager.io": Post "https://cluedin-cert-manager-webhook.cluedin.svc:443/mutate?timeout=10s": dial tcp 10.0.168.161:443: connect: connection refused && cannot patch "cluedin-alertmanager.rules" with kind PrometheusRule: Internal error occurred: failed calling webhook "prometheusrulemutate.monitoring.coreos.com": Post "https://cluedin-operator.cluedin.svc:443/admission-prometheusrules/validate?timeout=10s": dial tcp 10.0.41.170:443: connect: connection refused && cannot patch "cluedin-etcd" with kind PrometheusRule: Internal error occurred: failed calling webhook "prometheusrulemutate.monitoring.coreos.com": Post "https://cluedin-operator.cluedin.svc:443/admission-prometheusrules/validate?timeout=10s": dial tcp 10.0.41.170:443: connect: connection refused

but... the cluster is up

```
PS C:\rudi.harris\k8s\cluedin\apac-demo> .\gp.ps1
kubectl -n cluedin get pods
NAME                                          READY   STATUS      RESTARTS   AGE
alertmanager-cluedin-alertmanager-0           2/2     Running     0          12m
cluedin-annotation-cd9dc9688-4mbff            1/1     Running     0          12m
cluedin-cert-manager-7565b895f8-2gptp         1/1     Running     0          12m
cluedin-cert-manager-cainjector-64c4676fc-tn5h7  1/1  Running     0          12m
cluedin-cert-manager-webhook-7ccd544dd-r2kk8  1/1     Running     0          12m
cluedin-controller-d559776d6-hcvnt            1/1     Running     0          12m
cluedin-datasource-76fd7697fb-7z2bc           1/1     Running     0          12m
cluedin-elasticsearch-0                       1/1     Running     0          12m
cluedin-gql-7c4db44c8c-xtjrd                  1/1     Running     0          12m
cluedin-grafana-7b45668d44-7qqdx              2/2     Running     0          12m
cluedin-haproxy-ingress-dddfc9cf9-7rnbk       1/1     Running     0          12m
cluedin-kube-state-metrics-659ffc4664-wxxss   1/1     Running     0          12m
cluedin-libpostal-6bcbf7fbbf-cgfv4            1/1     Running     0          12m
cluedin-neo4j-core-0                          1/1     Running     0          12m
cluedin-openrefine-688b74f77d-l5jq8           1/1     Running     0          12m
cluedin-operator-998bcdf49-jtcpw              1/1     Running     0          12m
cluedin-prepare-797cc9894c-4s4qm              1/1     Running     0          12m
cluedin-prometheus-node-exporter-82gqx        1/1     Running     0          5d23h
cluedin-prometheus-node-exporter-clgnn        1/1     Running     0          5d23h
cluedin-prometheus-node-exporter-d6p67        1/1     Running     0          5d23h
cluedin-prometheus-node-exporter-dfwxn        1/1     Running     0          5d23h
cluedin-prometheus-node-exporter-grl6k        1/1     Running     0          5d23h
cluedin-prometheus-node-exporter-msv44        1/1     Running     0          5d23h
cluedin-rabbitmq-0                            1/1     Running     0          12m
cluedin-redis-master-0                        2/2     Running     0          12m
cluedin-server-6576475448-hp6wv               1/1     Running     0          12m
cluedin-server-processing-7f4d859cfb-dvq9p    1/1     Running     0          12m
cluedin-sqlserver-5b4f8c6d64-w6w5s            1/1     Running     0          12m
cluedin-submitter-7c5ddcbd7f-4rztp            1/1     Running     0          12m
cluedin-ui-6cffcb65df-jcvs4                   1/1     Running     0          12m
cluedin-webapi-bf7fd55c6-nlp68                1/1     Running     0          12m
init-neo4j-job-nqmlt                          0/1     Completed   0          12m
init-sqlserver-job-77dr2                      0/1     Completed   0          12m
prometheus-cluedin-prometheus-0               2/2     Running     0          12m
```

checking in lens


```
._____ ._____  ._____  ._____ _____/_____ /_  _\/ /\ / /__/ \/ _ \ \__
_/ _ \ \ / / / / // / / _/ / \/ \/ / /\ _/ /___/ /_/\_ / / ___/_ / / / / / \ / / _/
/ _/ / / / _/ / / / / /-- =_____/_____/_____/_____/_____/\___/ /
_____/ /====- ==_____\/_____\/_____\/__\___/\____\/
======- ==========================================================\___\/=============-
=====[ Mode : [UPGRADE] [Revision: 11] =====[ Chart : cluedin-platform [v1.2.0]
=====[ Namespace : cluedin =====[ Domain : *.k1.cluedin.me =====[ TLS : [ENABLED] Cert
Secret: ingress-cert-secret
==================================================================== =====[ Global Image
Tag : 3.3.2 =====[ Global Registry : docker.io =====[ Global Pull Policy : IfNotPresent
=====[ Global ImagePullSecret .. =====[ Global ServiceAccount : cluedin-serviceaccount
=====[ Global Environment : Production =====[ Global Strategy : RollingUpdate
=====[ Global UploadLimit : 1gb
======================================================== =====[ CluedIn
Server : docker.io/cluedin/cluedin-server:3.3.2 =====[ CluedIn Nuget Install :
docker.io/cluedin/nuget-installer:3.3.2 =====[ CluedIn Controller :
docker.io/cluedin/controller:3.3.2 =====[ Annotation : docker.io/cluedin/cluedin-micro-
annotation:3.3.2 =====[ Prepare : docker.io/cluedin/cluedin-micro-clean:3.3.2
=====[ DataSource : docker.io/cluedin/cluedin-micro-datasource:3.3.2 =====[ Submitter :
docker.io/cluedin/cluedin-micro-submitter-node:3.3.2 =====[ GQL :
docker.io/cluedin/cluedin-ui-gql:3.3.2 =====[ UI : docker.io/cluedin/ui:3.3.2
=====[ WebAPI : docker.io/cluedin/app:3.3.2 =====[ InitWait : docker.io/groundnuty/k8s-
wait-for:v1.3 =====[ InitCleanUp : docker.io/bitnami/kubectl:latest =====[ InitSQL :
docker.io/cluedin/sqlserver-init:3.3.2 =====[ InitNeo4J : docker.io/cluedin/neo4j-
init:3.3.2 ===================================================== =====[ SQL
Server : mcr.microsoft.com/mssql/server:2017-latest =====[ OpenRefine :
docker.io/cluedin/openrefine:3.3.2 =====[ ElasticSearch :
docker.elastic.co/elasticsearch/elasticsearch:7.8.0 =====[ Neo4J : neo4j:3.5.31
=====[ RabbitMQ : docker.io/bitnami/rabbitmq:3.9.11-debian-10-r28 =====[ Redis :
docker.io/bitnami/redis:6.2.6-debian-10-r97 =====[ AlertManager :
quay.io/prometheus/alertmanager:v0.23.0 =====[ Prometheus :
quay.io/prometheus/prometheus:v2.31.1 =====[ Grafana : grafana/grafana:8.2.3
=====[ Prometheus Operator : quay.io/prometheus-operator/prometheus-operator:v0.52.0
======================================================== =====[ Cluedin :
[ENABLED] =====[ Roles : Main ☑ - Processing ☑ - Crawling ⊘ =====[ Connection
```

```
(mssql) : AuthenticationStore (DataStore.Db.Authentication) - User: clientUser
=====[ Connection (mssql) : AuditLog (DataStore.Db.AuditLog) - User: clientUser
=====[ Connection (mssql) : BlobStorage (DataStore.Db.BlobStorage) - User: clientUser
=====[ Connection (mssql) : ConfigurationStore (DataStore.Db.Configuration) - User:
clientUser =====[ Connection (mssql) : CluedInEntities (DataStore.Db.OpenCommunication) -
User: clientUser =====[ Connection (mssql) : TokenStore (DataStore.Db.TokenStore) - User:
clientUser =====[ Connection (mssql) : Training (DataStore.Db.Training) - User: clientUser
=====[ Connection (mssql) : ExternalSearch (DataStore.Db.ExternalSearch) - User:
clientUser =====[ Connection (mssql) : ML-Logging (DataStore.Db.ML-Logging) - User:
clientUser =====[ Connection (mssql) : Metrics (DataStore.Db.Metrics) - User: clientUser
=====[ Connection (mssql) : WebAppStore (DataStore.Db.WebApp) - User: clientUser
=====[ Connection (mssql) : MicroServices (DataStore.Db.MicroServices) - User: clientUser
=====[ Connection (rabbitmq) : MessageBus () - User: cluedin =====[ Connection
(rabbitmq) : MessageBusManagement () - User: cluedin =====[ Connection (rabbitmq) :
SignalRScaleOut () - User: cluedin =====[ Connection (neo4j) : GRAPHSTORE_READ () - User:
neo4j =====[ Connection (neo4j) : GRAPHSTORE_WRITE () - User: neo4j =====[ Connection
(redis) : CACHESTORE () - User: redis =====[ Connection (redis) : ETAGSTORE () - User:
redis =====[ Connection (redis) : JOBSTORE () - User: redis =====[ Connection (redis) :
DATAPROTECTIONPERSISTENCE () - User: redis =====[ Connection (elasticsearch) : SEARCHSTORE
() - User: elastic ====================================================================
=====[ SQL SERVER : [ENABLED] =====[ Host Name : cluedin-sqlserver =====[ Host Port : 1433
=====[ TimeOut : 15 =====[ Encrypted ? : false =====[ Extra Parameters :
MultipleActiveResultSets=True;Max Pool Size=200;Pooling=True; =====[ User : clientUser
(cluedin-sqlserver-clientuser-secret) =====[ User : sa (cluedin-sqlserver-secret)
==================================================================== =====[ OpenRefine :
[ENABLED] =====[ Host Name : cluedin-openrefine =====[ Host Port : 3333
==================================================================== =====[ Redis :
[ENABLED] =====[ Host Name : cluedin-redis-master =====[ Host Port : 6379
=====[ Encrypted ? : false =====[ User Secret : cluedin-redis (redis-password)
==================================================================== =====[ Neo4J :
[ENABLED] =====[ Host Name : cluedin-neo4j =====[ Host HTTP Port : 7474 =====[ Host BOLT
Port : 7687 =====[ User : neo4j =====[ User Secret : cluedin-neo4j-secrets (neo4j-
password) ====================================================================
=====[ ElasticSearch : [ENABLED] =====[ Host Name : cluedin-elasticsearch =====[ Host
Port : 9200 =====[ User Secret : elasticsearch-credentials (password)
==================================================================== =====[ RabbitMQ :
[ENABLED] =====[ Host Name : cluedin-rabbitmq =====[ Host Port : 5672 =====[ User :
cluedin =====[ User Secret : cluedin-rabbitmq (rabbitmq-password)
==================================================================== =====[ Bootstrap
Org ? : [YES => cluedin] =====[ SSO : [DISABLED]
====================================================================
```

need to update the cert

manually updated the web cert here - you could use any method you like for web certs (cert manager for example)

cert is stored in the Azure Key Vault in my case

wildcard-k1-cluedin-me
Versions

+ New Version ⟳ Refresh 🗑 Delete ↓ Download Backup 🎚 Issuance Policy ⟳ Certificate Operation

Version	Thumbprint	Status	Activation date	Expiration date
CURRENT VERSION				
61eea0afdd8440cfaa6e34a1cea7b295	E90894A2BA305381FBD67639CD6A66C34C961...	✓ Enabled	6/15/2022	9/13/2022

get latest cert
rudi@Azure:~/k1/cert$

```
az keyvault secret download --file 20220615.k1.pfx --name wildcard-k1-cluedin-me --
vault-name APAC-cert-kv --encoding base64
```

decode cert
```
rudi@Azure:~/k1/cert$ openssl pkcs12 -in 20220615.k1.pfx -nocerts -out key.pem -
passin pass: -passout pass:xxxx
rudi@Azure:~/k1/cert$ openssl rsa -in key.pem -out server.key -passin pass:xxxx
writing RSA key
rudi@Azure:~/k1/cert$ openssl pkcs12 -in 20220615.k1.pfx -clcerts -nokeys -out
cert.pem -passin pass:
```

update cert

```
rudi@Azure:~/k1/cert$ kubectl -n cluedin delete secret ingress-cert-secret
secret "ingress-cert-secret" deleted

rudi@Azure:~/k1/cert$ kubectl -n cluedin create secret tls ingress-cert-secret --key
server.key --cert cert.pem
secret/ingress-cert-secret created
```

using azure cli let's restart ingress and ui

```
rudi@Azure:~/k1$ cat restart_ingress_ui.ps1
kubectl -n cluedin delete pod -l app.kubernetes.io/name=haproxy-ingress
kubectl -n cluedin delete pod -l app=ui

rudi@Azure:~/k1$ pwsh restart_ingress_ui.ps1
```

☐	Name ▾	Containers ▾	Restarts ▾	Node ▾	Age ▲	Status ▾
☐	cluedin-ui-6cffcb65df-kq5zf	▪ ▪	0	aks-generalpool-1759051	63s	Running
☐	cluedin-haproxy-ingress-dddfc9cf9-xj8bv	▪	0	aks-datapool-17590510-v	67s	Running

test login - success!!!

hold shift and click reload