AZKM

your knowledge mining chaperone

:WHAT DOES AZKM DO?

1. manage multiple km environments using terraform
2. automated skillset and k8s application deployment using template engine over terraform state
3. dataset download for km environments
4. leveraging a configurable catalog

:INSTALL ON ANY AZURE SHELL

```
luke@Azure:~$ curl https://raw.githubusercontent.com/frogrammer/azure-knowledgemining-cli/main/cloudshell-install.sh | bash
```

1. goto shell.azure.com

2. run this!

   curl https://raw.githubusercontent.com/frogrammer/azure-knowledgemining-cli/main/cloudshell-install.sh | bash

:INSTALL IN LINUX ENVIRONMENT

```
moss@DESKTOP-VS1EB71:~$ pip install azkm
```

pip install azkm

pre-requisites:

- python > 3.7
- kubectl
- terraform
- nodejs > 0.1.15 or a nodejs virtual environment
- az cli
- cdktf [OPTIONAL to generate azurerm provider CDK]

:CREATE YOUR FIRST KM APP

```
(azkm) luke@Azure:~$ azkm recipe imagenet mojito uksouth
```

azkm recipe imagenet [instance name] [region]

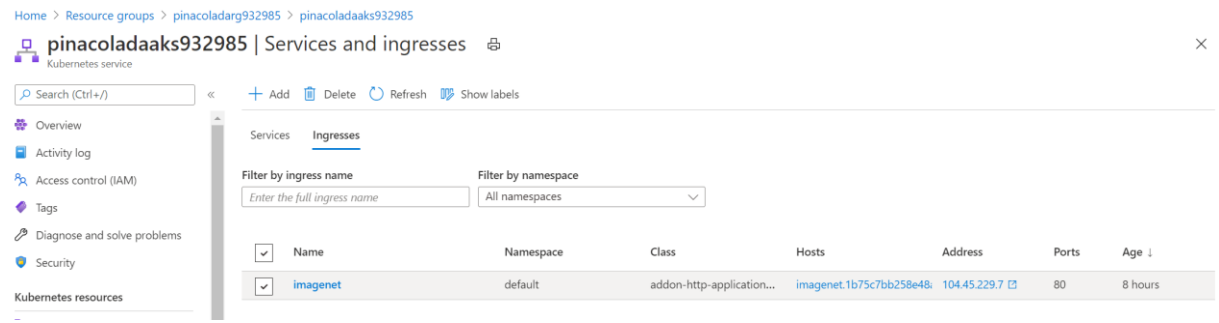
deploys:

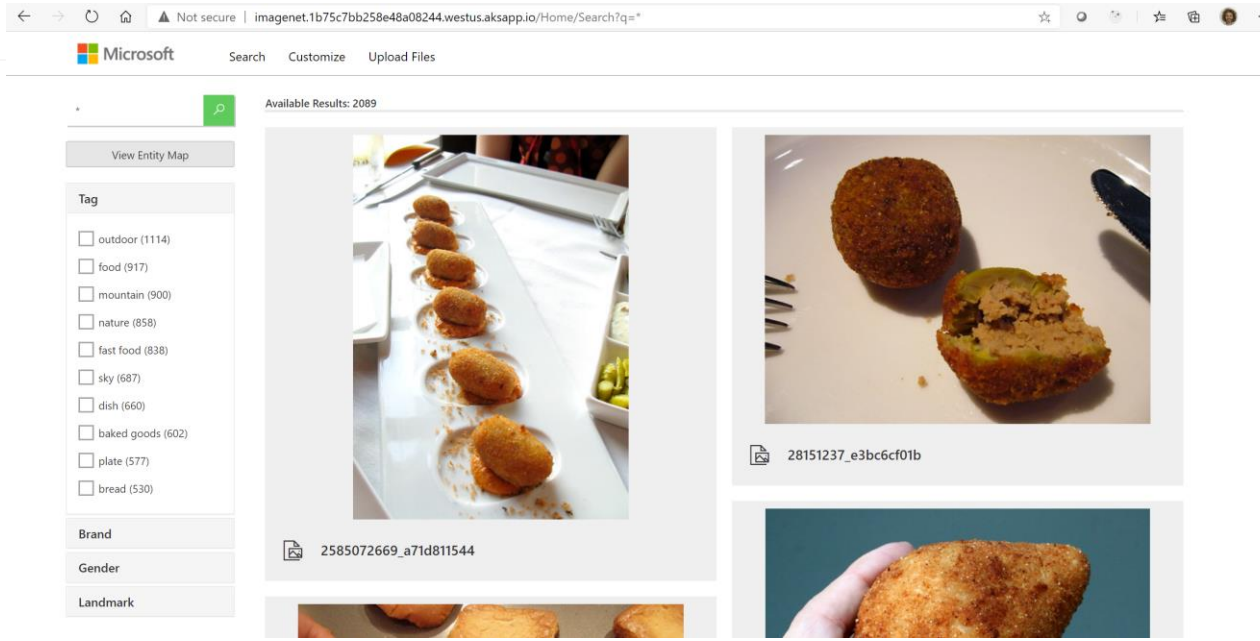
- baseline infrastructure
- imagenet skillsets to cognitive search
  downloads random imagenet dataset to azure storage
- provisions faceted search application to aks
  provides url for faceted search

:CREATE YOUR FIRST KM APP

```
(azkm) luke@Azure:~$ azkm recipe imagenet mojito uksouth
```

pinacoladaaks932985	Kubernetes service	West US
pinacoladacogsvcs932985	Cognitive Services	West US
pinacoladasearch932985	Search service	West US
pinacoladastorage932985	Storage account	West US





:DOWNLOAD MORE DATA

```
(azkm) luke@Azure:~$ azkm dataset imagenet mojito --num_images 1234326
```

azkm dataset [dataset_name] [instance] [variables]

downloads data into a container relevant to the data

the container is configured as a datasource for an indexer

```
fetching 617 images from synset n02901377
3/1234326       http://farm3.static.flickr.com/2055/2386228957_33d
```

:INSTALL A NEW AKS APP

```
(azkm) luke@Azure:~$ azkm deploy app pyspark mojito --login_token pina_colada
```

azkm deploy app [app_name] [instance] [variables]

see intermediate guide for more details

:INIT BASELINE ENVIRONMENT

```
(azkm) luke@Azure:~$ azkm init mojito westeurope
```

azkm init [instance] [region]

deploys: resource group

azure storage

file share for aks km applications

aks cluster

azure search service

azure cognitive services account

:DEPLOY RECIPE

```
(azkm) luke@Azure:~$ azkm recipe imagenet mojito uksouth
```

azkm recipe [recipe name] [instance] [region]

deploys: baseline infrastructure from init

skillsets for the recipe

downloads recipe relevant data

deploys AKS apps relevant to the recipe

:MANAGE KM ENVIRONMENTS

```
(azkm) luke@Azure:~$ azkm environment list
```

azkm environment list

lists environments

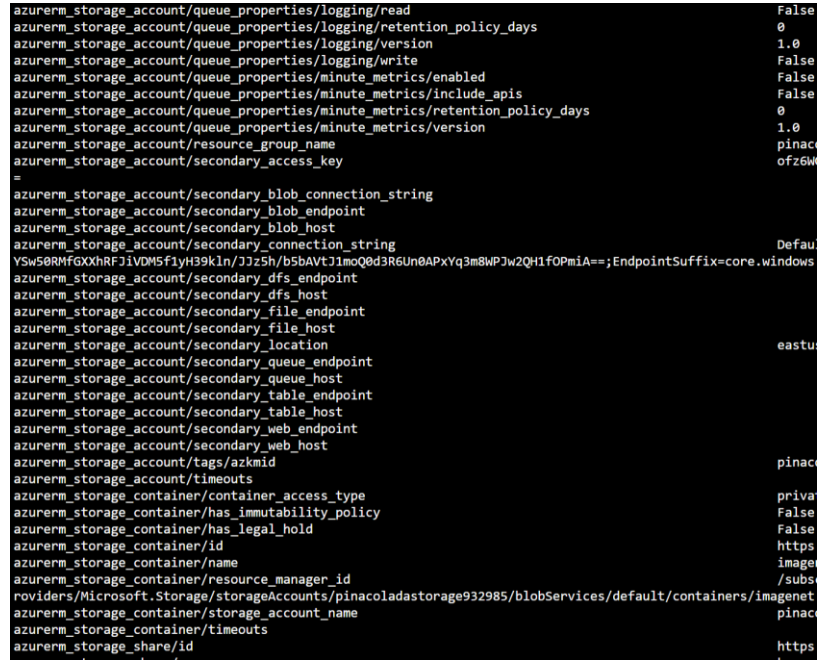
```
(azkm) luke@Azure:~$ azkm environment list
----------
pinacolada
martini
realale
----------
```

:MANAGE KM ENVIRONMENTS

```
(azkm) luke@Azure:~$ azkm environment show pinacolada
```

azkm environment show [instance]

prints terraform azurerm resource state for the environment



:TEARDOWN ENVIRONMENT

```
(azkm) luke@Azure:~$ azkm destroy mojito
```

azkm destroy [instance]

when you have successfully mined the knowledge

```
Plan: 0 to add, 0 to change, 7 to destroy.

Changes to Outputs:
  - pinacolada_aks_17EAB6DB               = "/subscriptions/5e86fc19-6874-4273-b1b8-c8877c
oladaaks932985" -> null
  - pinacolada_cogsvcs_CDC87187           = "/subscriptions/5e86fc19-6874-4273-b1b8-c8877c
ogsvcs932985" -> null
  - pinacolada_containerimagenet_ABF6565A = "https://pinacoladastorage932985.blob.core.win
  - pinacolada_rg_212FE80C                = "/subscriptions/5e86fc19-6874-4273-b1b8-c8877c
  - pinacolada_search_850BBC61            = "/subscriptions/5e86fc19-6874-4273-b1b8-c8877c
932985" -> null
  - pinacolada_sharekmapp_1C0D1B4E        = "https://pinacoladastorage932985.file.core.win
  - pinacolada_storage_FFA46004           = "/subscriptions/5e86fc19-6874-4273-b1b8-c8877c
age932985" -> null

Do you really want to destroy all resources?
  Terraform will destroy all your managed infrastructure, as shown above.
  There is no undo. Only 'yes' will be accepted to confirm.

  Enter a value:
```

:GITHUB

cli:

frogrammer/azure-knowledgemining-cli

catalog:

frogrammer/azkm-catalog

:ADD RESOURCES TO CATALOG

[TODO]

```
{
    "imagenet": {
        "datasource": "./imagenet/datasource.json",
        "index": "./imagenet/index.json",
        "indexer": "./imagenet/indexer.json",
        "skillset": "./imagenet/skills.json",
        "app_bin": "./imagenet/app.zip",
        "app_template": "./imagenet/app.yaml"
    },
    "pyspark": {
        "app_template": "./imagenet/app.yaml"
    }
}
```

```
{
  "Logging": {
    "IncludeScopes": false,
    "LogLevel": {
      "Default": "Warning"
    }
  },
  "SearchServiceName": "{{azurerm_search_service/name}}",
  "SearchApiKey": "{{azurerm_search_service/primary_key}}",
  "SearchIndexName": "imagenet",
  "SearchIndexerName": "imagenet",
  "StorageAccountName": "{{azurerm_storage_account/name}}",
  "StorageAccountKey": "{{azurerm_storage_account/primary_blob_connection_string}}",
  "StorageContainerAddress": "https://{{azurerm_storage_account/name}}.blob.core.windows.net/imagenet",
  "KeyField": "metadata_storage_path",
  "IsPathBase64Encoded": true,
  "InstrumentationKey": "",
  "StorageContainerAddress2": "",
  "StorageContainerAddress3": "",
  "AzureMapsSubscriptionKey": "",
  "GraphFacet": "tagname, gender, brands",
  "Customizable": "true",
  "OrganizationName": "Microsoft",
  "OrganizationLogo": "~/images/logo.png",
  "OrganizationWebSiteUrl": "https://www.microsoft.com"
}
```

:DEPLOY NEW AKS APPS

[TODO]

:DEPLOY NEW COGNITIVE SKILLS

[TODO]

:TERRAFORM CDK ENGINE

[TODO]

:TF RESOURCE TEMPLATES

[TODO]