AWS CLI

HAVING FUN AND DOING USEFUL STUFF

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$> WHOIS

Hi I'm Denny

I work for Smaato as System engineer → Jobs

AWS, Puppet, Vertica, Bash, Python ... and many more

WHAT?

“The AWS Command Line Interface (CLI) is a unified tool to mangage your AWS services. With just one tool”

WHY?

- Faster than the web ui
- One tool to rule them all
- Create easily powerfull commands
- Scriptalbe
- ...

FIRST THINGS FIRST

USE THE POWER OF HELP

```
aws help
aws ec2 help
aws ec2 describe-instances help
```

COMMAND COMPLETION INCLUDED

Per default available for:

- bash
- tcsh
- zsh

BASIC CONFIGURATION

```
aws configure (--profile prod)

AWS Access Key ID [**ABCD]:
AWS Secret Access Key [****************EFGH]:
Default region name [us-west-2]:
Default output format [None]:
```

OUTPUT IS KING

- json
- text
- table

--OUTPUT JSON


```
{
    "Meetups": [
      {
        "Name": "Aws Usergroup HH",
        "City": "Hamburg"
      },
      {
        "Name": "Infracoders HH",
        "City": "Hamburg"
      }
    ]
}
```

--OUTPUT TEXT

```
Meetups   Aws Usergroup HH  Hamburg
Meetups   Infracoders HH    Hamburg
```

--OUTPUT TABLE

```
-------------------------------
|    SomeOperationName         |
+------------------------------+
||         Meetups          ||  |
|+-----------------+---------+|
||     Meetups      |   City  ||
|+-----------------+---------+|
|| Aws Usergroup HH | Hamburg ||
|| Infracoders HH   | Hamburg ||
|+-----------------+---------+|
```

DAY TO DAY BUSINESS

Query all the things

```
aws ec2 describe-instances
```

TOO MANY THINGS?

Lets limit the amount of items with --max-items

```
aws ec2 describe-instances --max-items 3
```

NOT THE RIGHT THING?

There are two common ways to filter data

- --filter (server side)
- --query (client side)

FILTER (SERVER SIDE)

The list of filters for ec2 instances is nearly endless

- architecture
- instance-id
- kernel-id
- tag
- private-ip-address
- network-interface.group-id
- ...

LETS USE A FILTER FOR QUERING CERTIAN THINGS

```
aws ec2 describe-instances --filters "Name=tag:Type,Values=meetup*"
```

FILTER WITH MORE THAN ONE FILTER

```
aws ec2 describe-instances \
  --filters "Name=tag:Env,Values=Test" "Name=subnet-id,Values=subnet-789u1d55"
```

QUERY (CLIENT SIDE)

Based on JMESPATH

JMESPath is a query language for JSON.

SHORT DATA TYPE REFRESH

- Lists []
- Structures {}
- String ""
- Boolean true
- Null null

JMESPATH TERMINAL

EXAMPLE

EC2 Instance ID

```
aws ec2 describe-instances \
  --max-items 3 \
  --query "Reservations[].Instances[].[InstanceId]"
```

MORE INFORMATIONS

Show more information over these instances with --query

```
aws ec2 describe-instances \
  --max-items 3 \
  --query "Reservations[].Instances[].[State.Name, InstanceId, PublicDnsName]"
```

USE A FUNCTION

For example the join function

```
aws ec2 describe-instances \
  --max-items 3 \
  --query "Reservations[].Instances[].[State.Name, InstanceId, PublicDnsName, join(' ',Tags[?Key=='Name'].Value
```

(MORE) ADVANCED EXAMPLE

CHANING THINGS TOGETHER

Get AccessKey last time used from accounts which contains test or stage in the UserName

```
aws iam list-users --query "Users[].[UserName]" --output text \
|  xargs -I {} -P 10  aws iam list-access-keys --user-name "{}" \
    --query "AccessKeyMetadata[?contains(UserName, 'test') || contains(UserName, 'stage')].[AccessKeyId]" --ou
    | xargs -I KEY aws iam get-access-key-last-used --access-key-id "KEY" \
    --query "[UserName, AccessKeyLastUsed.ServiceName, AccessKeyLastUsed.LastUsedDate]" --output text
```

SMALL SCRIPT

Glue code bash script for:

- Instance creation
- Tagging
- Add elastic ip
- Domain (route53) entry

LESSONS LEARNED

- Quite helpful after a small lerning curve
- Timesaver
- The documentation is very accomplish
- Document all your important queries (somehow)
- AWS CLI and Bash are good enough for small things

THANKS!

QUESTIONS ???

MORE CODE EXAMPLES ???