

AWS

1 REPORT

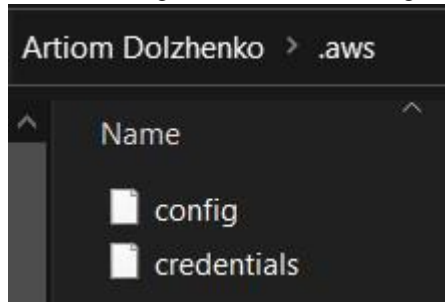
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TASK 1 ESTABLISH CONNECTION TO AWS ACCOUNT:

- All settings were set before realizing that it's part of a home task. So, you have to believe that all is set correctly, otherwise it wouldn't work.
- Keys were generated.
- Config and credentials were generated automatically using "aws configure" in CMD.



- As shown below i have a python script that is generating tokens based on my key and mfa code.

```
import boto3
import configparser
import sys

prm_profile = 'default' # profile with your user credentials (they are used to retrieve temp creds)
prm_tempprofile = 'epam_lab_mfa' # profile where to record temp credentials to
prm_credfile = 'C:/Users/Artiom_Dolzhenko/.aws/credentials' # filename where profile creds are stored
prm_user_arn = 'arn:aws:iam::260586643565:mfa/artiom_dolzhenko@epam.com' # your user arn
prm_token_code = sys.argv[1] # token_code from your MFA device

# uses credentials to get temporary token info
def get_token(profile_name:str, user_arn:str, token_code:str):
    try:
        session = boto3.session.Session(profile_name=profile_name)
        client = session.client('sts')
        response = client.get_session_token(SerialNumber=user_arn, TokenCode=token_code)
```

But it's annoying to write "python <script_name> <mfa_code>" in cmd every single time, so I had to implement a ".bat" file that accepts mfa code and starts a script using that code.

```
@echo off
set PGCLIENTENCODING=UTF8
set RSPORT=5439
set /p token="Give me a token for Epam Lab account host: "

python prepare-mfa-epam-lab.py %token%

pause

echo "Updating temporary security credentials for profile %AWS_TEMP_PROFILE%"

output=`aws --profile "%AWS_PROFILE" sts get-session-token --serial-number %ARN_OF_MFA --token-code %MFA_TOKEN_CODE --output text`

array=( $output )
AWS_ACCESS_KEY_ID=${array[1]}
AWS_SECRET_ACCESS_KEY=${array[3]}
AWS_SESSION_TOKEN=${array[4]}

aws configure set aws_access_key_id %AWS_ACCESS_KEY_ID --profile=%AWS_TEMP_PROFILE
aws configure set aws_secret_access_key %AWS_SECRET_ACCESS_KEY --profile=%AWS_TEMP_PROFILE
aws configure set aws_session_token %AWS_SESSION_TOKEN --profile=%AWS_TEMP_PROFILE
aws configure set region %AWS_REGION --profile=%AWS_PROFILE
aws configure set output %AWS_OUTPUT --profile=%AWS_PROFILE

echo "Testing"

TEST=`aws s3 ls --profile=%AWS_TEMP_PROFILE`
if [ $? -ne 0 ]; then
    echo "Failed"
    exit 1
else
    echo "Successful!"
fi
```

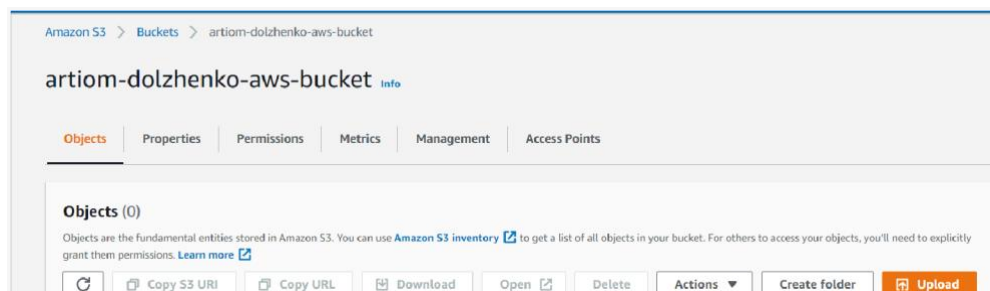
After that, all is running

```
Give me a token for Epam Lab account host: 896974
896974
{"AccessKeyId": "ASIATZLBH8M2XPJPF7Q", "SecretAccessKey": "jW08t7/B1nu05955rftvdPmleYqunLa2GqVvaTm4", "SessionToken": "IQoJb3JpZ2luoXZVJEFoaCRVzLWAhc3QUMS1IMEYCIQ0DAK9Mk4/93msawxIRo2vf4Lkrt
kAg85QzV2aTThIhAHt2L7RfB13D1e05QqVMacPlawmoVGJdJ8scZKvgBCNP//////////wCQABeWJjYwItg2hQzNTY1Igw84y2xPRp7qN13BL8qzWleaILU14M2JBYJNdWke0/qFyn2T2unBP598t15/1zu03YVdE1RyCLhTq1xKovUts12s1
kCxaddQq14h1YIASFF/Xu9EBAInly51+9yMh14192soEdQmounqZn7ChwJoh7Vv2P8yK1yd3z+g85Xmp51x2IEPwAhqplJ112txqVR2/YpM1CpkDM10glwIVxdmfnoaRsvE8k1b/AR6wK9EVEvMmrGwR5FV2dQ04w7XU/JQd81/7a7dm8S13C1011Fw
q7A7tH3d80wjq0LkgV6lw60YS1V8vExpme38AN8K7eJ8k/ASzA9SPjCzdlp2YU82fSPQj-IPLgpiXabHjg3MKGwgtk3yeu9800Sx61SeQsmPA7j+U5AmFT0dIqgjT66wR69U25Y7uBdkq1ffD08sFq9R5eesD6v6TBYYPv+0LSWsiU+1BY0EmhEEEx/12
USIQmVY7HSZ5LzdxnKGrXvSO27zbM2", "Expiration": "datetime.datetime(2022, 3, 29, 21, 29, 50, tzinfo=tzutc())"}
Credentials written successfully into 'epam_lab_mfa' profile.
Testing..
{"UserId": "AIDATZLBH8M2XPJPF7Q", "Account": "260586643565", "Arn": "arn:aws:iam::260586643565:user/artiom_dolzhenko@epam.com", "ResponseMetadata": {"RequestId": "a6e2c021-c7fc-4320-944b-669
32e102167", "HTTPStatusCode": 200, "HTTPHeaders": {"x-amzn-requestid": "a6e2c021-c7fc-4320-944b-66932e102167", "content-type": "text/xml", "content-length": "422", "date": "Tue, 29 Mar 2022 05
:29:50 GMT"}, "RetryAttempts": 0}}
Press any key to continue . . .
```

The next step is to create bucket in s3

The task was done using this command

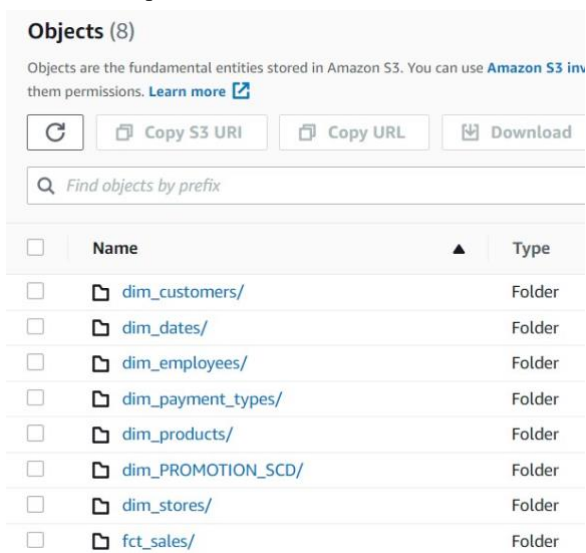
```
Create bucket;
aws s3api create-bucket --bucket artiom-dolzhenko-aws-bucket --region eu-central-1 --profile epam_lab_mfa
```



Files were uploaded to bucket via cmd

```
C:\Users\Artiom_Dolzhenko>aws s3api put-object --bucket artiom-dolzhenko-aws-bucket --key stores/bl_dm/dim_customers/
dim_customers.scv --body C:\Users\Artiom_Dolzhenko\TABLES_FOR_AWS\dim_customers.csv --profile epam_lab_mfa
{
  "ETag": "\"cb941404b3a077b87e43d11f3ad031f1\""
}
C:\Users\Artiom_Dolzhenko>aws s3api put-object --bucket artiom-dolzhenko-aws-bucket --key stores/bl_dm/dim_employees/
dim_employees.scv --body C:\Users\Artiom_Dolzhenko\TABLES_FOR_AWS\dim_employees.csv --profile epam_lab_mfa
{
  "ETag": "\"e7cfc4bfc4d574f47ed0ecbe74e08c7\""
}
```

Now it's all uploaded to cloud



After uploading files I counted rows to see if the amount data in fct_sales was correct.

It was made in S3

SQL query

Amazon S3 Select supports only the SELECT SQL command. Using the S3 console, you can extract up to 40 MB of records from an object that is up to 128 MB. For more records, use the AWS CLI, AWS SDK, or Amazon S3 REST API. For more complex SQL queries, use [Amazon Athena](#).

Add SQL from templates

Run SQL query

```
1 /* To create reference point for writing SQL queries, you can display the first 5 records of input data by running the following query: */
2 SELECT count(*) FROM s3object s
```

Query results

Query results are not available after you choose **Close** or navigate away. Choose **Download results** to download a copy of the following query results.

Status

✓ Successfully returned 1 record in 4001 ms

Bytes returned: 7 B

999802

Crawler:

In my case crawler settings were default, because of clean csv files.

Crawler "artiom-dolzhenko-crawler" completed and made the following changes: 7 tables created, 0 tables updated. See the tables created in database [artiom-dolzhenko-database](#).

Name	Schedule	Status	Logs	Last runtime	Median runtime	Tables updated	Tables added
<input type="checkbox"/> ab_crawler		Ready	Logs	52 secs	52 secs	0	8
<input type="checkbox"/> aksana_shchukina_crawler		Ready	Logs	1 min	1 min	0	8
<input type="checkbox"/> alexandra_makhnach_crawler		Ready	Logs	1 min	1 min	0	3
<input type="checkbox"/> andrei_matveyev_crawler		Ready	Logs	1 min	1 min	0	8
<input type="checkbox"/> artiom-dolzhenko-craw		Ready		0 secs	0 secs	0	0
<input type="checkbox"/> artiom-dolzhenko-crawler		Ready	Logs	51 secs	51 secs	0	7
<input type="checkbox"/> epam_di_lab_crawler	At 12:34 PM, on day 25 of th...	Ready	Logs	1 min	1 min	0	24
<input type="checkbox"/> hanna_lukashevich_crawler		Ready	Logs	55 secs	55 secs	0	8
<input type="checkbox"/> katsiaryna_novikava_crawler		Ready	Logs	51 secs	51 secs	0	8
<input type="checkbox"/> maksim_martynau_crawler		Ready	Logs	1 min	1 min	0	8
<input type="checkbox"/> mikita-khatskevich-crawler		Ready	Logs	2 mins	2 mins	3	0
<input type="checkbox"/> ...		Ready	Logs

I faced a problem with query running. The reason was that I forgot to rerun crawler after adding missing tables.

✗ SYNTAX_ERROR: line 1:8: Column 'store' cannot be resolved

This query ran against the "artiom-dolzhenko-database" database, unless qualified by the query. Please post the error message on our [forum](#) or contact customer support with Query Id: 1ed27765-315b-43d2-abda-2e7e8406aaaa

Finally I wrote a query in athena as you can see it actually works.

Query 2
Query 3

```

1 select store_name, city_name, country_name, employees_first_name, employees_last_name, payment_type
2 from fct_sales s
3 join dim_employees e on s.employee_surr_id = e.employees_surr_id
4 join dim_stores st on s.store_surr_id = st.store_surr_id
5 join dim_payment_types pt on s.payment_type_surr_id = pt.payment_type_surr_id
6 limit 100;

```

SQL Ln 6, Col 11

Run again
Cancel
Save
Clear
Create

Completed
Time in queue: 0.142 sec
Run time: 1.748 sec
Data scanned: 5.02 MB

Results (100+)
Copy
Download results

#	store_name	city_name	country_name	employees_first_name	employees_last_name	payment_type
1	"Crayze"	"Innsbruck"	"Mexico"	"Mason"	"Lunt"	"CASH"
2	"Bookoread"	"San Antonio"	"Jamaica"	"Jamie"	"Ellis"	"CASH"
3	"Solo Mobile"	"Minneapolis"	"Papua New Guinea"	"Nathan"	"Hunter"	"CASH"
4	"Avatar Mobile"	"Tallahassee"	"Seychelles"	"Ellen"	"Powell"	"CASH"
5	"ShopFactory"	"Oakland"	"Panama"	"Carl"	"Dale"	"CASH"
6	"Tracking Mobile"	"Scottsdale"	"Croatia"	"Candice"	"Lyon"	"CASH"