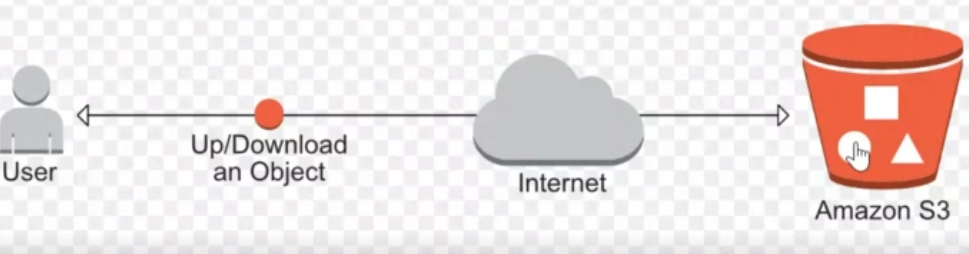
**4. Jenkins & AWS**

**Objectives**

* Create a **jenkins** that will take a ***MySQL backup***
* Upload it through the internet
* Upload it to Amazon S3



**Step 1 – Create a MySQL container on Docker**

* Update ***docker-compose.yml*** file and add a new image with a volume and password. (*see commands txt)*

**Step 2 - Install MySQL Client and AWS CLI**

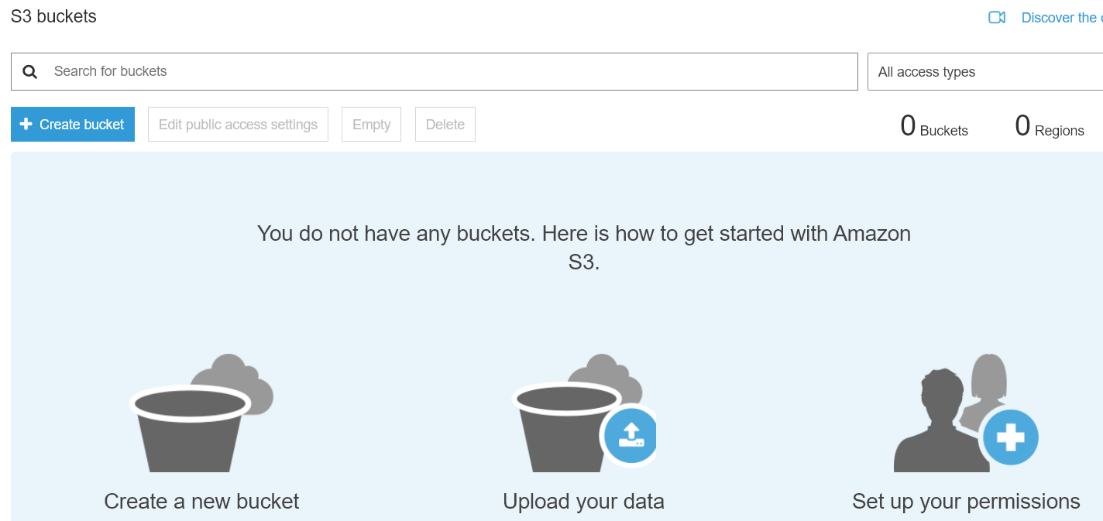
* (*see commands txt)*

**Step 3 – Create a database**

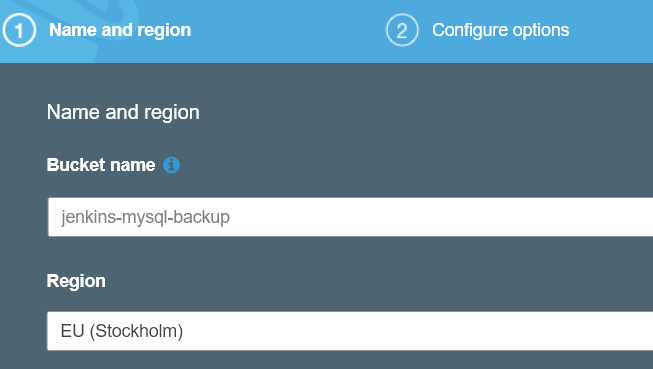
* (*see commands txt)*

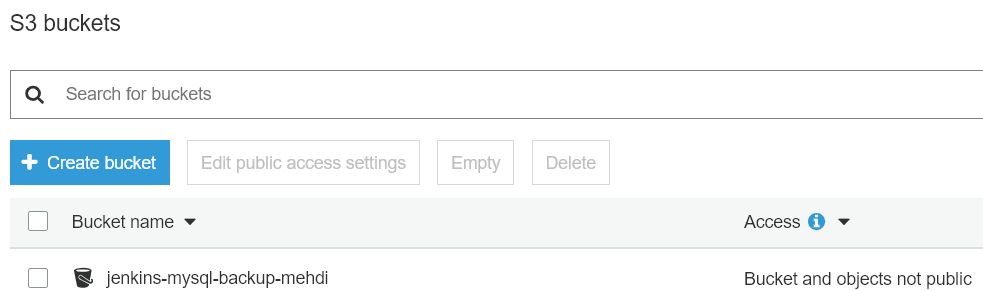
**Step 4- Create a S3 Bucket on AWS**

* AWS account: [ahmed.mehdi.2009@gmail.com/Mon\*\*\*2](mailto:ahmed.mehdi.2009@gmail.com/Mon***2)
* Search for aws console
  + <https://us-east-2.console.aws.amazon.com/console/home?region=us-east-2>
* Search for S3
  + <https://console.aws.amazon.com/s3/home?region=us-east-2>



* Create a Bucket

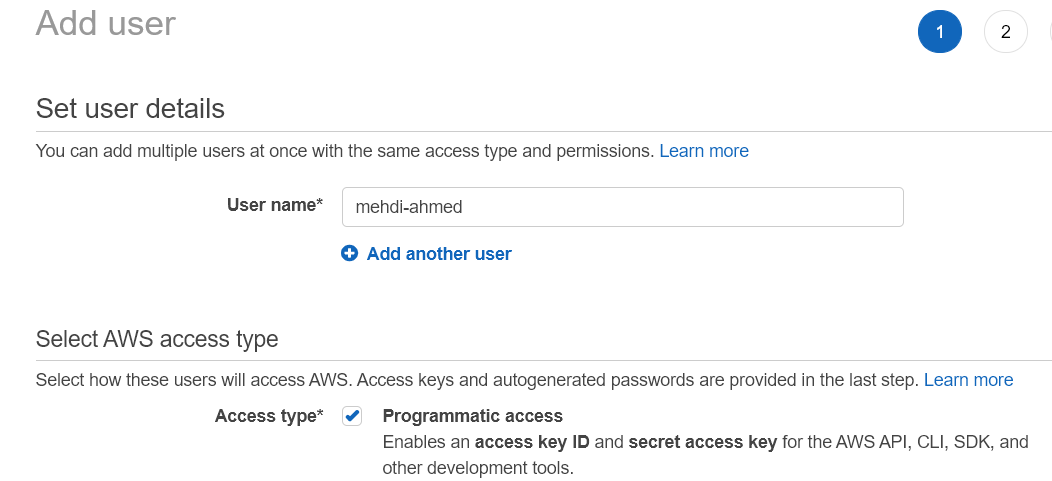


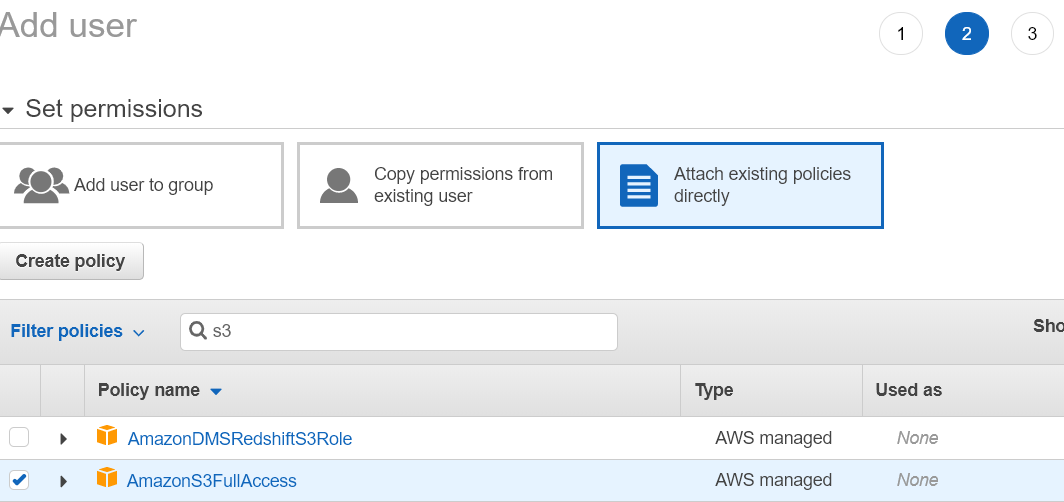


* **Step 5 – Create a user IAM for AWS authentication**
  + IAM: Identity and Access management

<https://console.aws.amazon.com/iam/home?#/home>

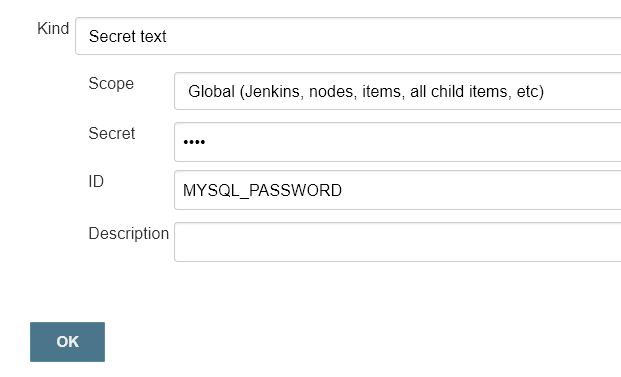
* + Create a user, with programmatic access.

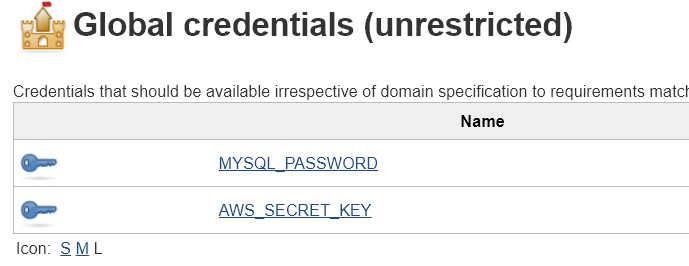


* + Next>Permissions>**Attach existing policies directly** 
    -  **AmazonS3FullAccess**
  + Next>Create User
  + Download CSV Credentials files with **secret access ID/KEY**
* **Step 6- Backup and upload manually to S3**
  + Goal: *remote-host* will connect to the *db* host and extract a backup
  + Use *mysqldump* for the backup – (*see commands txt)*
  + Upload the backup:
    - Authentication against aw, Using secret key
    - Use AWS Environment variables for Keys
      * <https://docs.aws.amazon.com/cli/latest/userguide/cli-configure-envvars.html>
      * Copy values from the IAM credentials AWS CSV file downloaded before
    - Upload the file with AWS S3 CP CLI - *See examples*
      * <https://docs.aws.amazon.com/cli/latest/reference/s3/cp.html>

*aws s3 cp db.sql s3://jenkins-mysql-backup-mehdi/db.sql –debug*

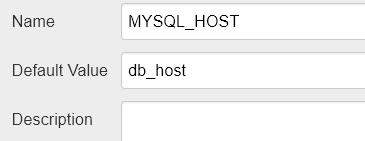
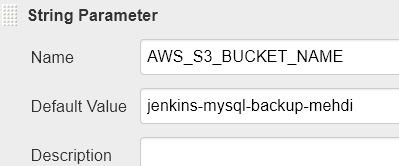
* **Step 7: Automate the backup and upload process with Shell**
  + Create input params with a Shell script.
    - *(see commands txt)*
* **Step 8 - Manage sensitive information in Jenkins (Keys, Passwords)**
  + Credentials >Jenkins>Global>Add >**Secret Text**
    - **Mysql password**
    - **Aws secret key**

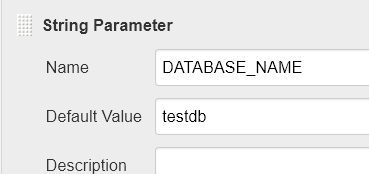




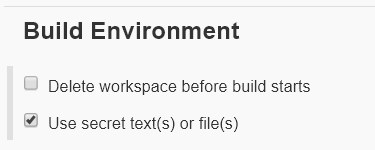
* **Step 9 - Create a Jenkins job to upload your DB to AWS**
  + Parameters

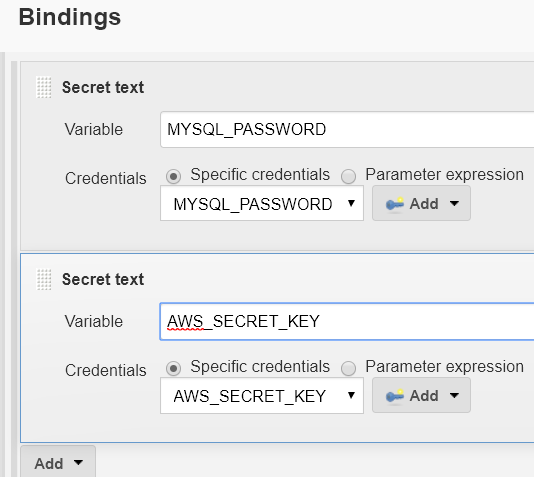
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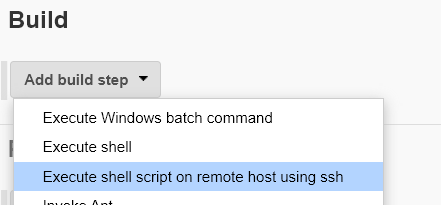
****

* Then go to Build Environment

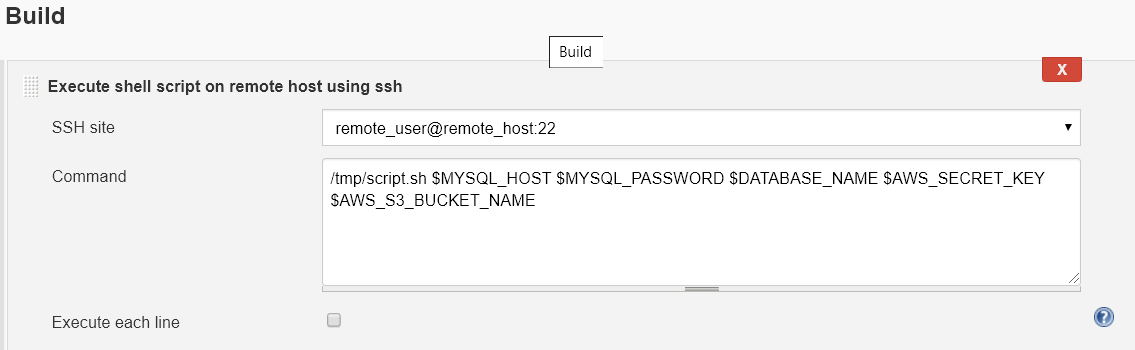
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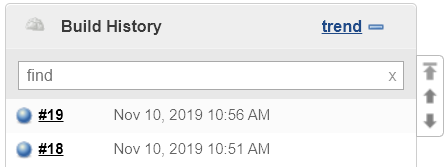
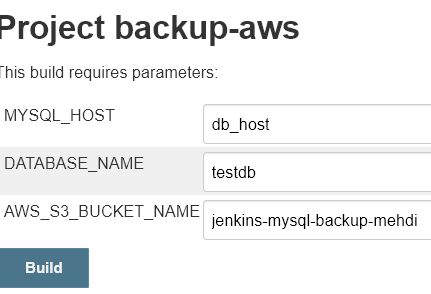
* Build > remote shell

****

* **Add am SSH site**
  + Global config > Configure systems > SSH remote hosts
  + Add host / port / user
* **Add the command:**



* Run it



**Step 10 – Persist the script in remote-host**

* + When you delete you service container, the script will be deleted
  + We use Volumes
    - *(commands.txt)*

**Step 11 - Reuse your Job to upload different DB's to different buckets**

* + We create a new DB
  + We create a new S3 Bucket (*jenkins-mysql-backup-mehdi-2*)
  + Run Jenkins job with new params

