

# Working with Tags in AWS

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# Overview



**Discuss why tagging AWS resources is important**

**Discuss use cases for AWS tags**

**Work with AWS tags for resource organization, software deployment and EC2 instance management**



# Introducing AWS Tagging

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# Tag Basics

A tag is a label that you assign to a resource. Each tag consists of a key and optional value

Tags allow you to categorize your AWS resources in different ways

You can search and filter your resources based on tags

Resources can have up to 50 tags. For each resource, each tag key must be unique



# Globomantics



GLOBOMANTICS

Organize their monthly AWS bill based on cost centers

DevOps teams need to identify correct compute resources as part of CI/CD pipelines

Restrict access to resources based on custom values that can be assigned as resources are launched



AWS tags can help  
Globomantics with each of  
these requirements.



# Globomantics Tagging

## Cost allocation tags

Once enabled, AWS tracks costs on a detailed level

## Tags for automation

Tags can be used to identify the compute resources that software should be deployed to

## Tags for access control

We can constrain access to AWS resources based on tags



# AWS Services

Systems manager

IAM

Cost explorer

Amazon inspector

CodeDeploy

EC2



# Tagging Governance

## Reactive governance

Find resources that are not properly tagged either manually or automatically

## Proactive governance

Ensure standardize tags are consistently applied at resource creation



How might your organization use AWS tags?



# Working with AWS Tags for Cost Allocation

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# What Are Cost Allocation Tags?

AWS cost explorer can break down AWS billing reports by tag

We can map tags to departments, business units or other costs centers

We can use AWS auto generated tags such as the createdBy tag and user-defined tags

Cost allocation tags need to be activated



# User-defined Tags

You define, create, and apply to resources

Once created and applied you can activate by using billing and cost management

You will then see tagged resources on your cost allocation reports

Things to consider

- Do not include sensitive information in tags
- Use the master AWS account in your AWS organization to enable cost allocation tags
- Can be enabled in single accounts that aren't members of an organization



# User-defined Cost Allocation Tags

**Might not appear immediately**

Once created can take up to 24hrs to appear in the billing and cost management console

**Manual refresh**

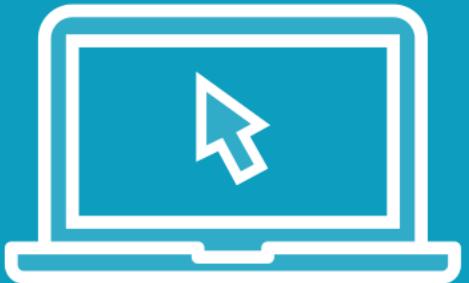
To speed up the process you can trigger a manual refresh through the billing console



Cost allocation tags only start appearing on your cost allocation report after you apply them and don't appear on earlier reports.



## Demo



### Activate cost allocation tags

#### Working with

- AWS Console

To follow along you will need an AWS Account



# Working with AWS Tags for Organization and Security

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# Resource Groups in AWS Systems Manager



Used to organize resources making them easier to manage and monitor as well as making it easier to run automation tasks against large number of resources



Use CloudFormation stack to identify resources to be included in a resource group



Use tags to identify a key/value pair that Systems Manager will use to create the resource group



# Now We Have Resource Groups

**Collect inventory information from instances**

**Target a specific resource group with a run command**

**Patch management and instance maintenance**

**Define common IT tasks and execute those tasks against instance in a resource group**



# Attribute-based Access Control

## Permissions based on attributes

Attach tags to IAM principals and AWS resources

## Define policies

Define policies that use tag condition keys to grant permissions to your principals based on tags.



```
{  
  "Version": "2012-10-17",  
  ◀ API Version  
  "Statement": [  
    { "Effect": "Allow",  
      ◀ Allow  
      "Action": "rds:DescribeDBInstances",  
      "Resource": "*" },  
      ◀ First action  
    { "Effect": "Allow",  
      "Action": [ "rds:RebootDBInstance",  
                 "rds:StartDBInstance",  
                 "rds:StopDBInstance" ],  
      "Resource": "*",  
      ◀ Additional actions  
      "Condition": { "StringEquals": {  
        "aws:PrincipalTag/CostCenter": "0735",  
        "rds:db-tag/Project": "DataAnalytics" }  
    }  
  ] }
```



# Tag Policies

**Define rules on how tags can  
be used in AWS**

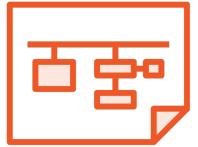
**Standardize the use of tags in  
your AWS accounts**

**Define tag keys and their  
allowed values**

**Ensure resources are tagged  
with right attribute**



# Tag Policies



Integrated with AWS organizations



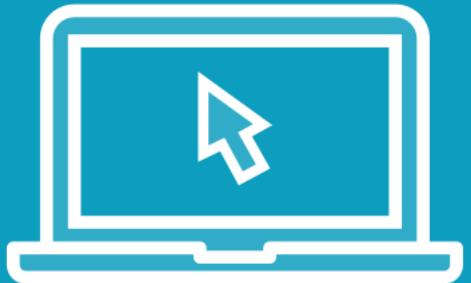
Applied to entire organization, specific organizational units and to individual accounts



Optionally specify enforcement to prevent noncompliant tag changes



Demo



**Configure organization tag policies**

**Configure tags to identify resources for software deployment**

**Configure tags for security auditing**

**Working with**

- AWS Console

To follow along you will need an AWS Account



# Summary



**Learned the importance of tags in AWS**  
**Discussed and demonstrated several use cases for tags in AWS**

## **In the next module**

- Introduce EC2 metadata
- Introduce EC2 user data

