How to Get azure tags by CLI and by postman api using API.

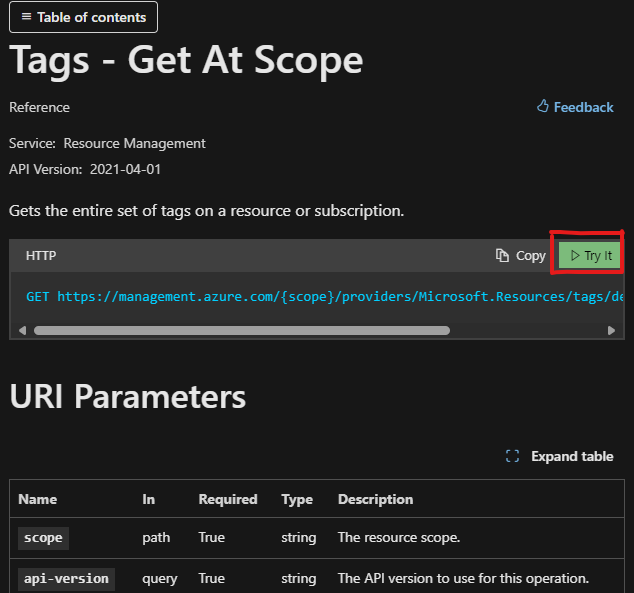
There are several links (API) available from azure to perform different operations on azure tags.

Page link - <https://learn.microsoft.com/en-us/rest/api/resources/tags?view=rest-resources-2021-04-01>

Get tags api-

GET [https://management.azure.com/{scope}/providers/Microsoft.Resources/tags/default?api-version=2021-04-01](https://management.azure.com/%7bscope%7d/providers/Microsoft.Resources/tags/default?api-version=2021-04-01)

We can directly try the api from azure page itself. Or can be used from cli, postman or any other api sender. Or we can use it in our customize application.



Required inputs-

**Scope –** the scope link where we do want to hit the request to get that resource associated tags.

Ex- we want to get it for one of our virtual network.

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url- subscriptions/abe10fc9-2089-4a76-8fb7-e9a93870bafc/resourceGroups/RG104Test/providers/Microsoft.Network/virtualNetworks/AD-vnet

**api-version-** we need to define the product api version

to get product api version go to product (resource) and go for json view.

Ex-

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Also it’s best idea to copy the resource ID from here.

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Run the query to get result.

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If you encounter an error due to authorization. Example shown below.

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Then we need to generate the authentication token and pass it to the request header to validate the request.

Note- by default the token in azure will be validate for 1 hr. to have defined time on it modify the cmd to generate token for a long time.

Get authentication token from azure by using CLI.

Go to cli login with youe account and set the subscription where the resource esists.

Ex-

>> az login

>> az account set --subscription abe10fc9-2089-4a76-8fb7-e9a93870bafc

>> az account show

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Generate token-

>> az account get-access-token --resource <https://management.azure.com>

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Use the token in header section.

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Format :- Authorization tokenType token

Bearer token

Note- token need to be copied with out quotation and only the token.

Ex-

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Validate the api and run-

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We will get the result.

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Run the API from az cli.

Syntex-

az rest --method get –-url “Rest API” –headers “Authorization=Bearer token”

ex-

az rest --method get --url "https://management.azure.com/subscriptions/abe10fc9-2089-4a76-8fb7-e9a93870bafc/resourceGroups/RG104Test/providers/Microsoft.Network/virtualNetworks/AD-vnet/providers/Microsoft.Resources/tags/default?api-version=2024-08-01" --headers "Authorization=Bearer eyJ0eXAiOiJKV1QiLCJhbGciOiJSUzI1NiIsIng1dCI6IllUY2VPNUlKeXlxUjZqekRTNWlBYnBlNDJKdyIsImtpZCI6IllUY2VPNUlKeXlxUjZqekRTNWlBYnBlNDJKdyJ9.”

result-

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Send the request from postman

1. Select the method (get/put/post)
2. Provide api  
   ex-  
   <https://management.azure.com/subscriptions/abe10fc9-2089-4a76-8fb7-e9a93870bafc/resourceGroups/RG104Test/providers/Microsoft.Network/virtualNetworks/AD-vnet/providers/Microsoft.Resources/tags/default?api-version=2024-05-01>
3. Provide headers for authorization

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Result-

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**List** tags API test.

**List-**

Gets a summary of tag usage under the subscription.  
This operation performs a union of predefined tags, resource tags, resource group tags and subscription tags, and returns a summary of usage for each tag name and value under the given subscription. In case of a large number of tags, this operation may return a previously cached result.

Rest API-

GET [https://management.azure.com/subscriptions/{subscriptionId}/tagNames?api-version=2021-04-01](https://management.azure.com/subscriptions/%7bsubscriptionId%7d/tagNames?api-version=2021-04-01)

Ex-

https://management.azure.com/subscriptions/abe10fc9-2089-4a76-8fb7-e9a93870bafc/tagNames?api-version=2024-08-01

Try-

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**Tags - Create Or Update At Scope**

Creates or updates the entire set of tags on a resource or subscription.  
This operation allows adding or replacing the entire set of tags on the specified resource or subscription. The specified entity can have a maximum of 50 tags.

API-

PUT [https://management.azure.com/{scope}/providers/Microsoft.Resources/tags/default?api-version=2021-04-01](https://management.azure.com/%7bscope%7d/providers/Microsoft.Resources/tags/default?api-version=2021-04-01)

Note- if the api version is not matched error use higher version. For example in my case the version 2024—4-01 is not valid. So, I used the version 2024-08-01

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API ex-

<https://management.azure.com/subscriptions/abe10fc9-2089-4a76-8fb7-e9a93870bafc/resourceGroups/RG104Test/providers/Microsoft.Network/virtualNetworks/AD-vnet/providers/Microsoft.Resources/tags/default?api-version=2024-08-01>

parameters-

we need to pass the tag name and the tag values in order to create tags. To pass the value choose body, go with JSON format and pass the values.

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We can define up to 50 tags.

To have reference on defining value on JSON we can check the resource’s json.

Ex-

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Hit the request. Will see the successful code OK with 200 response code.

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Note- don’t miss to define the header for authorization.

Tags will get create successfully on the resource.

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Disadvantages- this will not add the tags with keeping old tags. It will replace all old assigned tags with new tags.

Ex- we had old tage test – 104 that got replaced.

Tried to update tag-

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Get-

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Alternative cmd from az CLI

>> az resource tag --tags Department=ParthaDevOps, test=104, tagAssignedBy=AZli, tagAssignedBy=RestAPI --resource-group RG104Test --name AD-vnet --resource-type "Microsoft.Network/virtualNetworks"

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Assign the tag policy to make sure that the user must creates a tag while creating the resource. Else it don’t allow to create the resource.

Policy-

You can use Azure Policy to automatically add or enforce tags for resources your organization creates based on policy conditions that you define. For example, you could require that a value for the Department tag is entered when someone in your organization creates a virtual network in a specific resource group.

Steps to do it.

**Create a Policy Definition**

1. **Navigate to Azure Policy**: Go to the Azure portal and search for "Policy".
2. **Create a Policy Definition**: Click on "Definitions" and then "Policy definition". Click on "+ Policy definition" to create a new policy.

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Define the policy rule. In my case there is rule definition that a tage with name “Department” need to assign. Else it deny to create the resource.

To require a Department tag when creating a virtual network in a specific resource group, you can use the following JSON for the policy definition:

Policy-

{

  "properties": {

    "displayName": "Require Department tag on virtual networks",

    "description": "Ensures that a Department tag is provided when creating a virtual network.",

    "mode": "Indexed",

    "parameters": {

      "tagName": {

        "type": "String",

        "metadata": {

          "displayName": "Tag Name",

          "description": "Name of the tag to enforce",

          "defaultValue": "Department"

        }

      }

    },

    "policyRule": {

      "if": {

        "allOf": [

          {

            "field": "type",

            "equals": "Microsoft.Network/virtualNetworks"

          },

          {

            "field": "[concat('tags[', parameters('tagName'), ']')]",

            "exists": "false"

          }

        ]

      },

      "then": {

        "effect": "deny"

      }

    }

  }

}

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Save the policy. And go ahead to assign the policy to targeted ( RG/ sub)

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Go to assign policy.

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**Assign the Policy**

1. **Assign the Policy**: After creating the policy definition, go to "Assignments" and click on "+ Assign policy".
2. **Scope**: Select the scope (e.g., subscription, resource group) where you want to enforce the policy.
3. **Policy Definition**: Select the policy definition you created.
4. **Parameters**: Set the Tag Name parameter to Department.

Exclution- if any sub, RG we want to exclude from the policy applied. For example if we assigned the policy on subscription level we may exclude few resources from the rule applied.

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1. **Parameters**: Set the Tag Name parameter to the tag name we applied on rule.

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Note- the policy will be applied on the resources when we are creating new. For old already created resources it will not be applied.

Review and create.

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Create resource without tag and check.

Did not assign any tag. It failed.

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Assign tag and validate.

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Validation passed.

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Delete the policy.

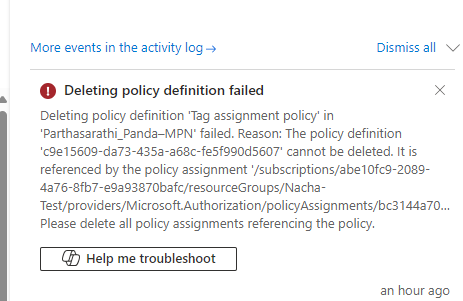
Go to policy definition and search for the policy.

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Go to policy.

Delete definition.



Failed due to “cannot be deleted. It is referenced by the policy assignment '/subscriptions/abe10fc9-2089-4a76-8fb7-e9a93870bafc/resourceGroups/Nacha-Test/providers/Microsoft.Authorization/policyAssignments/bc3144a708af4eacb0615845'. Please delete all policy assignments referencing the policy.”

So, we need to delete all the assignment resources with the policy.

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Now, delete the policy definition. It will be deleted.

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