**With Azure:**

**Reference:**

* [Azure Instance Metadata Service for Windows - Azure Virtual Machines | Microsoft Docs](https://docs.microsoft.com/en-us/azure/virtual-machines/windows/instance-metadata-service?tabs=windows)
* [Azure Instance Metadata Service for Linux - Azure Virtual Machines | Microsoft Docs](https://docs.microsoft.com/en-us/azure/virtual-machines/linux/instance-metadata-service?tabs=windows)

**Details:**

* I am currently working with Azure Cloud. So, sharing solution for getting metadata of Azure Virtual machine.
* The Azure Instance Metadata Service (IMDS) provides information about currently running virtual machine instances. This information includes the SKU, storage, network configurations, and upcoming maintenance event.
* IMDS is available for running instances of virtual machines (VMs) and virtual machine scale set instances.
* IMDS is a REST API that's available at a well-known, non-routable IP address (169.254.169.254). You can only access it from within the VM.
* Windows command: *Invoke-RestMethod -Headers @{"Metadata"="true"} -Method GET -NoProxy -Uri "http://169.254.169.254/metadata/instance?api-version=2021-02-01" | ConvertTo-Json -Depth 64*
* Linux command*:**curl -s -H Metadata:true --noproxy "\*" "http://169.254.169.254/metadata/instance?api-version=2021-02-01" | jq*

**PowerShell script to get instance metadata:**

#Initialize variables

$ImdsServer = "http://169.254.169.254"

$InstanceEndpoint = $ImdsServer + "/metadata/instance"

#Function to get the instance metadata

function Query-InstanceEndpoint

{

$uri = $InstanceEndpoint + "?api-version=2021-02-01"

$result = Invoke-RestMethod -Method GET -NoProxy -Uri $uri -Headers @{"Metadata"="True"}

return $result

}

#Call the Instance Endpoint function to get the metadata

$result = Query-InstanceEndpoint

$result | ConvertTo-JSON -Depth 99

**With AWS:**

**Reference:** [Instance metadata and user data - Amazon Elastic Compute Cloud](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ec2-instance-metadata.html)

**Details:**

* Like Azure, For AWS too we have Instance Metadata Service to get the metadata of Virtual machine.
* We can access instance metadata from a running instance using one of the following methods:

1. Instance Metadata Service Version 1 (IMDSv1) – a request/response method
2. Instance Metadata Service Version 2 (IMDSv2) – a session-oriented method

* To view all categories of instance metadata from within a running instance, we can use the following IPv4 or IPv6 URIs.

1. IPv4: <http://169.254.169.254/latest/meta-data/>
2. IPv6: <http://[fd00:ec2::254]/latest/meta-data/>

* Command to get the Instance metadata with IMDSv2

*TOKEN=`curl -X PUT "http://169.254.169.254/latest/api/token" -H "X-aws-ec2-metadata-token-ttl-seconds: 21600"` \*

*&& curl -H "X-aws-ec2-metadata-token: $TOKEN" -v* [*http://169.254.169.254/latest/meta-data/*](http://169.254.169.254/latest/meta-data/)

* Command to get the Instance metadata with IMDSv1

*curl* [*http://169.254.169.254/latest/meta-data/*](http://169.254.169.254/latest/meta-data/)

* For windows , we can refer- [Retrieve instance metadata - Amazon Elastic Compute Cloud](https://docs.aws.amazon.com/AWSEC2/latest/WindowsGuide/instancedata-data-retrieval.html)