



Azure Purview

# Purview APIs via PowerShell

Sept 2021



# Purview APIs via PowerShell

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Sept 2021

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# Why PowerShell ?

- For Automation & Scripting.
- Built For Recurring Tasks like scheduled reports or scanning.
- PowerShell – most Windows & Azure friendly command-line.
- Strong Demand from Large Enterprise Customers.
- Azure Portal Powershell costs money so customers avoid it
- Easy to get Access-Token to run the APIs
- Use cases that aren't prioritized on Roadmap via UI
  - Due to Planning or Time Constraints
  - Due to Business Reasons
  - For Example: Delete Purview Account is not a business-friendly operation



# Alternatives?

## ➤ Purview CLI (Python)

- Very easy to use
- Recommended more than generic tools like curl or postman

## ➤ Azure ARM Template

- Cons: Not friendly for custom scripts, works very well for pre-determined use cases.

## ➤ Browser Network Explorer

- Pros: great for debugging
- Cons: not useful for anything other than GET / Read actions.

## ➤ cURL

- Cons: Difficult & messy to fetch Access Token

## ➤ Postman

- Cons: Difficult & messy to fetch Access Token
- Cons: Difficult to code if using automation or scripts

## ➤ Other Tools like cURL or Postman



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# Pre-Requisites

## To Use The PowerShell Tool

- PowerShell v7 Windows binaries
- Minimum "Data Reader" Role on the Purview Account → For Read APIs
- Minimum "Data Curator" Role on the Purview Account → For Write APIs (PUT, POST, DELETE, etc.)



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# Usage

## To Run The PowerShell Tool

- Go → <https://aka.ms/purview-api-ps>
- Download ZIP File
- Extract To A Folder.
- Open Powershell 7 as Administrator
- CD {Unzipped\_Folder}. [Where the files were unzipped]
- Run
- `.\Purview-API-PowerShell.ps1 -PurviewAccountName {your_purview_account_name}`

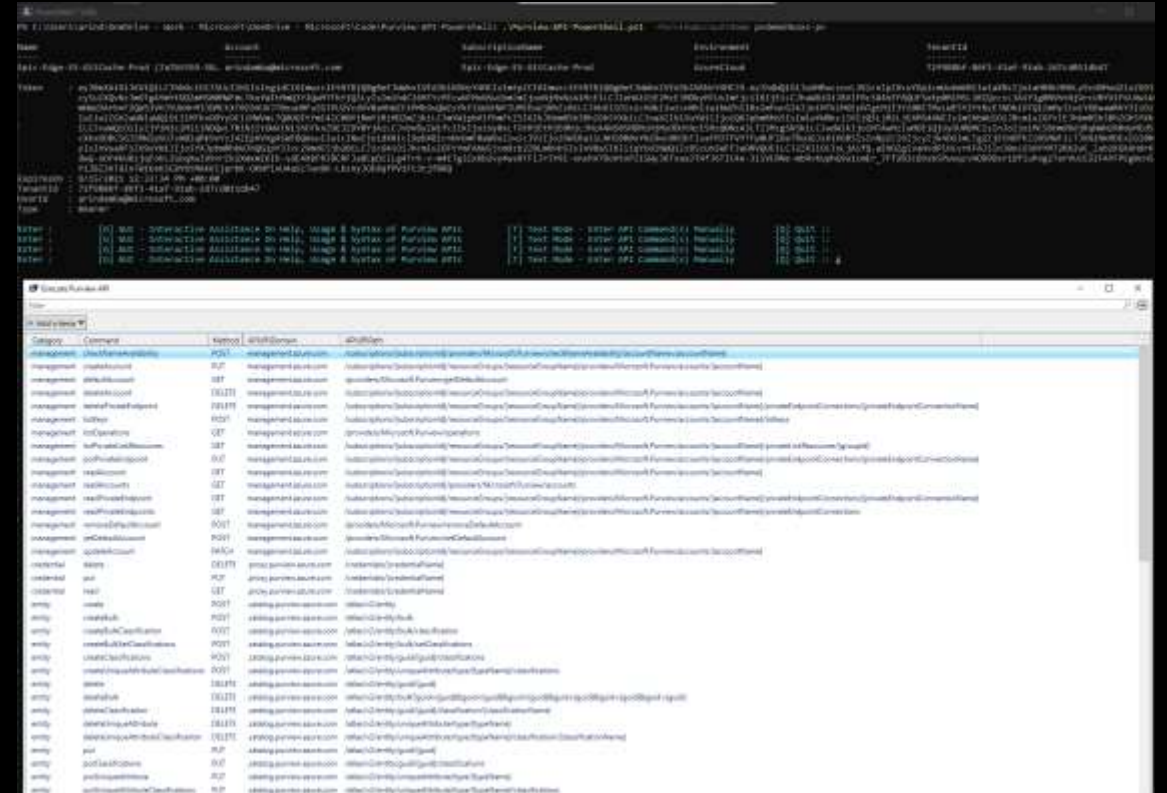


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# Interactive Mode

# Vs

# Automation



>> purview-api-powershell -command "GET <https://pvdemohkoxs-pv.scan.purview.azure.com/datasources/AzureSqlDatabase/scans?&api-version=2021-07-01>"

>> purview-api-powershell -command "GET <https://pvdemohkoxs-pv.scan.purview.azure.com/classificationrules?&api-version=2021-07-01>"

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.

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>> purview-api-powershell -command "GET <https://pvdemohkoxs-pv.scan.purview.azure.com/datasources/AzureSqlDatabase/scans?&api-version=2021-07-01>"

>> purview-api-powershell -command "GET <https://pvdemohkoxs-pv.scan.purview.azure.com/classificationrules?&api-version=2021-07-01>"



# Sample API : ReadTypeDefs





# Sample API : Read ScanRuleSets

```

PowerShell 7.0.4
PS C:\Users\user> curl -X GET http://pwned.burp.com:8080/ready

{"value": [{"properties": {"scanningRule": {"fileExtensions": ["CSV", "JSON", "PSV", "SSV", "TSV", "DSV", "XML", "PARQUE", "AVRO", "ORC", "Documents", "SL", "DOC", "DOCX", "ODT", "ODP", "ODG", "PDF", "PPT", "PPS", "PPTX", "RDX", "RTX", "RLE", "XLS", "XLSB", "XLSM", "XLSX", "XLTM"]}, "customFileExtensions": null}, "createdat": "2021-09-13T13:32:18.182264Z", "collection": null, "description": "Text assignment classifiers", "excludedSystemClassifications": ["MICROSOFT.GOVERNMENT.CHIEF_IDE_NUMBER", "MICROSOFT.GOVERNMENT.CYPRUS.TAX_IDENTIFICATION_NUMBER", "MICROSOFT.GOVERNMENT.MALTA.DRIVERS_LICENSE_NUMBER", "MICROSOFT.GOVERNMENT.TURKEY.TURKISH_NATIONAL_IDENTIFICATION_NUMBER", "MICROSOFT.GOVERNMENT.POLAND.DRIVERS_LICENSE_NUMBER", "MICROSOFT.GOVERNMENT.LITHUANIA.DRIVERS_LICENSE_NUMBER", "MICROSOFT.GOVERNMENT.JAPAN.SOCIAL_INSURANCE_NUMBER", "MICROSOFT.GOVERNMENT.SPAIN.DNI", "MICROSOFT.GOVERNMENT.US.ZIP_CODE", "MICROSOFT.GOVERNMENT.GERMANY.PASSPORT_NUMBER", "MICROSOFT.GOVERNMENT.SWEDEN.PASSPORT_NUMBER", "MICROSOFT.GOVERNMENT.TAIWAN.RESIDENT_CERTIFICATE", "MICROSOFT.GOVERNMENT.POLAND.DRIVERS_LICENSE_NUMBER", "MICROSOFT.GOVERNMENT.POLAND.PASSPORT_NUMBER", "MICROSOFT.GOVERNMENT.SINGAPORE.NATIONAL_REGISTRATION_IDENTITY_CARD_NUMBER", "MICROSOFT.GOVERNMENT.CYPRUS.DRIVERS_LICENSE_NUMBER", "MICROSOFT.GOVERNMENT.CHINA.RESIDENT_IDENTITY_CARD_NUMBER", "MICROSOFT.GOVERNMENT.LUXEMBOURG.PASSPORT_NUMBER", "MICROSOFT.GOVERNMENT.AUSTRIA.VALUE_ADDED_TAX", "MICROSOFT.GOVERNMENT.EU.PASSPORT_NUMBER", "MICROSOFT.GOVERNMENT.NETHERLANDS.VALUE_ADDED_TAX_NUMBER", "MICROSOFT.GOVERNMENT.JAPAN.RESIDENCE_CARD_NUMBER", "MICROSOFT.GOVERNMENT.NEW_ZEALAND.INLAND_REVENUE_NUMBER", "MICROSOFT.GOVERNMENT.BULGARIA.DRIVERS_LICENSE_NUMBER", "MICROSOFT.GOVERNMENT.SLOVENIA.PASSPORT_NUMBER", "MICROSOFT.GOVERNMENT.SLOVENIA.DRIVERS_LICENSE_NUMBER", "MICROSOFT.GOVERNMENT.NETHERLANDS.SSN_NUMBER", "MICROSOFT.GOVERNMENT.GERMANY.DRIVERS_LICENSE_NUMBER", "MICROSOFT.GOVERNMENT.JAPAN.RESIDENT_REGISTRATION_NUMBER", "MICROSOFT.GOVERNMENT.AUSTRALIA.BUSINESS_NUMBER", "MICROSOFT.GOVERNMENT.SLOVENIA.UNIQUE_MASTER_CITIZEN_NUMBER", "MICROSOFT.GOVERNMENT.GERMANY.ID_CARD_NUMBER", "MICROSOFT.GOVERNMENT.EU.NATIONAL_IDENTIFICATION_NUMBER", "MICROSOFT.GOVERNMENT.US.DRIVERS_LICENSE_NUMBER", "MICROSOFT.GOVERNMENT.INDIA.UNIQUE_IDENTIFICATION_NUMBER", "MICROSOFT.GOVERNMENT.RUSSIAN.PASSPORT_NUMBER_DOMESTIC", "MICROSOFT.GOVERNMENT.PORTUGAL.ID_IDENTIFICATION_NUMBER", "MICROSOFT.GOVERNMENT.LATVIA.PERSONAL_CODE", "MICROSOFT.GOVERNMENT.US.DHS_EMPLOYMENT_AGENCY_NUMBER", "MICROSOFT.GOVERNMENT.SWEDEN.NATIONAL_ID_NUMBER", "MICROSOFT.GOVERNMENT.SLOVAKIA.PASSPORT_NUMBER", "MICROSOFT.GOVERNMENT.BRAZIL.NATIONAL_ID_CARD", "MICROSOFT.GOVERNMENT.US.PASSPORT_NUMBER", "MICROSOFT.GOVERNMENT.LATVIA.DRIVERS_LICENSE_NUMBER", "MICROSOFT.GOVERNMENT.CYPRUS.PASSPORT_NUMBER", "MICROSOFT.GOVERNMENT.BULGARIA.UNIFORM_CIVIL_NUMBER", "MICROSOFT.GOVERNMENT.SWISS.SSN_AHV_NUMBER", "MICROSOFT.GOVERNMENT.INDIA.PAN_INDIVIDUAL", "MICROSOFT.GOVERNMENT.PHILIPPINES.CRIFIED_MULTIPURPOSE_ID_NUMBER", "MICROSOFT.GOVERNMENT.FRANCE.HEALTH_INSURANCE_NUMBER", "MICROSOFT.GOVERNMENT.BELGIUM.DRIVERS_LICENSE_NUMBER", "MICROSOFT.GOVERNMENT.KNARINE.PASSPORT_INTERNATIONAL", "MICROSOFT.GOVERNMENT.HUNGARIAN.SOCIAL_SECURITY_NUMBER", "MICROSOFT.GOVERNMENT.MALAYSIA.IDENTITY_CARD_NUMBER"}], "includedCustomClassificationRuleNames": [], "temporaryResourceFilters": [{"resourceFilterPattern": "{_SUCCESS}_started_{d*_committed}_{d*_committed_vacuum}_{d*_}"}, {"resourceFilterPattern": "true"}], "lastModifiedat": "2021-09-13T13:32:18.182264Z"}, {"properties": {"createdat": "2021-09-15T12:25:12.185795Z", "collection": null, "description": null, "excludedSystemClassifications": [], "includedCustomClassificationRuleNames": ["CustomABCClassification"]}, "temporaryResourceFilters": null, "lastModifiedat": "2021-09-15T12:25:12.185795Z"}, {"kind": "AzureSqlDatabase", "scanRuleSetType": "Custom", "status": "Enabled", "version": 1, "id": "scanrulesets/ARScanRuleSet", "name": "ARScanRuleSet"}], "count": 2

```



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# Sample API : Read AzureKeyVaults

PowerShell console showing a large JSON object representing a scan rule configuration. The JSON includes fields like "category", "command", "method", "APIURLDomain", and "APIURLPath". The configuration is for a scan rule named "ABScanRuleSet".

API Latency / Time Elapsed :->

Ticks	Days	Hours	Milliseconds	Minutes	Seconds	TotalDays	TotalHours	TotalMilliseconds	TotalMinutes	TotalSeconds
10471328	0	0	47	0	1	1.1119025029266	0.00029087022222	1047.1328	0.0174522133333	1.0471328

Enter : [G] GUI - Interactive Assistance On Help, Usage & Syntax of Purview APIs [T] Text Mode - Enter API Command(s) Manually [Q] Quit :: t

Enter : [G] GUI - Interactive Assistance On Help, Usage & Syntax of Purview APIs [T] Text Mode - Enter API Command(s) Manually [Q] Quit :: t

Enter API Category : Valid Values ( management credential entity search glossary insight lineage relationship scan types metadatapolicy ) : scan

Enter API Command : Valid Values ( cancelScan deleteClassificationRule deleteDataSource deleteKeyVault deleteScan deleteScanRuleSet deleteTrigger putClassificationRule putDataSource putFilter putKeyVault putScan putScanRuleSet putTrigger readClassificationRule readClassificationRuleVersions readClassificationRules readDataSource readD atasources readFilters readKeyVault readKeyVaults readScan readScanHistory readScanRuleSet readScanRuleSets readScans readSystemScanRuleSet readSystemScanRuleSetLatest readSystemScanRuleSetVersion readSystemScanRuleSetVersions readSystemScanRuleSets readTrigger runScan ) : readKeyVaults

Enter API Command : Valid Values ( cancelScan deleteClassificationRule deleteDataSource deleteKeyVault deleteScan deleteScanRuleSet deleteTrigger putClassificationRule putDataSource putFilter putKeyVault putScan putScanRuleSet putTrigger readClassificationRule readClassificationRuleVersions readClassificationRules readDataSource readD atasources readFilters readKeyVault readKeyVaults readScan readScanHistory readScanRuleSet readScanRuleSets readScans readSystemScanRuleSet readSystemScanRuleSetLatest readSystemScanRuleSetVersion readSystemScanRuleSetVersions readSystemScanRuleSets readTrigger runScan ) : readKeyVaults

API Request :-> <https://pvdemohkoxs-pv.scan.purview.azure.com/azureKeyVaults?api-version=2021-07-01>

Domain : pvdemohkoxs-pv.scan.purview.azure.com

Ready To Execute ::::::: API Request :-> GET<https://pvdemohkoxs-pv.scan.purview.azure.com/azureKeyVaults?api-version=2021-07-01>

Invoking API : Sending Request ...

API Response Received :->

```
{
  "value": [
    {
      "properties": {
        "baseUrl": "https://pvdemohkoxs-keyvault.vault.azure.net/",
        "description": ""
      },
      "id": "/subscriptions/0543974b-0460-4777-844a-5adf6387f907/resourceGroups/scanning-prod-australiaeast/providers/Microsoft.Purview/accounts/purview-21b9059a-6c96-4c61-9839-4c8b4e798d3e/linkedServices/keyVault-6Z6",
      "name": "keyVault-6Z6"
    }
  ],
  "count": 1
}
```

API Latency / Time Elapsed :->

Ticks	: 16291047
Days	: 0
Hours	: 0
Milliseconds	: 629
Minutes	: 0
Seconds	: 1
TotalDays	: 1.88553784722222E-05
TotalHours	: 0.000452529083333333
TotalMilliseconds	: 1629.1047
TotalMinutes	: 0.027151745
TotalSeconds	: 1.6291047

Enter : [G] GUI - Interactive Assistance On Help, Usage & Syntax of Purview APIs [T] Text Mode - Enter API Command(s) Manually [Q] Quit :: t







# Sample API : List All Collections

[illegible]



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# Metadata-Policy-API Tutorial

[MetadataPolicy Collection Auth APIs Tutorial.docx](#)

## TUTORIAL HOW-TO STEPS

1. Read All Roles
2. Read All Built-in Permissions and Role Mappings
3. Fetch All Policies In The Purview Account.
4. Select PolicyID to Modify.
5. Fetch Policy by PolicyID.
6. Fetch Policy by CollectionName.
7. Update Policy (Add or Remove Users or Groups or SPNs)

API Function	REST Method	API Endpoint	Description
<b>readMetadataRoles</b>	GET	<a href="https://{your-purview-account-name}.purview.azure.com/policystore/metadataroles">https://{your-purview-account-name}.purview.azure.com/policystore/metadataroles</a>	Reads all metadata roles from your purview account
<b>readMetadataPolicyByCollection</b>	GET	<a href="https://{your-purview-account-name}.purview.azure.com/policystore/collections/{collectionName}/metadataPolicy">https://{your-purview-account-name}.purview.azure.com/policystore/collections/{collectionName}/metadataPolicy</a>	Reads MetadataPolicy by a given collection name (not friendly/display name but the name generated by Purview while creating the policy)
<b>readMetadataPolicyByPolicyID</b>	GET	<a href="https://{your-purview-account-name}.purview.azure.com/policystore/metadataPolicies/{policyId}">https://{your-purview-account-name}.purview.azure.com/policystore/metadataPolicies/{policyId}</a>	Reads MetadataPolicy by a given PolicyID. Policy ID is in GUID format.
<b>readAllMetadataPolicies</b>	GET	<a href="https://{your-purview-account-name}.purview.azure.com/policystore/metadataPolicies">https://{your-purview-account-name}.purview.azure.com/policystore/metadataPolicies</a>	Reads all metadata policies from your purview account. You can pick a certain policy to work with from the JSON output list emitted by this API.
<b>putMetadataPolicy</b>	PUT	<a href="https://{your-purview-account-name}.purview.azure.com/policystore/metadataPolicies/{policyId}">https://{your-purview-account-name}.purview.azure.com/policystore/metadataPolicies/{policyId}</a>	Updates MetadataPolicy by a given PolicyID. Policy ID is in GUID format.



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# Known Limitations

- Not 100% automation friendly yet
- Need to add the ability to save intermediate JSON outputs on disk and let them be used for subsequent API calls.
- Parsing JSON.



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# Future Work

## Coming Soon

- Non-Interactive Batch Operation Mode & Batch Command Execution
- Cron-Jobs / run on specified time or scheduled run
- Recommendations to customer on scan frequency

## Future Work