Simplifying your life with Azure Resource Graph

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Azure Resource Graph

- "Efficient and performant resource exploration"
- Powers the Azure Portal Search bar
- Functions across subscriptions (and Azure Lighthouse)
- Change history

Accessing the Azure Resource Graph

- Azure CLI
- Azure PowerShell
- Python, Go, JavaScript
- Resource Graph Explorer (Azure Portal)
- Directly through the API

The Query Language

- Based on the Kusto Query Language (KQL)
- Case sensitivity
- https://docs.microsoft.com/en-us/azure/governance/resource-graph/concepts/query-language
- Aliases

```
Resources
| where type =~ 'microsoft.storage/storageaccounts'
```

Aliases

- Are used by Azure Policy to restrict what values or conditions are allowed for a property
- Can be used with Azure Resource Graph

Resources

| where type =~ 'microsoft.storage/storageaccounts'

| limit 1

| project aliases

Resource Graph Tables

Resource Graph tables	Description
Resources	The default table if none defined in the query. Most Resource Manager resource types and properties are here.
ResourceContainers	Includes subscription (in preview -- Microsoft.Resources/subscriptions) and resource group (Microsoft.Resources/subscriptions/resourcegroups) resource types and data.
AdvisorResources	Includes resources *related* to Microsoft.Advisor.
AlertsManagementResources	Includes resources *related* to Microsoft.AlertsManagement.
HealthResources	Includes resources *related* to Microsoft.ResourceHealth.
MaintenanceResources	Includes resources *related* to Microsoft.Maintenance.
SecurityResources	Includes resources *related* to Microsoft.Security.

https://docs.microsoft.com/en-us/azure/governance/resource-graph/concepts/query-language

Query limitations

- By default only the first 100 results are returned
- Maximum of 5000 results using the "first" parameter
- Paging 1000 records a time
- You can't fetch data from more than 1000 subscriptions in a single call (use batching)

Dashboards

- Content depends on the context your in
- Dynamics
- Pin to dashboard directly from the Resource Graph Explorer
- They look fancy ☺

Change history

- Change history goes back 14 days
- Retrieve changed properties of a resource
- Retrieve snapshots for comparison
- Request change history through the management API's or the Azure Portal

```
56          "dfs": "https://sachanges123-secondary.dfs.core.windows.net/",        56          "dfs": "https://sachanges123-secondary.dfs.co
57          "queue": "https://sachanges123-secondary.queue.core.windows.net/"      57          "queue": "https://sachanges123-secondary.queu
58          "table": "https://sachanges123-secondary.table.core.windows.net/"      58          "table": "https://sachanges123-secondary.tabl
59          "web": "https://sachanges123-secondary.z6.web.core.windows.net/"       59          "web": "https://sachanges123-secondary.z6.web
60      },                                                                          60      },
61      "secondaryLocation": "northeurope",                                         61      "secondaryLocation": "northeurope",
62      "statusOfPrimary": "available",                                             62      "statusOfPrimary": "available",
63      "statusOfSecondary": "available",                                           63      "statusOfSecondary": "available",
64—         "supportsHttpsTrafficOnly": true                                        64+         "supportsHttpsTrafficOnly": false
65      }                                                                           65      }
66  }                                                                               66  }
```

resourceChanges

- Requires body with the "*resourceId*" and the "*Interval*" (Zulu time zone)

- Optionally enable "*fetchPropertyChanges*"

```
{
    "resourceId": "/subscriptions/1e487e15-348a-46c9-acda-
    ccd9de3eec45/resourceGroups/rg-changehistory-
    demo/providers/Microsoft.Storage/storageAccounts/sachanges123",
    "fetchPropertyChanges": "true",
    "interval": {
      "start": "2020-06-25T04:09:57.000Z",
      "end": "2020-06-25T08:09:57.000Z"
    }
}
```

- URI: https://management.azure.com/providers/Microsoft.ResourceGraph/resourceChanges?api-version=2018-09-01-preview

resourceChangeDetails

- Requires body with the *"resourceId"* and the *"changeId"*

```
{

    "resourceId": "/subscriptions/1e487e15-348a-46c9-acda-ccd9de3eec45/resourceGroups/rg-
changehistory-demo/providers/Microsoft.Storage/storageAccounts/sachanges123",

    "changeId": "{\"beforeId\":\"ca05b241-c4c3-4d30-953c-
b8da160fae8d\",\"beforeTime\":\"2020-06-24T18:45:22.127Z\",\"afterId\":\"49d4b41e-f1e9-
4ec6-b6d5-ab4e7537830f\",\"afterTime\":\"2020-06-25T06:07:24.861Z\"}"

}
```

- URI: https://management.azure.com/providers/Microsoft.ResourceGraph/resourceChangeDetails?api-version=2018-09-01-preview"

Demo Change History

Thank you!

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