

Visualization of KQL Query Using a Workbook in Microsoft Sentinel

Explicit Credential Logons (Event ID 4648) – Workbook Dashboard Project

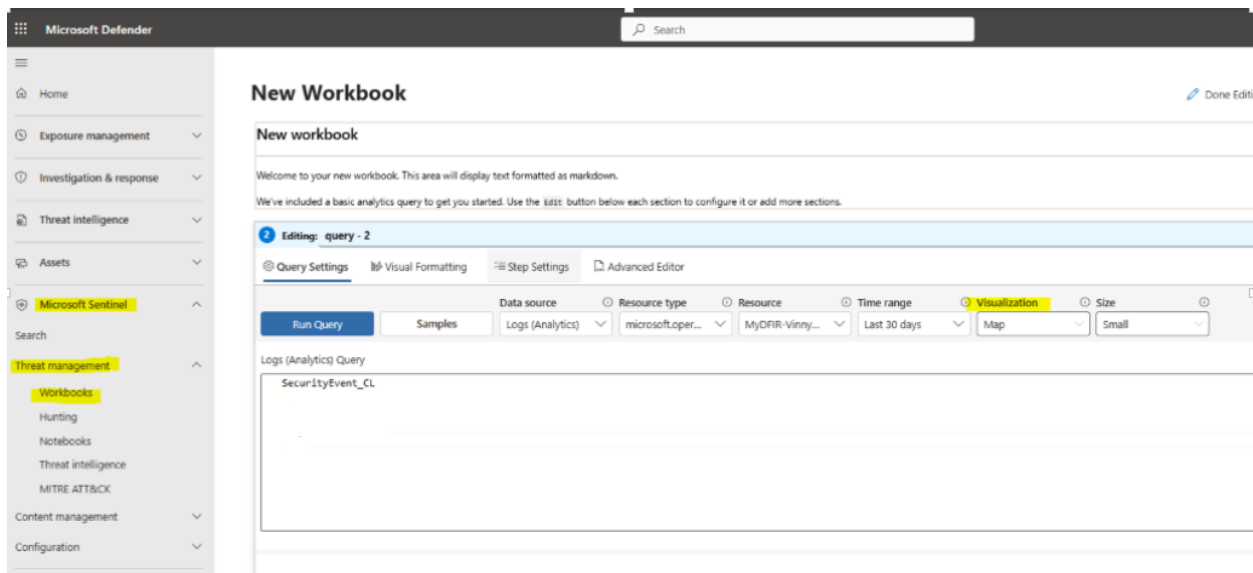
This project demonstrates how I used Microsoft Sentinel Workbooks to visualize suspicious authentication behavior using Kusto Query Language (KQL).

My goal was to build a custom dashboard inside the *Workbook* module to track Explicit Credential Logons (Event ID 4648) — an event commonly tied to lateral movement, credential abuse, and privilege escalation attempts.

How to Navigate to Workbooks in Sentinel

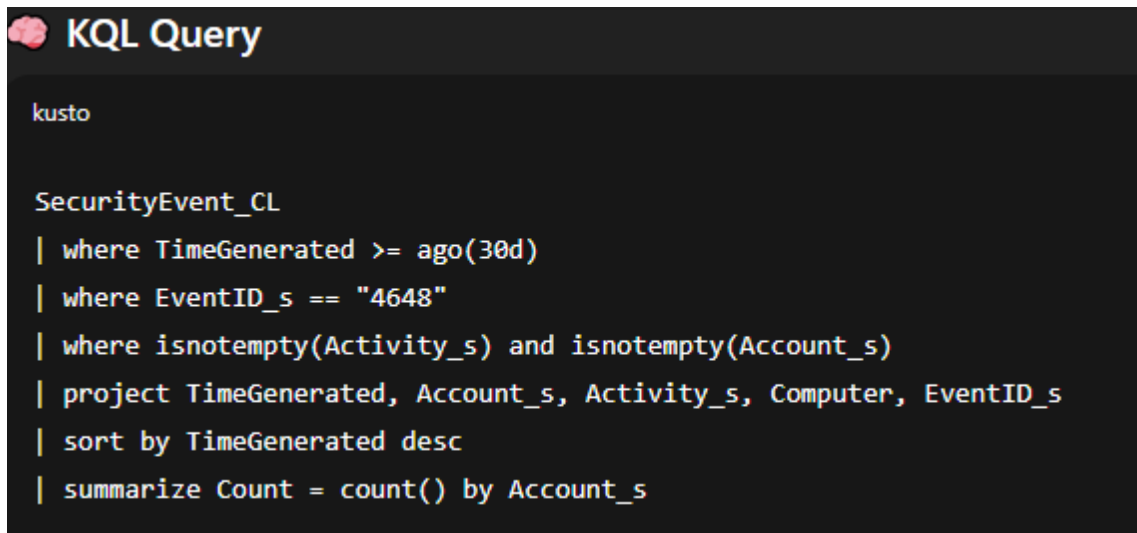
1. Go to security.microsoft.com
2. In the left navigation, select:
Microsoft Sentinel → Threat Management → Workbooks

This is the area where you can build interactive dashboards from any KQL queries you run in Sentinel.



KQL Threat Hunting Example: Investigating Explicit Credential Logons (Event ID 4648)

As part of my Microsoft Sentinel detective work, I use KQL to hunt for suspicious authentication activity—especially events tied to credential misuse and lateral movement. The query below focuses on **Event ID 4648**, which indicates that a process attempted to log on using **explicit credentials** (often associated with attacker techniques such as pass-the-hash or privilege escalation).



```
kusto

SecurityEvent_CL
| where TimeGenerated >= ago(30d)
| where EventID_s == "4648"
| where isnotempty(Activity_s) and isnotempty(Account_s)
| project TimeGenerated, Account_s, Activity_s, Computer, EventID_s
| sort by TimeGenerated desc
| summarize Count = count() by Account_s
```

KQL Query Breakdown (Simplified Bullet Points)

- **Filters Security Logs** Queries the SecurityEvent_CL table where Windows Security Events are stored.
- **Last 30 Days Only** | where TimeGenerated >= ago(30d) Focuses the investigation on recent activity.
- **Looks for Event ID 4648** | where EventID_s == "4648" This event shows when a process uses **explicit credentials** — a common sign of lateral movement, credential theft, or privilege escalation.
- **Removes Empty/Noisy Logs** | where isnotempty(Activity_s) and isnotempty(Account_s) Ensures only clean, useful records are analyzed.

Shows Only Important Fields | project TimeGenerated, Account_s, Activity_s, Computer, EventID_s Displays the key details for investigation:

- Time
- Account used
- Activity performed

- Computer
- Event ID

Sorts by Newest Activity | sort by TimeGenerated desc Makes it easier to spot suspicious events in order.

Counts Events per Account | summarize Count = count() by Account_s Helps identify: Accounts authenticating more than usual

- Abnormal service account behavior
- Credential testing / brute-force attempts
- Unexpected movement across systems

Below is a visualization of that KQL in a PIE CHART layout:

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