Hunting Malicious Windows Defender Activity

Posted on March 4, 2020 by Craig

Recently I was demo-ing Azure Sentinel to a large organization, and someone asked me "what if an attacker manages to compromise my system and disabled Windows Defender"

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Malware protection…inside job or clever exploitation using a Phishing technique to download a payload??

I've wrote this blog to hopefully help you combat and protect yourself from this type of scenario.

Below are some basic pre reqs to be comfortable following this blog:

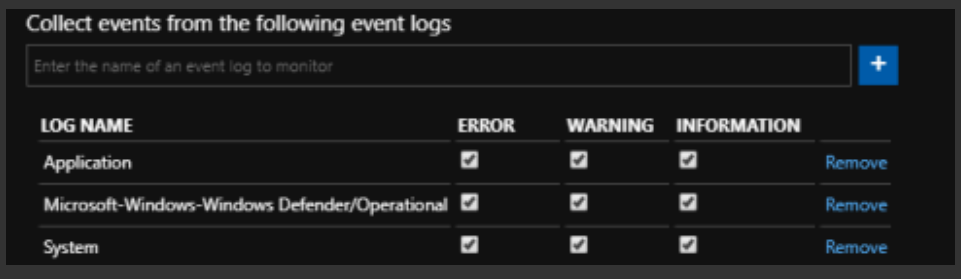
Pre Reqs & Assumptions:

- Azure Experience (essential)
- IT Security Experience (essential)
- Log Analytics (essential)
- Azure Sentinel (essential)
- A Physical Asset or Virtual Machine (essential)
- PowerShell (Not essential)

Firstly let's configure our Log Analytics workspace (which Sentinel reports too), this will collect all the data for what we're going to be querying on in relation to Windows Defender activity.

We're looking to collect data on any Anti-malware events from Microsoft Antimalware or Windows Defender.

Type "Microsoft-Windows-Windows Defender/Operational" – then tick Error, Warning & Information and click Save



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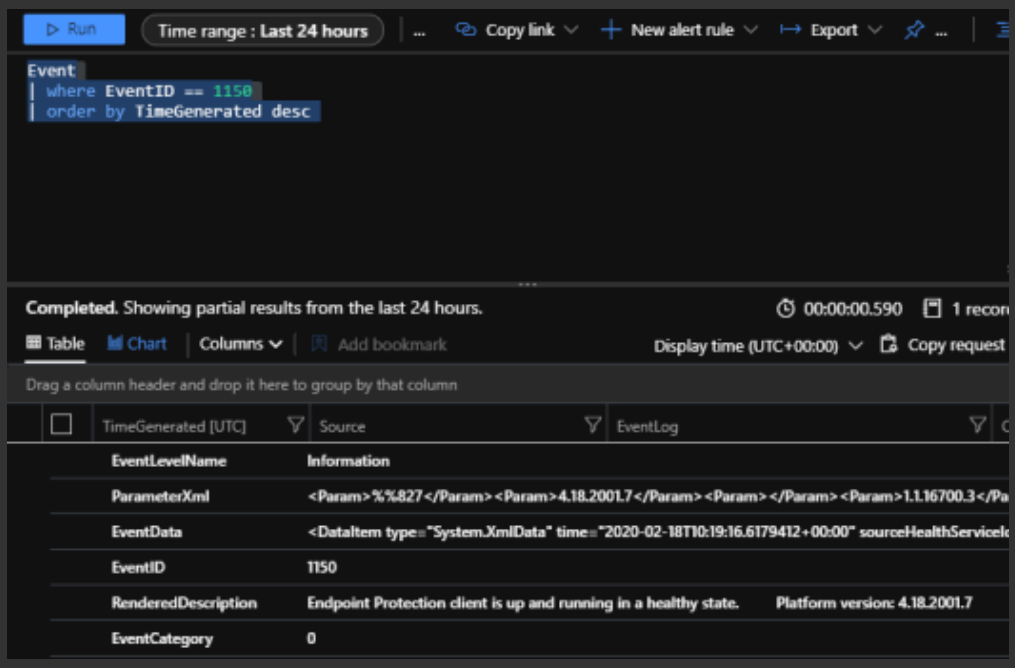
Let's jump over to our Sentinel Workspace, and Click Logs.

We can test that our Windows Defender is reporting by running a simple query which the EventID 1150 will report on the Endpoint Protection being in a healthy state.

```
Event
| where EventID == 1150
| order by TimeGenerated desc
```



Now we need to write a query which will alert us if any configuration changes happen on Windows Defender.

#alwayscloud
#alwaysready
#alwaysthinking
armtemplates
Azure
azureautomation
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azurepowershell
azure resource groups
azureresourcemanager
azurerm
azurescript
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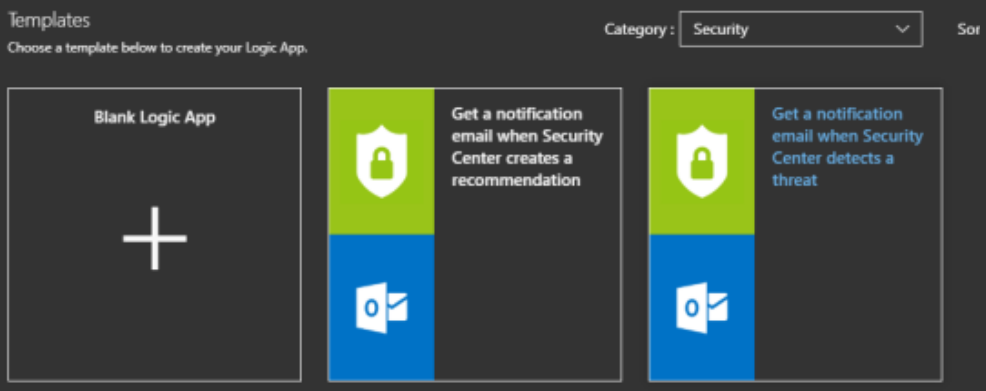
Powershell
Script
Scripting
sentinel

defender has had some configuration changes.

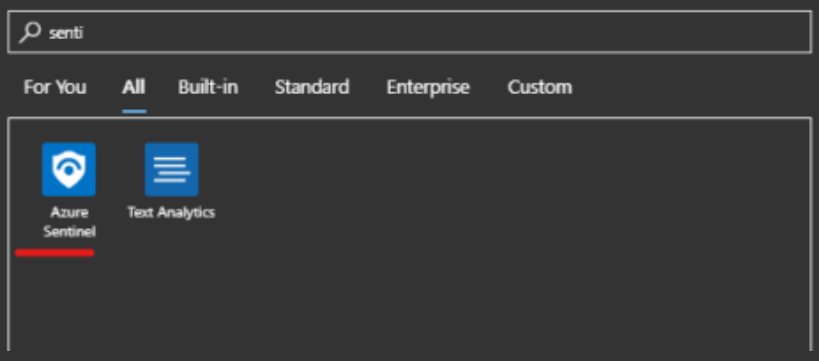
Let's go to Playbook and click "Add Playbook" give your playbook a name and click create.

Select "Blank Logic App"

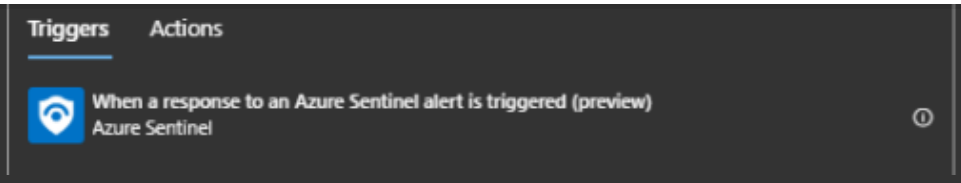


I'd like to receive and email when Sentinel picks up this alert.

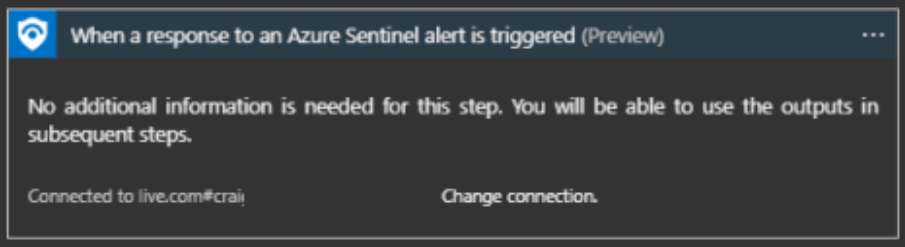
Search "Sentinel" within the connections and triggers bar.



At the time of writing this there is only 1 Trigger for Sentinel.



Make your connection to Sentinel

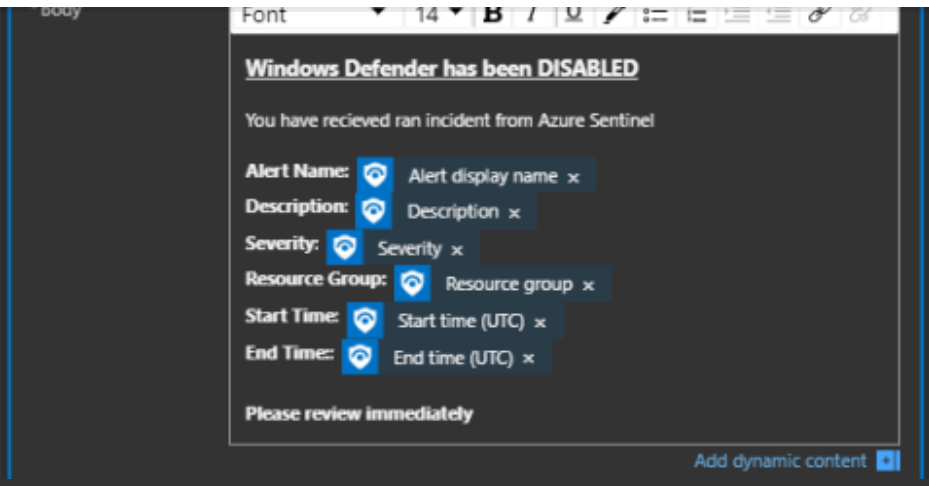


Next click + New Step and search for YOUR email action, for me, I'll be using Outlook.com

Fill in the Body, Subject and To section with which ever information you'd like to be emailed once an alert is triggered.

I've done some basic formatting inside the body of the email, so my email alert makes sense and is laid out nicely.

- February 2019
- January 2019
- November 2018
- August 2018
- June 2018
- May 2018
- April 2018
- March 2018
- December 2017
- October 2017
- September 2017
- July 2017
- June 2017
- April 2017
- February 2017
- November 2016
- October 2016
- September 2016
- August 2016
- July 2016
- June 2016
- March 2016
- January 2016
- December 2015
- November 2015
- October 2015
- September 2015
- July 2015
- May 2015



Click Save, we can now attach our playbook to the security query, for us to be notified of this we need to create a Scheduled Analytic Query Rule.

Let's go to our Sentinel Dashboard and click "Analytics"

Let's create a New Rule.

Event ID: 5101
Symbolic name:
MALWAREPROTECTION_DISABLED_EXPIRED_STATE

Event ID: 5012
Symbolic name: MALWAREPROTECTION_ANTIVIRUS_DISABLED

Event ID: 5010
Symbolic name:
MALWAREPROTECTION_ANTISPYWARE_DISABLED

Event ID: 5001
Symbolic name: MALWAREPROTECTION_RTP_DISABLED
Realistically these ID's should never appear, if they do…you know something is wrong.

So once we've captured them Event ID's we need to enter these into our Rule Logic, this will be our query which is below.

```
Event
| where EventID in (5101, 5001, 5012, 5010)
| order by TimeGenerated desc
```

For now I'll have the ability for alerts to trigger incidents, this way I get it displayed onto my dashboard screen.

Let's select are recently created Playbook above.

Next click review and create.

Now let's get into the juicy stuff, below is a few lines of simple PowerShell that will disable Microsoft Windows Defender *NOTE* please don't use this on a production VM or your own machine!!

Before that we can see that Defender has a green tick, all healthy and running nicely.

So let's execute the code below.

```
Set-ExecutionPolicy Unrestricted -Force
Set-MpPreference -DisableRealtimeMonitoring $true
Set-MpPreference -DisableRemovableDriveScanning $true
Set-MpPreference -PUAProtection 1
New-ItemProperty -Path "HKLM:\SOFTWARE\Policies\Microsc
```

Now after running all that, you should see a bunch of Pops notifying you that defender isn't running and it should turn Red (or have a red X)

Let's hop back to our Sentinel dashboard and check the situation out.

So we can see straight away that our Incident blade in Sentinel has captured the Analytic alert we've configured.

And after 1 or so minutes an email lands in my inbox.

Coupling all of the above will help defend how you alert and respond too Malicious Defender Activity with Azure Sentinel.

#alwayssecurity #alwaysready #alwayscloud #alwaysazure

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