



Azure Sentinel

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Utiliser Microsoft Azure Sentinel pour repérer les activités visant à attaquer votre entreprise

- 01.** Comment repérer les attaques Solorigate
- 02.** Utiliser les journaux des événements Windows et Azure Sentinel
- 03.** Rechercher les données brutes dans Azure Sentinel and Microsoft Defender pour points de terminaison
- 04.** Rechercher des signes de vol de jetons SAML de certificats
- 05.** Alertes Microsoft 365 Defender et Sentinel
- 06.** Utiliser le classeur Azure Sentinel et GitHub

Azure Sentinel | Overview

Selected workspace: 'cybersecuritysoc'

Search (Ctrl+/) | Refresh | Last 14 days

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50M ↑ 13.1M
Events

1.2K ↑ 520
Alerts

1.6K ↑ 936
Incidents

Incidents by status

- New (1.6K)
- Active (6)
- Closed (True Positive) (1)
- Closed (False Positive) (1)

Events and alerts over time



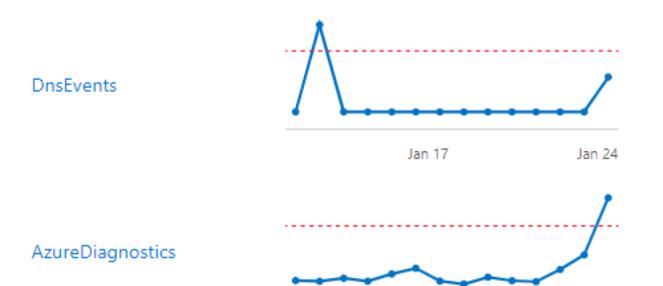
Potential malicious events



Recent incidents

Severity	Incident Description	Count
Low	DDoS Attack mitigated for Public IP	1 Aler
High	DDoS Attack detected for Public IP	1 Aler
Medium	TI map IP entity to AzureActivity (enriched)	1 Aler
Medium	Time series anomaly detection for total v...	5 Aler
Low	DDoS Attack mitigated for Public IP	1 Aler

Data source anomalies



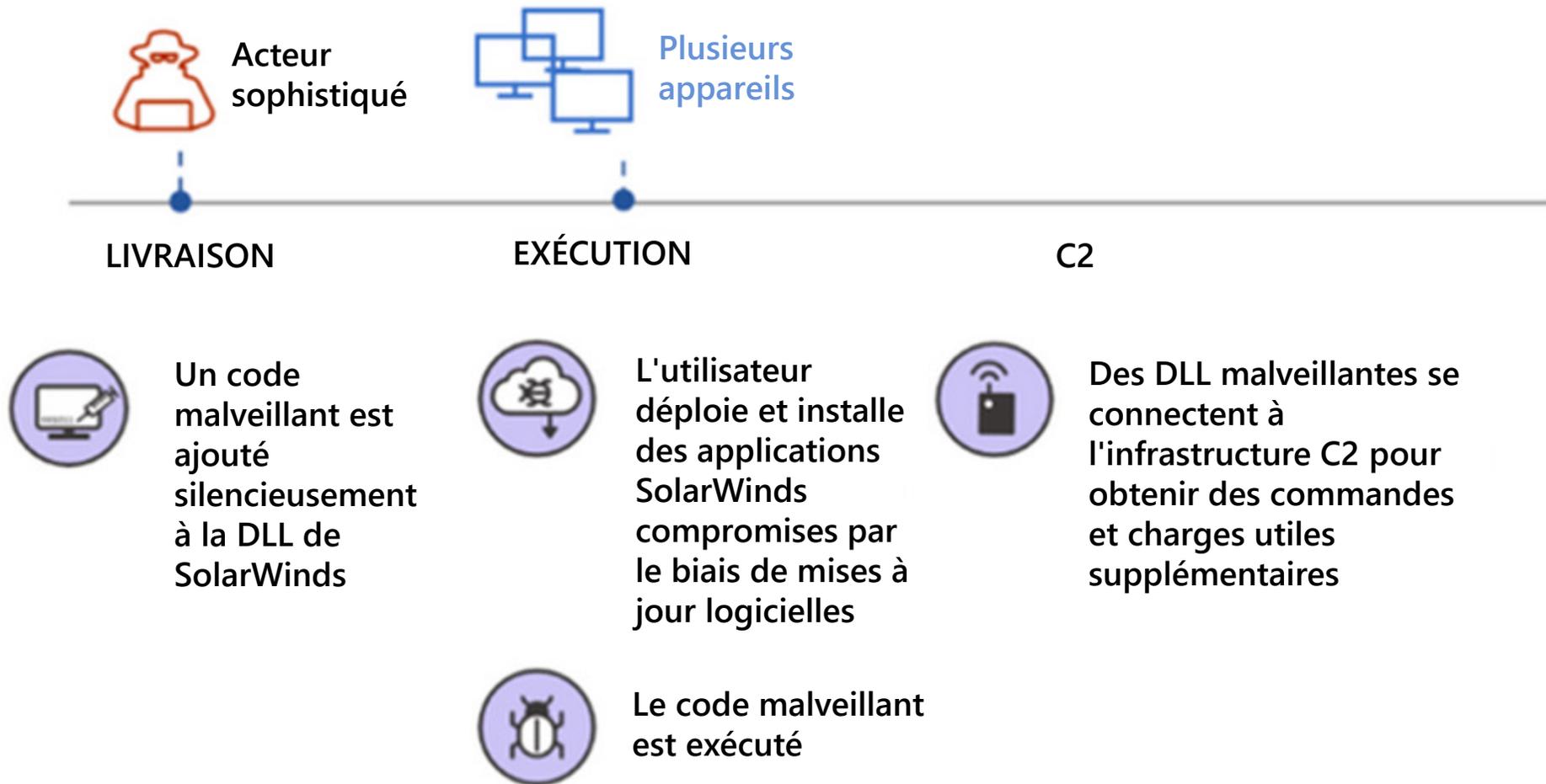


Diagramme d'attaque par la chaîne d'approvisionnement Solorigate

Azure Sentinel | Logs

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New Query 1*

CyberSecuritySOC

Tables | Queries | Filter

Search

Filter | Group by: Solution

Collapse all

Favorites

You can add favorites by clicking on the ☆ icon

- Azure Monitor for VMs
- Azure Sentinel
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- LogManagement
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- SecurityCenterFree
- SQL Vulnerability Assessment
- WindowsEventForwarding
- Custom Logs
- Functions

Run | Time range: Last 24 hours | Save | Copy link | New alert rule | Export | Pin to dashboard | Format query

```

13 (union isfuzzy=true
14 (
15   SecurityEvent
16   | where EventID == '4688'
17   | where NewProcessName has 'SolarWinds'
18   | extend MachineName = Computer , Process = NewProcessName
19 ) ,
20 (
21   DeviceProcessEvents
22   | where InitiatingProcessFolderPath has 'SolarWinds'
23   | extend MachineName = DeviceName , Process = InitiatingProcessFolderPath
24 )
25 )
26 | summarize StartTime = min(TimeGenerated), EndTime = max(TimeGenerated), make_set(Process) by MachineName
27
    
```

Results | Chart | Columns | Add bookmark | Display time (UTC+00:00) | Group columns

Completed. Showing results from the last 24 hours. 00:00.5 4 records

	MachineName	StartTime [UTC]	EndTime [UTC]	set_Process
>	SolWinds1	12/14/2020, 11:14:21.000 AM	12/14/2020, 11:21:41.000 AM	["c:\\program files (x86)\\solarwinds\\orion\\erlang\\erts-10.1\\bin\\erl.exe", "c:\\program files (x86)\\sc...
>	SolWinds2	12/15/2020, 2:05:32.000 AM	12/15/2020, 2:05:32.000 AM	["c:\\program files (x86)\\solarwinds\\orion\\sqlexpress\\mssql14.solarwinds_orion\\mssql\\binn\\fdlau...
>	SolWinds3	12/7/2020, 4:48:29.000 PM	12/7/2020, 4:48:29.000 PM	["c:\\program files (x86)\\solarwinds\\orion\\sqlexpress\\mssql14.solarwinds_orion\\mssql\\binn\\fdlau...
>	SolWinds4	12/9/2020, 10:08:42.000 PM	12/9/2020, 10:08:42.000 PM	["c:\\program files (x86)\\solarwinds\\orion\\sqlexpress\\mssql14.solarwinds_orion\\mssql\\binn\\fdlau...

Azure Sentinel | Logs

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Run Time range: Last 24 hours Save Copy link New alert rule Export Pin to dashboard Format query

Tables Queries Filter

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19 ),
20 (
21 DeviceProcessEvents
22 | where InitiatingProcessFolderPath has 'SolarWinds'
23 | extend MachineName = DeviceName , Process = InitiatingProcessFolderPath
24 )
25 )
26 | summarize StartTime = min(TimeGenerated), EndTime = max(TimeGenerated), make_set(Process) by MachineName
27
28

```

Results Chart

Completed 00:03.4 0 records

i No query was selected
Type a query and place the cursor anywhere in the query.
A query can contain line breaks, but no blank lines.

Azure Sentinel | Logs

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New Query 1*

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- Tables Queries Filter
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```

8 (union isfuzzy=true
9   (Event
10    | where Source == "Microsoft-Windows-Sysmon"
11    | where EventID in (17,18)
12    | extend EvData = parse_xml(EventData)
13    | extend EventDetail = EvData.DataItem.EventData.Data
14    | extend NamedPipe = EventDetail.[5].["#text"]
15    | extend ProcessDetail = EventDetail.[6].["#text"]
16    | where NamedPipe contains '583da945-62af-10e8-4902-a8f205c72b2e'
17    | extend Account = UserName
18    | project-away EventDetail, EvData
19   ),
20   (
21     SecurityEvent
22     | where (EventID == '5145' and AccessList has '%4418' and RelativeTargetName contains '583da945-62af-10e8-4902-a8f205c72b2e')
23     or (EventID == "4688" and FilePath =~ "c:\\windows\\syswow64\\netsetupsvc.dll" or NewProcessName =~ "c:\\windows\\syswow64\\netsetupsvc.
24     (DeviceProcessEvents
25     | where FolderPath =~ "c:\\windows\\syswow64\\netsetupsvc.dll"))
26     | summarize FirstSeen = min(TimeGenerated), Processes=make_set(NewProcessName) by Computer, IPAddress

```

Results Chart Columns Add bookmark Display time (UTC+00:00) Group columns

Completed. Showing results from the last 24 hours. 00:00.5 2 records

Computer	IpAddress	FirstSeen [UTC]	Processes
Computer	SolWinds1		
IpAddress	10.7.1.15		
FirstSeen [UTC]	2020-12-16T07:54:01Z		
Processes	["c:\\windows\\syswow64\\netsetupsvc.dll"]		

Azure Sentinel | Logs

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New Query 1*

CyberSecuritySOC

Run Time range: Last 24 hours Save Copy link New alert rule Export Pin to dashboard Format query

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23 or (EventID == "4688" and FilePath =~ "c:\\windows\\syswow64\\netsetupsvc.dll" or NewProcessName =~ "c:\\windows\\syswow64\\netsetupsvc.
24 dll")),
25 (DeviceProcessEvents
26 | where FolderPath =~ "c:\\windows\\syswow64\\netsetupsvc.dll"))
27 | summarize FirstSeen = min(TimeGenerated), Processes=make_set(NewProcessName) by Computer, IPAddress

```

Results Chart

Completed 05:54.7 0 records

i No query was selected
Type a query and place the cursor anywhere in the query.
A query can contain line breaks, but no blank lines.

The screenshot shows the Microsoft Defender for Endpoint alert interface. The main alert is titled "ADFS private key extraction attempt" with a risk level of "High" and a status of "New". The alert details on the right include:

- Incident:** Multi-stage incident involving Execution & Credential access on one endpoint (open in Microsoft 365 Defender)
- Detection source:** EDR
- Detection technology:** Behavioral
- Detection status:** Detected
- Category:** CredentialAccess
- Techniques:** T1003: OS Credential Dumping, T1528: Steal Application Access Token
- First activity:** Jan 10, 2021, 7:09:02 PM
- Last activity:** Jan 10, 2021, 7:09:02 PM

The alert story on the left shows a sequence of events:

- [4280] SecurityHealthSystray.exe
- [7448] OneDrive.exe /background
- File create: dump_em_all.exe
- Suspicious file dropped (Medium risk, New & Detected)
- [7956] dump_em_all.exe
- Image load: dump_em_all.exe
- Suspicious file dropped (Medium risk, New & Detected)
- dump_em_all.exe ran an LDAP query
 - LDAP Search query: (&(thumbnailphoto=*)(objectClass=contact)(cn=CryptoPolicy))
 - Distinguished name: CN=ADFS,CN=Microsoft,CN=Program Data,DC=ATPDC=local
 - Action time: Jan 10, 2021, 7:09:02 PM
- ADFS private key extraction attempt** (High risk, New & Detected)
- [7936] WerFault.exe -u -p 7956 -s 1428

« Possible tentative d'accès au matériel de clé ADFS » - détecte lorsqu'une requête LDAP suspecte recherche du matériel de clé dans AD.

« Extraction de clé privée ADFS » - détecte des modèles à partir d'outils comme ADFSDump.

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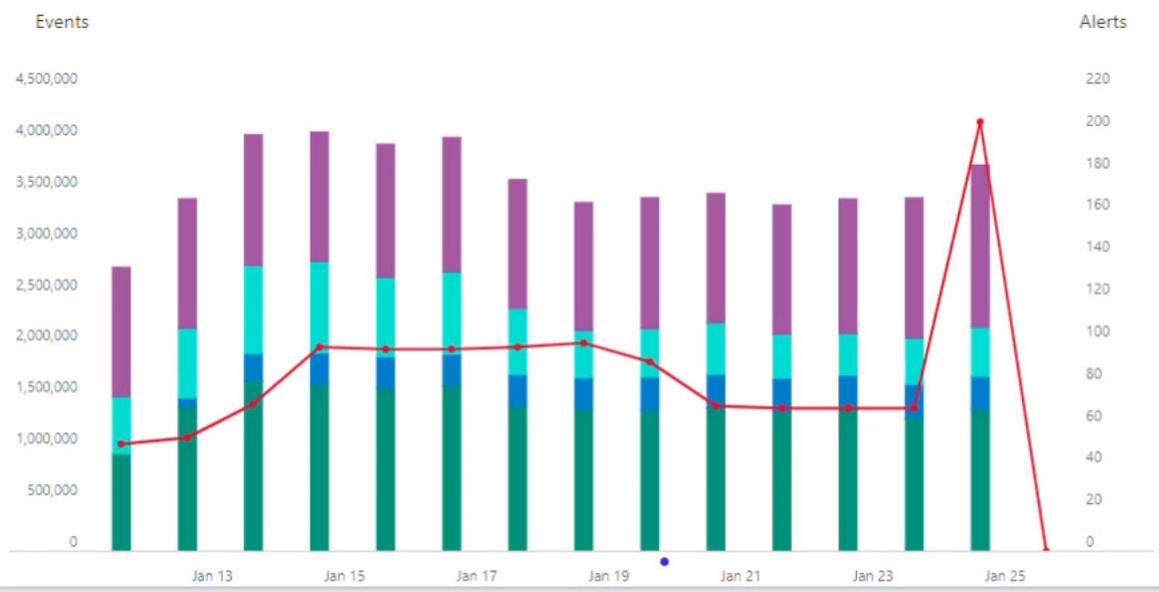
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Events

1.2K ↑ 517
Alerts

1.6K ↑ 938
Incidents

Incidents by status
 New (1.6K) Active (6) Closed (True Positive) (1) Closed (False Positive) (1)

Events and alerts over time



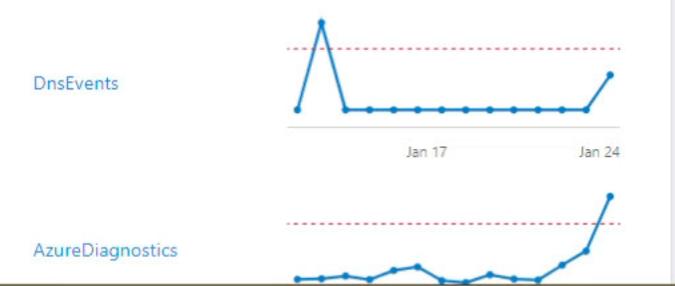
Potential malicious events



Recent incidents

Severity	Incident Name	Count
High	ADFS DKM Master Key Export	1 Aler
Medium	Azure activity matching known threats	1 Aler
Medium	TI map IP entity to AzureActivity (enriched)	2 Aler
Medium	Potential Password Spray	1 Aler
Medium	Time series anomaly detection for total v...	3 Aler

Data source anomalies



Azure Sentinel | Logs

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New Query 1*

CyberSecuritySOC

Tables | Queries | Filter

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Filter | Group by: Solution

Collapse all

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Run | Time range: Last 24 hours | Save | Copy link | New alert rule | Export | Pin to dashboard | Format query

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20 (
21 DeviceProcessEvents
22 | where InitiatingProcessFolderPath has 'SolarWinds'
23 | extend MachineName = DeviceName , Process = InitiatingProcessFolderPath
24 )
25 )
26 | summarize StartTime = min(TimeGenerated), EndTime = max(TimeGenerated), make_set(Process) by MachineName
27

```

Results | Chart | Columns | Add bookmark | Display time (UTC+00:00) | Group columns

Completed. Showing results from the last 24 hours. 00:00.5 4 records

MachineName	StartTime [UTC]	EndTime [UTC]	set_Process
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SolWinds4	12/9/2020, 10:08:42.000 PM	12/9/2020, 10:08:42.000 PM	["c:\program files (x86)\solarwinds\orion\sql\express\mssql14.solarwinds_orion\mssql\bin\fdlau...

Azure Sentinel | Logs

Selected workspace: 'cybersecuritysoc'

Search (Ctrl+/)

New Query 1*

Feedback Queries Query explorer

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- CyberSecuritySOC
- Run Time range: Last 24 hours Save Copy link New alert rule Export Pin to dashboard Format query
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```

16 AuditLogs
17 | where OperationName has_any ("Add service principal", "Certificates and secrets management") // captures "Add service principal",
"Add service principal credentials", and "Update application - Certificates and secrets management" events
18 | where Result == "success"
19 | mv-expand target = TargetResources
20 | where tostring(InitiatedBy.user.userPrincipalName) has "@" or tostring(InitiatedBy.app.displayName) has "@"
21 | extend targetDisplayName = tostring(TargetResources[0].displayName)
22 | extend targetId = tostring(TargetResources[0].id)
23 | extend targetType = tostring(TargetResources[0].type)
24 | extend keyEvents = TargetResources[0].modifiedProperties
25 | mv-expand keyEvents
26 | where keyEvents.displayName == "KeyDescription"
27 | extend new_value_set = parse_json(tostring(keyEvents.newValue))
28 | extend old_value_set = parse_json(tostring(keyEvents.oldValue))
29 | where old_value_set == "[]"
30 | parse new_value_set with * "KeyIdentifier=" keyIdentifier:string ",KeyType=" keyType:string ",KeyUsage=" keyUsage:string ",

```

Results Chart

Completed 00:05.6 0 records

i No query was selected
Type a query and place the cursor anywhere in the query.
A query can contain line breaks, but no blank lines.

Microsoft Azure (Preview) Search resources, services, and docs (G+)

Home > Azure Sentinel workspaces > Azure Sentinel

Azure Sentinel | Logs

Selected workspace: 'cybersecuritysoc'

Search (Ctrl+/) New Query 1* CyberSecuritySOC

```

27 | join (
28 | OfficeActivity
29 | where TimeGenerated > ago(7d)
30 | where OfficeWorkload ~ "Exchange" and Operation ~ "MailItemsAccessed" and ResultStatus ~ "Succeeded"
31 | extend timekey = bin(TimeGenerated, 1h)
32 | on $left:TimeGenerated == $right:timekey
33 | project-away Total, baseline, RecordType, timekey, TimeGenerated
34 | project-reorder TimeGenerated1, anomalies, Operation, UserId, Client_IPAddress, UserAgent

```

Results Chart Columns Add bookmark Display time (UTC+00:00) Group columns

Completed 00:00.8 8 records

TimeGenerated1 [UTC]	anomalies	Operation	UserId	Client_IPAddress	score	Organizationid	Orga
1/20/2021, 4:57:35.000 AM	1	MailItemsAccessed	MeganB@seccxp.ninja	34.207.252.21	1.667	4b2462a4-bbee-495a-a0e1-f23ae524cc9c	4b24
1/20/2021, 4:57:35.000 AM	1	MailItemsAccessed	MeganB@seccxp.ninja	34.207.252.21	1.667	4b2462a4-bbee-495a-a0e1-f23ae524cc9c	4b24
1/20/2021, 4:40:23.000 AM	1	MailItemsAccessed	MeganB@seccxp.ninja	174.129.96.41	1.667	4b2462a4-bbee-495a-a0e1-f23ae524cc9c	4b24
1/20/2021, 4:40:23.000 AM	1	MailItemsAccessed	MeganB@seccxp.ninja	174.129.96.41	1.667	4b2462a4-bbee-495a-a0e1-f23ae524cc9c	4b24
1/21/2021, 8:07:28.000 AM	1	MailItemsAccessed	MeganB@seccxp.ninja	3.9457.166	1.452	4b2462a4-bbee-495a-a0e1-f23ae524cc9c	4b24
1/21/2021, 8:07:28.000 AM	1	MailItemsAccessed	MeganB@seccxp.ninja				
1/21/2021, 8:37:48.000 AM	1	MailItemsAccessed	MeganB@seccxp.ninja				
1/21/2021, 8:37:48.000 AM	1	MailItemsAccessed	MeganB@seccxp.ninja				

Microsoft Azure (Preview) Search resources, services, and docs (G+)

Home > Azure Sentinel workspaces > Azure Sentinel

Azure Sentinel | Logs

Selected workspace: 'cybersecuritysoc'

Search (Ctrl+/) New Query 1* CyberSecuritySOC

```

14 | //| mv-expand total to typeof(double), TimeGenerated to typeof(datetime), anomalies to typeof(double), score to typeof(double),
15 | baseline to typeof(long)
16 | //| where anomalies > 0
17 |
18 | let TimeSeriesAlerts = TimeSeriesData
19 | | extend (anomalies, score, baseline) = series_decompose_anomalies(Total, scorethreshold, -1, 'linefit')
20 | mv-expand Total to typeof(double), TimeGenerated to typeof(datetime), anomalies to typeof(double), score to typeof(double),
21 | TimeSeriesAlerts
22 | render timechart

```

Results Chart Display time (UTC+00:00)

Completed 00:00.7 264 records

Chart Formatting

Azure Sentinel | Workbooks

Selected workspace: 'cybersecuritysoc'

Search (Ctrl+/) Refresh Add workbook

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82 Saved workbooks 86 Templates 0 Updates

My workbooks Templates

Search

- SolarWinds Post Compromise Hunting**
MICROSOFT
- Syslog Workbook
- Sysmon Threat Hunting
AZURE SENTINEL COMMUNITY
- Teams Collaboration Graph
- Threat Intelligence
MICROSOFT
- TSGGuide1
- User And Entity Behavior Analytics
MICROSOFT
- Users Travel Map
- Visualizations Demo

SolarWinds Post Compromise Hunting

MICROSOFT

This hunting workbook is intended to help identify activity related to the Solorigate compromise and subsequent attacks discovered in December 2020

Required data types: ⓘ

- ✓ CommonSecurityLog
- ✓ SigninLogs
- ✓ AuditLogs
- ✓ AADServicePrincipalSignInLogs
- ✓ OfficeActivity
- ✓ BehaviorAnalytics
- ✓ SecurityEvent
- ✓ DeviceProcessEvents
- ✓ SecurityAlert
- ✓ DnsEvents

Relevant data connectors: ⓘ

- AzureActiveDirectory
- SecurityEvents
- Office365
- MicrosoftThreatProtection
- DNS

SolarWinds Post Compromise Hunting ⓘ

The following workbook is intended to help identify activity related to the Solorigate compromise and subsequent attacks discovered in December 2020. It is intended to be used as a starting point for your own hunting workbooks.

SolarWinds Post Compromise Hunting

cybersecuritysoc
Edit Save Refresh Share Like

Solorigate Post Compromise Hunting

This hunting workbook is intended to help identify activity related to the SolarWinds compromise and subsequent attacks discovered in December 2020. This activity is referred to as Solorigate and UNC2452. More details can be found in the following reports:

- <https://aka.ms/solorigate>
- <https://aka.ms/sentinel-solorigate-hunt>
- <https://techcommunity.microsoft.com/t5/azure-active-directory-identity/understanding-quot-solorigate-quot-s-identity-iocs-for-identity/ba-p/2007610>
- <https://www.microsoft.com/security/blog/2020/12/21/advice-for-incident-responders-on-recovery-from-systemic-identity-compromises/>
- <https://www.fireeye.com/blog/threat-research/2020/12/evasive-attacker-leverages-solarwinds-supply-chain-compromises-with-sunburst-backdoor.html>
- <https://www.fireeye.com/blog/products-and-services/2020/12/global-intrusion-campaign-leverages-software-supply-chain-compromise.html>
- <https://www.solarwinds.com/securityadvisory>
- <https://www.microsoft.com/security/blog/2021/01/20/deep-dive-into-the-solorigate-second-stage-activation-from-sunburst-to-teardrop-and-raindrop/>
- <https://www.fireeye.com/content/dam/collateral/en/wp-m-unc2452.pdf>

Suspicious Signins Suspicious App Modifications Suspicious Lateral Movement Suspicious Host Activity Suspicious Network Activity

Suspicious Signin Activity

Suspicious Signins

This section hunts for suspicious sign-in events within your Azure AD tenant. It takes TTPs reported by Microsoft, FireEye and the NSA to identify logon events from known VPS provider IP ranges where the only logons using SAML tokens provided by external identity providers, or refresh tokens have been used. This helps identify instances where an attacker is using SAML tokens minted by stolen ADFS key material to access your environment and bypass MFA. This hunting query may produce false positive if users are accessing services via VPN services.

Select a user session in the initial query to populate the further queries that provide context on the users other logon activity, this is to help distinguish legitimate logons from malicious ones.

Hunting Timeframe ⓘ : Last 30 days ▾

i Set the timeframe you wish to hunt in using the dropdown to the right. Note that using a large timeframe may cause queries to timeout depending on the size of your environment. If you have difficulties try reducing your timeframe.

Successful User Signins from VPS providers where only Tokens were used to authenticate.

IPAddress ↑↓ UserPrincipalName ↑↓ StartTime ↑↓ EndTime ↑↓

**Utilisez Azure
Sentinel GitHub**



Série de vidéos consacrées à Solorigate

Étapes suivantes

- 01.** Regardez la série de vidéos consacrées à Solorigate à cet emplacement
- 02.** Visitez le site de Sécurité Microsoft pour plus de mises à jour :
www.microsoft.com/en-us/security/business
- 03.** Lisez les billets de blog sur :
www.microsoft.com/security/blog

<https://aka.ms/solorigate>

