Microsoft Security

SC-200 Microsoft Security Operations Analyst

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11/20/2022

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Microsoft Security

Module 5: Configure your Microsoft Sentinel environment

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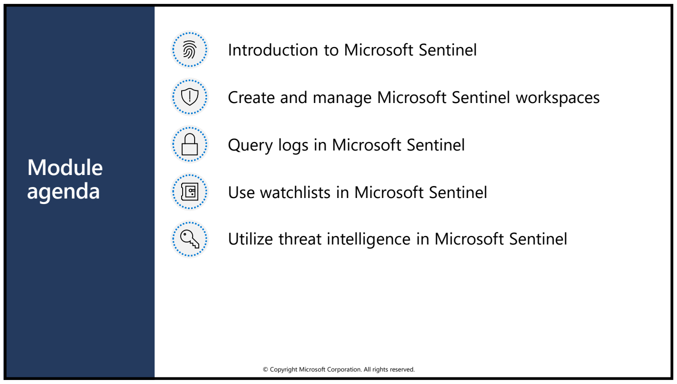

Module agenda

- Introduction to Microsoft Sentinel
- Create and manage Microsoft Sentinel workspaces
- Query logs in Microsoft Sentinel
- Use watchlists in Microsoft Sentinel
- Utilize threat intelligence in Microsoft Sentinel

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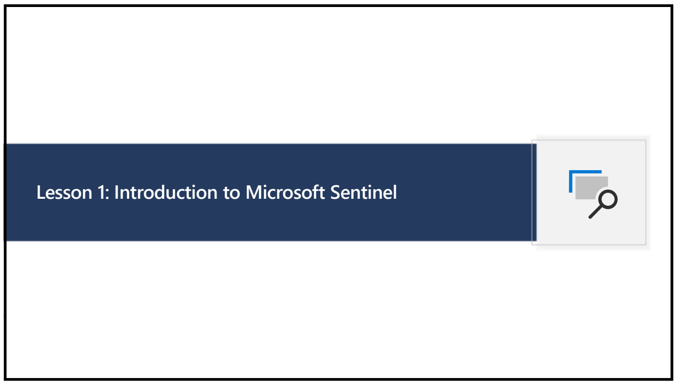

Lesson 1: Introduction to Microsoft Sentinel

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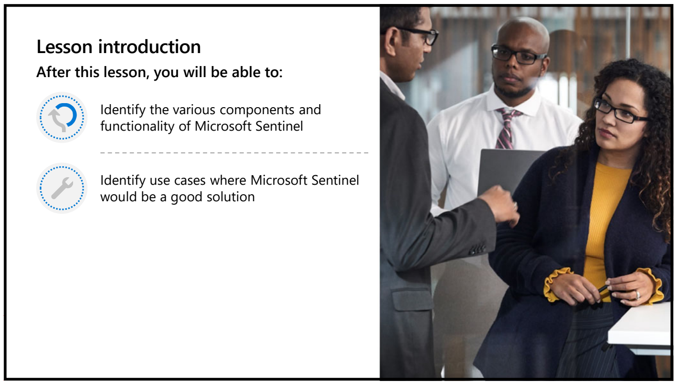

Lesson introduction

After this lesson, you will be able to:

- Identify the various components and functionality of Microsoft Sentinel
- Identify use cases where Microsoft Sentinel would be a good solution

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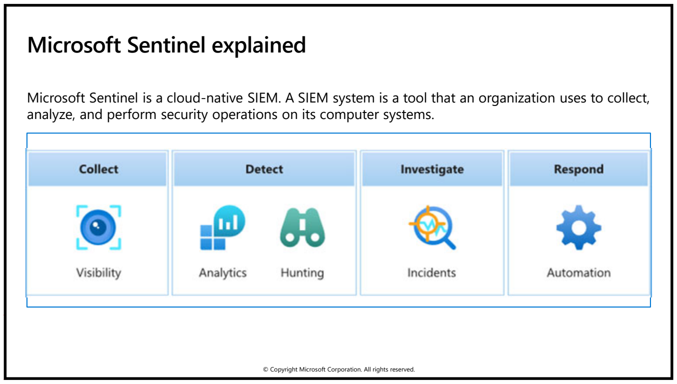

Microsoft Sentinel explained

Microsoft Sentinel is a cloud-native SIEM. A SIEM system is a tool that an organization uses to collect, analyze, and perform security operations on its computer systems.

Collect	Detect		Investigate	Respond
Visibility	Analytics	Hunting	Incidents	Automation

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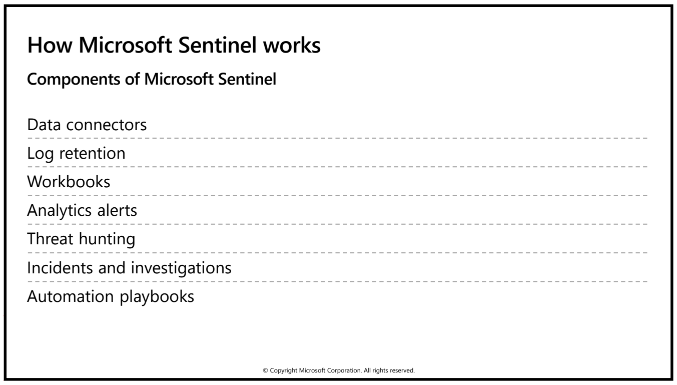

How Microsoft Sentinel works

Components of Microsoft Sentinel

- Data connectors
- Log retention
- Workbooks
- Analytics alerts
- Threat hunting
- Incidents and investigations
- Automation playbooks

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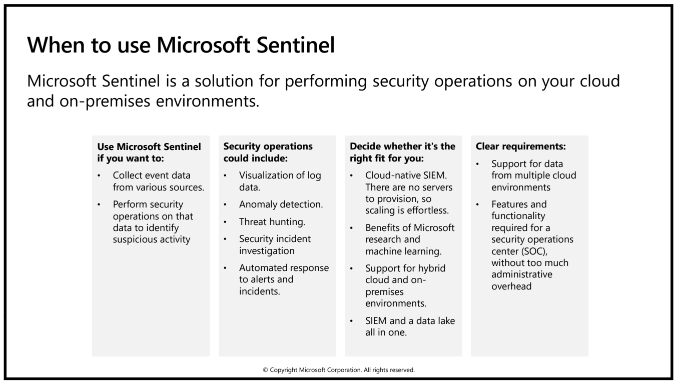

When to use Microsoft Sentinel

Microsoft Sentinel is a solution for performing security operations on your cloud and on-premises environments.

Use Microsoft Sentinel if you want to:

- Collect event data from various sources.
- Perform security operations on that data to identify suspicious activity

Security operations could include:

- Visualization of log data.
- Anomaly detection.
- Threat hunting.
- Security incident investigation
- Automated response to alerts and incidents.

Decide whether it's the right fit for you:

- Cloud-native SIEM. There are no servers to provision, so scaling is effortless.
- Benefits of Microsoft research and machine learning.
- Support for hybrid cloud and on-premises environments.
- SIEM and a data lake all in one.

Clear requirements:

- Support for data from multiple cloud environments
- Features and functionality required for a security operations center (SOC), without too much administrative overhead

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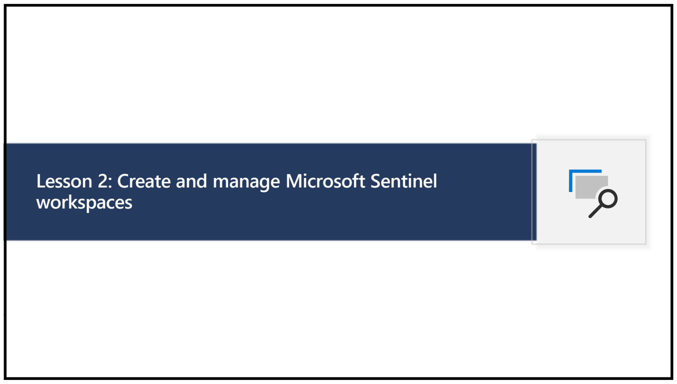

Lesson 2: Create and manage Microsoft Sentinel workspaces

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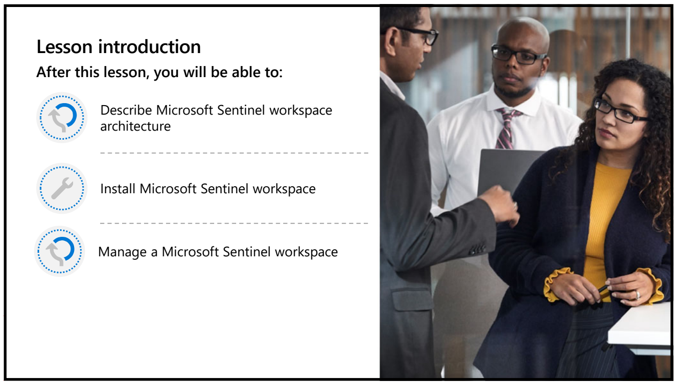

Lesson introduction

After this lesson, you will be able to:

- Describe Microsoft Sentinel workspace architecture
- Install Microsoft Sentinel workspace
- Manage a Microsoft Sentinel workspace

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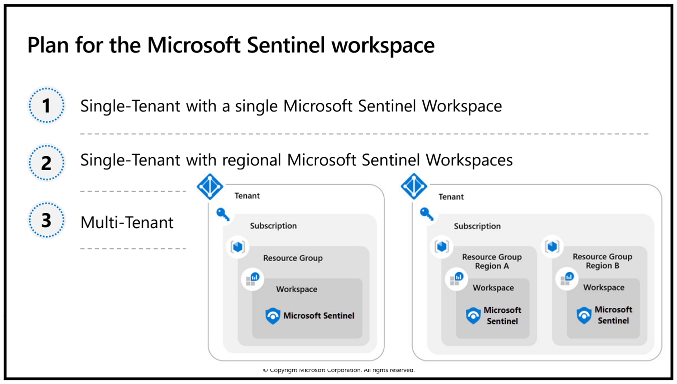

Plan for the Microsoft Sentinel workspace

1. Single-Tenant with a single Microsoft Sentinel Workspace
2. Single-Tenant with regional Microsoft Sentinel Workspaces
3. Multi-Tenant

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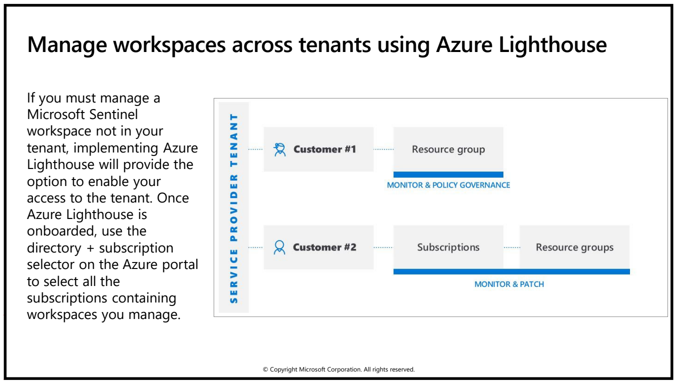

Manage workspaces across tenants using Azure Lighthouse

If you must manage a Microsoft Sentinel workspace not in your tenant, implementing Azure Lighthouse will provide the option to enable your access to the tenant. Once Azure Lighthouse is onboarded, use the directory + subscription selector on the Azure portal to select all the subscriptions containing workspaces you manage.

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Create a Microsoft Sentinel workspace

Microsoft Sentinel installation prerequisites
Have the required permissions for the Azure Subscription. 1

Create and configure a Log Analytics Workspace
Plan for the Region selection. 2

Add Microsoft Sentinel to the workspace
Select the newly created Log Analytics Workspace. 3

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Microsoft Sentinel permissions and roles

- Microsoft Sentinel-specific roles
- Azure roles and Azure Monitor Log Analytics roles
- Microsoft Sentinel roles and allowed actions
- Custom roles and advanced Azure RBAC

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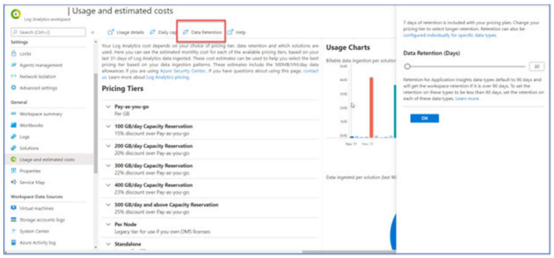
Manage Microsoft Sentinel settings

Microsoft Sentinel environment settings are managed in two areas. In Microsoft Sentinel and in the Log Analytics workspace where Microsoft Sentinel resides. To configure Log Retention:



Your Log Analytics cost depends on your choice of pricing tier, data retention and which solutions are used. Here you can see the estimated monthly cost for each of the available pricing tiers, based on your last 31-days of Log Analytics data ingested. These cost estimates can be used to help you select the best pricing tier based on your data ingestion patterns. These estimates include the 500MB/VM/day data allowances if you are using Azure Security Center. If you have questions about using this page, contact us. Learn more about Log Analytics pricing.

Pricing Tiers

- Pay-as-you-go
  Per GB
- 100 GB/day Capacity Reservation
  15% discount over Pay-as-you-go
- 200 GB/day Capacity Reservation
  20% discount over Pay-as-you-go
- 300 GB/day Capacity Reservation
  22% discount over Pay-as-you-go
- 400 GB/day Capacity Reservation
  23% discount over Pay-as-you-go
- 500 GB/day and above Capacity Reservation
  25% discount over Pay-as-you-go
- Per Node
  Legacy tier for use if you own OMS licenses
- Standalone

7 days of retention is included with your pricing plan. Change your pricing tier to select longer retention. Retention can also be configured individually for specific data types.

Retention for Application Insights data types default to 90 days and will get the workspace retention if it is over 90 days. To set the retention on these types to be less than 90 days, set the retention on each of these data types. Learn more.

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Lesson 3: Query logs in Microsoft Sentinel

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Lesson introduction

After this lesson, you will be able to:

- Use the Logs page to view data tables in Microsoft Sentinel
- Query the most used tables using Microsoft Sentinel

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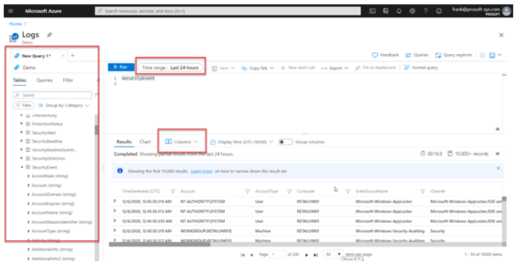
Query logs in the logs page

The query window allows you to run queries, save queries, run saved queries, create a new alert rule, and export.



```
1 SecurityEvent
2
```

Completed. Showing partial results from the last 24 hours.

Showing the first 10,000 results. Learn more on how to narrow down the result set.

TimeGenerated [UTC]	Account	AccountType	Computer	EventSourceName	Channel
12/6/2020, 12:45:50.310 AM	NT AUTHORITY\SYSTEM	User	RETAILVM01	Microsoft-Windows-AppLocker	Microsoft-Windows-AppLocker/EXE and
12/6/2020, 12:45:50.313 AM	NT AUTHORITY\SYSTEM	User	RETAILVM01	Microsoft-Windows-AppLocker	Microsoft-Windows-AppLocker/EXE and
12/6/2020, 12:45:50.350 AM	NT AUTHORITY\SYSTEM	User	RETAILVM01	Microsoft-Windows-AppLocker	Microsoft-Windows-AppLocker/EXE and
12/6/2020, 12:45:50.310 AM	WORKGROUP\RETAILVM01$	Machine	RETAILVM01	Microsoft-Windows-Security-Auditing	Security
12/6/2020, 12:45:50.313 AM	WORKGROUP\RETAILVM01$	Machine	RETAILVM01	Microsoft-Windows-Security-Auditing	Security

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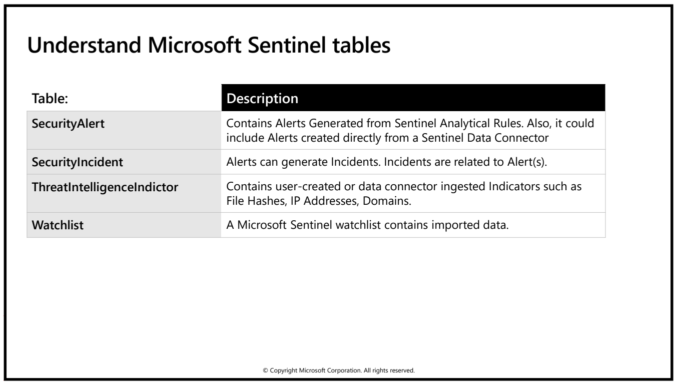

Understand Microsoft Sentinel tables

Table:	Description
SecurityAlert	Contains Alerts Generated from Sentinel Analytical Rules. Also, it could include Alerts created directly from a Sentinel Data Connector
SecurityIncident	Alerts can generate Incidents. Incidents are related to Alert(s).
ThreatIntelligenceIndictor	Contains user-created or data connector ingested Indicators such as File Hashes, IP Addresses, Domains.
Watchlist	A Microsoft Sentinel watchlist contains imported data.

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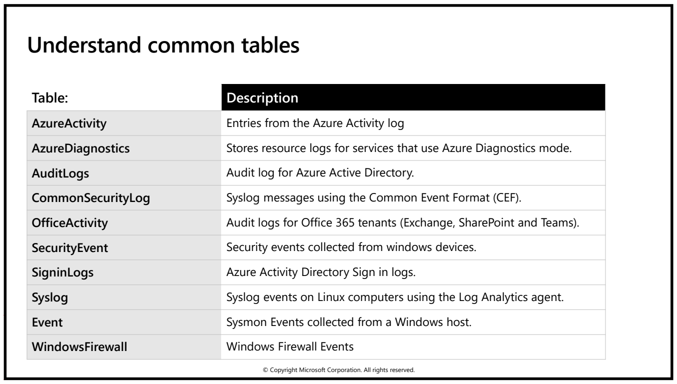

Understand common tables

Table:	Description
AzureActivity	Entries from the Azure Activity log
AzureDiagnostics	Stores resource logs for services that use Azure Diagnostics mode.
AuditLogs	Audit log for Azure Active Directory.
CommonSecurityLog	Syslog messages using the Common Event Format (CEF).
OfficeActivity	Audit logs for Office 365 tenants (Exchange, SharePoint and Teams).
SecurityEvent	Security events collected from windows devices.
SigninLogs	Azure Activity Directory Sign in logs.
Syslog	Syslog events on Linux computers using the Log Analytics agent.
Event	Sysmon Events collected from a Windows host.
WindowsFirewall	Windows Firewall Events

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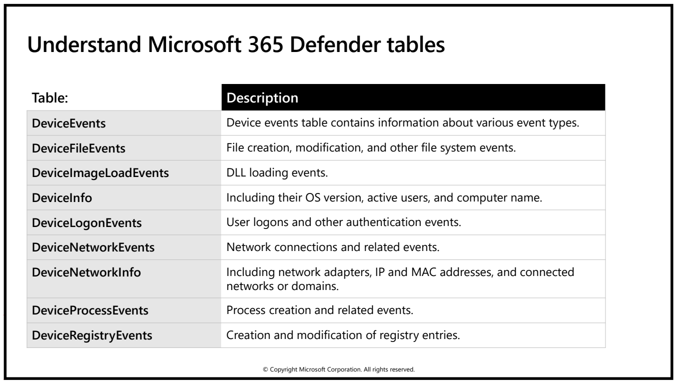

Understand Microsoft 365 Defender tables

Table:	Description
DeviceEvents	Device events table contains information about various event types.
DeviceFileEvents	File creation, modification, and other file system events.
DeviceImageLoadEvents	DLL loading events.
DeviceInfo	Including their OS version, active users, and computer name.
DeviceLogonEvents	User logons and other authentication events.
DeviceNetworkEvents	Network connections and related events.
DeviceNetworkInfo	Including network adapters, IP and MAC addresses, and connected networks or domains.
DeviceProcessEvents	Process creation and related events.
DeviceRegistryEvents	Creation and modification of registry entries.

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Lesson 4: Use watchlists in Microsoft Sentinel

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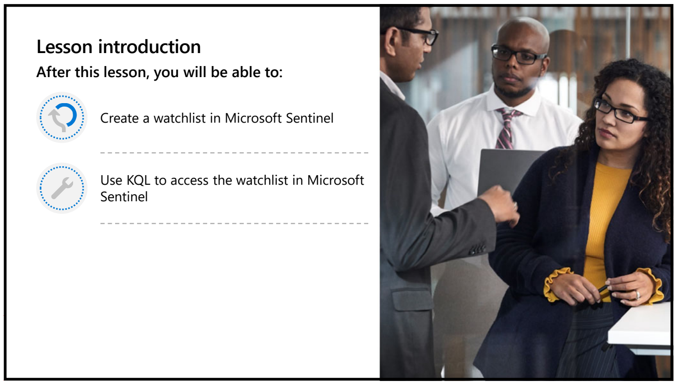

Lesson introduction

After this lesson, you will be able to:

- Create a watchlist in Microsoft Sentinel
- Use KQL to access the watchlist in Microsoft Sentinel

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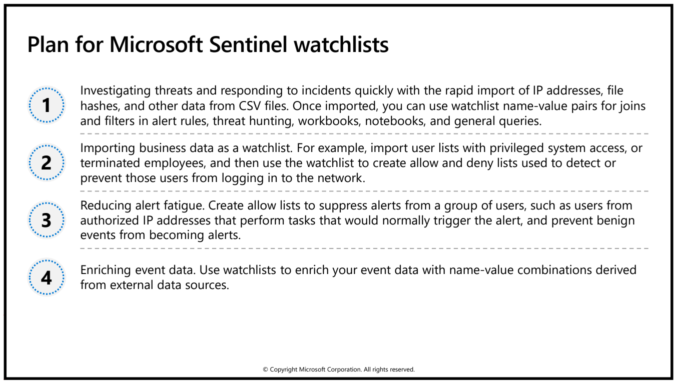

Plan for Microsoft Sentinel watchlists

1. Investigating threats and responding to incidents quickly with the rapid import of IP addresses, file hashes, and other data from CSV files. Once imported, you can use watchlist name-value pairs for joins and filters in alert rules, threat hunting, workbooks, notebooks, and general queries.
2. Importing business data as a watchlist. For example, import user lists with privileged system access, or terminated employees, and then use the watchlist to create allow and deny lists used to detect or prevent those users from logging in to the network.
3. Reducing alert fatigue. Create allow lists to suppress alerts from a group of users, such as users from authorized IP addresses that perform tasks that would normally trigger the alert, and prevent benign events from becoming alerts.
4. Enriching event data. Use watchlists to enrich your event data with name-value combinations derived from external data sources.

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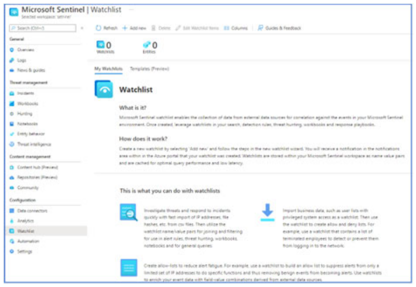
Create a watchlist



Watchlist

What is it?

Microsoft Sentinel watchlist enables the collection of data from external data sources for correlation against the events in your Microsoft Sentinel environment. Once created, leverage watchlists in your search, detection rules, threat hunting, workbooks and response playbooks.

How does it work?

Create a new watchlist by selecting 'Add new' and follow the steps in the new watchlist wizard. You will receive a notification in the notifications area within in the Azure portal that your watchlist was created. Watchlists are stored within your Microsoft Sentinel workspace as name value pairs and are cached for optimal query performance and low latency.

This is what you can do with watchlists

Investigate threats and respond to incidents quickly with fast import of IP addresses, file hashes, etc. from csv files. Then utilize the watchlist name/value pairs for joining and filtering for use in alert rules, threat hunting, workbooks, notebooks and for general queries.

Import business data, such as user lists with privileged system access as a watchlist. Then use the watchlist to create allow and deny lists. For example, use a watchlist that contains a list of terminated employees to detect or prevent them from logging in to the network.

Create allow-lists to reduce alert fatigue. For example, use a watchlist to build an allow list to suppress alerts from only a limited set of IP addresses to do specific functions and thus removing benign events from becoming alerts. Use watchlists to enrich your event data with field-value combinations derived from external data sources.

KQL:
_GetWatchlist('HighValueMachines')

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Lesson 5: Utilize threat intelligence in Microsoft Sentinel

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Lesson introduction

After this lesson, you will be able to:

- Manage threat indicators in Microsoft Sentinel
- Use KQL to access threat indicators in Microsoft Sentinel

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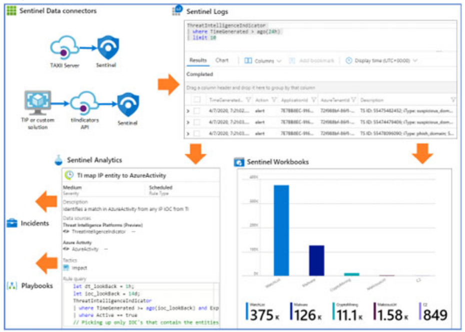
Define threat intelligence

Threat indicators are data that associate observations such as URLs, file hashes, or IP addresses with known threat activity such as phishing, botnets, or malware.



```
ThreatIntelligenceIndicator
| where TimeGenerated > ago(24h)
| limit 10
```

	TimeGenerated...	Action	ApplicationId	AzureTenantId	Description
>	4/7/2020, 7:21:02...	alert	7E7BB8EC-916...	72f988bf-86f1-...	TS ID: 55475482452; iType: suspicious_dom...
>	4/7/2020, 7:21:03...	alert	7E7BB8EC-916...	72f988bf-86f1-...	TS ID: 55474479406; iType: suspicious_dom...
>	4/7/2020, 7:21:03...	alert	7E7BB8EC-916...	72f988bf-86f1-...	TS ID: 55478096090; iType: phish_domain; S...

Medium
Severity

Scheduled
Rule Type

Description
Identifies a match in AzureActivity from any IP IOC from TI

Data sources
Threat Intelligence Platforms (Preview)
ThreatIntelligenceIndicator

Azure Activity
AzureActivity

Tactics
Impact

Rule query

```
let dt_lookBack = 1h;
let ioc_lookBack = 14d;
ThreatIntelligenceIndicator
| where TimeGenerated >= ago(ioc_lookBack) and Exp
| where Active == true
// Picking up only IOC's that contain the entities
```

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Manage your threat indicators

In the Threat intelligence area, you can view, sort, filter, and search your imported threat indicators without even writing a Logs KQL query. This area also allows you to create threat indicators directly within the Microsoft Sentinel interface and perform everyday threat intelligence administrative tasks like indicator tagging and creating new indicators related to security investigations.

```
The indicators can be accessed in KQL by querying the ThreatIntelligenceIndicator
table.

//KQL
ThreatIntelligenceIndicator
```

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Knowledge check

Check your knowledge with the module quiz in your course viewer

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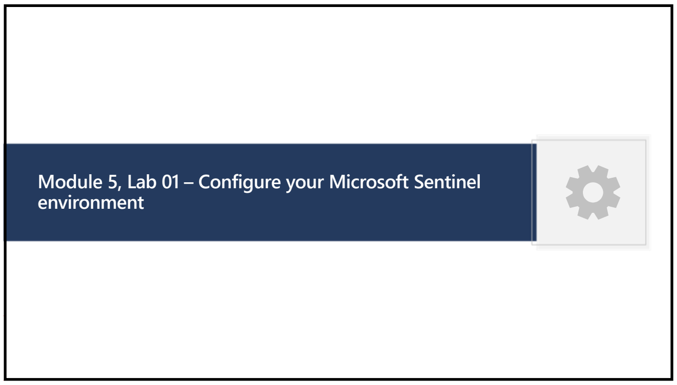

Module 5, Lab 01 – Configure your Microsoft Sentinel environment

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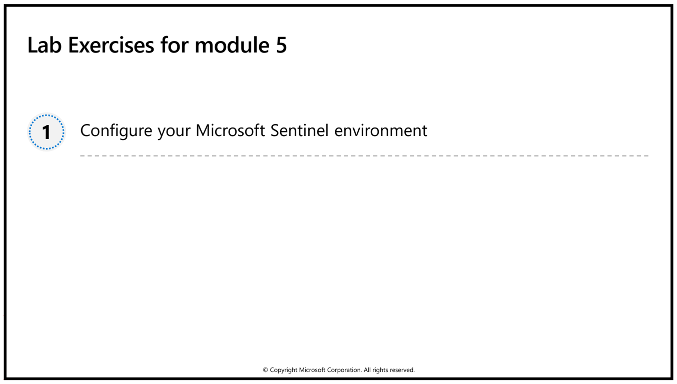

Lab Exercises for module 5

1 Configure your Microsoft Sentinel environment

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Microsoft Security

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