



Mitigate Threats Using MITRE Framework in Snort 3 Intrusion Policies

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About MITRE ATT&CK Framework

The MITRE ATT&CK Framework is a comprehensive knowledge base that outlines the tactics, techniques, and procedures (TTPs) used by threat actors to compromise systems. It organizes these TTPs into matrices for different operating systems and platforms, mapping each attack stage (tactics) to specific methods (techniques). Each technique includes information about execution, procedures, defenses, detections, and real-world examples.



Note See <https://attack.mitre.org> for additional information about MITRE ATT&CK.

The management center uses the MITRE ATT&CK Framework to enhance threat detection and response, incorporating the following capabilities:

- Intrusion events include TTPs, allowing administrators to manage traffic with greater granularity by grouping rules according to vulnerability type, target system, or threat category.
- Select malware events use TTPs, enhancing the ability to detect and respond to threats.

Benefits of MITRE Framework

- MITRE Tactics, Techniques, and Procedures (TTPs) are added to intrusion events, which enable administrators to act on traffic, based on the MITRE ATT&CK framework. This enables administrators

to view and handle traffic with more granularity, and group rules by vulnerability type, target system, or threat category.

- You can organize intrusion rules according to the MITRE ATT&CK framework. This allows you to customize policies according to specific attacker tactics and techniques.

Sample Business Scenario for MITRE Network

A large corporate network uses Snort 3 as its primary intrusion detection and prevention system. In a rapidly evolving threat landscape, adoption of robust network security measures is necessary and important. Network administrators need to know if the configured policies are finding traffic of interest and if they are tracking a known attack group. For example, you may want to know if adversaries are attempting to take advantage of a weakness in your systems or applications in order to cause unanticipated behavior. The weakness in the system can be a bug, a glitch, or a design vulnerability. The applications may be websites, databases, standard services, such as Server Message Block (SMB) or Secure Shell (SSH), network device administration and management protocols or applications, such as web servers and related services.

The insights provided by the MITRE framework provides administrators with a more precise opportunity to specify protection for specific assets and protect their network from specific threat groups.

Prerequisites for MITRE Framework

- You must be running Secure Firewall Management Center and Secure Firewall Threat Defence Version 7.3.0 or later with Snort 3.
- You must have at least one intrusion policy. See [Create a Custom Snort 3 Intrusion Policy](#).

View and Edit Your Snort 3 Intrusion Policy

Procedure

Step 1 Choose **Policies > Security policies > Intrusion**.

Step 2 Ensure that the **Intrusion Policies** tab is chosen.

Step 3 Click **Snort 3 Version** next to the intrusion policy that you want to view or edit.

Step 4 Close the Snort helper guide that is displayed.

Step 5 Click the **Group Overrides** layer.

This layer lists all the categories of rule groups in an hierarchical structure. You can drill down to the last leaf rule group under each rule group.

Policies
< / Intrusion / MITRE_IPS Used by: No Access Control Policy

Base Policy: No Rules Active Mode: Prevention

Base Policy → **Group Overrides** → Recommendations Not in use → Rule Overrides

Group Overrides ?

102 items All ⊗ ▾ +

> MITRE(1 group) ⓘ

> Rule Categories(9 groups) ⓘ

Search through all Rule Groups

Rule Groups

To optimize intrusion policy configuration, you can configure the various r

Step 6 Under **Group Overrides**, ensure that **All** is chosen in the drop-down list, so that all the rule groups for the corresponding intrusion policy are visible in the left pane.

Policies
< / Intrusion / MITRE_IPS Used

Base Policy: No Rules Active Mode: Prevention

Base Policy → **Group Overrides** → Recommendations Not in use →

Group Overrides ?

102 items All ⊗ ▾ +

> MITRE(1 group) ⓘ

> Rule Categories(9 groups) ⓘ

Search through all Rule Groups

Rule Groups

To optimize intrusion policy configuration, you can

Step 7 Click **MITRE** in the left pane.

Note

Depending on your specific requirements, you can choose the **Rule Categories** rule group or any other rule group and subrule groups under it. All the rule groups use the MITRE framework.

Policies
 < / Intrusion / MITRE_IPS Used by: No Access Control Policy

Base Policy: No Rules Active Mode: Prevention

Base Policy → **Group Overrides** → Recommendations Not in use → Rule Overrides

Group Overrides ⓘ

102 items All ⓘ +

> MITRE(1 group) ⓘ

> Rule Categories(9 groups) ⓘ

Search through all Rule Groups

Rule Groups

To optimize intrusion policy configuration, you can configure the vario

Step 8

Under **MITRE**, click **ATT&CK Framework** to drill down.

Policies
 < / Intrusion / MITRE_IPS Used by: No Access Control Policy No Zero Trust Policy

Base Policy: No Rules Active Mode: Prevention Active Rules

Base Policy → **Group Overrides** → Recommendations Not in use → Rule Overrides Summary

Group Overrides ⓘ

102 items All ⓘ +

Search through all Rule Groups

MITRE(1 group) ⓘ

> **ATT&CK Framework(1 group)** ⓘ

> Rule Categories(9 groups) ⓘ

MITRE 1 Groups

Security Level ⓘ

Group Name	Security Level ⓘ	Override	Rule Count
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Step 9

Under **ATT&CK Framework**, click **Enterprise** to expand it.

Policies
 < / Intrusion /
 MITRE_IPS Used by: No Access Con Policy

Base Policy: No Rules Active Mode: Prevention

Base Policy → **Group Overrides** → Recommendations Not in use → Rule Overrides

Group Overrides ?

102 items All ⊗ +

MITRE(1 group) i

ATT&CK Framework(1 gr... i

Enterprise(13 groups) i

Rule Categories(9 groups) i

Search through all Rule Groups

MITRE / ATT&CK Framework
1 Groups

Group Name	Security Level	Override

Step 10 Click the **Edit** (✎) icon next to the **Security Level** of the rule group to make bulk changes to the security level of all the associated rule groups under the **Enterprise** rule group category.

Group Overrides ?

102 items All ⊗ +

MITRE(1 group) i

ATT&CK Framework(1 gr... i

Enterprise(13 groups) i

Rule Categories(9 groups) i

Search through all Rule Groups

MITRE / ATT&CK Framework
1 Groups

Security Level i

Group Name	Security Level	Override	Rule Count

Step 11 In the **Edit Security Level** window, choose a **Security Level** (in this example, 3), and click **Save**.

Edit Security Level ?

i Bulk Group Security Level

Impacts 34 groups. This action will change the security level of all leaf groups within this group category.

Higher security with more detections for administrators who are willing to tolerate some network latency and low level of false positives, in an effort to catch more attacks

[↶ Revert to default](#)

[Cancel](#)

[Save](#)

Step 12 Under **Enterprise**, click **Initial Access** to expand it.

Step 13 Under **Initial Access**, click **Exploit Public-Facing Application**, which is the last leaf group.

Base Policy → **Group Overrides** → Recommendations **Not in use** → Rule Overrides | Summary

Group Overrides ?

102 items All ⊗ ⌵ +

Q Search through all Rule Groups

- Enterprise(13 groups) i
 - Collection(1 group) i
 - Command and Control... i
 - Defense Evasion(2 gro... i
 - Discovery(4 groups) i
 - Execution(3 groups) i
 - Exfiltration(1 group) i
 - Impact(3 groups) i
 - Initial Access(5 groups)** i
 - Drive... ⌵ ⌵ ⌵ ⌵ ⌵ i
 - Exploi...** ⌵ ⌵ ⌵ ⌵ ⌵ i
 - Exter... ⌵ ⌵ ⌵ ⌵ ⌵ i
 - Phishi... ⌵ ⌵ ⌵ ⌵ ⌵ i
 - Valid Accounts(1 grou... i

MITRE / ATT&CK Framework / Enterprise / Initial Access / Exploit Public-Facing Application (T1190) Security Level i Exclude

Adversaries may attempt to take advantage of a weakness in an Internet-facing computer or program using software, data, or commands in order to cause unintended or unanticipated behavior. The weakness in the system can be a bug, a glitch, or a design vulnerability. These applications are often

Step 14 Click **View Rules in Rule Overrides** to view the different rules, rule details, rule actions, and so on, for the different rules. You can change the rule actions for one or multiple rules in the **Rule Overrides** layer.

This group does not contain any children.

0 Groups / Group contains 11972 rules

[View Rules in Rule Overrides](#)

Step 15

Click the **Recommendations** layer and then click **Start** to start using Cisco-recommended rules. You can use the intrusion rule recommendations to target the vulnerabilities that are associated with the host assets detected in the network. For more information, see [Generate New Secure Firewall Recommendations in Snort 3](#).

Base Policy → Group Overrides → **Recommendations** Not in use → Rule Overrides | Summary

Cisco Recommended Rules ⓘ

Start using recommendations

You can use Cisco Recommended Rules to target vulnerabilities associated with host assets detected in the network

[Start](#)

Step 16

Click the **Summary** layer for a holistic view of the current changes to the policy. Based on the rule overrides, security-level changes, and generation of Cisco-recommended rules, you can view the rule distribution of the policy, group overrides, rule overrides, rule recommendations, and so on, to verify your changes.

Base Policy → Group Overrides → Recommendations → Rule Overrides | **Summary**

Summary ⓘ

Rule Distribution

Alert	1599
Block	19570
Disabled	26555

Active Rules 21169

Overridden Rules 394

Disabled Rules 26555

Total Rules 47724

[View Effective Policy](#)

Report and Exporting

[Generate Report](#)

[Export Policy](#)

Base Configuration

Base Policy: Balanced Security and Connectivity

Recommendations

Usage: In Use

Security Level:

Generated on 2022-07-19 11:05:40 EDT

Rule State 12 rules recommended for 1 network ⓘ

Group Overrides

Total 19 group overrides

- Executable
- File Type Identification
- Flash
- Image
- Java
- Multimedia
- Office
- Other

Rule Overrides

Total 394 rule overrides

1:34480	Block	Alert
1:34479	Block	Alert
1:34467	Block	Alert
1:34466	Block	Alert
1:35805	Block	Alert
1:35806	Block	Alert
1:42101	Block	Alert
1:42100	Block	Alert

[...Open All](#)

What to do next

Deploy your intrusion policy to detect and log events that are triggered by the Snort rules. See [Deploy Configuration Changes](#).

View Intrusion Events

You can view the MITRE ATT&CK techniques and rule groups in the intrusion events on the **Classic Event Viewer** and **Unified Event Viewer** pages. Talos provides mappings from Snort rules (GID:SID) to MITRE ATT&CK techniques and rule groups. These mappings are installed as part of the Lightweight Security Package (LSP).

Procedure

Step 1 Click **Analysis** and select **Events** under **Intrusions**.

Step 2 Click the **Table View of Events** tab.

Events By Priority and Classification [\(switch workflow\)](#)

No Search Constraints [\(Edit Search\)](#) 2025-01-12 13:30:29 - 2025-01-12 14:45:19 Expanding

Drilldown of Event, Priority, and Classification **Table View of Events** Packets

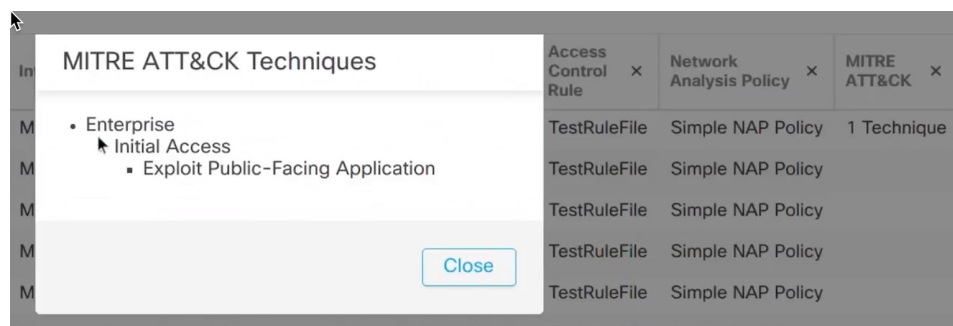
Jump to...

☐	Time	Priority	Impact	Inline Result	Reason	Source IP	Source Country	Destination IP
☐	2025-01-12 14:43:19	low	Potentially Vulnerable	Alert		fe80::ffff:ffff:ffff:ffff		ff02::1
☐	2025-01-12 14:43:19	low	Unknown Target	Alert		0.0.0.0		224.0.0.1
☐	2025-01-12 14:43:19	low	Potentially Vulnerable	Alert		fe80::ffff:ffff:ffff:ffff		ff02::1
☐	2025-01-12 14:41:14	low	Potentially Vulnerable	Alert		fe80::ffff:ffff:ffff:ffff		ff02::1

Step 3 Under **MITRE ATT&CK**, you can see the techniques for an intrusion event. Click **1 Technique** to view the MITRE ATT&CK techniques.

Access Control Policy	Access Control Rule	Network Analysis Policy	MITRE ATT&CK	Rule Group
AC_with_security_intelligence_file_file	TestRuleFile	Simple NAP Policy	1 Technique	1 Group
AC_with_security_intelligence_file_file	TestRuleFile	Simple NAP Policy		1 Group
AC_with_security_intelligence_file_file	TestRuleFile	Simple NAP Policy		1 Group
AC_with_security_intelligence_file_file	TestRuleFile	Simple NAP Policy		1 Group

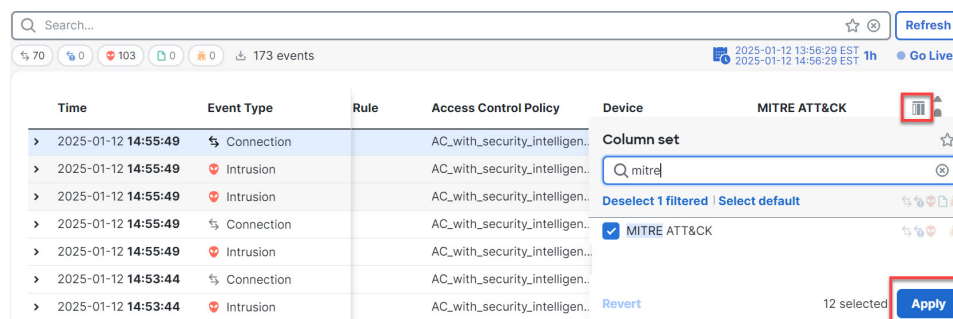
In this example, **Exploit Public-Facing Application** is the technique.



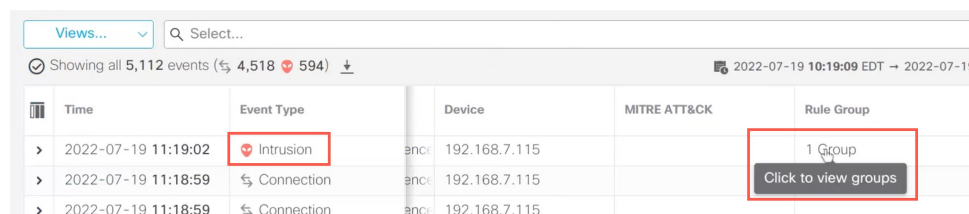
Step 4 Click **Close**.

Step 5 Click **Analysis** and select **Unified Events**.

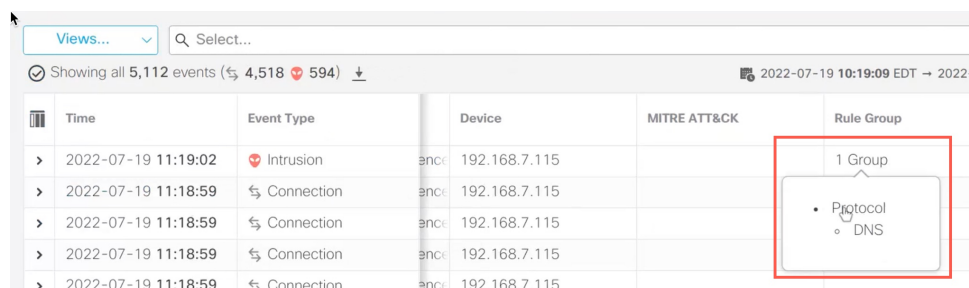
Step 6 If not enabled, click the column selector icon to enable the **MITRE ATT&CK** and **Rule Group** columns.



Step 7 In this example, the intrusion event is triggered by an event that is mapped to one rule group. Click **1 Group** under the **Rule Group** column.



Step 8 You can view **Protocol**, which is the parent rule group, and the DNS rule group under it. Choose **Protocol** > **DNS** to search for all the intrusion events that have at least one rule group that is .



The search results are displayed.

Additional References

Time	Event Type	Device	MITRE ATT&CK	Rule Group	Snort ID
> 2022-07-19 11:19:08	Intrusion	enc... 192.168.7.115		1 Group	1:254:16
> 2022-07-19 11:19:07	Intrusion	enc... 192.168.7.115		1 Group	1:254:16
> 2022-07-19 11:19:03	Intrusion	enc... 192.168.7.115		1 Group	1:254:16
> 2022-07-19 11:19:02	Intrusion	enc... 192.168.7.115		1 Group	1:254:16
> 2022-07-19 11:18:59	Intrusion	enc... 192.168.7.115		1 Group	1:254:16
> 2022-07-19 11:18:38	Intrusion	enc... 192.168.7.115		1 Group	1:254:16
> 2022-07-19 11:18:35	Intrusion	enc... 192.168.7.115		1 Group	1:254:16
> 2022-07-19 11:18:31	Intrusion	enc... 192.168.7.115		1 Group	1:254:16

Additional References

- [Intrusion Policy in Snort 3](#)
- [Edit Snort 3 Intrusion Policies](#)
- [MITRE Information in Malware Events](#)