

## **Storm Quick Reference - Example Filters** For a complete list of Storm filter operators and additional examples, see the <u>Filtering</u> section of the <u>Storm Reference Guide</u>.

Type of Filter	Example	Query / Question	
By form	<pre>#rep.feye.fin7 -inet:ipv4</pre>	Show me everything FireEye associates with FIN7 except for the IPv4 addresses	
By primary property value	<pre>#rep.moz.500 -inet:fqdn=google.com</pre>	Show me the Moz Top 500 domains except for google.com	
By secondary property	inet:ipv4#rep.eset.sednit -:asn	Show me the IPv4s ESET associates with Sednit <b>that do not have an AS number</b> (i.e., exclude IPv4s with an AS)	
By secondary property value	inet:ipv4#rep.eset.sednit <b>+:asn=9009</b>	Show me the IPv4s ESET associates with Sednit <b>that are part of AS 9009</b>	
By tag	<pre>inet:fqdn#rep.eset.sednit +#cno.infra.ddns</pre>	Show me the FQDNs ESET associates with Sednit that are dynamic DNS (DDNS) domains	

## Filters with Standard (Mathematical) Operators

Type of Filter	Comparison Operator	Example	Query / Question
Greater than	>	file:bytes#rep.eset.sednit <b>+:size&gt;60416</b>	Show me the files ESET associates with Sednit <b>that are</b> larger than 60416 bytes
Greater than or equal to	>=	<pre>inet:whois:iprec:country=ua +:created&gt;=2020</pre>	Show me the network WHOIS records for Ukraine registered during 2020 or later
Less than	<	ou:org:loc=fr +:founded<2017	Show me organizations in France founded prior to 2017
Less than or equal to	<=	<pre>inet:whois:rec:fqdn=elaxo.org +:asof&lt;=2016/06/01</pre>	Show me the domain WHOIS records for elaxo.org observed on or before June 1, 2016

Filters with Common Extended Operators					
Filter by regular expression	~=	ou:org:loc^=us <b>+:name~=v.*x</b>	Show me organizations in the U.S. whose name contains a string that starts with 'v' followed by 0 or more characters followed by 'x'		
Filter by prefix	^=	ou:org:loc^=us +:name^=vertex	Show me organizations in the U.S. whose name starts with 'vertex'		
Filter by element in array	*[ <operator>]</operator>	ou:org:loc^=us +:names*[=vertex]	Show me organizations in the U.S. whose names include an exact match for 'vertex'		
		ou:org:loc^=us +:names*[~=v.*x]	Show me organizations in the U.S. whose names include a string that starts with 'v' followed by 0 or more characters followed by 'x'		
Filter by time / interval	@=	inet:dns:a:fqdn=vertex.link +.seen@=(2020/08/12, 2020/08/26)	Show me the DNS A records for vertex.link whose 'seen' window <b>overlaps</b> with the period August 12, 2020 - August 26, 2020		
		inet:dns:a:fqdn=vertex.link +.seen@='2021/05/15 04:28'	Show me the DNS A records for vertex.link whose 'seen' window includes May 15, 2021 at 04:28 (UTC)		

Specialized Filters					
	( ) with logical and / or / not (evaluated in order from left to right)	<pre>inet:ipv4#rep.eset.sednit +( :loc^=ro or :asn=9009 )</pre>	Show me the IPv4s ESET associates with Sednit whose location is in Romania or whose AS is 9009		
		<pre>inet:ipv4#rep.eset.sednit +( :asn=9009 and not ( :loc^=ro or :loc^=cz ) )</pre>	Show me the IPv4s ESET associates with Sednit in AS 9009 that are not in Romania or the Czech Republic		
Subquery filter	{ } with Storm	<pre>inet:dns:a:fqdn=vertex.link +{ -&gt; inet:ipv4 +:type=unicast }</pre>	Show me the DNS A records for vertex.link whose IPv4s are unicast (i.e., exclude loopback, private, etc.)		
		<pre>file:bytes#rep.vt   +{ -&gt; it:av:scan:result +:verdict=malicious }&lt;=10</pre>	Show me the files reported by VirusTotal that are have 10 or fewer 'malicious' detections		