Tuning Security Rules Using Web Firewall Logs

https://campus.barracuda.com/doc/4259961/

Introduction

The Barracuda Web Application Firewall enables administrators to configure security rules with varying degrees of granularity. A security policy, comprised of security settings, is shared by multiple applications.

A newly configured service originally uses the default security policy, so all URLs and parameters are compared to the default security policy settings. The Barracuda Web Application Firewall applies rules to traffic and generates a log of rule violations viewable in the **BASIC > Web Firewall Logs** page.

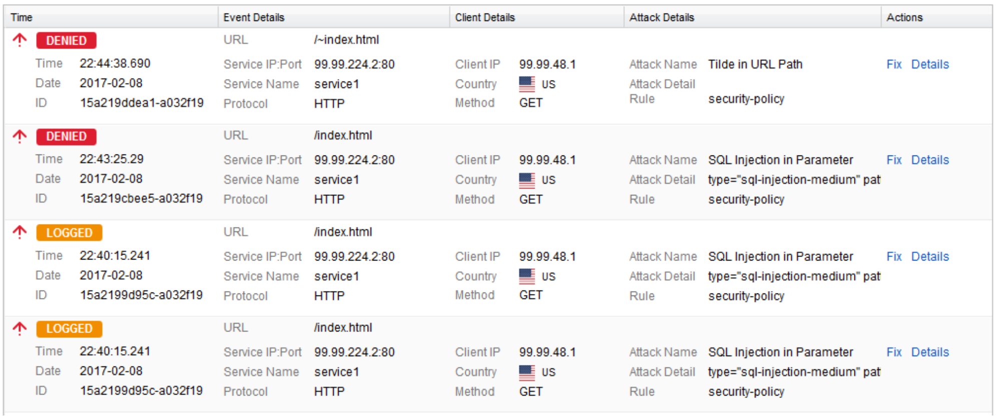
You can use the Web Firewall Logs to evaluate rule violations and, when warranted, to create exceptions to the rule violated. Exceptions can apply globally if they modify the security policy, which affects all services using that policy. Or, you can apply an exception locally that only applies to a specific website or URL. To create a fine-grained exception, use the **WEBSITES > Allow/Deny** or **WEBSITES > Website Profiles** pages.

The default security policy associated with a service can sometimes block genuine requests, which are called false positives. To reduce false positives, you can enable **Exception Profiling** for desired websites on the **WEBSITES** tab. Exception profiling uses heuristics displayed on the **WEBSITES > Exception Heuristics** page to identify false positives. You can set the exception profiler to automatically refine security policy rules for the respective site section by setting **Request Violation Handling** to **Auto** on the **Exception Heuristics** page; alternatively, set **Request Violation Handling** to **Manual** if you want the profiler to generate policy recommendations under **Pending Recommendation** on **WEBSITES > Exception Profiling**. In this case, the administrator must review the violations, and manually apply desired fixes. See Using Exception Profiling to Generate Recommendations for Tuning.

> Automatic settings are recommended for trusted hosts.

Creating Exceptions Using the Web Firewall Logs

Once logged in to the unit, select **Web Firewall Logs** from the **BASIC** tab to search for a log entry believed to be a false positive. These log entries are in red and have an action of DENY (active mode) or LOG (passive mode).



Time	Event Details	Client Details	Attack Details	Actions
DENIED Time 22:44:38.690 Date 2017-02-08 ID 15a219ddea1-a032f19	URL /~index.html Service IP:Port 99.99.224.2:80 Service Name service1 Protocol HTTP	Client IP 99.99.48.1 Country US Method GET	Attack Name Tilde in URL Path Attack Detail Rule security-policy	Fix Details
DENIED Time 22:43:25.29 Date 2017-02-08 ID 15a219cbee5-a032f19	URL /index.html Service IP:Port 99.99.224.2:80 Service Name service1 Protocol HTTP	Client IP 99.99.48.1 Country US Method GET	Attack Name SQL Injection in Parameter Attack Detail type="sql-injection-medium" pat Rule security-policy	Fix Details
LOGGED Time 22:40:15.241 Date 2017-02-08 ID 15a2199d95c-a032f19	URL /index.html Service IP:Port 99.99.224.2:80 Service Name service1 Protocol HTTP	Client IP 99.99.48.1 Country US Method GET	Attack Name SQL Injection in Parameter Attack Detail type="sql-injection-medium" pat Rule security-policy	Fix Details
LOGGED Time 22:40:15.241 Date 2017-02-08 ID 15a2199d95c-a032f19	URL /index.html Service IP:Port 99.99.224.2:80 Service Name service1 Protocol HTTP	Client IP 99.99.48.1 Country US Method GET	Attack Name SQL Injection in Parameter Attack Detail type="sql-injection-medium" pat Rule security-policy	Fix Details

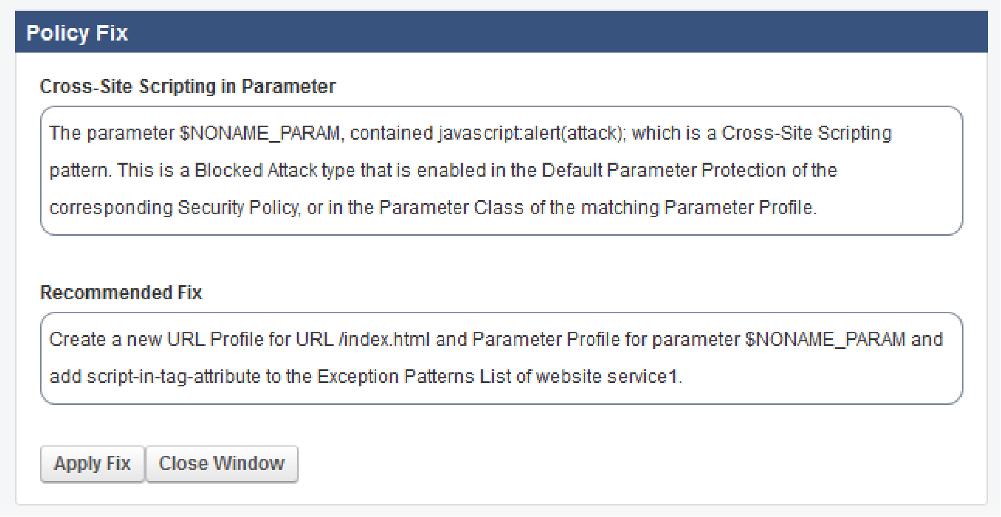
Scroll over to the right of the selected log and click **Fix**. A **Policy Fix** window appears.

The fix recommended by the Barracuda Web Application Firewall may be localized or global, depending upon which rule was violated. Accepting a recommendation can have the following impact:

1. **Web site profile (localized) modification:** As the most fine-grained security, changes impact only a given URL or parameter.
2. **Security Policy (global) modification:** As a policy shared by multiple applications, changes impact all applications using the security policy.

Examples of Fixes Suggested by the Barracuda Web Application Firewall

Example 1: Recommendation to Configure a Fine-Grained Rule.



Policy Fix

Cross-Site Scripting in Parameter

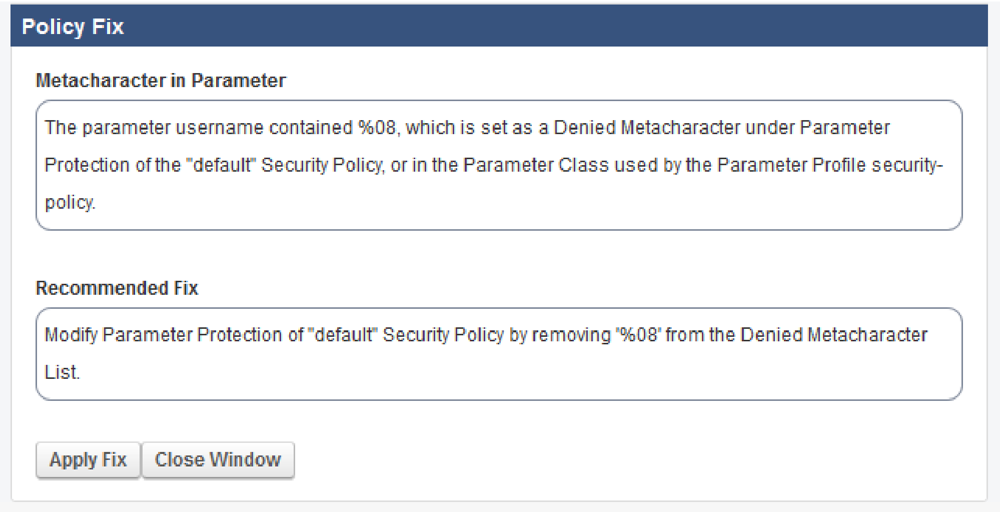
The parameter $NONAME_PARAM, contained javascript:alert(attack); which is a Cross-Site Scripting pattern. This is a Blocked Attack type that is enabled in the Default Parameter Protection of the corresponding Security Policy, or in the Parameter Class of the matching Parameter Profile.

Recommended Fix

Create a new URL Profile for URL /index.html and Parameter Profile for parameter $NONAME_PARAM and add script-in-tag-attribute to the Exception Patterns List of website service1.

Following the recommendation to create a URL profile for /modules.php creates an exception only for that particular page.

Example 2: Recommendation to Change the Configuration in Security Policy.



Policy Fix

Metacharacter in Parameter

The parameter username contained %08, which is set as a Denied Metacharacter under Parameter Protection of the "default" Security Policy, or in the Parameter Class used by the Parameter Profile security-policy.

Recommended Fix

Modify Parameter Protection of "default" Security Policy by removing '%08' from the Denied Metacharacter List.

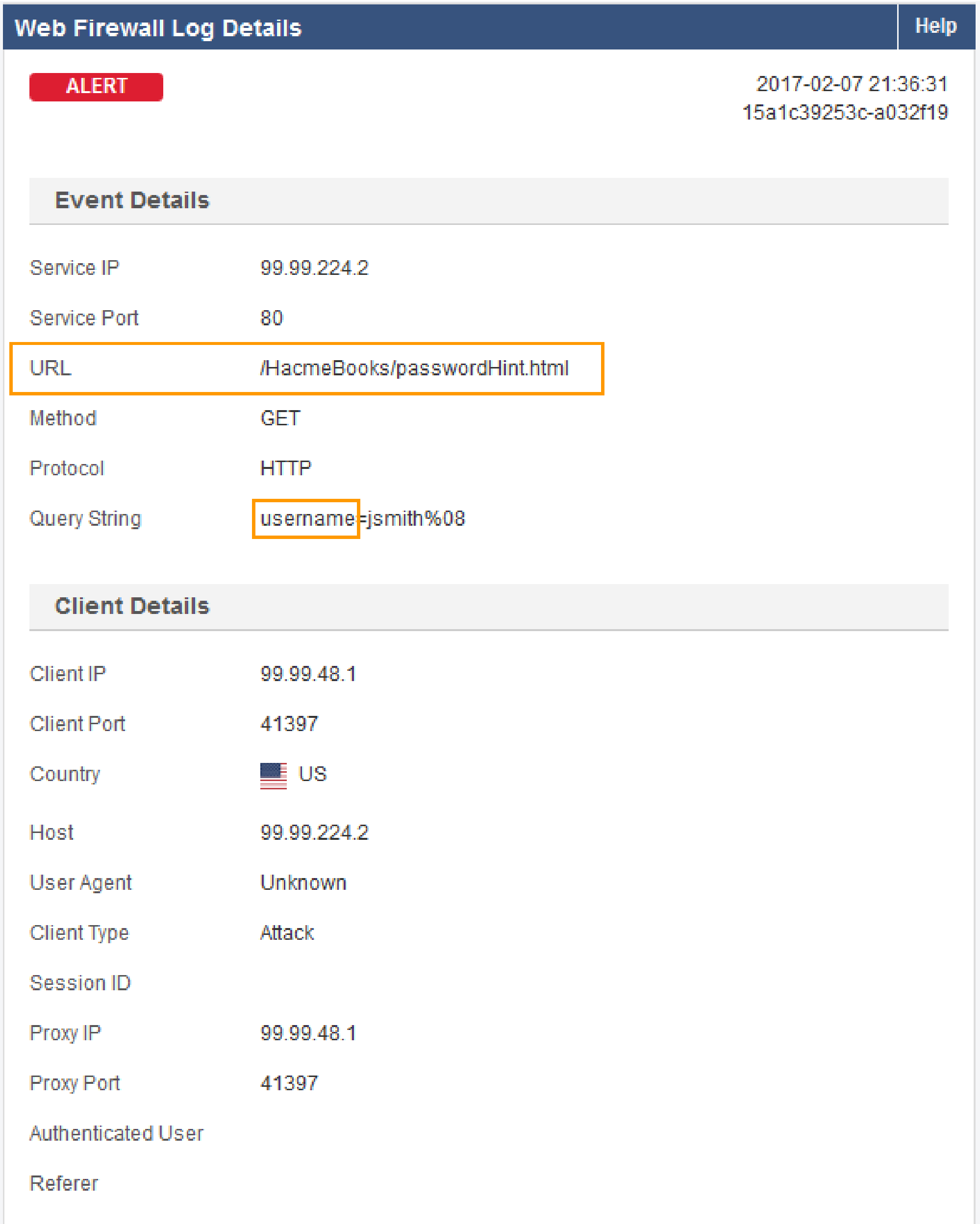
The suggested change to the Parameter Protection sub-policy of the default Security Policy would allow the meta-character (%08) in any parameter for any application using this security policy. To avoid an exception that applies globally, you can add an exception that only applies to the URL or parameter noted in the log.

Manually Configuring a Fine-Grained Rule

When you want to apply a local exception instead of a recommended global fix, you need to manually do a two-step process.

Step 1: Figure Out the Exception Specifics from Web Firewall Logs.

1. Scroll over to the selected log in the Web Firewall Logs and click **Details**.
2. Select the URL.
3. Note the parameter name in the **Query String**.
4. Close the **Web Firewall log Details** window.



Web Firewall Log Details

2017-02-07 21:36:31
15a1c39253c-a032f19

Event Details

Service IP	99.99.224.2
Service Port	80
URL	/HacmeBooks/passwordHint.html
Method	GET
Protocol	HTTP
Query String	username=jsmith%08

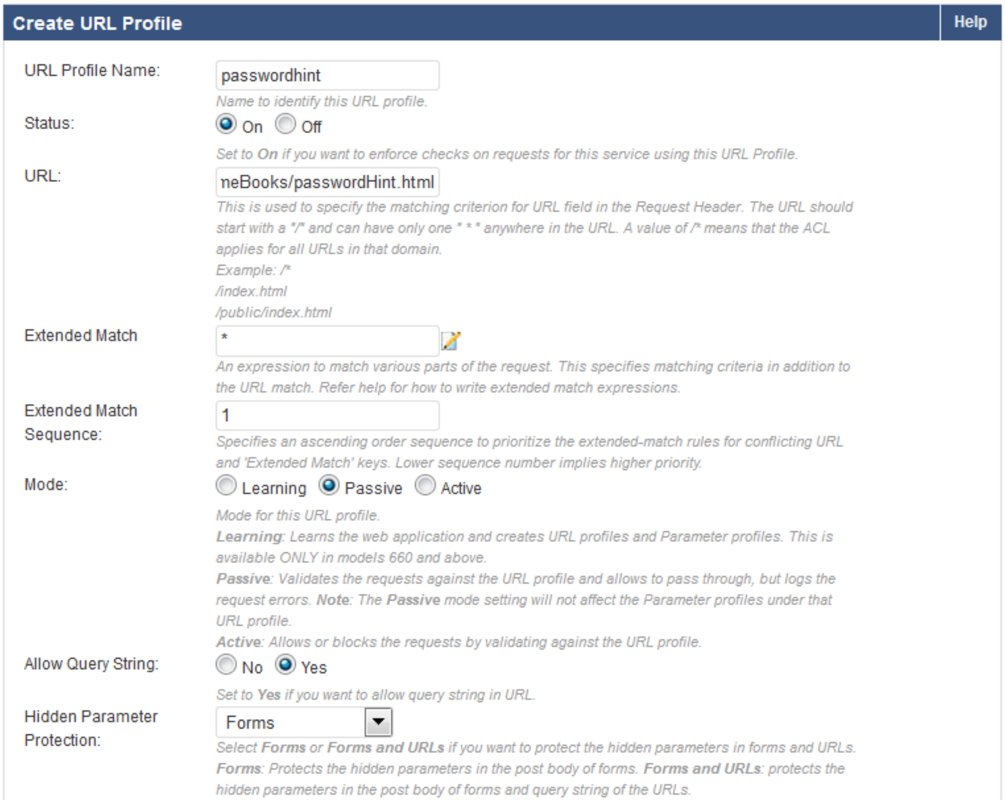
Client Details

Client IP	99.99.48.1
Client Port	41397
Country	US
Host	99.99.224.2
User Agent	Unknown
Client Type	Attack
Session ID	
Proxy IP	99.99.48.1
Proxy Port	41397
Authenticated User	
Referer	

Example: For the log shown above – VIP is **192.168.9.96** – Port 80. The URL is /HacmeBooks/passwordHint.html and the URL has a parameter called 'username'.

Step 2: Configure the Exception.

1. From the **WEBSITES** > **Website Profiles** page, select the appropriate service from the **Website** drop-down list (**192.168.9.96 : 80**).
2. In the **URL Profiles** section, click **Add URL**.
3. The **Create URL Profile** window appears.
4. Enter a name in the **URL Profile Name** field.
5. Paste the URL into the **URL** field (/HacmeBooks/passwordHint.html).
6. Click **Add**.



Create URL Profile Help

URL Profile Name: passwordhint
Name to identify this URL profile.

Status: ● On ○ Off
*Set to **On** if you want to enforce checks on requests for this service using this URL Profile.*

URL: neBooks/passwordHint.html
*This is used to specify the matching criterion for URL field in the Request Header. The URL should start with a "/" and can have only one " * " anywhere in the URL. A value of /* means that the ACL applies for all URLs in that domain.*
*Example: /**
/index.html
/public/index.html

Extended Match: *
An expression to match various parts of the request. This specifies matching criteria in addition to the URL match. Refer help for how to write extended match expressions.

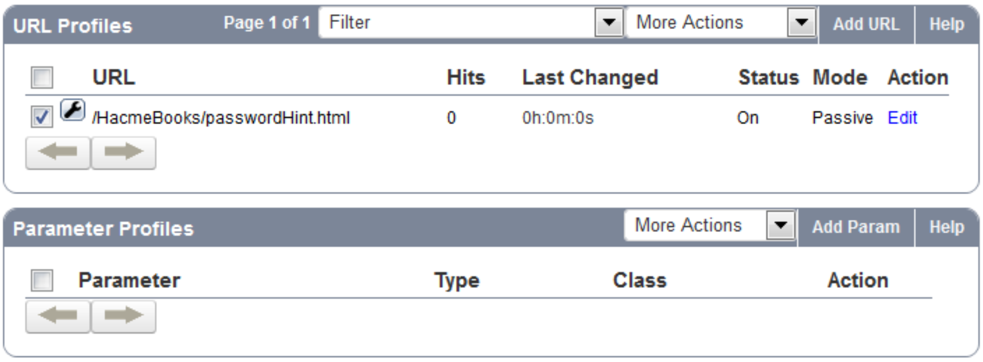
Extended Match Sequence: 1
Specifies an ascending order sequence to prioritize the extended-match rules for conflicting URL and 'Extended Match' keys. Lower sequence number implies higher priority.

Mode: ○ Learning ● Passive ○ Active
Mode for this URL profile.
***Learning**: Learns the web application and creates URL profiles and Parameter profiles. This is available ONLY in models 660 and above.*
***Passive**: Validates the requests against the URL profile and allows to pass through, but logs the request errors. **Note**: The **Passive** mode setting will not affect the Parameter profiles under that URL profile.*
***Active**: Allows or blocks the requests by validating against the URL profile.*

Allow Query String: ○ No ● Yes
*Set to **Yes** if you want to allow query string in URL.*

Hidden Parameter Protection: Forms
*Select **Forms** or **Forms and URLs** if you want to protect the hidden parameters in forms and URLs. **Forms**: Protects the hidden parameters in the post body of forms. **Forms and URLs**: protects the hidden parameters in the post body of forms and query string of the URLs.*

You should now see the new URL profile in the URL Profile section. Click **Edit** to make the necessary security exceptions to the URL. Click **Save** when done.



☐	URL	Hits	Last Changed	Status	Mode	Action
☑	/HacmeBooks/passwordHint.html	0	0h:0m:0s	On	Passive	Edit

☐	Parameter	Type	Class	Action

To specify parameter settings, you need to configure parameter profiles for the relevant URL Profile (Example: passwordHint).

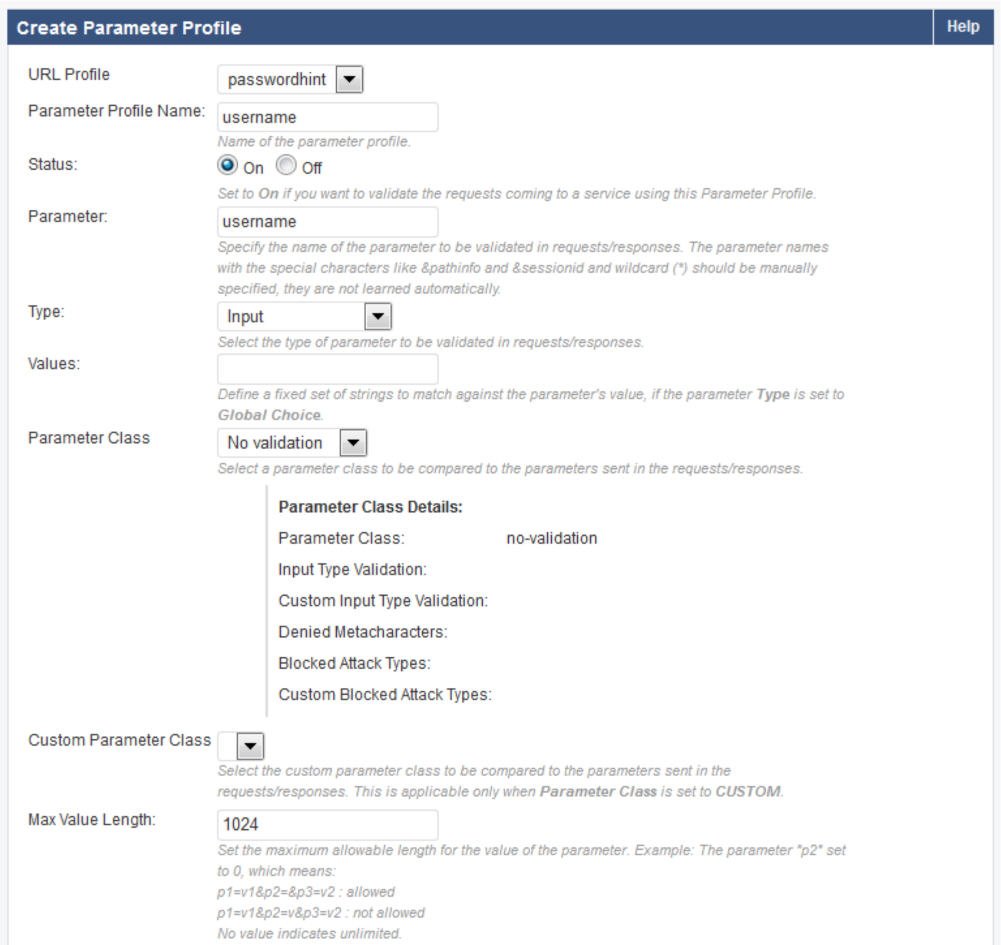
1. Click **Add Param** in the **Parameter Profiles** section.
2. The **Create Parameter Profile** window opens.
3. Select the appropriate URL profile from the drop-down list (Example: passwordHint).
4. Enter a name in the **Parameter Profile Name** field.
5. In the **Parameter** field, enter the parameter that you noted from the details of the Web Firewall Logs.
6. Select the appropriate Parameter Class – typically 'No Validation' is selected if it is not a specific

class.

7. Click **Add**.

You should now see the new parameter profile in the Parameter Profile section. Click **Edit** to make the necessary exceptions to the Parameter. Click **Save** when done.

The example below shows the created local exception to allow meta-character %08 in parameter username for URL profile passwordhint.



Create Parameter Profile

URL Profile: passwordhint

Parameter Profile Name: username

Name of the parameter profile.

Status: ● On ○ Off

*Set to **On** if you want to validate the requests coming to a service using this Parameter Profile.*

Parameter: username

Specify the name of the parameter to be validated in requests/responses. The parameter names with the special characters like &pathinfo and &sessionid and wildcard (*) should be manually specified, they are not learned automatically.

Type: Input

Select the type of parameter to be validated in requests/responses.

Values:

*Define a fixed set of strings to match against the parameter's value, if the parameter **Type** is set to **Global Choice**.*

Parameter Class: No validation

Select a parameter class to be compared to the parameters sent in the requests/responses.

Parameter Class Details:

Parameter Class: no-validation

Input Type Validation:

Custom Input Type Validation:

Denied Metacharacters:

Blocked Attack Types:

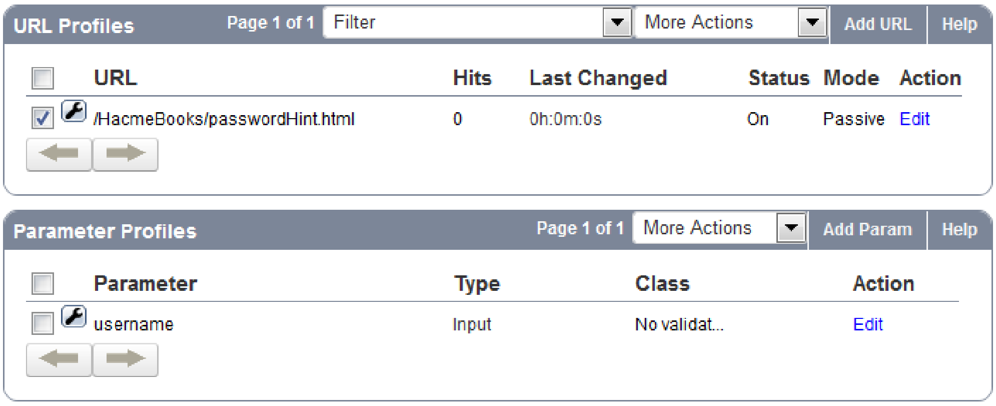
Custom Blocked Attack Types:

Custom Parameter Class:

*Select the custom parameter class to be compared to the parameters sent in the requests/responses. This is applicable only when **Parameter Class** is set to **CUSTOM**.*

Max Value Length: 1024

Set the maximum allowable length for the value of the parameter. Example: The parameter "p2" set to 0, which means:
p1=v1&p2=&p3=v2 : allowed
p1=v1&p2=v&p3=v2 : not allowed
No value indicates unlimited.

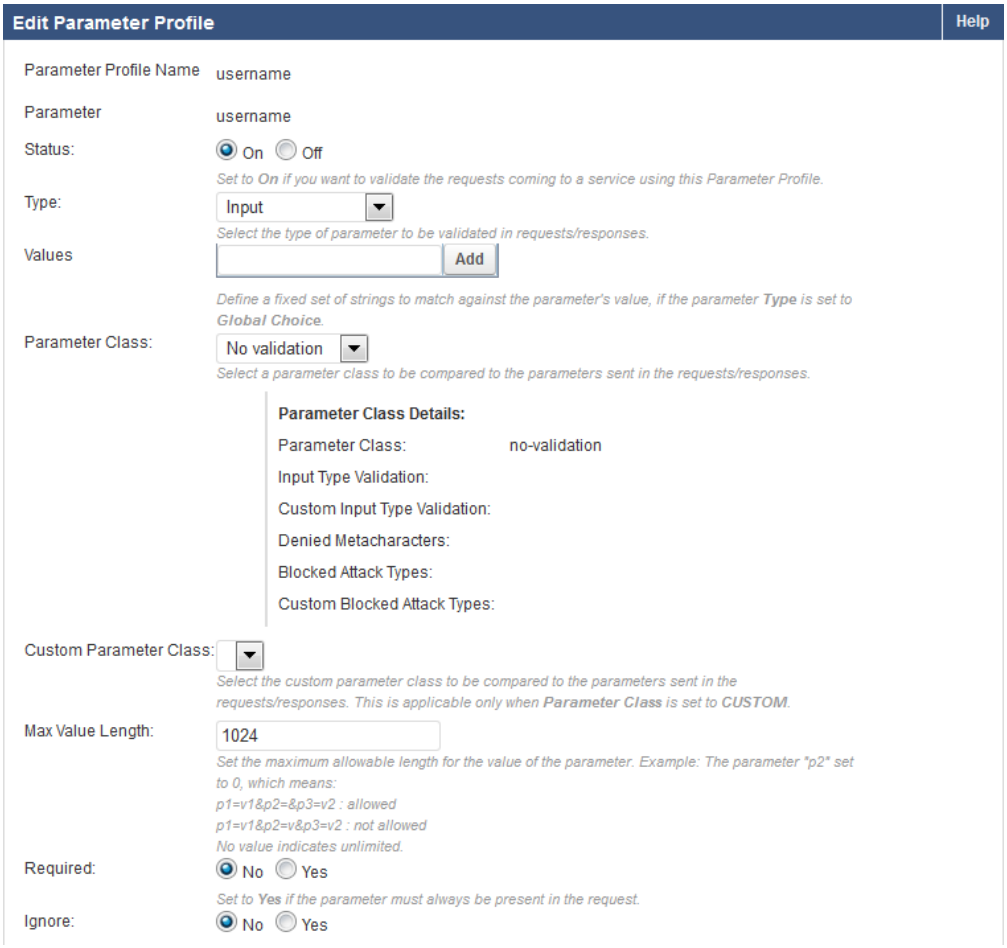


URL Profiles — Page 1 of 1 — Filter — More Actions — Add URL — Help

	URL	Hits	Last Changed	Status	Mode	Action
☑	/HacmeBooks/passwordHint.html	0	0h:0m:0s	On	Passive	Edit

Parameter Profiles — Page 1 of 1 — More Actions — Add Param — Help

	Parameter	Type	Class	Action
□	username	Input	No validat...	Edit



Edit Parameter Profile — Help

Parameter Profile Name	username
Parameter	username
Status:	● On ○ Off *Set to **On** if you want to validate the requests coming to a service using this Parameter Profile.*
Type:	Input *Select the type of parameter to be validated in requests/responses.*
Values	Add *Define a fixed set of strings to match against the parameter's value, if the parameter **Type** is set to **Global Choice**.*
Parameter Class:	No validation *Select a parameter class to be compared to the parameters sent in the requests/responses.*

Parameter Class Details:

Parameter Class:	no-validation
Input Type Validation:	
Custom Input Type Validation:	
Denied Metacharacters:	
Blocked Attack Types:	
Custom Blocked Attack Types:	

Custom Parameter Class:	*Select the custom parameter class to be compared to the parameters sent in the requests/responses. This is applicable only when **Parameter Class** is set to **CUSTOM**.*
Max Value Length:	1024 *Set the maximum allowable length for the value of the parameter. Example: The parameter "p2" set to 0, which means:* *p1=v1&p2=&p3=v2 : allowed* *p1=v1&p2=v&p3=v2 : not allowed* *No value indicates unlimited.*
Required:	● No ○ Yes *Set to **Yes** if the parameter must always be present in the request.*
Ignore:	● No ○ Yes

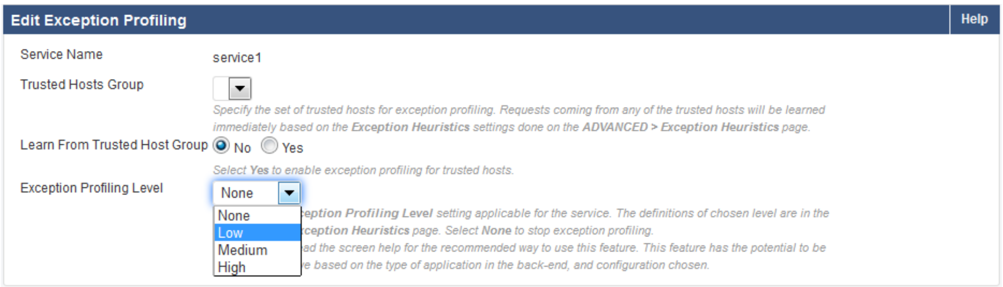
Using Exception Profiling to Generate Recommendations for Tuning

To configure exception profiling for a service:

1. From the **WEBSITES > Exception Profiling** page, identify the service for which you want exception profiling enabled.

2. Click **Edit** next to that service. The **Edit Exception Profiling** window appears.
3. To learn from a trusted hosts group, select the trusted host group from the **Trusted Hosts Group** drop-down list and set **Learn From Trusted Host Group** to *Yes*. For more information, see Fine Tuning Security Settings for a Trusted Hosts Group using Exception Profiling.
4. To learn from untrusted traffic, select the level of tolerance to violations (Low, Medium, or High) from the **Exception Profiling Level** drop-down list**.** For more information on Exception Profiling, see How to Configure Exception Profiling **.**
5. Click **Save**.

The figure below shows the **Exception Profiling Level** set to *Low* for untrusted traffic.



Edit Exception Profiling

Service Name: service1

Trusted Hosts Group:

*Specify the set of trusted hosts for exception profiling. Requests coming from any of the trusted hosts will be learned immediately based on the **Exception Heuristics** settings done on the **ADVANCED > Exception Heuristics** page.*

Learn From Trusted Host Group: ● No ○ Yes

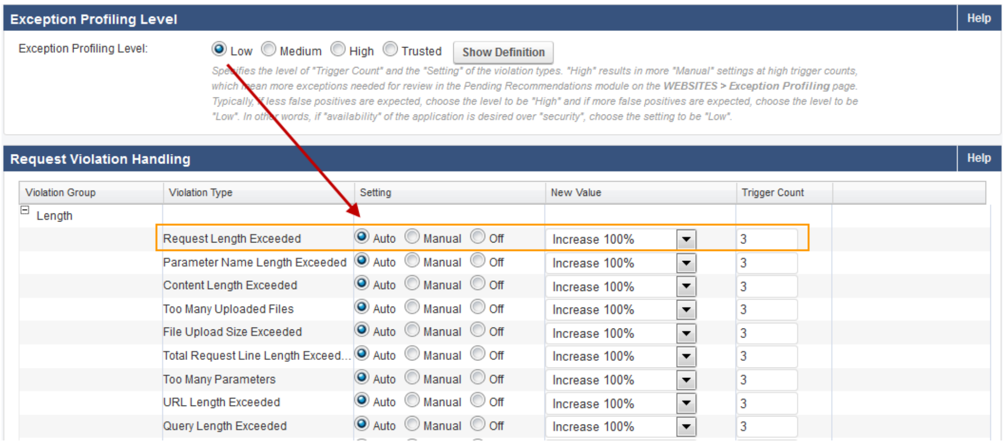
*Select **Yes** to enable exception profiling for trusted hosts.*

Exception Profiling Level: None

*…eption Profiling Level setting applicable for the service. The definitions of chosen level are in the …ception Heuristics page. Select **None** to stop exception profiling. …ad the screen help for the recommended way to use this feature. This feature has the potential to be …e based on the type of application in the back-end, and configuration chosen.*

Exception profiling provides default settings for each violation type. The settings indicate how exceptions update profiles (Automatically, Manually, or not at all), how the new setting in the profile is generated (for example, increasing the current value, or accepting the observed value), and how many times the logged error needs to be seen before generating an exception (Trigger Count). These default settings for an Exception Profiling Level can be edited and saved on the **WEBSITES > Exception Heuristics** page.

The figure below displays the default set of heuristics for the **Exception Profiling Level: Low**.



Exception Profiling Level

Exception Profiling Level: ● Low ○ Medium ○ High ○ Trusted

*Specifies the level of "Trigger Count" and the "Setting" of the violation types. "High" results in more "Manual" settings at high trigger counts, which mean more exceptions needed for review in the Pending Recommendations module on the **WEBSITES > Exception Profiling** page. Typically, if less false positives are expected, choose the level to be "High" and if more false positives are expected, choose the level to be "Low". In other words, if "availability" of the application is desired over "security", choose the setting to be "Low".*

Request Violation Handling

Violation Group	Violation Type	Setting	New Value	Trigger Count
⊟ Length				
	Request Length Exceeded	● Auto ○ Manual ○ Off	Increase 100%	3
	Parameter Name Length Exceeded	● Auto ○ Manual ○ Off	Increase 100%	3
	Content Length Exceeded	● Auto ○ Manual ○ Off	Increase 100%	3
	Too Many Uploaded Files	● Auto ○ Manual ○ Off	Increase 100%	3
	File Upload Size Exceeded	● Auto ○ Manual ○ Off	Increase 100%	3
	Total Request Line Length Exceed...	● Auto ○ Manual ○ Off	Increase 100%	3
	Too Many Parameters	● Auto ○ Manual ○ Off	Increase 100%	3
	URL Length Exceeded	● Auto ○ Manual ○ Off	Increase 100%	3
	Query Length Exceeded	● Auto ○ Manual ○ Off	Increase 100%	3

By default, all settings are set to *Auto* for the Exception profiling levels for untrusted traffic. The Trusted settings are either *Auto* or *Off*. For untrusted traffic, the *Manual* setting requires you to verify the exception before applying it, or you can turn exception profiling *Off* for a particular violation. If the traffic originates from trusted hosts, the trusted policy heuristics apply. If the traffic originates from non-trusted hosts, the selected **Exception Profiling** policy applies.

Manually Fine Tuning the Security Policy Using Exception Profiling

By default, each violation type is set to *Auto* on the **WEBSITES > Exception Heuristics** page. Therefore, whenever violations from unique sources are encountered the number of times indicated in **Trigger Count**, the profiles are automatically updated, thereby creating the respective profiles for the service. This applies *only* when exception profiling is enabled for the service on **WEBSITES > Exception Profiling**; that is, the **Exception Profiling Level** for the service is not equal to **None**.

To view encountered violations and manually apply desired recommended fixes, do the following:

Step 1: The Setting for the Desired Violation Type Should Be Manual.

1. From the **WEBSITES > Exception Heuristics** page, select the **Exception Profiling Level** (Low, Medium, or High) you want to modify. Note: Trusted does not support Manual exception creation.
2. In the **Request Violation Handling** section, identify the violation type(s) for which you wish to generate recommendations.
3. Change **Setting** to **Manual** next to the violation type(s). Also, change the settings in **New Value** and **Trigger Count** if required.
4. Click **Save**.

> Learned false positives are displayed on the **WEBSITES > Exception Profiling > Pending Recommendation** page every 600 seconds (10 minutes).

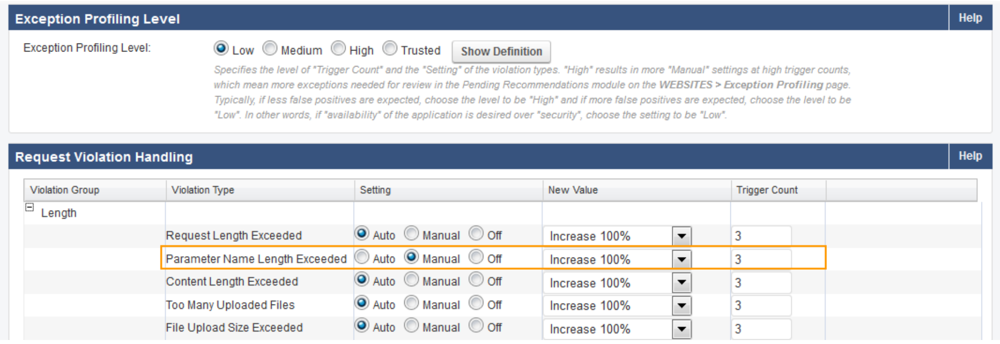
Step 2: Select the Recommendation and Apply Fix.

1. Go to the **WEBSITES > Exception Profiling** page.
2. In the **Pending Recommendations** section, view the recommendations for relevant violation type(s).
3. Select the check box(es) next to the recommendations you want to fix, and click **Apply Fix**.

Examples for Tuning the Security Policy Using Exception Profiling

Example 1: Parameter Name Length Exceeded

In this example, the violation type **Parameter Name Length exceeded** is set to *Manual*, **New Value** is set to *Increase 100%***,** and **Trigger Count** is set to ***3*** .



Exception Profiling Level Help

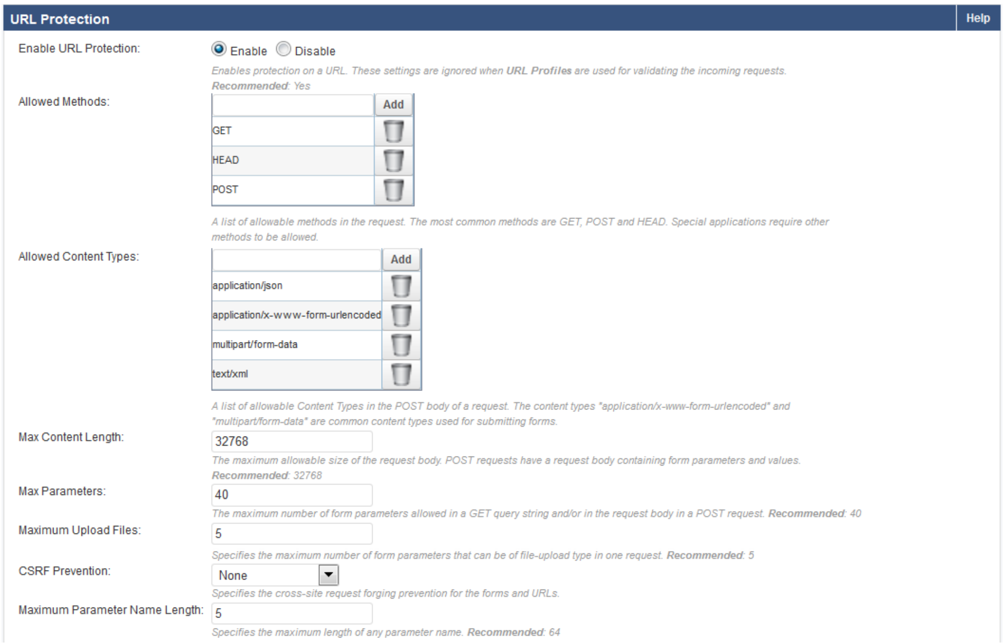
Exception Profiling Level: ● Low ○ Medium ○ High ○ Trusted **Show Definition**

*Specifies the level of "Trigger Count" and the "Setting" of the violation types. "High" results in more "Manual" settings at high trigger counts, which mean more exceptions needed for review in the Pending Recommendations module on the **WEBSITES > Exception Profiling** page. Typically, if less false positives are expected, choose the level to be "High" and if more false positives are expected, choose the level to be "Low". In other words, if "availability" of the application is desired over "security", choose the setting to be "Low".*

Request Violation Handling Help

Violation Group	Violation Type	Setting	New Value	Trigger Count
⊟ Length				
	Request Length Exceeded	● Auto ○ Manual ○ Off	Increase 100%	3
	Parameter Name Length Exceeded	○ Auto ● Manual ○ Off	Increase 100%	3
	Content Length Exceeded	● Auto ○ Manual ○ Off	Increase 100%	3
	Too Many Uploaded Files	● Auto ○ Manual ○ Off	Increase 100%	3
	File Upload Size Exceeded	● Auto ○ Manual ○ Off	Increase 100%	3

The **Max Parameter Name Length**, set on **SECURITY POLICIES > URL Protection**, is 5.



URL Protection Help

Enable URL Protection: ● Enable ○ Disable

*Enables protection on a URL. These settings are ignored when **URL Profiles** are used for validating the incoming requests. **Recommended**: Yes*

Allowed Methods: Add

- GET
- HEAD
- POST

A list of allowable methods in the request. The most common methods are GET, POST and HEAD. Special applications require other methods to be allowed.

Allowed Content Types: Add

- application/json
- application/x-www-form-urlencoded
- multipart/form-data
- text/xml

A list of allowable Content Types in the POST body of a request. The content types "application/x-www-form-urlencoded" and "multipart/form-data" are common content types used for submitting forms.

Max Content Length: 32768

*The maximum allowable size of the request body. POST requests have a request body containing form parameters and values. **Recommended**: 32768*

Max Parameters: 40

*The maximum number of form parameters allowed in a GET query string and/or in the request body in a POST request. **Recommended**: 40*

Maximum Upload Files: 5

*Specifies the maximum number of form parameters that can be of file-upload type in one request. **Recommended**: 5*

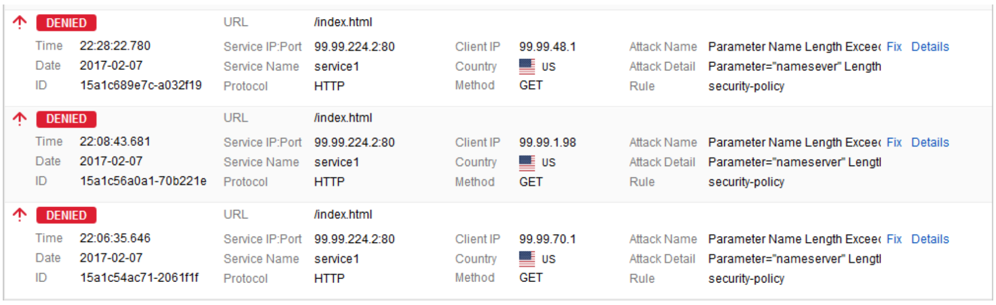
CSRF Prevention: None

Specifies the cross-site request forging prevention for the forms and URLs.

Maximum Parameter Name Length: 5

*Specifies the maximum length of any parameter name. **Recommended**: 64*

When three unique clients (based on the value set in **Trigger Count**) send requests with parameter name length 10, the violation is logged under **BASIC > Web Firewall Logs**.

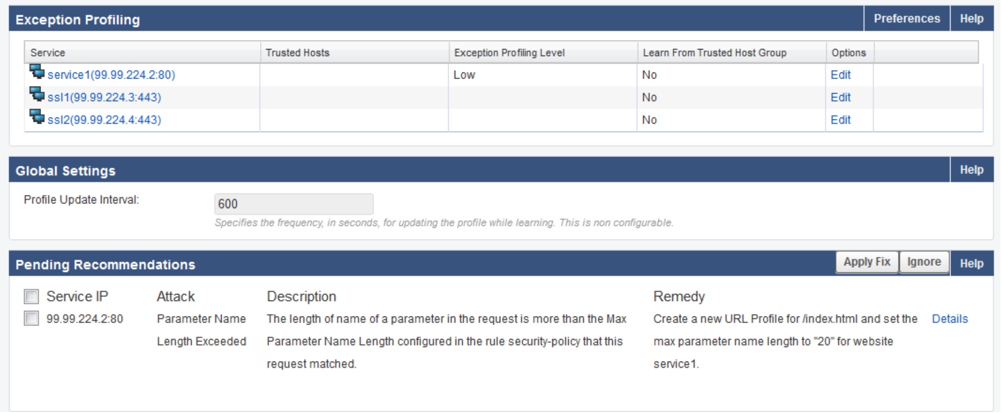


```
DENIED                        URL             /index.html
  Time  22:28:22.780          Service IP:Port 99.99.224.2:80   Client IP 99.99.48.1   Attack Name   Parameter Name Length Excee( Fix Details
  Date  2017-02-07            Service Name    service1         Country   US           Attack Detail Parameter="namesever" Length
  ID    15a1c689e7c-a032f19   Protocol        HTTP             Method    GET          Rule          security-policy

DENIED                        URL             /index.html
  Time  22:08:43.681          Service IP:Port 99.99.224.2:80   Client IP 99.99.1.98   Attack Name   Parameter Name Length Excee( Fix Details
  Date  2017-02-07            Service Name    service1         Country   US           Attack Detail Parameter="nameserver" Lengtl
  ID    15a1c56a0a1-70b221e   Protocol        HTTP             Method    GET          Rule          security-policy

DENIED                        URL             /index.html
  Time  22:06:35.646          Service IP:Port 99.99.224.2:80   Client IP 99.99.70.1   Attack Name   Parameter Name Length Excee( Fix Details
  Date  2017-02-07            Service Name    service1         Country   US           Attack Detail Parameter="nameserver" Lengtl
  ID    15a1c54ac71-2061f1f   Protocol        HTTP             Method    GET          Rule          security-policy
```

The recommendations are displayed after 600 seconds (10 minutes) on the **WEBSITES > Exception Profiling** page.



Service	Trusted Hosts	Exception Profiling Level	Learn From Trusted Host Group	Options
service1(99.99.224.2:80)		Low	No	Edit
ssl1(99.99.224.3:443)			No	Edit
ssl2(99.99.224.4:443)			No	Edit

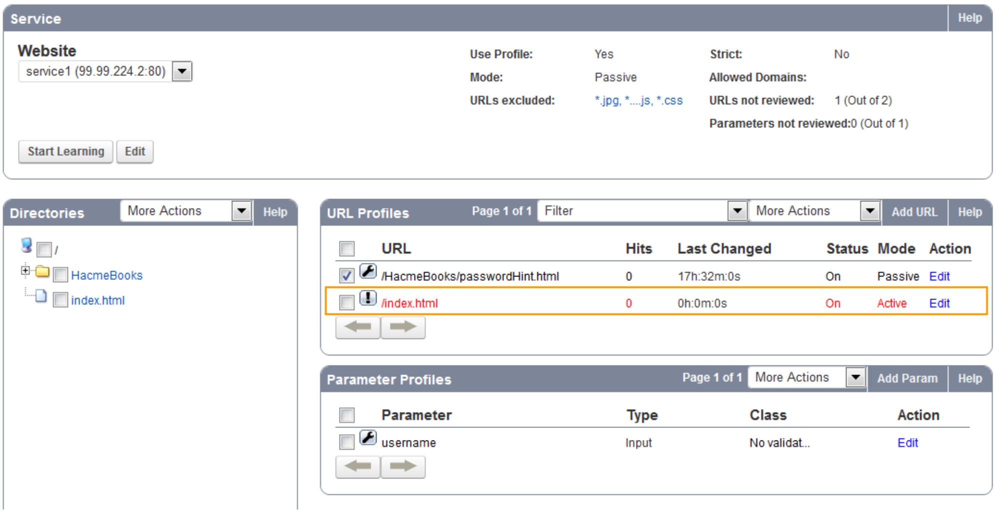
Profile Update Interval: 600

Specifies the frequency, in seconds, for updating the profile while learning. This is non configurable.

□ Service IP	Attack	Description	Remedy	
□ 99.99.224.2:80	Parameter Name Length Exceeded	The length of name of a parameter in the request is more than the Max Parameter Name Length configured in the rule security-policy that this request matched.	Create a new URL Profile for /index.html and set the max parameter name length to "20" for website service1.	Details

Click **Details** to see the log information. Select the check box(es) and click **Apply Fix** to apply the recommended fix.

Since **New Value** for **Parameter Name length exceeded** is set to *Increase 100%* on **WEBSITES > Exception Heuristics** and the parameter length in the request is 10, a new URL profile is created on the **WEBSITES > Website Profiles** page with the **Max Parameter Name Length** set to *20*.



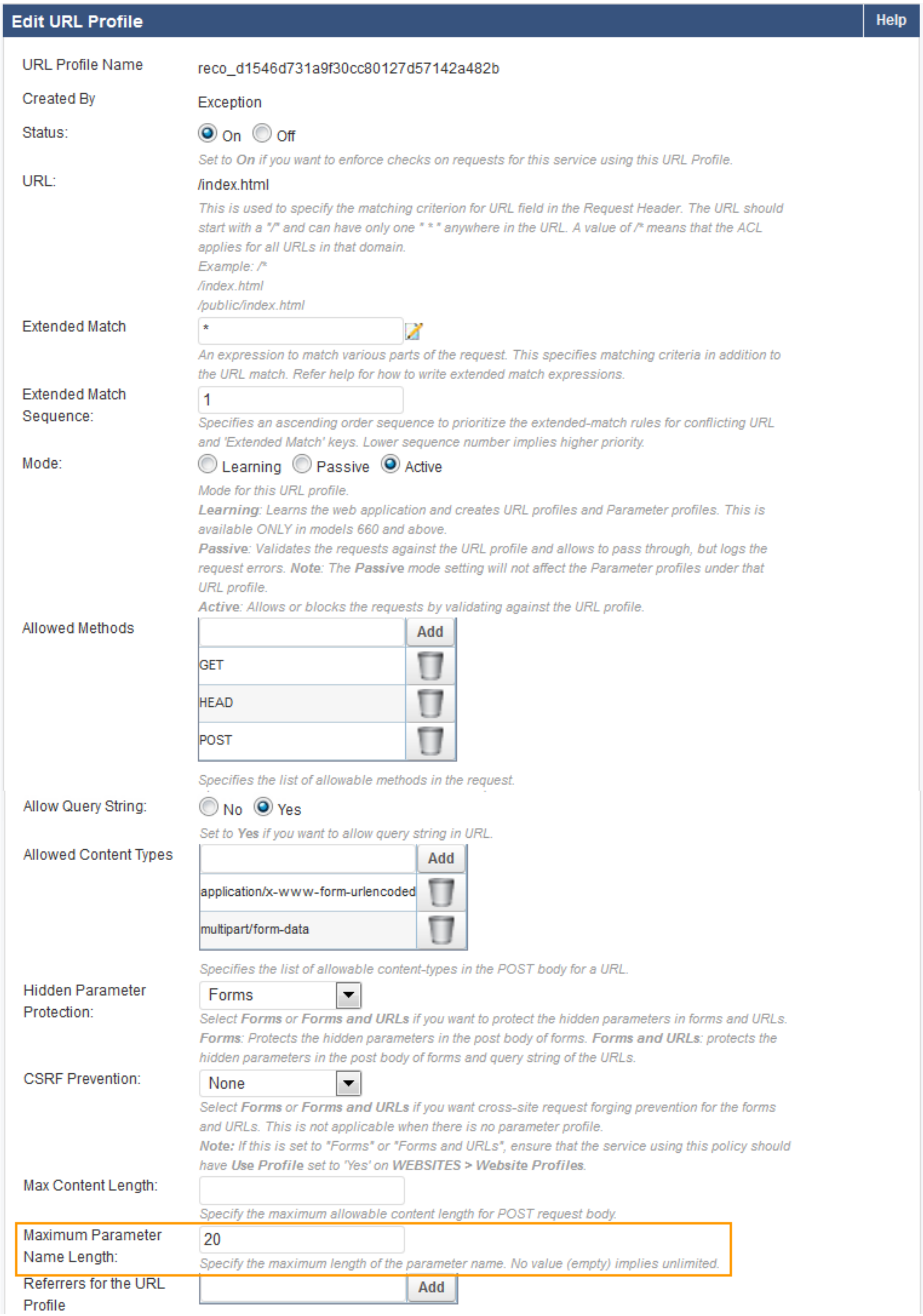
Website

service1 (99.99.224.2:80)

Use Profile:	Yes	Strict:	No
Mode:	Passive	Allowed Domains:	
URLs excluded:	*.jpg, *....js, *.css	URLs not reviewed:	1 (Out of 2)
		Parameters not reviewed:	0 (Out of 1)

□	URL	Hits	Last Changed	Status	Mode	Action
☑	/HacmeBooks/passwordHint.html	0	17h:32m:0s	On	Passive	Edit
□	/index.html	0	0h:0m:0s	On	Active	Edit

□	Parameter	Type	Class	Action
□	username	Input	No validat...	Edit



URL Profile Name: reco_d1546d731a9f30cc80127d57142a482b

Created By: Exception

Status: ● On ○ Off

*Set to **On** if you want to enforce checks on requests for this service using this URL Profile.*

URL: /index.html

*This is used to specify the matching criterion for URL field in the Request Header. The URL should start with a "/" and can have only one " * " anywhere in the URL. A value of /* means that the ACL applies for all URLs in that domain.*
*Example: /**
/index.html
/public/index.html

Extended Match: *

An expression to match various parts of the request. This specifies matching criteria in addition to the URL match. Refer help for how to write extended match expressions.

Extended Match Sequence: 1

Specifies an ascending order sequence to prioritize the extended-match rules for conflicting URL and 'Extended Match' keys. Lower sequence number implies higher priority.

Mode: ○ Learning ○ Passive ● Active

Mode for this URL profile.
***Learning**: Learns the web application and creates URL profiles and Parameter profiles. This is available ONLY in models 660 and above.*
***Passive**: Validates the requests against the URL profile and allows to pass through, but logs the request errors. **Note**: The **Passive** mode setting will not affect the Parameter profiles under that URL profile.*
***Active**: Allows or blocks the requests by validating against the URL profile.*

Allowed Methods: Add

- GET
- HEAD
- POST

Specifies the list of allowable methods in the request.

Allow Query String: ○ No ● Yes

*Set to **Yes** if you want to allow query string in URL.*

Allowed Content Types: Add

- application/x-www-form-urlencoded
- multipart/form-data

Specifies the list of allowable content-types in the POST body for a URL.

Hidden Parameter Protection: Forms

*Select **Forms** or **Forms and URLs** if you want to protect the hidden parameters in forms and URLs. **Forms**: Protects the hidden parameters in the post body of forms. **Forms and URLs**: protects the hidden parameters in the post body of forms and query string of the URLs.*

CSRF Prevention: None

*Select **Forms** or **Forms and URLs** if you want cross-site request forging prevention for the forms and URLs. This is not applicable when there is no parameter profile.*
***Note:** If this is set to "Forms" or "Forms and URLs", ensure that the service using this policy should have **Use Profile** set to 'Yes' on **WEBSITES > Website Profiles**.*

Max Content Length:

Specify the maximum allowable content length for POST request body.

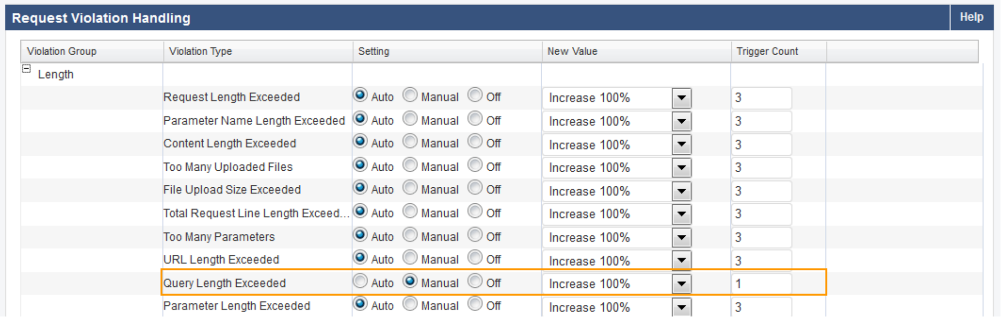
Maximum Parameter Name Length: 20

Specify the maximum length of the parameter name. No value (empty) implies unlimited.

Referrers for the URL Profile: Add

Example 2: Query Length Exceeded.

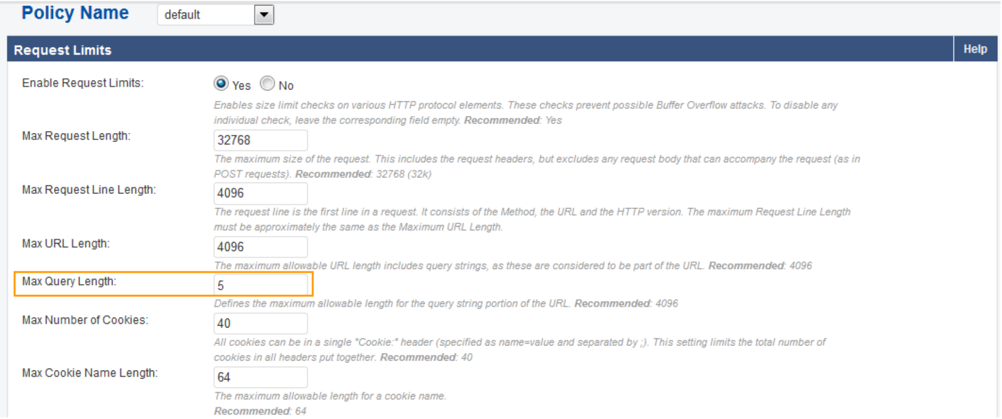
In this example, **Query length exceeded** is set to *Manual*, **New Value** is set to ***Increase 100%*** and **Trigger Count** is set to *3*.



Request Violation Handling Help

Violation Group	Violation Type	Setting	New Value	Trigger Count
⊟ Length				
	Request Length Exceeded	● Auto ○ Manual ○ Off	Increase 100%	3
	Parameter Name Length Exceeded	● Auto ○ Manual ○ Off	Increase 100%	3
	Content Length Exceeded	● Auto ○ Manual ○ Off	Increase 100%	3
	Too Many Uploaded Files	● Auto ○ Manual ○ Off	Increase 100%	3
	File Upload Size Exceeded	● Auto ○ Manual ○ Off	Increase 100%	3
	Total Request Line Length Exceed...	● Auto ○ Manual ○ Off	Increase 100%	3
	Too Many Parameters	● Auto ○ Manual ○ Off	Increase 100%	3
	URL Length Exceeded	● Auto ○ Manual ○ Off	Increase 100%	3
	Query Length Exceeded	○ Auto ● Manual ○ Off	Increase 100%	1
	Parameter Length Exceeded	● Auto ○ Manual ○ Off	Increase 100%	3

The **Max Query Length**, specified on the **SECURITY POLICIES > Request Limits**, is **5**.

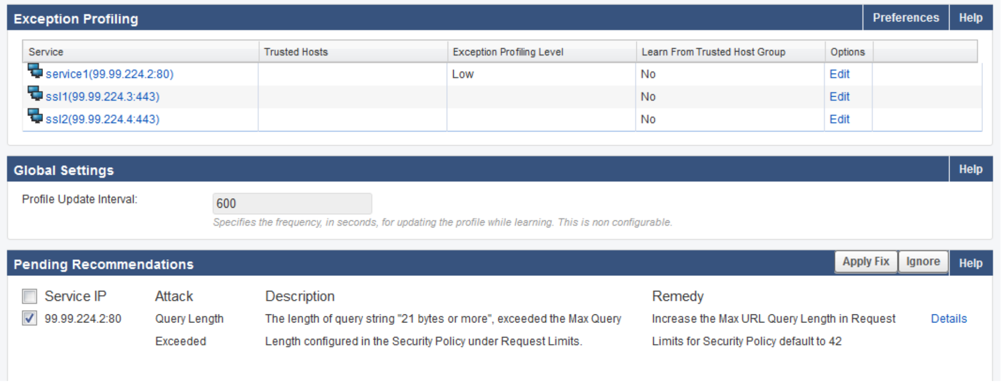


Policy Name default

Request Limits Help

Enable Request Limits:	● Yes ○ No	*Enables size limit checks on various HTTP protocol elements. These checks prevent possible Buffer Overflow attacks. To disable any individual check, leave the corresponding field empty.* ***Recommended**: Yes*
Max Request Length:	32768	*The maximum size of the request. This includes the request headers, but excludes any request body that can accompany the request (as in POST requests).* ***Recommended**: 32768 (32k)*
Max Request Line Length:	4096	*The request line is the first line in a request. It consists of the Method, the URL and the HTTP version. The maximum Request Line Length must be approximately the same as the Maximum URL Length.*
Max URL Length:	4096	*The maximum allowable URL length includes query strings, as these are considered to be part of the URL.* ***Recommended**: 4096*
Max Query Length:	5	*Defines the maximum allowable length for the query string portion of the URL.* ***Recommended**: 4096*
Max Number of Cookies:	40	*All cookies can be in a single "Cookie:" header (specified as name=value and separated by ;). This setting limits the total number of cookies in all headers put together.* ***Recommended**: 40*
Max Cookie Name Length:	64	*The maximum allowable length for a cookie name.* ***Recommended**: 64*

Recommendation generated on **WEBSITES > Exception Profiling**:



Exception Profiling Preferences Help

Service	Trusted Hosts	Exception Profiling Level	Learn From Trusted Host Group	Options
service1(99.99.224.2:80)		Low	No	Edit
ssl1(99.99.224.3:443)			No	Edit
ssl2(99.99.224.4:443)			No	Edit

Global Settings Help

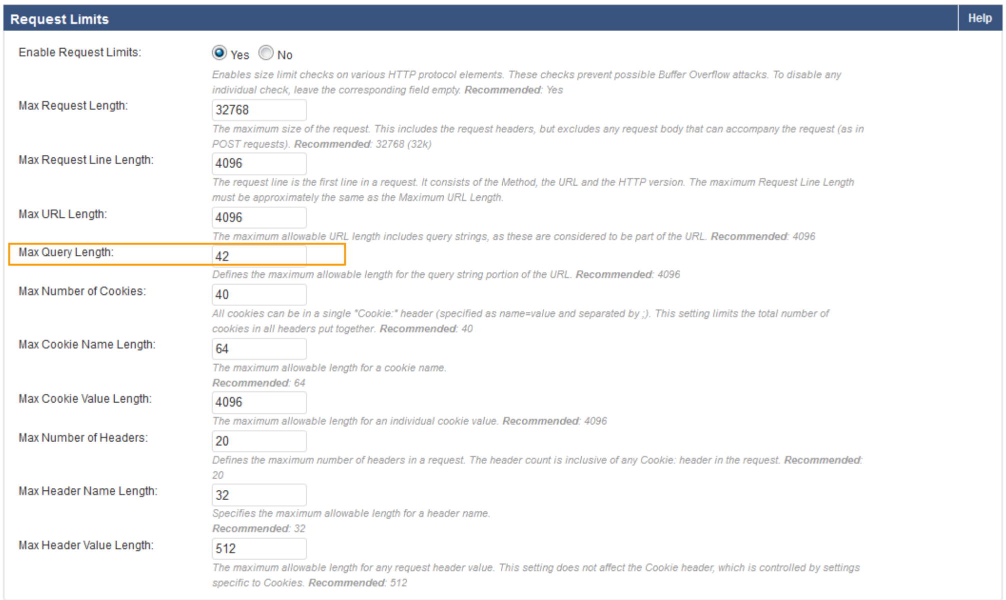
Profile Update Interval: 600

Specifies the frequency, in seconds, for updating the profile while learning. This is non configurable.

Pending Recommendations Apply Fix Ignore Help

□ Service IP	Attack	Description	Remedy	
☑ 99.99.224.2:80	Query Length Exceeded	The length of query string "21 bytes or more", exceeded the Max Query Length configured in the Security Policy under Request Limits.	Increase the Max URL Query Length in Request Limits for Security Policy default to 42	Details

Clicking **Apply Fix** increases the **Max Query length** to 24 on **SECURITY POLICIES > Request Limits**.



Enable Request Limits: ● Yes ○ No

Enables size limit checks on various HTTP protocol elements. These checks prevent possible Buffer Overflow attacks. To disable any individual check, leave the corresponding field empty. ***Recommended****: Yes*

Max Request Length: 32768

The maximum size of the request. This includes the request headers, but excludes any request body that can accompany the request (as in POST requests). ***Recommended****: 32768 (32k)*

Max Request Line Length: 4096

The request line is the first line in a request. It consists of the Method, the URL and the HTTP version. The maximum Request Line Length must be approximately the same as the Maximum URL Length.

Max URL Length: 4096

The maximum allowable URL length includes query strings, as these are considered to be part of the URL. ***Recommended****: 4096*

Max Query Length: 42

Defines the maximum allowable length for the query string portion of the URL. ***Recommended****: 4096*

Max Number of Cookies: 40

All cookies can be in a single "Cookie:" header (specified as name=value and separated by ;). This setting limits the total number of cookies in all headers put together. ***Recommended****: 40*

Max Cookie Name Length: 64

The maximum allowable length for a cookie name.
Recommended*: 64*

Max Cookie Value Length: 4096

The maximum allowable length for an individual cookie value. ***Recommended****: 4096*

Max Number of Headers: 20

Defines the maximum number of headers in a request. The header count is inclusive of any Cookie: header in the request. ***Recommended****: 20*

Max Header Name Length: 32

Specifies the maximum allowable length for a header name.
Recommended*: 32*

Max Header Value Length: 512

The maximum allowable length for any request header value. This setting does not affect the Cookie header, which is controlled by settings specific to Cookies. ***Recommended****: 512*

Figures