AWS WAF

API Reference

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Welcome

AWS WAF

This is the *AWS WAF API Reference* for using AWS WAF with Amazon CloudFront. The AWS WAF actions and data types listed in the reference are available for protecting Amazon CloudFront distributions. You can use these actions and data types via the endpoint *waf.amazonaws.com*. This guide is for developers who need detailed information about the AWS WAF API actions, data types, and errors. For detailed information about AWS WAF features and an overview of how to use the AWS WAF API, see the AWS WAF Developer Guide.

AWS WAF Regional

This is the *AWS WAF Regional API Reference* for using AWS WAF with Elastic Load Balancing (ELB) Application Load Balancers. The AWS WAF actions and data types listed in the reference are available for protecting Application Load Balancers. You can use these actions and data types by means of the endpoints listed in AWS Regions and Endpoints. This guide is for developers who need detailed information about the AWS WAF API actions, data types, and errors. For detailed information about AWS WAF features and an overview of how to use the AWS WAF API, see the AWS WAF Developer Guide.

Actions

The following actions are supported by AWS WAF:

- CreateByteMatchSet (p. 8)
- CreateGeoMatchSet (p. 11)
- CreateIPSet (p. 14)
- CreateRateBasedRule (p. 17)
- CreateRegexMatchSet (p. 22)
- CreateRegexPatternSet (p. 25)
- CreateRule (p. 28)
- CreateRuleGroup (p. 32)
- CreateSizeConstraintSet (p. 35)
- CreateSqlInjectionMatchSet (p. 38)
- CreateWebACL (p. 41)
- CreateXssMatchSet (p. 45)
- DeleteByteMatchSet (p. 48)
- DeleteGeoMatchSet (p. 51)
- DeleteIPSet (p. 54)
- DeleteLoggingConfiguration (p. 57)
- DeletePermissionPolicy (p. 59)
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- DeleteRegexMatchSet (p. 64)
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- GetChangeTokenStatus (p. 92)
- GetGeoMatchSet (p. 94)
- GetIPSet (p. 96)
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- GetRateBasedRule (p. 102)
- GetRateBasedRuleManagedKeys (p. 104)
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- GetRule (p. 111)
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- ListXssMatchSets (p. 156)
- PutLoggingConfiguration (p. 158)
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- UpdateGeoMatchSet (p. 168)
- UpdateIPSet (p. 172)
- UpdateRateBasedRule (p. 176)
- UpdateRegexMatchSet (p. 180)
- UpdateRegexPatternSet (p. 184)
- UpdateRule (p. 188)
- UpdateRuleGroup (p. 192)
- UpdateSizeConstraintSet (p. 196)
- UpdateSqlInjectionMatchSet (p. 200)
- UpdateWebACL (p. 204)
- UpdateXssMatchSet (p. 209)

The following actions are supported by AWS WAF Regional:

- AssociateWebACL (p. 215)
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- CreateIPSet (p. 223)
- CreateRateBasedRule (p. 226)
- CreateRegexMatchSet (p. 231)
- CreateRegexPatternSet (p. 234)
- CreateRule (p. 237)
- CreateRuleGroup (p. 241)
- CreateSizeConstraintSet (p. 244)

- CreateSqlInjectionMatchSet (p. 247)
- CreateWebACL (p. 250)
- CreateXssMatchSet (p. 254)
- DeleteByteMatchSet (p. 257)
- DeleteGeoMatchSet (p. 260)
- DeleteIPSet (p. 263)
- DeleteLoggingConfiguration (p. 266)
- DeletePermissionPolicy (p. 268)
- DeleteRateBasedRule (p. 270)
- DeleteRegexMatchSet (p. 273)
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- DeleteRule (p. 279)
- DeleteRuleGroup (p. 282)
- DeleteSizeConstraintSet (p. 285)
- DeleteSqlInjectionMatchSet (p. 288)
- DeleteWebACL (p. 291)
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- UpdateRateBasedRule (p. 393)
- UpdateRegexMatchSet (p. 397)
- UpdateRegexPatternSet (p. 401)
- UpdateRule (p. 405)
- UpdateRuleGroup (p. 409)
- UpdateSizeConstraintSet (p. 413)
- UpdateSqlInjectionMatchSet (p. 417)
- UpdateWebACL (p. 421)
- UpdateXssMatchSet (p. 426)

AWS WAF

The following actions are supported by AWS WAF:

- CreateByteMatchSet (p. 8)
- CreateGeoMatchSet (p. 11)
- CreateIPSet (p. 14)
- CreateRateBasedRule (p. 17)
- CreateRegexMatchSet (p. 22)
- CreateRegexPatternSet (p. 25)
- CreateRule (p. 28)
- CreateRuleGroup (p. 32)
- CreateSizeConstraintSet (p. 35)
- CreateSqlInjectionMatchSet (p. 38)
- CreateWebACL (p. 41)
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- DeleteRegexPatternSet (p. 67)
- DeleteRule (p. 70)
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- DeleteSizeConstraintSet (p. 76)
- DeleteSqlInjectionMatchSet (p. 79)
- DeleteWebACL (p. 82)
- DeleteXssMatchSet (p. 85)
- GetByteMatchSet (p. 88)
- GetChangeToken (p. 90)
- GetChangeTokenStatus (p. 92)
- GetGeoMatchSet (p. 94)
- GetIPSet (p. 96)
- GetLoggingConfiguration (p. 98)
- GetPermissionPolicy (p. 100)
- GetRateBasedRule (p. 102)
- GetRateBasedRuleManagedKeys (p. 104)
- GetRegexMatchSet (p. 107)
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- ListSizeConstraintSets (p. 148)
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- ListWebACLs (p. 154)
- ListXssMatchSets (p. 156)
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- PutPermissionPolicy (p. 161)
- UpdateByteMatchSet (p. 164)
- UpdateGeoMatchSet (p. 168)
- UpdateIPSet (p. 172)
- UpdateRateBasedRule (p. 176)

- UpdateRegexMatchSet (p. 180)
- UpdateRegexPatternSet (p. 184)
- UpdateRule (p. 188)
- UpdateRuleGroup (p. 192)
- UpdateSizeConstraintSet (p. 196)
- UpdateSqlInjectionMatchSet (p. 200)
- UpdateWebACL (p. 204)
- UpdateXssMatchSet (p. 209)

CreateByteMatchSet

Service: AWS WAF

Creates a `ByteMatchSet`. You then use UpdateByteMatchSet (p. 164) to identify the part of a web request that you want AWS WAF to inspect, such as the values of the `User-Agent` header or the query string. For example, you can create a `ByteMatchSet` that matches any requests with `User-Agent` headers that contain the string `BadBot`. You can then configure AWS WAF to reject those requests.

To create and configure a `ByteMatchSet`, perform the following steps:

1. Use GetChangeToken (p. 90) to get the change token that you provide in the `ChangeToken` parameter of a `CreateByteMatchSet` request.
2. Submit a `CreateByteMatchSet` request.
3. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an `UpdateByteMatchSet` request.
4. Submit an UpdateByteMatchSet (p. 164) request to specify the part of the request that you want AWS WAF to inspect (for example, the header or the URI) and the value that you want AWS WAF to watch for.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "Name": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 8)

The value returned by the most recent call to GetChangeToken (p. 90).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

Name (p. 8)

A friendly name or description of the ByteMatchSet (p. 436). You can't change `Name` after you create a `ByteMatchSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ByteMatchSet": {
      "ByteMatchSetId": "string",
      "ByteMatchTuples": [
         {
            "FieldToMatch": {
               "Data": "string",
               "Type": "string"
            },
            "PositionalConstraint": "string",
            "TargetString": blob,
            "TextTransformation": "string"
         }
      ],
      "Name": "string"
   },
   "ChangeToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ByteMatchSet (p. 9)

A ByteMatchSet (p. 436) that contains no `ByteMatchTuple` objects.

Type: ByteMatchSet (p. 436) object

ChangeToken (p. 9)

The `ChangeToken` that you used to submit the `CreateByteMatchSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 92).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFDisallowedNameException

The name specified is invalid.

HTTP Status Code: 400

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateGeoMatchSet

Service: AWS WAF

Creates an GeoMatchSet (p. 447), which you use to specify which web requests you want to allow or block based on the country that the requests originate from. For example, if you're receiving a lot of requests from one or more countries and you want to block the requests, you can create an `GeoMatchSet` that contains those countries and then configure AWS WAF to block the requests.

To create and configure a `GeoMatchSet`, perform the following steps:

1. Use GetChangeToken (p. 90) to get the change token that you provide in the `ChangeToken` parameter of a `CreateGeoMatchSet` request.
2. Submit a `CreateGeoMatchSet` request.
3. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an UpdateGeoMatchSet (p. 168) request.
4. Submit an `UpdateGeoMatchSetSet` request to specify the countries that you want AWS WAF to watch for.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "Name": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 11)

The value returned by the most recent call to GetChangeToken (p. 90).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

Name (p. 11)

A friendly name or description of the GeoMatchSet (p. 447). You can't change `Name` after you create the `GeoMatchSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string",
   "GeoMatchSet": {
      "GeoMatchConstraints": [
         {
            "Type": "string",
            "Value": "string"
         }
      ],
      "GeoMatchSetId": "string",
      "Name": "string"
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 12)

The `ChangeToken` that you used to submit the `CreateGeoMatchSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 92).

Type: String

Length Constraints: Minimum length of 1.

GeoMatchSet (p. 12)

The GeoMatchSet (p. 447) returned in the `CreateGeoMatchSet` response. The `GeoMatchSet` contains no `GeoMatchConstraints`.

Type: GeoMatchSet (p. 447) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFDisallowedNameException

The name specified is invalid.

HTTP Status Code: 400

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateIPSet

Service: AWS WAF

Creates an IPSet (p. 453), which you use to specify which web requests you want to allow or block based on the IP addresses that the requests originate from. For example, if you're receiving a lot of requests from one or more individual IP addresses or one or more ranges of IP addresses and you want to block the requests, you can create an `IPSet` that contains those IP addresses and then configure AWS WAF to block the requests.

To create and configure an `IPSet`, perform the following steps:

1. Use GetChangeToken (p. 90) to get the change token that you provide in the `ChangeToken` parameter of a `CreateIPSet` request.
2. Submit a `CreateIPSet` request.
3. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an UpdateIPSet (p. 172) request.
4. Submit an `UpdateIPSet` request to specify the IP addresses that you want AWS WAF to watch for.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "Name": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 14)

The value returned by the most recent call to GetChangeToken (p. 90).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

Name (p. 14)

A friendly name or description of the IPSet (p. 453). You can't change `Name` after you create the `IPSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string",
   "IPSet": {
      "IPSetDescriptors": [
         {
            "Type": "string",
            "Value": "string"
         }
      ],
      "IPSetId": "string",
      "Name": "string"
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 15)

The `ChangeToken` that you used to submit the `CreateIPSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 92).

Type: String

Length Constraints: Minimum length of 1.

IPSet (p. 15)

The IPSet (p. 453) returned in the `CreateIPSet` response.

Type: IPSet (p. 453) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFDisallowedNameException

The name specified is invalid.

HTTP Status Code: 400

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateRateBasedRule

Service: AWS WAF

Creates a RateBasedRule (p. 461). The `RateBasedRule` contains a `RateLimit`, which specifies the maximum number of requests that AWS WAF allows from a specified IP address in a five-minute period. The `RateBasedRule` also contains the `IPSet` objects, `ByteMatchSet` objects, and other predicates that identify the requests that you want to count or block if these requests exceed the `RateLimit`.

If you add more than one predicate to a `RateBasedRule`, a request not only must exceed the `RateLimit`, but it also must match all the specifications to be counted or blocked. For example, suppose you add the following to a `RateBasedRule`:

- An `IPSet` that matches the IP address `192.0.2.44/32`
- A `ByteMatchSet` that matches `BadBot` in the `User-Agent` header

Further, you specify a `RateLimit` of 15,000.

You then add the `RateBasedRule` to a `WebACL` and specify that you want to block requests that meet the conditions in the rule. For a request to be blocked, it must come from the IP address 192.0.2.44 *and* the `User-Agent` header in the request must contain the value `BadBot`. Further, requests that match these two conditions must be received at a rate of more than 15,000 requests every five minutes. If both conditions are met and the rate is exceeded, AWS WAF blocks the requests. If the rate drops below 15,000 for a five-minute period, AWS WAF no longer blocks the requests.

As a second example, suppose you want to limit requests to a particular page on your site. To do this, you could add the following to a `RateBasedRule`:

- A `ByteMatchSet` with `FieldToMatch` of `URI`
- A `PositionalConstraint` of `STARTS_WITH`
- A `TargetString` of `login`

Further, you specify a `RateLimit` of 15,000.

By adding this `RateBasedRule` to a `WebACL`, you could limit requests to your login page without affecting the rest of your site.

To create and configure a `RateBasedRule`, perform the following steps:

1. Create and update the predicates that you want to include in the rule. For more information, see CreateByteMatchSet (p. 8), CreateIPSet (p. 14), and CreateSqlInjectionMatchSet (p. 38).
2. Use GetChangeToken (p. 90) to get the change token that you provide in the `ChangeToken` parameter of a `CreateRule` request.
3. Submit a `CreateRateBasedRule` request.
4. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an UpdateRule (p. 188) request.
5. Submit an `UpdateRateBasedRule` request to specify the predicates that you want to include in the rule.
6. Create and update a `WebACL` that contains the `RateBasedRule`. For more information, see CreateWebACL (p. 41).

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "MetricName": "string",
   "Name": "string",
   "RateKey": "string",
   "RateLimit": number
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 18)

The `ChangeToken` that you used to submit the `CreateRateBasedRule` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 92).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

MetricName (p. 18)

A friendly name or description for the metrics for this `RateBasedRule`. The name can contain only alphanumeric characters (A-Z, a-z, 0-9); the name can't contain whitespace. You can't change the name of the metric after you create the `RateBasedRule`.

Type: String

Required: Yes

Name (p. 18)

A friendly name or description of the RateBasedRule (p. 461). You can't change the name of a `RateBasedRule` after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

RateKey (p. 18)

The field that AWS WAF uses to determine if requests are likely arriving from a single source and thus subject to rate monitoring. The only valid value for `RateKey` is `IP`. `IP` indicates that requests that arrive from the same IP address are subject to the `RateLimit` that is specified in the `RateBasedRule`.

Type: String

Valid Values: `IP`

Required: Yes

RateLimit (p. 18)

The maximum number of requests, which have an identical value in the field that is specified by `RateKey`, allowed in a five-minute period. If the number of requests exceeds the `RateLimit` and the other predicates specified in the rule are also met, AWS WAF triggers the action that is specified for this rule.

Type: Long

Valid Range: Minimum value of 2000. Maximum value of 2000000000.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string",
   "Rule": {
      "MatchPredicates": [
         {
            "DataId": "string",
            "Negated": boolean,
            "Type": "string"
         }
      ],
      "MetricName": "string",
      "Name": "string",
      "RateKey": "string",
      "RateLimit": number,
      "RuleId": "string"
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 19)

The `ChangeToken` that you used to submit the `CreateRateBasedRule` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 92).

Type: String

Length Constraints: Minimum length of 1.

Rule (p. 19)

The RateBasedRule (p. 461) that is returned in the `CreateRateBasedRule` response.

Type: RateBasedRule (p. 461) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFDisallowedNameException

The name specified is invalid.

HTTP Status Code: 400

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3

- AWS SDK for Python
- AWS SDK for Ruby V2

CreateRegexMatchSet

Service: AWS WAF

Creates a RegexMatchSet (p. 463). You then use UpdateRegexMatchSet (p. 180) to identify the part of a web request that you want AWS WAF to inspect, such as the values of the `User-Agent` header or the query string. For example, you can create a `RegexMatchSet` that contains a `RegexMatchTuple` that looks for any requests with `User-Agent` headers that match a `RegexPatternSet` with pattern `B[a@]dB[o0]t`. You can then configure AWS WAF to reject those requests.

To create and configure a `RegexMatchSet`, perform the following steps:

1. Use GetChangeToken (p. 90) to get the change token that you provide in the `ChangeToken` parameter of a `CreateRegexMatchSet` request.
2. Submit a `CreateRegexMatchSet` request.
3. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an `UpdateRegexMatchSet` request.
4. Submit an UpdateRegexMatchSet (p. 180) request to specify the part of the request that you want AWS WAF to inspect (for example, the header or the URI) and the value, using a `RegexPatternSet`, that you want AWS WAF to watch for.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "Name": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 22)

The value returned by the most recent call to GetChangeToken (p. 90).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

Name (p. 22)

A friendly name or description of the RegexMatchSet (p. 463). You can't change `Name` after you create a `RegexMatchSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string",
   "RegexMatchSet": {
      "Name": "string",
      "RegexMatchSetId": "string",
      "RegexMatchTuples": [
         {
            "FieldToMatch": {
               "Data": "string",
               "Type": "string"
            },
            "RegexPatternSetId": "string",
            "TextTransformation": "string"
         }
      ]
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 23)

The `ChangeToken` that you used to submit the `CreateRegexMatchSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 92).

Type: String

Length Constraints: Minimum length of 1.

RegexMatchSet (p. 23)

A RegexMatchSet (p. 463) that contains no `RegexMatchTuple` objects.

Type: RegexMatchSet (p. 463) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFDisallowedNameException

The name specified is invalid.

HTTP Status Code: 400

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateRegexPatternSet

Service: AWS WAF

Creates a `RegexPatternSet`. You then use UpdateRegexPatternSet (p. 184) to specify the regular expression (regex) pattern that you want AWS WAF to search for, such as `B[a@]dB[o0]t`. You can then configure AWS WAF to reject those requests.

To create and configure a `RegexPatternSet`, perform the following steps:

1. Use GetChangeToken (p. 90) to get the change token that you provide in the `ChangeToken` parameter of a `CreateRegexPatternSet` request.
2. Submit a `CreateRegexPatternSet` request.
3. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an `UpdateRegexPatternSet` request.
4. Submit an UpdateRegexPatternSet (p. 184) request to specify the string that you want AWS WAF to watch for.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "Name": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 25)

The value returned by the most recent call to GetChangeToken (p. 90).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

Name (p. 25)

A friendly name or description of the RegexPatternSet (p. 470). You can't change `Name` after you create a `RegexPatternSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string",
   "RegexPatternSet": {
      "Name": "string",
      "RegexPatternSetId": "string",
      "RegexPatternStrings": [ "string" ]
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 26)

The `ChangeToken` that you used to submit the `CreateRegexPatternSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 92).

Type: String

Length Constraints: Minimum length of 1.

RegexPatternSet (p. 26)

A RegexPatternSet (p. 470) that contains no objects.

Type: RegexPatternSet (p. 470) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFDisallowedNameException

The name specified is invalid.

HTTP Status Code: 400

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateRule

Service: AWS WAF

Creates a `Rule`, which contains the `IPSet` objects, `ByteMatchSet` objects, and other predicates that identify the requests that you want to block. If you add more than one predicate to a `Rule`, a request must match all of the specifications to be allowed or blocked. For example, suppose you add the following to a `Rule`:

- An `IPSet` that matches the IP address `192.0.2.44/32`
- A `ByteMatchSet` that matches `BadBot` in the `User-Agent` header

You then add the `Rule` to a `WebACL` and specify that you want to blocks requests that satisfy the `Rule`. For a request to be blocked, it must come from the IP address 192.0.2.44 *and* the `User-Agent` header in the request must contain the value `BadBot`.

To create and configure a `Rule`, perform the following steps:

1. Create and update the predicates that you want to include in the `Rule`. For more information, see CreateByteMatchSet (p. 8), CreateIPSet (p. 14), and CreateSqlInjectionMatchSet (p. 38).
2. Use GetChangeToken (p. 90) to get the change token that you provide in the `ChangeToken` parameter of a `CreateRule` request.
3. Submit a `CreateRule` request.
4. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an UpdateRule (p. 188) request.
5. Submit an `UpdateRule` request to specify the predicates that you want to include in the `Rule`.
6. Create and update a `WebACL` that contains the `Rule`. For more information, see CreateWebACL (p. 41).

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "MetricName": "string",
   "Name": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 28)

The value returned by the most recent call to GetChangeToken (p. 90).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

MetricName (p. 28)

A friendly name or description for the metrics for this `Rule`. The name can contain only alphanumeric characters (A-Z, a-z, 0-9); the name can't contain whitespace. You can't change the name of the metric after you create the `Rule`.

Type: String

Required: Yes

Name (p. 28)

A friendly name or description of the Rule (p. 473). You can't change the name of a `Rule` after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string",
   "Rule": {
      "MetricName": "string",
      "Name": "string",
      "Predicates": [
         {
            "DataId": "string",
            "Negated": boolean,
            "Type": "string"
         }
      ],
      "RuleId": "string"
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 29)

The `ChangeToken` that you used to submit the `CreateRule` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 92).

Type: String

Length Constraints: Minimum length of 1.

Rule (p. 29)

The Rule (p. 473) returned in the `CreateRule` response.

Type: Rule (p. 473) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFDisallowedNameException

The name specified is invalid.

HTTP Status Code: 400

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go

- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateRuleGroup

Service: AWS WAF

Creates a `RuleGroup`. A rule group is a collection of predefined rules that you add to a web ACL. You use UpdateRuleGroup (p. 192) to add rules to the rule group.

Rule groups are subject to the following limits:

- Three rule groups per account. You can request an increase to this limit by contacting customer support.
- One rule group per web ACL.
- Ten rules per rule group.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "MetricName": "string",
   "Name": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 32)

The value returned by the most recent call to GetChangeToken (p. 90).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

MetricName (p. 32)

A friendly name or description for the metrics for this `RuleGroup`. The name can contain only alphanumeric characters (A-Z, a-z, 0-9); the name can't contain whitespace. You can't change the name of the metric after you create the `RuleGroup`.

Type: String

Required: Yes

Name (p. 32)

A friendly name or description of the RuleGroup (p. 475). You can't change `Name` after you create a `RuleGroup`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string",
   "RuleGroup": {
      "MetricName": "string",
      "Name": "string",
      "RuleGroupId": "string"
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 33)

The `ChangeToken` that you used to submit the `CreateRuleGroup` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 92).

Type: String

Length Constraints: Minimum length of 1.

RuleGroup (p. 33)

An empty RuleGroup (p. 475).

Type: RuleGroup (p. 475) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFDisallowedNameException

The name specified is invalid.

HTTP Status Code: 400

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateSizeConstraintSet

Service: AWS WAF

Creates a `SizeConstraintSet`. You then use UpdateSizeConstraintSet (p. 196) to identify the part of a web request that you want AWS WAF to check for length, such as the length of the `User-Agent` header or the length of the query string. For example, you can create a `SizeConstraintSet` that matches any requests that have a query string that is longer than 100 bytes. You can then configure AWS WAF to reject those requests.

To create and configure a `SizeConstraintSet`, perform the following steps:

1. Use GetChangeToken (p. 90) to get the change token that you provide in the `ChangeToken` parameter of a `CreateSizeConstraintSet` request.
2. Submit a `CreateSizeConstraintSet` request.
3. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an `UpdateSizeConstraintSet` request.
4. Submit an UpdateSizeConstraintSet (p. 196) request to specify the part of the request that you want AWS WAF to inspect (for example, the header or the URI) and the value that you want AWS WAF to watch for.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "Name": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 35)

The value returned by the most recent call to GetChangeToken (p. 90).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

Name (p. 35)

A friendly name or description of the SizeConstraintSet (p. 486). You can't change `Name` after you create a `SizeConstraintSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string",
   "SizeConstraintSet": {
      "Name": "string",
      "SizeConstraints": [
         {
            "ComparisonOperator": "string",
            "FieldToMatch": {
               "Data": "string",
               "Type": "string"
            },
            "Size": number,
            "TextTransformation": "string"
         }
      ],
      "SizeConstraintSetId": "string"
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 36)

The `ChangeToken` that you used to submit the `CreateSizeConstraintSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 92).

Type: String

Length Constraints: Minimum length of 1.

SizeConstraintSet (p. 36)

A SizeConstraintSet (p. 486) that contains no `SizeConstraint` objects.

Type: SizeConstraintSet (p. 486) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFDisallowedNameException

The name specified is invalid.

HTTP Status Code: 400

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateSqlInjectionMatchSet

Service: AWS WAF

Creates a SqlInjectionMatchSet (p. 489), which you use to allow, block, or count requests that contain snippets of SQL code in a specified part of web requests. AWS WAF searches for character sequences that are likely to be malicious strings.

To create and configure a `SqlInjectionMatchSet`, perform the following steps:

1. Use GetChangeToken (p. 90) to get the change token that you provide in the `ChangeToken` parameter of a `CreateSqlInjectionMatchSet` request.
2. Submit a `CreateSqlInjectionMatchSet` request.
3. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an UpdateSqlInjectionMatchSet (p. 200) request.
4. Submit an UpdateSqlInjectionMatchSet (p. 200) request to specify the parts of web requests in which you want to allow, block, or count malicious SQL code.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "Name": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 38)

The value returned by the most recent call to GetChangeToken (p. 90).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

Name (p. 38)

A friendly name or description for the SqlInjectionMatchSet (p. 489) that you're creating. You can't change `Name` after you create the `SqlInjectionMatchSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string",
   "SqlInjectionMatchSet": {
      "Name": "string",
      "SqlInjectionMatchSetId": "string",
      "SqlInjectionMatchTuples": [
         {
            "FieldToMatch": {
               "Data": "string",
               "Type": "string"
            },
            "TextTransformation": "string"
         }
      ]
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 39)

The `ChangeToken` that you used to submit the `CreateSqlInjectionMatchSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 92).

Type: String

Length Constraints: Minimum length of 1.

SqlInjectionMatchSet (p. 39)

A SqlInjectionMatchSet (p. 489).

Type: SqlInjectionMatchSet (p. 489) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFDisallowedNameException

The name specified is invalid.

HTTP Status Code: 400

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateWebACL

Service: AWS WAF

Creates a `WebACL`, which contains the `Rules` that identify the CloudFront web requests that you want to allow, block, or count. AWS WAF evaluates `Rules` in order based on the value of `Priority` for each `Rule`.

You also specify a default action, either `ALLOW` or `BLOCK`. If a web request doesn't match any of the `Rules` in a `WebACL`, AWS WAF responds to the request with the default action.

To create and configure a `WebACL`, perform the following steps:

1. Create and update the `ByteMatchSet` objects and other predicates that you want to include in `Rules`. For more information, see CreateByteMatchSet (p. 8), UpdateByteMatchSet (p. 164), CreateIPSet (p. 14), UpdateIPSet (p. 172), CreateSqlInjectionMatchSet (p. 38), and UpdateSqlInjectionMatchSet (p. 200).
2. Create and update the `Rules` that you want to include in the `WebACL`. For more information, see CreateRule (p. 28) and UpdateRule (p. 188).
3. Use GetChangeToken (p. 90) to get the change token that you provide in the `ChangeToken` parameter of a `CreateWebACL` request.
4. Submit a `CreateWebACL` request.
5. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an UpdateWebACL (p. 204) request.
6. Submit an UpdateWebACL (p. 204) request to specify the `Rules` that you want to include in the `WebACL`, to specify the default action, and to associate the `WebACL` with a CloudFront distribution.

For more information about how to use the AWS WAF API, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "DefaultAction": {
      "Type": "string"
   },
   "MetricName": "string",
   "Name": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 41)

The value returned by the most recent call to GetChangeToken (p. 90).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

DefaultAction (p. 41)

The action that you want AWS WAF to take when a request doesn't match the criteria specified in any of the `Rule` objects that are associated with the `WebACL`.

Type: WafAction (p. 496) object

Required: Yes

MetricName (p. 41)

A friendly name or description for the metrics for this `WebACL`. The name can contain only alphanumeric characters (A-Z, a-z, 0-9); the name can't contain whitespace. You can't change `MetricName` after you create the `WebACL`.

Type: String

Required: Yes

Name (p. 41)

A friendly name or description of the WebACL (p. 498). You can't change `Name` after you create the `WebACL`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string",
   "WebACL": {
      "DefaultAction": {
         "Type": "string"
      },
      "MetricName": "string",
      "Name": "string",
      "Rules": [
         {
            "Action": {
               "Type": "string"
            },
            "OverrideAction": {
               "Type": "string"
            },
            "Priority": number,
            "RuleId": "string",
            "Type": "string"
         }
      ],
      "WebACLArn": "string",
      "WebACLId": "string"
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 42)

The `ChangeToken` that you used to submit the `CreateWebACL` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 92).

Type: String

Length Constraints: Minimum length of 1.

WebACL (p. 42)

The WebACL (p. 498) returned in the `CreateWebACL` response.

Type: WebACL (p. 498) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFDisallowedNameException

The name specified is invalid.

HTTP Status Code: 400

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateXssMatchSet

Service: AWS WAF

Creates an XssMatchSet (p. 502), which you use to allow, block, or count requests that contain cross-site scripting attacks in the specified part of web requests. AWS WAF searches for character sequences that are likely to be malicious strings.

To create and configure an `XssMatchSet`, perform the following steps:

1. Use GetChangeToken (p. 90) to get the change token that you provide in the `ChangeToken` parameter of a `CreateXssMatchSet` request.
2. Submit a `CreateXssMatchSet` request.
3. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an UpdateXssMatchSet (p. 209) request.
4. Submit an UpdateXssMatchSet (p. 209) request to specify the parts of web requests in which you want to allow, block, or count cross-site scripting attacks.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "Name": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 45)

The value returned by the most recent call to GetChangeToken (p. 90).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

Name (p. 45)

A friendly name or description for the XssMatchSet (p. 502) that you're creating. You can't change `Name` after you create the `XssMatchSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string",
   "XssMatchSet": {
      "Name": "string",
      "XssMatchSetId": "string",
      "XssMatchTuples": [
         {
            "FieldToMatch": {
               "Data": "string",
               "Type": "string"
            },
            "TextTransformation": "string"
         }
      ]
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 46)

The `ChangeToken` that you used to submit the `CreateXssMatchSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 92).

Type: String

Length Constraints: Minimum length of 1.

XssMatchSet (p. 46)

An XssMatchSet (p. 502).

Type: XssMatchSet (p. 502) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFDisallowedNameException

The name specified is invalid.

HTTP Status Code: 400

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteByteMatchSet

Service: AWS WAF

Permanently deletes a ByteMatchSet (p. 436). You can't delete a `ByteMatchSet` if it's still used in any `Rules` or if it still includes any ByteMatchTuple (p. 440) objects (any filters).

If you just want to remove a `ByteMatchSet` from a `Rule`, use UpdateRule (p. 188).

To permanently delete a `ByteMatchSet`, perform the following steps:

1. Update the `ByteMatchSet` to remove filters, if any. For more information, see UpdateByteMatchSet (p. 164).
2. Use GetChangeToken (p. 90) to get the change token that you provide in the `ChangeToken` parameter of a `DeleteByteMatchSet` request.
3. Submit a `DeleteByteMatchSet` request.

Request Syntax

```
{
   "ByteMatchSetId": "string",
   "ChangeToken": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ByteMatchSetId (p. 48)

The `ByteMatchSetId` of the ByteMatchSet (p. 436) that you want to delete. `ByteMatchSetId` is returned by CreateByteMatchSet (p. 8) and by ListByteMatchSets (p. 129).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

ChangeToken (p. 48)

The value returned by the most recent call to GetChangeToken (p. 90).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
```

```
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 48)

The `ChangeToken` that you used to submit the `DeleteByteMatchSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 92).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a `WebACL` that still contains one or more `Rule` objects.
- You tried to delete a `Rule` that still contains one or more `ByteMatchSet` objects or other predicates.
- You tried to delete a `ByteMatchSet` that contains one or more `ByteMatchTuple` objects.
- You tried to delete an `IPSet` that references one or more IP addresses.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteGeoMatchSet

Service: AWS WAF

Permanently deletes a GeoMatchSet (p. 447). You can't delete a `GeoMatchSet` if it's still used in any `Rules` or if it still includes any countries.

If you just want to remove a `GeoMatchSet` from a `Rule`, use UpdateRule (p. 188).

To permanently delete a `GeoMatchSet` from AWS WAF, perform the following steps:

1. Update the `GeoMatchSet` to remove any countries. For more information, see UpdateGeoMatchSet (p. 168).
2. Use GetChangeToken (p. 90) to get the change token that you provide in the `ChangeToken` parameter of a `DeleteGeoMatchSet` request.
3. Submit a `DeleteGeoMatchSet` request.

Request Syntax

```
{
   "ChangeToken": "string",
   "GeoMatchSetId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 51)

The value returned by the most recent call to GetChangeToken (p. 90).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

GeoMatchSetId (p. 51)

The `GeoMatchSetID` of the GeoMatchSet (p. 447) that you want to delete. `GeoMatchSetId` is returned by CreateGeoMatchSet (p. 11) and by ListGeoMatchSets (p. 131).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
```

```
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 51)

The `ChangeToken` that you used to submit the `DeleteGeoMatchSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 92).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a `WebACL` that still contains one or more `Rule` objects.
- You tried to delete a `Rule` that still contains one or more `ByteMatchSet` objects or other predicates.
- You tried to delete a `ByteMatchSet` that contains one or more `ByteMatchTuple` objects.
- You tried to delete an `IPSet` that references one or more IP addresses.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteIPSet

Service: AWS WAF

Permanently deletes an IPSet (p. 453). You can't delete an `IPSet` if it's still used in any `Rules` or if it still includes any IP addresses.

If you just want to remove an `IPSet` from a `Rule`, use UpdateRule (p. 188).

To permanently delete an `IPSet` from AWS WAF, perform the following steps:

1. Update the `IPSet` to remove IP address ranges, if any. For more information, see UpdateIPSet (p. 172).
2. Use GetChangeToken (p. 90) to get the change token that you provide in the `ChangeToken` parameter of a `DeleteIPSet` request.
3. Submit a `DeleteIPSet` request.

Request Syntax

```
{
   "ChangeToken": "string",
   "IPSetId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 54)

The value returned by the most recent call to GetChangeToken (p. 90).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

IPSetId (p. 54)

The `IPSetId` of the IPSet (p. 453) that you want to delete. `IPSetId` is returned by CreateIPSet (p. 14) and by ListIPSets (p. 133).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
```

```
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 54)

The `ChangeToken` that you used to submit the `DeleteIPSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 92).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a `WebACL` that still contains one or more `Rule` objects.
- You tried to delete a `Rule` that still contains one or more `ByteMatchSet` objects or other predicates.
- You tried to delete a `ByteMatchSet` that contains one or more `ByteMatchTuple` objects.
- You tried to delete an `IPSet` that references one or more IP addresses.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteLoggingConfiguration

Service: AWS WAF

Permanently deletes the LoggingConfiguration (p. 458) from the specified web ACL.

Request Syntax

```
{
   "ResourceArn": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ResourceArn (p. 57)

The Amazon Resource Name (ARN) of the web ACL from which you want to delete the LoggingConfiguration (p. 458).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Required: Yes

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeletePermissionPolicy

Service: AWS WAF

Permanently deletes an IAM policy from the specified RuleGroup.

The user making the request must be the owner of the RuleGroup.

Request Syntax

```
{
   "ResourceArn": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ResourceArn (p. 59)

The Amazon Resource Name (ARN) of the RuleGroup from which you want to delete the policy.

The user making the request must be the owner of the RuleGroup.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Required: Yes

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteRateBasedRule

Service: AWS WAF

Permanently deletes a RateBasedRule (p. 461). You can't delete a rule if it's still used in any `WebACL` objects or if it still includes any predicates, such as `ByteMatchSet` objects.

If you just want to remove a rule from a `WebACL`, use UpdateWebACL (p. 204).

To permanently delete a `RateBasedRule` from AWS WAF, perform the following steps:

1. Update the `RateBasedRule` to remove predicates, if any. For more information, see UpdateRateBasedRule (p. 176).
2. Use GetChangeToken (p. 90) to get the change token that you provide in the `ChangeToken` parameter of a `DeleteRateBasedRule` request.
3. Submit a `DeleteRateBasedRule` request.

Request Syntax

```
{
   "ChangeToken": "string",
   "RuleId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 61)

The value returned by the most recent call to GetChangeToken (p. 90).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

RuleId (p. 61)

The `RuleId` of the RateBasedRule (p. 461) that you want to delete. `RuleId` is returned by CreateRateBasedRule (p. 17) and by ListRateBasedRules (p. 138).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
```

```
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 61)

The `ChangeToken` that you used to submit the `DeleteRateBasedRule` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 92).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a `WebACL` that still contains one or more `Rule` objects.
- You tried to delete a `Rule` that still contains one or more `ByteMatchSet` objects or other predicates.
- You tried to delete a `ByteMatchSet` that contains one or more `ByteMatchTuple` objects.
- You tried to delete an `IPSet` that references one or more IP addresses.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteRegexMatchSet

Service: AWS WAF

Permanently deletes a RegexMatchSet (p. 463). You can't delete a `RegexMatchSet` if it's still used in any `Rules` or if it still includes any `RegexMatchTuples` objects (any filters).

If you just want to remove a `RegexMatchSet` from a `Rule`, use UpdateRule (p. 188).

To permanently delete a `RegexMatchSet`, perform the following steps:

1. Update the `RegexMatchSet` to remove filters, if any. For more information, see UpdateRegexMatchSet (p. 180).
2. Use GetChangeToken (p. 90) to get the change token that you provide in the `ChangeToken` parameter of a `DeleteRegexMatchSet` request.
3. Submit a `DeleteRegexMatchSet` request.

Request Syntax

```
{
   "ChangeToken": "string",
   "RegexMatchSetId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 64)

The value returned by the most recent call to GetChangeToken (p. 90).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

RegexMatchSetId (p. 64)

The `RegexMatchSetId` of the RegexMatchSet (p. 463) that you want to delete. `RegexMatchSetId` is returned by CreateRegexMatchSet (p. 22) and by ListRegexMatchSets (p. 140).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
```

```
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 64)

The `ChangeToken` that you used to submit the `DeleteRegexMatchSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 92).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a `WebACL` that still contains one or more `Rule` objects.
- You tried to delete a `Rule` that still contains one or more `ByteMatchSet` objects or other predicates.
- You tried to delete a `ByteMatchSet` that contains one or more `ByteMatchTuple` objects.
- You tried to delete an `IPSet` that references one or more IP addresses.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteRegexPatternSet

Service: AWS WAF

Permanently deletes a RegexPatternSet (p. 470). You can't delete a `RegexPatternSet` if it's still used in any `RegexMatchSet` or if the `RegexPatternSet` is not empty.

Request Syntax

```
{
   "ChangeToken": "string",
   "RegexPatternSetId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 67)

The value returned by the most recent call to GetChangeToken (p. 90).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

RegexPatternSetId (p. 67)

The `RegexPatternSetId` of the RegexPatternSet (p. 470) that you want to delete. `RegexPatternSetId` is returned by CreateRegexPatternSet (p. 25) and by ListRegexPatternSets (p. 142).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 67)

The `ChangeToken` that you used to submit the `DeleteRegexPatternSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 92).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a `WebACL` that still contains one or more `Rule` objects.
- You tried to delete a `Rule` that still contains one or more `ByteMatchSet` objects or other predicates.
- You tried to delete a `ByteMatchSet` that contains one or more `ByteMatchTuple` objects.
- You tried to delete an `IPSet` that references one or more IP addresses.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteRule

Service: AWS WAF

Permanently deletes a Rule (p. 473). You can't delete a `Rule` if it's still used in any `WebACL` objects or if it still includes any predicates, such as `ByteMatchSet` objects.

If you just want to remove a `Rule` from a `WebACL`, use UpdateWebACL (p. 204).

To permanently delete a `Rule` from AWS WAF, perform the following steps:

1. Update the `Rule` to remove predicates, if any. For more information, see UpdateRule (p. 188).
2. Use GetChangeToken (p. 90) to get the change token that you provide in the `ChangeToken` parameter of a `DeleteRule` request.
3. Submit a `DeleteRule` request.

Request Syntax

```
{
   "ChangeToken": "string",
   "RuleId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 70)

The value returned by the most recent call to GetChangeToken (p. 90).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

RuleId (p. 70)

The `RuleId` of the Rule (p. 473) that you want to delete. `RuleId` is returned by CreateRule (p. 28) and by ListRules (p. 146).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 70)

The `ChangeToken` that you used to submit the `DeleteRule` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 92).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a `WebACL` that still contains one or more `Rule` objects.
- You tried to delete a `Rule` that still contains one or more `ByteMatchSet` objects or other predicates.
- You tried to delete a `ByteMatchSet` that contains one or more `ByteMatchTuple` objects.
- You tried to delete an `IPSet` that references one or more IP addresses.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteRuleGroup

Service: AWS WAF

Permanently deletes a RuleGroup (p. 475). You can't delete a `RuleGroup` if it's still used in any `WebACL` objects or if it still includes any rules.

If you just want to remove a `RuleGroup` from a `WebACL`, use UpdateWebACL (p. 204).

To permanently delete a `RuleGroup` from AWS WAF, perform the following steps:

1. Update the `RuleGroup` to remove rules, if any. For more information, see UpdateRuleGroup (p. 192).
2. Use GetChangeToken (p. 90) to get the change token that you provide in the `ChangeToken` parameter of a `DeleteRuleGroup` request.
3. Submit a `DeleteRuleGroup` request.

Request Syntax

```
{
   "ChangeToken": "string",
   "RuleGroupId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 73)

The value returned by the most recent call to GetChangeToken (p. 90).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

RuleGroupId (p. 73)

The `RuleGroupId` of the RuleGroup (p. 475) that you want to delete. `RuleGroupId` is returned by CreateRuleGroup (p. 32) and by ListRuleGroups (p. 144).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
```

```
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 73)

The `ChangeToken` that you used to submit the `DeleteRuleGroup` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 92).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a `WebACL` that still contains one or more `Rule` objects.
- You tried to delete a `Rule` that still contains one or more `ByteMatchSet` objects or other predicates.
- You tried to delete a `ByteMatchSet` that contains one or more `ByteMatchTuple` objects.
- You tried to delete an `IPSet` that references one or more IP addresses.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteSizeConstraintSet

Service: AWS WAF

Permanently deletes a SizeConstraintSet (p. 486). You can't delete a `SizeConstraintSet` if it's still used in any `Rules` or if it still includes any SizeConstraint (p. 483) objects (any filters).

If you just want to remove a `SizeConstraintSet` from a `Rule`, use UpdateRule (p. 188).

To permanently delete a `SizeConstraintSet`, perform the following steps:

1. Update the `SizeConstraintSet` to remove filters, if any. For more information, see UpdateSizeConstraintSet (p. 196).
2. Use GetChangeToken (p. 90) to get the change token that you provide in the `ChangeToken` parameter of a `DeleteSizeConstraintSet` request.
3. Submit a `DeleteSizeConstraintSet` request.

Request Syntax

```
{
   "ChangeToken": "string",
   "SizeConstraintSetId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 76)

The value returned by the most recent call to GetChangeToken (p. 90).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

SizeConstraintSetId (p. 76)

The `SizeConstraintSetId` of the SizeConstraintSet (p. 486) that you want to delete. `SizeConstraintSetId` is returned by CreateSizeConstraintSet (p. 35) and by ListSizeConstraintSets (p. 148).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
```

```
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 76)

The `ChangeToken` that you used to submit the `DeleteSizeConstraintSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 92).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a `WebACL` that still contains one or more `Rule` objects.
- You tried to delete a `Rule` that still contains one or more `ByteMatchSet` objects or other predicates.
- You tried to delete a `ByteMatchSet` that contains one or more `ByteMatchTuple` objects.
- You tried to delete an `IPSet` that references one or more IP addresses.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteSqlInjectionMatchSet

Service: AWS WAF

Permanently deletes a SqlInjectionMatchSet (p. 489). You can't delete a `SqlInjectionMatchSet` if it's still used in any `Rules` or if it still contains any SqlInjectionMatchTuple (p. 492) objects.

If you just want to remove a `SqlInjectionMatchSet` from a `Rule`, use UpdateRule (p. 188).

To permanently delete a `SqlInjectionMatchSet` from AWS WAF, perform the following steps:

1. Update the `SqlInjectionMatchSet` to remove filters, if any. For more information, see UpdateSqlInjectionMatchSet (p. 200).
2. Use GetChangeToken (p. 90) to get the change token that you provide in the `ChangeToken` parameter of a `DeleteSqlInjectionMatchSet` request.
3. Submit a `DeleteSqlInjectionMatchSet` request.

Request Syntax

```
{
   "ChangeToken": "string",
   "SqlInjectionMatchSetId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 79)

The value returned by the most recent call to GetChangeToken (p. 90).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

SqlInjectionMatchSetId (p. 79)

The `SqlInjectionMatchSetId` of the SqlInjectionMatchSet (p. 489) that you want to delete. `SqlInjectionMatchSetId` is returned by CreateSqlInjectionMatchSet (p. 38) and by ListSqlInjectionMatchSets (p. 150).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
```

```
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 79)

The `ChangeToken` that you used to submit the `DeleteSqlInjectionMatchSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 92).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a `WebACL` that still contains one or more `Rule` objects.
- You tried to delete a `Rule` that still contains one or more `ByteMatchSet` objects or other predicates.
- You tried to delete a `ByteMatchSet` that contains one or more `ByteMatchTuple` objects.
- You tried to delete an `IPSet` that references one or more IP addresses.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteWebACL

Service: AWS WAF

Permanently deletes a WebACL (p. 498). You can't delete a `WebACL` if it still contains any `Rules`.

To delete a `WebACL`, perform the following steps:

1. Update the `WebACL` to remove `Rules`, if any. For more information, see UpdateWebACL (p. 204).
2. Use GetChangeToken (p. 90) to get the change token that you provide in the `ChangeToken` parameter of a `DeleteWebACL` request.
3. Submit a `DeleteWebACL` request.

Request Syntax

```
{
   "ChangeToken": "string",
   "WebACLId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 82)

The value returned by the most recent call to GetChangeToken (p. 90).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

WebACLId (p. 82)

The `WebACLId` of the WebACL (p. 498) that you want to delete. `WebACLId` is returned by CreateWebACL (p. 41) and by ListWebACLs (p. 154).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 82)

The `ChangeToken` that you used to submit the `DeleteWebACL` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 92).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a `WebACL` that still contains one or more `Rule` objects.
- You tried to delete a `Rule` that still contains one or more `ByteMatchSet` objects or other predicates.
- You tried to delete a `ByteMatchSet` that contains one or more `ByteMatchTuple` objects.
- You tried to delete an `IPSet` that references one or more IP addresses.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteXssMatchSet

Service: AWS WAF

Permanently deletes an XssMatchSet (p. 502). You can't delete an `XssMatchSet` if it's still used in any `Rules` or if it still contains any XssMatchTuple (p. 505) objects.

If you just want to remove an `XssMatchSet` from a `Rule`, use UpdateRule (p. 188).

To permanently delete an `XssMatchSet` from AWS WAF, perform the following steps:

1. Update the `XssMatchSet` to remove filters, if any. For more information, see UpdateXssMatchSet (p. 209).
2. Use GetChangeToken (p. 90) to get the change token that you provide in the `ChangeToken` parameter of a `DeleteXssMatchSet` request.
3. Submit a `DeleteXssMatchSet` request.

Request Syntax

```
{
   "ChangeToken": "string",
   "XssMatchSetId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 85)

The value returned by the most recent call to GetChangeToken (p. 90).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

XssMatchSetId (p. 85)

The `XssMatchSetId` of the XssMatchSet (p. 502) that you want to delete. `XssMatchSetId` is returned by CreateXssMatchSet (p. 45) and by ListXssMatchSets (p. 156).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
```

```
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 85)

The `ChangeToken` that you used to submit the `DeleteXssMatchSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 92).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a `WebACL` that still contains one or more `Rule` objects.
- You tried to delete a `Rule` that still contains one or more `ByteMatchSet` objects or other predicates.
- You tried to delete a `ByteMatchSet` that contains one or more `ByteMatchTuple` objects.
- You tried to delete an `IPSet` that references one or more IP addresses.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetByteMatchSet

Service: AWS WAF

Returns the ByteMatchSet (p. 436) specified by `ByteMatchSetId`.

Request Syntax

```
{
   "ByteMatchSetId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ByteMatchSetId (p. 88)

The `ByteMatchSetId` of the ByteMatchSet (p. 436) that you want to get. `ByteMatchSetId` is returned by CreateByteMatchSet (p. 8) and by ListByteMatchSets (p. 129).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ByteMatchSet": {
      "ByteMatchSetId": "string",
      "ByteMatchTuples": [
         {
            "FieldToMatch": {
               "Data": "string",
               "Type": "string"
            },
            "PositionalConstraint": "string",
            "TargetString": blob,
            "TextTransformation": "string"
         }
      ],
      "Name": "string"
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ByteMatchSet (p. 88)

Information about the ByteMatchSet (p. 436) that you specified in the `GetByteMatchSet` request. For more information, see the following topics:

- ByteMatchSet (p. 436): Contains `ByteMatchSetId`, `ByteMatchTuples`, and `Name`
- `ByteMatchTuples`: Contains an array of ByteMatchTuple (p. 440) objects. Each `ByteMatchTuple` object contains FieldToMatch (p. 444), `PositionalConstraint`, `TargetString`, and `TextTransformation`
- FieldToMatch (p. 444): Contains `Data` and `Type`

Type: ByteMatchSet (p. 436) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetChangeToken

Service: AWS WAF

When you want to create, update, or delete AWS WAF objects, get a change token and include the change token in the create, update, or delete request. Change tokens ensure that your application doesn't submit conflicting requests to AWS WAF.

Each create, update, or delete request must use a unique change token. If your application submits a `GetChangeToken` request and then submits a second `GetChangeToken` request before submitting a create, update, or delete request, the second `GetChangeToken` request returns the same value as the first `GetChangeToken` request.

When you use a change token in a create, update, or delete request, the status of the change token changes to `PENDING`, which indicates that AWS WAF is propagating the change to all AWS WAF servers. Use `GetChangeTokenStatus` to determine the status of your change token.

Response Syntax

```
{
   "ChangeToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 90)

The `ChangeToken` that you used in the request. Use this value in a `GetChangeTokenStatus` request to get the current status of the request.

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++

- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetChangeTokenStatus

Service: AWS WAF

Returns the status of a `ChangeToken` that you got by calling GetChangeToken (p. 90). `ChangeTokenStatus` is one of the following values:

- `PROVISIONED`: You requested the change token by calling `GetChangeToken`, but you haven't used it yet in a call to create, update, or delete an AWS WAF object.
- `PENDING`: AWS WAF is propagating the create, update, or delete request to all AWS WAF servers.
- `IN_SYNC`: Propagation is complete.

Request Syntax

```
{
   "ChangeToken": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 92)

The change token for which you want to get the status. This change token was previously returned in the `GetChangeToken` response.

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

Response Syntax

```
{
   "ChangeTokenStatus": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeTokenStatus (p. 92)

The status of the change token.

Type: String

Valid Values: `PROVISIONED | PENDING | INSYNC`

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetGeoMatchSet

Service: AWS WAF

Returns the GeoMatchSet (p. 447) that is specified by `GeoMatchSetId`.

Request Syntax

```
{
   "GeoMatchSetId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

GeoMatchSetId (p. 94)

The `GeoMatchSetId` of the GeoMatchSet (p. 447) that you want to get. `GeoMatchSetId` is returned by CreateGeoMatchSet (p. 11) and by ListGeoMatchSets (p. 131).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "GeoMatchSet": {
      "GeoMatchConstraints": [
         {
            "Type": "string",
            "Value": "string"
         }
      ],
      "GeoMatchSetId": "string",
      "Name": "string"
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

GeoMatchSet (p. 94)

Information about the GeoMatchSet (p. 447) that you specified in the `GetGeoMatchSet` request. This includes the `Type`, which for a `GeoMatchContraint` is always `Country`, as well as the `Value`, which is the identifier for a specific country.

Type: GeoMatchSet (p. 447) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetIPSet

Service: AWS WAF

Returns the IPSet (p. 453) that is specified by `IPSetId`.

Request Syntax

```
{
   "IPSetId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

IPSetId (p. 96)

The `IPSetId` of the IPSet (p. 453) that you want to get. `IPSetId` is returned by CreateIPSet (p. 14) and by ListIPSets (p. 133).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "IPSet": {
      "IPSetDescriptors": [
         {
            "Type": "string",
            "Value": "string"
         }
      ],
      "IPSetId": "string",
      "Name": "string"
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

IPSet (p. 96)

Information about the IPSet (p. 453) that you specified in the `GetIPSet` request. For more information, see the following topics:

- IPSet (p. 453): Contains `IPSetDescriptors`, `IPSetId`, and `Name`

- `IPSetDescriptors`: Contains an array of IPSetDescriptor (p. 455) objects. Each `IPSetDescriptor` object contains `Type` and `Value`

Type: IPSet (p. 453) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetLoggingConfiguration

Service: AWS WAF

Returns the LoggingConfiguration (p. 458) for the specified web ACL.

Request Syntax

```
{
   "ResourceArn": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ResourceArn (p. 98)

The Amazon Resource Name (ARN) of the web ACL for which you want to get the LoggingConfiguration (p. 458).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Required: Yes

Response Syntax

```
{
   "LoggingConfiguration": {
      "LogDestinationConfigs": [ "string" ],
      "RedactedFields": [
         {
            "Data": "string",
            "Type": "string"
         }
      ],
      "ResourceArn": "string"
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

LoggingConfiguration (p. 98)

The LoggingConfiguration (p. 458) for the specified web ACL.

Type: LoggingConfiguration (p. 458) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetPermissionPolicy

Service: AWS WAF

Returns the IAM policy attached to the RuleGroup.

Request Syntax

```
{
   "ResourceArn": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ResourceArn (p. 100)

The Amazon Resource Name (ARN) of the RuleGroup for which you want to get the policy.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Required: Yes

Response Syntax

```
{
   "Policy": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Policy (p. 100)

The IAM policy attached to the specified RuleGroup.

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetRateBasedRule

Service: AWS WAF

Returns the RateBasedRule (p. 461) that is specified by the `RuleId` that you included in the `GetRateBasedRule` request.

Request Syntax

```
{
   "RuleId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

RuleId (p. 102)

The `RuleId` of the RateBasedRule (p. 461) that you want to get. `RuleId` is returned by CreateRateBasedRule (p. 17) and by ListRateBasedRules (p. 138).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "Rule": {
      "MatchPredicates": [
         {
            "DataId": "string",
            "Negated": boolean,
            "Type": "string"
         }
      ],
      "MetricName": "string",
      "Name": "string",
      "RateKey": "string",
      "RateLimit": number,
      "RuleId": "string"
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Rule (p. 102)

Information about the RateBasedRule (p. 461) that you specified in the `GetRateBasedRule` request.

Type: RateBasedRule (p. 461) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetRateBasedRuleManagedKeys

Service: AWS WAF

Returns an array of IP addresses currently being blocked by the RateBasedRule (p. 461) that is specified by the `RuleId`. The maximum number of managed keys that will be blocked is 10,000. If more than 10,000 addresses exceed the rate limit, the 10,000 addresses with the highest rates will be blocked.

Request Syntax

```
{
   "NextMarker": "string",
   "RuleId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

NextMarker (p. 104)

A null value and not currently used. Do not include this in your request.

Type: String

Length Constraints: Minimum length of 1.

Required: No

RuleId (p. 104)

The `RuleId` of the RateBasedRule (p. 461) for which you want to get a list of `ManagedKeys`. `RuleId` is returned by CreateRateBasedRule (p. 17) and by ListRateBasedRules (p. 138).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ManagedKeys": [ "string" ],
   "NextMarker": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ManagedKeys (p. 104)

An array of IP addresses that currently are blocked by the specified RateBasedRule (p. 461).

Type: Array of strings

NextMarker (p. 104)

A null value and not currently used.

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetRegexMatchSet

Service: AWS WAF

Returns the RegexMatchSet (p. 463) specified by `RegexMatchSetId`.

Request Syntax

```
{
   "RegexMatchSetId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

RegexMatchSetId (p. 107)

The `RegexMatchSetId` of the RegexMatchSet (p. 463) that you want to get. `RegexMatchSetId` is returned by CreateRegexMatchSet (p. 22) and by ListRegexMatchSets (p. 140).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "RegexMatchSet": {
      "Name": "string",
      "RegexMatchSetId": "string",
      "RegexMatchTuples": [
         {
            "FieldToMatch": {
               "Data": "string",
               "Type": "string"
            },
            "RegexPatternSetId": "string",
            "TextTransformation": "string"
         }
      ]
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

RegexMatchSet (p. 107)

Information about the RegexMatchSet (p. 463) that you specified in the `GetRegexMatchSet` request. For more information, see RegexMatchTuple (p. 467).

Type: RegexMatchSet (p. 463) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetRegexPatternSet

Service: AWS WAF

Returns the RegexPatternSet (p. 470) specified by `RegexPatternSetId`.

Request Syntax

```
{
   "RegexPatternSetId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

RegexPatternSetId (p. 109)

The `RegexPatternSetId` of the RegexPatternSet (p. 470) that you want to get. `RegexPatternSetId` is returned by CreateRegexPatternSet (p. 25) and by ListRegexPatternSets (p. 142).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "RegexPatternSet": {
      "Name": "string",
      "RegexPatternSetId": "string",
      "RegexPatternStrings": [ "string" ]
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

RegexPatternSet (p. 109)

Information about the RegexPatternSet (p. 470) that you specified in the `GetRegexPatternSet` request, including the identifier of the pattern set and the regular expression patterns you want AWS WAF to search for.

Type: RegexPatternSet (p. 470) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetRule

Service: AWS WAF

Returns the Rule (p. 473) that is specified by the `RuleId` that you included in the `GetRule` request.

Request Syntax

```
{
   "RuleId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

RuleId (p. 111)

The `RuleId` of the Rule (p. 473) that you want to get. `RuleId` is returned by CreateRule (p. 28) and by ListRules (p. 146).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "Rule": {
      "MetricName": "string",
      "Name": "string",
      "Predicates": [
         {
            "DataId": "string",
            "Negated": boolean,
            "Type": "string"
         }
      ],
      "RuleId": "string"
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Rule (p. 111)

Information about the Rule (p. 473) that you specified in the `GetRule` request. For more information, see the following topics:

- Rule (p. 473): Contains `MetricName`, `Name`, an array of `Predicate` objects, and `RuleId`
- Predicate (p. 459): Each `Predicate` object contains `DataId`, `Negated`, and `Type`

Type: Rule (p. 473) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetRuleGroup

Service: AWS WAF

Returns the RuleGroup (p. 475) that is specified by the `RuleGroupId` that you included in the `GetRuleGroup` request.

To view the rules in a rule group, use ListActivatedRulesInRuleGroup (p. 126).

Request Syntax

```
{
   "RuleGroupId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

RuleGroupId (p. 113)

The `RuleGroupId` of the RuleGroup (p. 475) that you want to get. `RuleGroupId` is returned by CreateRuleGroup (p. 32) and by ListRuleGroups (p. 144).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "RuleGroup": {
      "MetricName": "string",
      "Name": "string",
      "RuleGroupId": "string"
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

RuleGroup (p. 113)

Information about the RuleGroup (p. 475) that you specified in the `GetRuleGroup` request.

Type: RuleGroup (p. 475) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetSampledRequests

Service: AWS WAF

Gets detailed information about a specified number of requests--a sample--that AWS WAF randomly selects from among the first 5,000 requests that your AWS resource received during a time range that you choose. You can specify a sample size of up to 500 requests, and you can specify any time range in the previous three hours.

`GetSampledRequests` returns a time range, which is usually the time range that you specified. However, if your resource (such as a CloudFront distribution) received 5,000 requests before the specified time range elapsed, `GetSampledRequests` returns an updated time range. This new time range indicates the actual period during which AWS WAF selected the requests in the sample.

Request Syntax

```
{
   "MaxItems": number,
   "RuleId": "string",
   "TimeWindow": {
      "EndTime": number,
      "StartTime": number
   },
   "WebAclId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

MaxItems (p. 115)

The number of requests that you want AWS WAF to return from among the first 5,000 requests that your AWS resource received during the time range. If your resource received fewer requests than the value of `MaxItems`, `GetSampledRequests` returns information about all of them.

Type: Long

Valid Range: Minimum value of 1. Maximum value of 500.

Required: Yes

RuleId (p. 115)

`RuleId` is one of three values:

- The `RuleId` of the `Rule` or the `RuleGroupId` of the `RuleGroup` for which you want `GetSampledRequests` to return a sample of requests.
- `Default_Action`, which causes `GetSampledRequests` to return a sample of the requests that didn't match any of the rules in the specified `WebACL`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

TimeWindow (p. 115)

The start date and time and the end date and time of the range for which you want `GetSampledRequests` to return a sample of requests. Specify the date and time in the following format: `"2016-09-27T14:50Z"`. You can specify any time range in the previous three hours.

Type: TimeWindow (p. 495) object

Required: Yes

WebAclId (p. 115)

The `WebACLId` of the `WebACL` for which you want `GetSampledRequests` to return a sample of requests.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "PopulationSize": number,
   "SampledRequests": [
      {
         "Action": "string",
         "Request": {
            "ClientIP": "string",
            "Country": "string",
            "Headers": [
               {
                  "Name": "string",
                  "Value": "string"
               }
            ],
            "HTTPVersion": "string",
            "Method": "string",
            "URI": "string"
         },
         "RuleWithinRuleGroup": "string",
         "Timestamp": number,
         "Weight": number
      }
   ],
   "TimeWindow": {
      "EndTime": number,
      "StartTime": number
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

PopulationSize (p. 116)

The total number of requests from which `GetSampledRequests` got a sample of `MaxItems` requests. If `PopulationSize` is less than `MaxItems`, the sample includes every request that your AWS resource received during the specified time range.

Type: Long

SampledRequests (p. 116)

A complex type that contains detailed information about each of the requests in the sample.

Type: Array of SampledHTTPRequest (p. 481) objects

TimeWindow (p. 116)

Usually, `TimeWindow` is the time range that you specified in the `GetSampledRequests` request. However, if your AWS resource received more than 5,000 requests during the time range that you specified in the request, `GetSampledRequests` returns the time range for the first 5,000 requests.

Type: TimeWindow (p. 495) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetSizeConstraintSet

Service: AWS WAF

Returns the SizeConstraintSet (p. 486) specified by `SizeConstraintSetId`.

Request Syntax

```
{
   "SizeConstraintSetId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

SizeConstraintSetId (p. 118)

The `SizeConstraintSetId` of the SizeConstraintSet (p. 486) that you want to get. `SizeConstraintSetId` is returned by CreateSizeConstraintSet (p. 35) and by ListSizeConstraintSets (p. 148).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "SizeConstraintSet": {
      "Name": "string",
      "SizeConstraints": [
         {
            "ComparisonOperator": "string",
            "FieldToMatch": {
               "Data": "string",
               "Type": "string"
            },
            "Size": number,
            "TextTransformation": "string"
         }
      ],
      "SizeConstraintSetId": "string"
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

SizeConstraintSet (p. 118)

Information about the SizeConstraintSet (p. 486) that you specified in the `GetSizeConstraintSet` request. For more information, see the following topics:

- SizeConstraintSet (p. 486): Contains `SizeConstraintSetId`, `SizeConstraints`, and `Name`
- `SizeConstraints`: Contains an array of SizeConstraint (p. 483) objects. Each `SizeConstraint` object contains FieldToMatch (p. 444), `TextTransformation`, `ComparisonOperator`, and `Size`
- FieldToMatch (p. 444): Contains `Data` and `Type`

Type: SizeConstraintSet (p. 486) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetSqlInjectionMatchSet

Service: AWS WAF

Returns the SqlInjectionMatchSet (p. 489) that is specified by `SqlInjectionMatchSetId`.

Request Syntax

```
{
   "SqlInjectionMatchSetId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

SqlInjectionMatchSetId (p. 120)

The `SqlInjectionMatchSetId` of the SqlInjectionMatchSet (p. 489) that you want to get. `SqlInjectionMatchSetId` is returned by CreateSqlInjectionMatchSet (p. 38) and by ListSqlInjectionMatchSets (p. 150).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "SqlInjectionMatchSet": {
      "Name": "string",
      "SqlInjectionMatchSetId": "string",
      "SqlInjectionMatchTuples": [
         {
            "FieldToMatch": {
               "Data": "string",
               "Type": "string"
            },
            "TextTransformation": "string"
         }
      ]
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

SqlInjectionMatchSet (p. 120)

Information about the SqlInjectionMatchSet (p. 489) that you specified in the `GetSqlInjectionMatchSet` request. For more information, see the following topics:

- SqlInjectionMatchSet (p. 489): Contains `Name`, `SqlInjectionMatchSetId`, and an array of `SqlInjectionMatchTuple` objects
- SqlInjectionMatchTuple (p. 492): Each `SqlInjectionMatchTuple` object contains `FieldToMatch` and `TextTransformation`
- FieldToMatch (p. 444): Contains `Data` and `Type`

Type: SqlInjectionMatchSet (p. 489) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetWebACL

Service: AWS WAF

Returns the WebACL (p. 498) that is specified by `WebACLId`.

Request Syntax

```
{
   "WebACLId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

WebACLId (p. 122)

The `WebACLId` of the WebACL (p. 498) that you want to get. `WebACLId` is returned by CreateWebACL (p. 41) and by ListWebACLs (p. 154).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "WebACL": {
      "DefaultAction": {
         "Type": "string"
      },
      "MetricName": "string",
      "Name": "string",
      "Rules": [
         {
            "Action": {
               "Type": "string"
            },
            "OverrideAction": {
               "Type": "string"
            },
            "Priority": number,
            "RuleId": "string",
            "Type": "string"
         }
      ],
      "WebACLArn": "string",
      "WebACLId": "string"
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

WebACL (p. 122)

Information about the WebACL (p. 498) that you specified in the `GetWebACL` request. For more information, see the following topics:

- WebACL (p. 498): Contains `DefaultAction`, `MetricName`, `Name`, an array of `Rule` objects, and `WebACLId`
- `DefaultAction` (Data type is WafAction (p. 496)): Contains `Type`
- `Rules`: Contains an array of `ActivatedRule` objects, which contain `Action`, `Priority`, and `RuleId`
- `Action`: Contains `Type`

Type: WebACL (p. 498) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetXssMatchSet

Service: AWS WAF

Returns the XssMatchSet (p. 502) that is specified by `XssMatchSetId`.

Request Syntax

```
{
   "XssMatchSetId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

XssMatchSetId (p. 124)

The `XssMatchSetId` of the XssMatchSet (p. 502) that you want to get. `XssMatchSetId` is returned by CreateXssMatchSet (p. 45) and by ListXssMatchSets (p. 156).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "XssMatchSet": {
      "Name": "string",
      "XssMatchSetId": "string",
      "XssMatchTuples": [
         {
            "FieldToMatch": {
               "Data": "string",
               "Type": "string"
            },
            "TextTransformation": "string"
         }
      ]
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

XssMatchSet (p. 124)

Information about the XssMatchSet (p. 502) that you specified in the `GetXssMatchSet` request. For more information, see the following topics:

- XssMatchSet (p. 502): Contains `Name`, `XssMatchSetId`, and an array of `XssMatchTuple` objects
- XssMatchTuple (p. 505): Each `XssMatchTuple` object contains `FieldToMatch` and `TextTransformation`
- FieldToMatch (p. 444): Contains `Data` and `Type`

Type: XssMatchSet (p. 502) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ListActivatedRulesInRuleGroup

Service: AWS WAF

Returns an array of ActivatedRule (p. 434) objects.

Request Syntax

```
{
   "Limit": number,
   "NextMarker": "string",
   "RuleGroupId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

Limit (p. 126)

Specifies the number of `ActivatedRules` that you want AWS WAF to return for this request. If you have more `ActivatedRules` than the number that you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of `ActivatedRules`.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

NextMarker (p. 126)

If you specify a value for `Limit` and you have more `ActivatedRules` than the value of `Limit`, AWS WAF returns a `NextMarker` value in the response that allows you to list another group of `ActivatedRules`. For the second and subsequent `ListActivatedRulesInRuleGroup` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `ActivatedRules`.

Type: String

Length Constraints: Minimum length of 1.

Required: No

RuleGroupId (p. 126)

The `RuleGroupId` of the RuleGroup (p. 475) for which you want to get a list of ActivatedRule (p. 434) objects.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: No

Response Syntax

```
{
```

```
   "ActivatedRules": [
      {
         "Action": {
            "Type": "string"
         },
         "OverrideAction": {
            "Type": "string"
         },
         "Priority": number,
         "RuleId": "string",
         "Type": "string"
      }
   ],
   "NextMarker": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ActivatedRules (p. 126)

An array of `ActivatedRules` objects.

Type: Array of ActivatedRule (p. 434) objects

NextMarker (p. 126)

If you have more `ActivatedRules` than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `ActivatedRules`, submit another `ListActivatedRulesInRuleGroup` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.

- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ListByteMatchSets

Service: AWS WAF

Returns an array of ByteMatchSetSummary (p. 438) objects.

Request Syntax

```
{
   "Limit": number,
   "NextMarker": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

Limit (p. 129)

Specifies the number of `ByteMatchSet` objects that you want AWS WAF to return for this request. If you have more `ByteMatchSets` objects than the number you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of `ByteMatchSet` objects.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

NextMarker (p. 129)

If you specify a value for `Limit` and you have more `ByteMatchSets` than the value of `Limit`, AWS WAF returns a `NextMarker` value in the response that allows you to list another group of `ByteMatchSets`. For the second and subsequent `ListByteMatchSets` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `ByteMatchSets`.

Type: String

Length Constraints: Minimum length of 1.

Required: No

Response Syntax

```
{
   "ByteMatchSets": [
      {
         "ByteMatchSetId": "string",
         "Name": "string"
      }
   ],
   "NextMarker": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ByteMatchSets (p. 129)

An array of ByteMatchSetSummary (p. 438) objects.

Type: Array of ByteMatchSetSummary (p. 438) objects

NextMarker (p. 129)

If you have more `ByteMatchSet` objects than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `ByteMatchSet` objects, submit another `ListByteMatchSets` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ListGeoMatchSets

Service: AWS WAF

Returns an array of GeoMatchSetSummary (p. 448) objects in the response.

Request Syntax

```
{
   "Limit": number,
   "NextMarker": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

Limit (p. 131)

Specifies the number of `GeoMatchSet` objects that you want AWS WAF to return for this request. If you have more `GeoMatchSet` objects than the number you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of `GeoMatchSet` objects.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

NextMarker (p. 131)

If you specify a value for `Limit` and you have more `GeoMatchSets` than the value of `Limit`, AWS WAF returns a `NextMarker` value in the response that allows you to list another group of `GeoMatchSet` objects. For the second and subsequent `ListGeoMatchSets` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `GeoMatchSet` objects.

Type: String

Length Constraints: Minimum length of 1.

Required: No

Response Syntax

```
{
   "GeoMatchSets": [
      {
         "GeoMatchSetId": "string",
         "Name": "string"
      }
   ],
   "NextMarker": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

GeoMatchSets (p. 131)

An array of GeoMatchSetSummary (p. 448) objects.

Type: Array of GeoMatchSetSummary (p. 448) objects

NextMarker (p. 131)

If you have more `GeoMatchSet` objects than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `GeoMatchSet` objects, submit another `ListGeoMatchSets` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ListIPSets

Service: AWS WAF

Returns an array of IPSetSummary (p. 456) objects in the response.

Request Syntax

```
{
   "Limit": number,
   "NextMarker": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

Limit (p. 133)

Specifies the number of `IPSet` objects that you want AWS WAF to return for this request. If you have more `IPSet` objects than the number you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of `IPSet` objects.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

NextMarker (p. 133)

If you specify a value for `Limit` and you have more `IPSets` than the value of `Limit`, AWS WAF returns a `NextMarker` value in the response that allows you to list another group of `IPSets`. For the second and subsequent `ListIPSets` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `IPSets`.

Type: String

Length Constraints: Minimum length of 1.

Required: No

Response Syntax

```
{
   "IPSets": [
      {
         "IPSetId": "string",
         "Name": "string"
      }
   ],
   "NextMarker": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

IPSets (p. 133)

An array of IPSetSummary (p. 456) objects.

Type: Array of IPSetSummary (p. 456) objects

NextMarker (p. 133)

If you have more `IPSet` objects than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `IPSet` objects, submit another `ListIPSets` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ListLoggingConfigurations

Service: AWS WAF

Returns an array of LoggingConfiguration (p. 458) objects.

Request Syntax

```
{
   "Limit": number,
   "NextMarker": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

Limit (p. 135)

Specifies the number of `LoggingConfigurations` that you want AWS WAF to return for this request. If you have more `LoggingConfigurations` than the number that you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of `LoggingConfigurations`.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

NextMarker (p. 135)

If you specify a value for `Limit` and you have more `LoggingConfigurations` than the value of `Limit`, AWS WAF returns a `NextMarker` value in the response that allows you to list another group of `LoggingConfigurations`. For the second and subsequent `ListLoggingConfigurations` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `ListLoggingConfigurations`.

Type: String

Length Constraints: Minimum length of 1.

Required: No

Response Syntax

```
{
   "LoggingConfigurations": [
      {
         "LogDestinationConfigs": [ "string" ],
         "RedactedFields": [
            {
               "Data": "string",
               "Type": "string"
            }
         ],
```

```
            "ResourceArn": "string"
        }
    ],
    "NextMarker": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

LoggingConfigurations (p. 135)

An array of LoggingConfiguration (p. 458) objects.

Type: Array of LoggingConfiguration (p. 458) objects

NextMarker (p. 135)

If you have more `LoggingConfigurations` than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `LoggingConfigurations`, submit another `ListLoggingConfigurations` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ListRateBasedRules

Service: AWS WAF

Returns an array of RuleSummary (p. 479) objects.

Request Syntax

```
{
   "Limit": number,
   "NextMarker": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

Limit (p. 138)

Specifies the number of `Rules` that you want AWS WAF to return for this request. If you have more `Rules` than the number that you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of `Rules`.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

NextMarker (p. 138)

If you specify a value for `Limit` and you have more `Rules` than the value of `Limit`, AWS WAF returns a `NextMarker` value in the response that allows you to list another group of `Rules`. For the second and subsequent `ListRateBasedRules` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `Rules`.

Type: String

Length Constraints: Minimum length of 1.

Required: No

Response Syntax

```
{
   "NextMarker": "string",
   "Rules": [
      {
         "Name": "string",
         "RuleId": "string"
      }
   ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

NextMarker (p. 138)

If you have more `Rules` than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `Rules`, submit another `ListRateBasedRules` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1.

Rules (p. 138)

An array of RuleSummary (p. 479) objects.

Type: Array of RuleSummary (p. 479) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ListRegexMatchSets

Service: AWS WAF

Returns an array of RegexMatchSetSummary (p. 465) objects.

Request Syntax

```
{
   "Limit": number,
   "NextMarker": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

Limit (p. 140)

Specifies the number of `RegexMatchSet` objects that you want AWS WAF to return for this request. If you have more `RegexMatchSet` objects than the number you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of `RegexMatchSet` objects.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

NextMarker (p. 140)

If you specify a value for `Limit` and you have more `RegexMatchSet` objects than the value of `Limit`, AWS WAF returns a `NextMarker` value in the response that allows you to list another group of `ByteMatchSets`. For the second and subsequent `ListRegexMatchSets` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `RegexMatchSet` objects.

Type: String

Length Constraints: Minimum length of 1.

Required: No

Response Syntax

```
{
   "NextMarker": "string",
   "RegexMatchSets": [
      {
         "Name": "string",
         "RegexMatchSetId": "string"
      }
   ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

NextMarker (p. 140)

If you have more `RegexMatchSet` objects than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `RegexMatchSet` objects, submit another `ListRegexMatchSets` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1.

RegexMatchSets (p. 140)

An array of RegexMatchSetSummary (p. 465) objects.

Type: Array of RegexMatchSetSummary (p. 465) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ListRegexPatternSets

Service: AWS WAF

Returns an array of RegexPatternSetSummary (p. 471) objects.

Request Syntax

```
{
   "Limit": number,
   "NextMarker": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

Limit (p. 142)

Specifies the number of `RegexPatternSet` objects that you want AWS WAF to return for this request. If you have more `RegexPatternSet` objects than the number you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of `RegexPatternSet` objects.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

NextMarker (p. 142)

If you specify a value for `Limit` and you have more `RegexPatternSet` objects than the value of `Limit`, AWS WAF returns a `NextMarker` value in the response that allows you to list another group of `RegexPatternSet` objects. For the second and subsequent `ListRegexPatternSets` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `RegexPatternSet` objects.

Type: String

Length Constraints: Minimum length of 1.

Required: No

Response Syntax

```
{
   "NextMarker": "string",
   "RegexPatternSets": [
      {
         "Name": "string",
         "RegexPatternSetId": "string"
      }
   ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

NextMarker (p. 142)

If you have more `RegexPatternSet` objects than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `RegexPatternSet` objects, submit another `ListRegexPatternSets` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1.

RegexPatternSets (p. 142)

An array of RegexPatternSetSummary (p. 471) objects.

Type: Array of RegexPatternSetSummary (p. 471) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ListRuleGroups

Service: AWS WAF

Returns an array of RuleGroup (p. 475) objects.

Request Syntax

```
{
   "Limit": number,
   "NextMarker": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

Limit (p. 144)

Specifies the number of `RuleGroups` that you want AWS WAF to return for this request. If you have more `RuleGroups` than the number that you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of `RuleGroups`.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

NextMarker (p. 144)

If you specify a value for `Limit` and you have more `RuleGroups` than the value of `Limit`, AWS WAF returns a `NextMarker` value in the response that allows you to list another group of `RuleGroups`. For the second and subsequent `ListRuleGroups` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `RuleGroups`.

Type: String

Length Constraints: Minimum length of 1.

Required: No

Response Syntax

```
{
   "NextMarker": "string",
   "RuleGroups": [
      {
         "Name": "string",
         "RuleGroupId": "string"
      }
   ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

NextMarker (p. 144)

If you have more `RuleGroups` than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `RuleGroups`, submit another `ListRuleGroups` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1.

RuleGroups (p. 144)

An array of RuleGroup (p. 475) objects.

Type: Array of RuleGroupSummary (p. 477) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ListRules

Service: AWS WAF

Returns an array of RuleSummary (p. 479) objects.

Request Syntax

```
{
   "Limit": number,
   "NextMarker": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

Limit (p. 146)

Specifies the number of `Rules` that you want AWS WAF to return for this request. If you have more `Rules` than the number that you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of `Rules`.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

NextMarker (p. 146)

If you specify a value for `Limit` and you have more `Rules` than the value of `Limit`, AWS WAF returns a `NextMarker` value in the response that allows you to list another group of `Rules`. For the second and subsequent `ListRules` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `Rules`.

Type: String

Length Constraints: Minimum length of 1.

Required: No

Response Syntax

```
{
   "NextMarker": "string",
   "Rules": [
      {
         "Name": "string",
         "RuleId": "string"
      }
   ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

NextMarker (p. 146)

If you have more `Rules` than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `Rules`, submit another `ListRules` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1.

Rules (p. 146)

An array of RuleSummary (p. 479) objects.

Type: Array of RuleSummary (p. 479) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ListSizeConstraintSets

Service: AWS WAF

Returns an array of SizeConstraintSetSummary (p. 487) objects.

Request Syntax

```
{
   "Limit": number,
   "NextMarker": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

Limit (p. 148)

Specifies the number of `SizeConstraintSet` objects that you want AWS WAF to return for this request. If you have more `SizeConstraintSets` objects than the number you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of `SizeConstraintSet` objects.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

NextMarker (p. 148)

If you specify a value for `Limit` and you have more `SizeConstraintSets` than the value of `Limit`, AWS WAF returns a `NextMarker` value in the response that allows you to list another group of `SizeConstraintSets`. For the second and subsequent `ListSizeConstraintSets` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `SizeConstraintSets`.

Type: String

Length Constraints: Minimum length of 1.

Required: No

Response Syntax

```
{
   "NextMarker": "string",
   "SizeConstraintSets": [
      {
         "Name": "string",
         "SizeConstraintSetId": "string"
      }
   ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

NextMarker (p. 148)

If you have more `SizeConstraintSet` objects than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `SizeConstraintSet` objects, submit another `ListSizeConstraintSets` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1.

SizeConstraintSets (p. 148)

An array of SizeConstraintSetSummary (p. 487) objects.

Type: Array of SizeConstraintSetSummary (p. 487) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ListSqlInjectionMatchSets

Service: AWS WAF

Returns an array of SqlInjectionMatchSet (p. 489) objects.

Request Syntax

```
{
   "Limit": number,
   "NextMarker": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

Limit (p. 150)

Specifies the number of SqlInjectionMatchSet (p. 489) objects that you want AWS WAF to return for this request. If you have more `SqlInjectionMatchSet` objects than the number you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of `Rules`.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

NextMarker (p. 150)

If you specify a value for `Limit` and you have more SqlInjectionMatchSet (p. 489) objects than the value of `Limit`, AWS WAF returns a `NextMarker` value in the response that allows you to list another group of `SqlInjectionMatchSets`. For the second and subsequent `ListSqlInjectionMatchSets` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `SqlInjectionMatchSets`.

Type: String

Length Constraints: Minimum length of 1.

Required: No

Response Syntax

```
{
   "NextMarker": "string",
   "SqlInjectionMatchSets": [
      {
         "Name": "string",
         "SqlInjectionMatchSetId": "string"
      }
   ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

NextMarker (p. 150)

If you have more SqlInjectionMatchSet (p. 489) objects than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `SqlInjectionMatchSet` objects, submit another `ListSqlInjectionMatchSets` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1.

SqlInjectionMatchSets (p. 150)

An array of SqlInjectionMatchSetSummary (p. 490) objects.

Type: Array of SqlInjectionMatchSetSummary (p. 490) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ListSubscribedRuleGroups

Service: AWS WAF

Returns an array of RuleGroup (p. 475) objects that you are subscribed to.

Request Syntax

```
{
   "Limit": number,
   "NextMarker": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

Limit (p. 152)

Specifies the number of subscribed rule groups that you want AWS WAF to return for this request. If you have more objects than the number you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of objects.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

NextMarker (p. 152)

If you specify a value for `Limit` and you have more `ByteMatchSets`subscribed rule groups than the value of `Limit`, AWS WAF returns a `NextMarker` value in the response that allows you to list another group of subscribed rule groups. For the second and subsequent `ListSubscribedRuleGroupsRequest` requests, specify the value of `NextMarker` from the previous response to get information about another batch of subscribed rule groups.

Type: String

Length Constraints: Minimum length of 1.

Required: No

Response Syntax

```
{
   "NextMarker": "string",
   "RuleGroups": [
      {
         "MetricName": "string",
         "Name": "string",
         "RuleGroupId": "string"
      }
   ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

NextMarker (p. 152)

If you have more objects than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more objects, submit another `ListSubscribedRuleGroups` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1.

RuleGroups (p. 152)

An array of RuleGroup (p. 475) objects.

Type: Array of SubscribedRuleGroupSummary (p. 494) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ListWebACLs

Service: AWS WAF

Returns an array of WebACLSummary (p. 500) objects in the response.

Request Syntax

```
{
   "Limit": number,
   "NextMarker": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

Limit (p. 154)

Specifies the number of `WebACL` objects that you want AWS WAF to return for this request. If you have more `WebACL` objects than the number that you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of `WebACL` objects.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

NextMarker (p. 154)

If you specify a value for `Limit` and you have more `WebACL` objects than the number that you specify for `Limit`, AWS WAF returns a `NextMarker` value in the response that allows you to list another group of `WebACL` objects. For the second and subsequent `ListWebACLs` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `WebACL` objects.

Type: String

Length Constraints: Minimum length of 1.

Required: No

Response Syntax

```
{
   "NextMarker": "string",
   "WebACLs": [
      {
         "Name": "string",
         "WebACLId": "string"
      }
   ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

NextMarker (p. 154)

If you have more `WebACL` objects than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `WebACL` objects, submit another `ListWebACLs` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1.

WebACLs (p. 154)

An array of WebACLSummary (p. 500) objects.

Type: Array of WebACLSummary (p. 500) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ListXssMatchSets

Service: AWS WAF

Returns an array of XssMatchSet (p. 502) objects.

Request Syntax

```
{
   "Limit": number,
   "NextMarker": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

Limit (p. 156)

Specifies the number of XssMatchSet (p. 502) objects that you want AWS WAF to return for this request. If you have more `XssMatchSet` objects than the number you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of `Rules`.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

NextMarker (p. 156)

If you specify a value for `Limit` and you have more XssMatchSet (p. 502) objects than the value of `Limit`, AWS WAF returns a `NextMarker` value in the response that allows you to list another group of `XssMatchSets`. For the second and subsequent `ListXssMatchSets` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `XssMatchSets`.

Type: String

Length Constraints: Minimum length of 1.

Required: No

Response Syntax

```
{
   "NextMarker": "string",
   "XssMatchSets": [
      {
         "Name": "string",
         "XssMatchSetId": "string"
      }
   ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

NextMarker (p. 156)

If you have more XssMatchSet (p. 502) objects than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `XssMatchSet` objects, submit another `ListXssMatchSets` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1.

XssMatchSets (p. 156)

An array of XssMatchSetSummary (p. 503) objects.

Type: Array of XssMatchSetSummary (p. 503) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

PutLoggingConfiguration

Service: AWS WAF

Associates a LoggingConfiguration (p. 458) with a specified web ACL.

You can access information about all traffic that AWS WAF inspects using the following steps:

1. Create an Amazon Kinesis Data Firehose .
2. Associate that firehose to your web ACL using a `PutLoggingConfiguration` request.

When you successfully enable logging using a `PutLoggingConfiguration` request, AWS WAF will create a service linked role with the necessary permissions to write logs to the Amazon Kinesis Data Firehose. For more information, see Logging Web ACL Traffic Information in the *AWS WAF Developer Guide*.

Request Syntax

```
{
   "LoggingConfiguration": {
      "LogDestinationConfigs": [ "string" ],
      "RedactedFields": [
         {
            "Data": "string",
            "Type": "string"
         }
      ],
      "ResourceArn": "string"
   }
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

LoggingConfiguration (p. 158)

The Amazon Kinesis Data Firehose that contains the inspected traffic information, the redacted fields details, and the Amazon Resource Name (ARN) of the web ACL to monitor.

Type: LoggingConfiguration (p. 458) object

Required: Yes

Response Syntax

```
{
   "LoggingConfiguration": {
      "LogDestinationConfigs": [ "string" ],
      "RedactedFields": [
         {
            "Data": "string",
            "Type": "string"
         }
```

```
        ],
        "ResourceArn": "string"
    }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

LoggingConfiguration (p. 158)

The LoggingConfiguration (p. 458) that you submitted in the request.

Type: LoggingConfiguration (p. 458) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFServiceLinkedRoleErrorException

AWS WAF is not able to access the service linked role. This can be caused by a previous `PutLoggingConfiguration` request, which can lock the service linked role for about 20 seconds. Please try your request again. The service linked role can also be locked by a previous `DeleteServiceLinkedRole` request, which can lock the role for 15 minutes or more. If you recently made a `DeleteServiceLinkedRole`, wait at least 15 minutes and try the request again. If you receive this same exception again, you will have to wait additional time until the role is unlocked.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

PutPermissionPolicy

Service: AWS WAF

Attaches a IAM policy to the specified resource. The only supported use for this action is to share a RuleGroup across accounts.

The `PutPermissionPolicy` is subject to the following restrictions:

- You can attach only one policy with each `PutPermissionPolicy` request.
- The policy must include an `Effect`, `Action` and `Principal`.
- `Effect` must specify `Allow`.
- The `Action` in the policy must be `waf:UpdateWebACL`, `waf-regional:UpdateWebACL`, `waf:GetRuleGroup` and `waf-regional:GetRuleGroup` . Any extra or wildcard actions in the policy will be rejected.
- The policy cannot include a `Resource` parameter.
- The ARN in the request must be a valid WAF RuleGroup ARN and the RuleGroup must exist in the same region.
- The user making the request must be the owner of the RuleGroup.
- Your policy must be composed using IAM Policy version 2012-10-17.

For more information, see IAM Policies.

An example of a valid policy parameter is shown in the Examples section below.

Request Syntax

```
{
   "Policy": "string",
   "ResourceArn": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

Policy (p. 161)

The policy to attach to the specified RuleGroup.

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

ResourceArn (p. 161)

The Amazon Resource Name (ARN) of the RuleGroup to which you want to attach the policy.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Required: Yes

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidPermissionPolicyException

The operation failed because the specified policy is not in the proper format.

The policy is subject to the following restrictions:

- You can attach only one policy with each `PutPermissionPolicy` request.
- The policy must include an `Effect`, `Action` and `Principal`.
- `Effect` must specify `Allow`.
- The `Action` in the policy must be `waf:UpdateWebACL`, `waf-regional:UpdateWebACL`, `waf:GetRuleGroup` and `waf-regional:GetRuleGroup` . Any extra or wildcard actions in the policy will be rejected.
- The policy cannot include a `Resource` parameter.
- The ARN in the request must be a valid WAF RuleGroup ARN and the RuleGroup must exist in the same region.
- The user making the request must be the owner of the RuleGroup.
- Your policy must be composed using IAM Policy version 2012-10-17.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

Examples

Example policy parameter - No escape characters

```
{
   "Version": "2012-10-17",
    "Statement": [
```

```
        {
          "Effect": "Allow",
          "Principal": {
          "AWS": "arn:aws:iam::111111111111:user/MyUserName"
                      },
           "Action": [
               "waf:UpdateWebACL",
               "waf-regional:UpdateWebACL",
               "waf:GetRuleGroup",
               "waf-regional:GetRuleGroup"

                     ]
         }
                 ]
}
```

Example policy parameter - AWS Command Line Interface (CLI)

```
{\"Version\":\"2012-10-17\",\"Statement\":[{\"Effect\":\"Allow\",\"Principal\":{\"AWS\":
\"arn:aws:iam::111111111111:user\/MyUserName\"},\"Action\":[\"waf:UpdateWebACL\",\"waf-
regional:UpdateWebACL\",\"waf:GetRuleGroup\",\"waf-regional:GetRuleGroup\"]}]}
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

UpdateByteMatchSet

Service: AWS WAF

Inserts or deletes ByteMatchTuple (p. 440) objects (filters) in a ByteMatchSet (p. 436). For each `ByteMatchTuple` object, you specify the following values:

- Whether to insert or delete the object from the array. If you want to change a `ByteMatchSetUpdate` object, you delete the existing object and add a new one.
- The part of a web request that you want AWS WAF to inspect, such as a query string or the value of the `User-Agent` header.
- The bytes (typically a string that corresponds with ASCII characters) that you want AWS WAF to look for. For more information, including how you specify the values for the AWS WAF API and the AWS CLI or SDKs, see `TargetString` in the ByteMatchTuple (p. 440) data type.
- Where to look, such as at the beginning or the end of a query string.
- Whether to perform any conversions on the request, such as converting it to lowercase, before inspecting it for the specified string.

For example, you can add a `ByteMatchSetUpdate` object that matches web requests in which `User-Agent` headers contain the string `BadBot`. You can then configure AWS WAF to block those requests.

To create and configure a `ByteMatchSet`, perform the following steps:

1. Create a `ByteMatchSet`. For more information, see CreateByteMatchSet (p. 8).
2. Use GetChangeToken (p. 90) to get the change token that you provide in the `ChangeToken` parameter of an `UpdateByteMatchSet` request.
3. Submit an `UpdateByteMatchSet` request to specify the part of the request that you want AWS WAF to inspect (for example, the header or the URI) and the value that you want AWS WAF to watch for.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ByteMatchSetId": "string",
   "ChangeToken": "string",
   "Updates": [
      {
         "Action": "string",
         "ByteMatchTuple": {
            "FieldToMatch": {
               "Data": "string",
               "Type": "string"
            },
            "PositionalConstraint": "string",
            "TargetString": blob,
            "TextTransformation": "string"
         }
      }
   ]
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ByteMatchSetId (p. 164)

The `ByteMatchSetId` of the ByteMatchSet (p. 436) that you want to update. `ByteMatchSetId` is returned by CreateByteMatchSet (p. 8) and by ListByteMatchSets (p. 129).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

ChangeToken (p. 164)

The value returned by the most recent call to GetChangeToken (p. 90).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

Updates (p. 164)

An array of `ByteMatchSetUpdate` objects that you want to insert into or delete from a ByteMatchSet (p. 436). For more information, see the applicable data types:

- ByteMatchSetUpdate (p. 439): Contains `Action` and `ByteMatchTuple`
- ByteMatchTuple (p. 440): Contains `FieldToMatch`, `PositionalConstraint`, `TargetString`, and `TextTransformation`
- FieldToMatch (p. 444): Contains `Data` and `Type`

Type: Array of ByteMatchSetUpdate (p. 439) objects

Array Members: Minimum number of 1 item.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 165)

The `ChangeToken` that you used to submit the `UpdateByteMatchSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 92).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFNonexistentContainerException

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a `Rule` to or delete a `Rule` from a `WebACL` that doesn't exist.
- You tried to add a `ByteMatchSet` to or delete a `ByteMatchSet` from a `Rule` that doesn't exist.
- You tried to add an IP address to or delete an IP address from an `IPSet` that doesn't exist.
- You tried to add a `ByteMatchTuple` to or delete a `ByteMatchTuple` from a `ByteMatchSet` that doesn't exist.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

UpdateGeoMatchSet

Service: AWS WAF

Inserts or deletes GeoMatchConstraint (p. 446) objects in an `GeoMatchSet`. For each `GeoMatchConstraint` object, you specify the following values:

- Whether to insert or delete the object from the array. If you want to change an `GeoMatchConstraint` object, you delete the existing object and add a new one.
- The `Type`. The only valid value for `Type` is `Country`.
- The `Value`, which is a two character code for the country to add to the `GeoMatchConstraint` object. Valid codes are listed in GeoMatchConstraint:Value (p. 446).

To create and configure an `GeoMatchSet`, perform the following steps:

1. Submit a CreateGeoMatchSet (p. 11) request.
2. Use GetChangeToken (p. 90) to get the change token that you provide in the `ChangeToken` parameter of an UpdateGeoMatchSet (p. 168) request.
3. Submit an `UpdateGeoMatchSet` request to specify the country that you want AWS WAF to watch for.

When you update an `GeoMatchSet`, you specify the country that you want to add and/or the country that you want to delete. If you want to change a country, you delete the existing country and add the new one.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "GeoMatchSetId": "string",
   "Updates": [
      {
         "Action": "string",
         "GeoMatchConstraint": {
            "Type": "string",
            "Value": "string"
         }
      }
   ]
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 168)

The value returned by the most recent call to GetChangeToken (p. 90).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

GeoMatchSetId (p. 168)

The `GeoMatchSetId` of the GeoMatchSet (p. 447) that you want to update. `GeoMatchSetId` is returned by CreateGeoMatchSet (p. 11) and by ListGeoMatchSets (p. 131).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Updates (p. 168)

An array of `GeoMatchSetUpdate` objects that you want to insert into or delete from an GeoMatchSet (p. 447). For more information, see the applicable data types:

- GeoMatchSetUpdate (p. 449): Contains `Action` and `GeoMatchConstraint`
- GeoMatchConstraint (p. 446): Contains `Type` and `Value`

  You can have only one `Type` and `Value` per `GeoMatchConstraint`. To add multiple countries, include multiple `GeoMatchSetUpdate` objects in your request.

Type: Array of GeoMatchSetUpdate (p. 449) objects

Array Members: Minimum number of 1 item.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 169)

The `ChangeToken` that you used to submit the `UpdateGeoMatchSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 92).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFNonexistentContainerException

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a `Rule` to or delete a `Rule` from a `WebACL` that doesn't exist.
- You tried to add a `ByteMatchSet` to or delete a `ByteMatchSet` from a `Rule` that doesn't exist.
- You tried to add an IP address to or delete an IP address from an `IPSet` that doesn't exist.
- You tried to add a `ByteMatchTuple` to or delete a `ByteMatchTuple` from a `ByteMatchSet` that doesn't exist.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

UpdateIPSet

Service: AWS WAF

Inserts or deletes IPSetDescriptor (p. 455) objects in an `IPSet`. For each `IPSetDescriptor` object, you specify the following values:

- Whether to insert or delete the object from the array. If you want to change an `IPSetDescriptor` object, you delete the existing object and add a new one.
- The IP address version, `IPv4` or `IPv6`.
- The IP address in CIDR notation, for example, `192.0.2.0/24` (for the range of IP addresses from `192.0.2.0` to `192.0.2.255`) or `192.0.2.44/32` (for the individual IP address `192.0.2.44`).

AWS WAF supports IPv4 address ranges: /8 and any range between /16 through /32. AWS WAF supports IPv6 address ranges: /16, /24, /32, /48, /56, /64, and /128. For more information about CIDR notation, see the Wikipedia entry Classless Inter-Domain Routing.

IPv6 addresses can be represented using any of the following formats:

- 1111:0000:0000:0000:0000:0000:0000:0111/128
- 1111:0:0:0:0:0:0:0111/128
- 1111::0111/128
- 1111::111/128

You use an `IPSet` to specify which web requests you want to allow or block based on the IP addresses that the requests originated from. For example, if you're receiving a lot of requests from one or a small number of IP addresses and you want to block the requests, you can create an `IPSet` that specifies those IP addresses, and then configure AWS WAF to block the requests.

To create and configure an `IPSet`, perform the following steps:

1. Submit a CreateIPSet (p. 14) request.
2. Use GetChangeToken (p. 90) to get the change token that you provide in the `ChangeToken` parameter of an UpdateIPSet (p. 172) request.
3. Submit an `UpdateIPSet` request to specify the IP addresses that you want AWS WAF to watch for.

When you update an `IPSet`, you specify the IP addresses that you want to add and/or the IP addresses that you want to delete. If you want to change an IP address, you delete the existing IP address and add the new one.

You can insert a maximum of 1000 addresses in a single request.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "IPSetId": "string",
   "Updates": [
      {
         "Action": "string",
         "IPSetDescriptor": {
            "Type": "string",
```

```
            "Value": "string"
        }
    }
  ]
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 172)

The value returned by the most recent call to GetChangeToken (p. 90).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

IPSetId (p. 172)

The `IPSetId` of the IPSet (p. 453) that you want to update. `IPSetId` is returned by CreateIPSet (p. 14) and by ListIPSets (p. 133).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Updates (p. 172)

An array of `IPSetUpdate` objects that you want to insert into or delete from an IPSet (p. 453). For more information, see the applicable data types:

- IPSetUpdate (p. 457): Contains `Action` and `IPSetDescriptor`
- IPSetDescriptor (p. 455): Contains `Type` and `Value`

You can insert a maximum of 1000 addresses in a single request.

Type: Array of IPSetUpdate (p. 457) objects

Array Members: Minimum number of 1 item.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 173)

The `ChangeToken` that you used to submit the `UpdateIPSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 92).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFNonexistentContainerException

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a `Rule` to or delete a `Rule` from a `WebACL` that doesn't exist.
- You tried to add a `ByteMatchSet` to or delete a `ByteMatchSet` from a `Rule` that doesn't exist.
- You tried to add an IP address to or delete an IP address from an `IPSet` that doesn't exist.
- You tried to add a `ByteMatchTuple` to or delete a `ByteMatchTuple` from a `ByteMatchSet` that doesn't exist.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

UpdateRateBasedRule

Service: AWS WAF

Inserts or deletes Predicate (p. 459) objects in a rule and updates the `RateLimit` in the rule.

Each `Predicate` object identifies a predicate, such as a ByteMatchSet (p. 436) or an IPSet (p. 453), that specifies the web requests that you want to block or count. The `RateLimit` specifies the number of requests every five minutes that triggers the rule.

If you add more than one predicate to a `RateBasedRule`, a request must match all the predicates and exceed the `RateLimit` to be counted or blocked. For example, suppose you add the following to a `RateBasedRule`:

- An `IPSet` that matches the IP address `192.0.2.44/32`
- A `ByteMatchSet` that matches `BadBot` in the `User-Agent` header

Further, you specify a `RateLimit` of 15,000.

You then add the `RateBasedRule` to a `WebACL` and specify that you want to block requests that satisfy the rule. For a request to be blocked, it must come from the IP address 192.0.2.44 *and* the `User-Agent` header in the request must contain the value `BadBot`. Further, requests that match these two conditions much be received at a rate of more than 15,000 every five minutes. If the rate drops below this limit, AWS WAF no longer blocks the requests.

As a second example, suppose you want to limit requests to a particular page on your site. To do this, you could add the following to a `RateBasedRule`:

- A `ByteMatchSet` with `FieldToMatch` of `URI`
- A `PositionalConstraint` of `STARTS_WITH`
- A `TargetString` of `login`

Further, you specify a `RateLimit` of 15,000.

By adding this `RateBasedRule` to a `WebACL`, you could limit requests to your login page without affecting the rest of your site.

Request Syntax

```
{
   "ChangeToken": "string",
   "RateLimit": number,
   "RuleId": "string",
   "Updates": [
      {
         "Action": "string",
         "Predicate": {
            "DataId": "string",
            "Negated": boolean,
            "Type": "string"
         }
      }
   ]
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 176)

The value returned by the most recent call to GetChangeToken (p. 90).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

RateLimit (p. 176)

The maximum number of requests, which have an identical value in the field specified by the `RateKey`, allowed in a five-minute period. If the number of requests exceeds the `RateLimit` and the other predicates specified in the rule are also met, AWS WAF triggers the action that is specified for this rule.

Type: Long

Valid Range: Minimum value of 2000. Maximum value of 2000000000.

Required: Yes

RuleId (p. 176)

The `RuleId` of the `RateBasedRule` that you want to update. `RuleId` is returned by `CreateRateBasedRule` and by ListRateBasedRules (p. 138).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Updates (p. 176)

An array of `RuleUpdate` objects that you want to insert into or delete from a RateBasedRule (p. 461).

Type: Array of RuleUpdate (p. 480) objects

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 177)

The `ChangeToken` that you used to submit the `UpdateRateBasedRule` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 92).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFNonexistentContainerException

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a `Rule` to or delete a `Rule` from a `WebACL` that doesn't exist.
- You tried to add a `ByteMatchSet` to or delete a `ByteMatchSet` from a `Rule` that doesn't exist.
- You tried to add an IP address to or delete an IP address from an `IPSet` that doesn't exist.
- You tried to add a `ByteMatchTuple` to or delete a `ByteMatchTuple` from a `ByteMatchSet` that doesn't exist.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

UpdateRegexMatchSet

Service: AWS WAF

Inserts or deletes RegexMatchTuple (p. 467) objects (filters) in a RegexMatchSet (p. 463). For each `RegexMatchSetUpdate` object, you specify the following values:

- Whether to insert or delete the object from the array. If you want to change a `RegexMatchSetUpdate` object, you delete the existing object and add a new one.
- The part of a web request that you want AWS WAF to inspectupdate, such as a query string or the value of the `User-Agent` header.
- The identifier of the pattern (a regular expression) that you want AWS WAF to look for. For more information, see RegexPatternSet (p. 470).
- Whether to perform any conversions on the request, such as converting it to lowercase, before inspecting it for the specified string.

For example, you can create a `RegexPatternSet` that matches any requests with `User-Agent` headers that contain the string `B[a@]dB[o0]t`. You can then configure AWS WAF to reject those requests.

To create and configure a `RegexMatchSet`, perform the following steps:

1. Create a `RegexMatchSet`. For more information, see CreateRegexMatchSet (p. 22).
2. Use GetChangeToken (p. 90) to get the change token that you provide in the `ChangeToken` parameter of an `UpdateRegexMatchSet` request.
3. Submit an `UpdateRegexMatchSet` request to specify the part of the request that you want AWS WAF to inspect (for example, the header or the URI) and the identifier of the `RegexPatternSet` that contain the regular expression patters you want AWS WAF to watch for.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "RegexMatchSetId": "string",
   "Updates": [
      {
         "Action": "string",
         "RegexMatchTuple": {
            "FieldToMatch": {
               "Data": "string",
               "Type": "string"
            },
            "RegexPatternSetId": "string",
            "TextTransformation": "string"
         }
      }
   ]
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 180)

The value returned by the most recent call to GetChangeToken (p. 90).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

RegexMatchSetId (p. 180)

The `RegexMatchSetId` of the RegexMatchSet (p. 463) that you want to update. `RegexMatchSetId` is returned by CreateRegexMatchSet (p. 22) and by ListRegexMatchSets (p. 140).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Updates (p. 180)

An array of `RegexMatchSetUpdate` objects that you want to insert into or delete from a RegexMatchSet (p. 463). For more information, see RegexMatchTuple (p. 467).

Type: Array of RegexMatchSetUpdate (p. 466) objects

Array Members: Minimum number of 1 item.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 181)

The `ChangeToken` that you used to submit the `UpdateRegexMatchSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 92).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFDisallowedNameException

The name specified is invalid.

HTTP Status Code: 400

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFNonexistentContainerException

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a `Rule` to or delete a `Rule` from a `WebACL` that doesn't exist.
- You tried to add a `ByteMatchSet` to or delete a `ByteMatchSet` from a `Rule` that doesn't exist.
- You tried to add an IP address to or delete an IP address from an `IPSet` that doesn't exist.
- You tried to add a `ByteMatchTuple` to or delete a `ByteMatchTuple` from a `ByteMatchSet` that doesn't exist.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

UpdateRegexPatternSet

Service: AWS WAF

Inserts or deletes `RegexPatternString` objects in a RegexPatternSet (p. 470). For each `RegexPatternString` object, you specify the following values:

- Whether to insert or delete the `RegexPatternString`.
- The regular expression pattern that you want to insert or delete. For more information, see RegexPatternSet (p. 470).

For example, you can create a `RegexPatternString` such as `B[a@]dB[o0]t`. AWS WAF will match this `RegexPatternString` to:

- BadBot
- BadB0t
- B@dBot
- B@dB0t

To create and configure a `RegexPatternSet`, perform the following steps:

1. Create a `RegexPatternSet`. For more information, see CreateRegexPatternSet (p. 25).
2. Use GetChangeToken (p. 90) to get the change token that you provide in the `ChangeToken` parameter of an `UpdateRegexPatternSet` request.
3. Submit an `UpdateRegexPatternSet` request to specify the regular expression pattern that you want AWS WAF to watch for.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "RegexPatternSetId": "string",
   "Updates": [
      {
         "Action": "string",
         "RegexPatternString": "string"
      }
   ]
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 184)

The value returned by the most recent call to GetChangeToken (p. 90).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

RegexPatternSetId (p. 184)

The `RegexPatternSetId` of the RegexPatternSet (p. 470) that you want to update. `RegexPatternSetId` is returned by CreateRegexPatternSet (p. 25) and by ListRegexPatternSets (p. 142).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Updates (p. 184)

An array of `RegexPatternSetUpdate` objects that you want to insert into or delete from a RegexPatternSet (p. 470).

Type: Array of RegexPatternSetUpdate (p. 472) objects

Array Members: Minimum number of 1 item.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 185)

The `ChangeToken` that you used to submit the `UpdateRegexPatternSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 92).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

WAFInvalidRegexPatternException

The regular expression (regex) you specified in `RegexPatternString` is invalid.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFNonexistentContainerException

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a `Rule` to or delete a `Rule` from a `WebACL` that doesn't exist.
- You tried to add a `ByteMatchSet` to or delete a `ByteMatchSet` from a `Rule` that doesn't exist.
- You tried to add an IP address to or delete an IP address from an `IPSet` that doesn't exist.
- You tried to add a `ByteMatchTuple` to or delete a `ByteMatchTuple` from a `ByteMatchSet` that doesn't exist.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

UpdateRule

Service: AWS WAF

Inserts or deletes Predicate (p. 459) objects in a `Rule`. Each `Predicate` object identifies a predicate, such as a ByteMatchSet (p. 436) or an IPSet (p. 453), that specifies the web requests that you want to allow, block, or count. If you add more than one predicate to a `Rule`, a request must match all of the specifications to be allowed, blocked, or counted. For example, suppose you add the following to a `Rule`:

- A `ByteMatchSet` that matches the value `BadBot` in the `User-Agent` header
- An `IPSet` that matches the IP address `192.0.2.44`

You then add the `Rule` to a `WebACL` and specify that you want to block requests that satisfy the `Rule`. For a request to be blocked, the `User-Agent` header in the request must contain the value `BadBot` *and* the request must originate from the IP address 192.0.2.44.

To create and configure a `Rule`, perform the following steps:

1. Create and update the predicates that you want to include in the `Rule`.
2. Create the `Rule`. See CreateRule (p. 28).
3. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an UpdateRule (p. 188) request.
4. Submit an `UpdateRule` request to add predicates to the `Rule`.
5. Create and update a `WebACL` that contains the `Rule`. See CreateWebACL (p. 41).

If you want to replace one `ByteMatchSet` or `IPSet` with another, you delete the existing one and add the new one.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "RuleId": "string",
   "Updates": [
      {
         "Action": "string",
         "Predicate": {
            "DataId": "string",
            "Negated": boolean,
            "Type": "string"
         }
      }
   ]
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 188)

The value returned by the most recent call to GetChangeToken (p. 90).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

RuleId (p. 188)

The `RuleId` of the `Rule` that you want to update. `RuleId` is returned by `CreateRule` and by ListRules (p. 146).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Updates (p. 188)

An array of `RuleUpdate` objects that you want to insert into or delete from a Rule (p. 473). For more information, see the applicable data types:

- RuleUpdate (p. 480): Contains `Action` and `Predicate`
- Predicate (p. 459): Contains `DataId`, `Negated`, and `Type`
- FieldToMatch (p. 444): Contains `Data` and `Type`

Type: Array of RuleUpdate (p. 480) objects

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 189)

The `ChangeToken` that you used to submit the `UpdateRule` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 92).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFNonexistentContainerException

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a `Rule` to or delete a `Rule` from a `WebACL` that doesn't exist.
- You tried to add a `ByteMatchSet` to or delete a `ByteMatchSet` from a `Rule` that doesn't exist.

- You tried to add an IP address to or delete an IP address from an `IPSet` that doesn't exist.
- You tried to add a `ByteMatchTuple` to or delete a `ByteMatchTuple` from a `ByteMatchSet` that doesn't exist.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

UpdateRuleGroup

Service: AWS WAF

Inserts or deletes ActivatedRule (p. 434) objects in a `RuleGroup`.

You can only insert `REGULAR` rules into a rule group.

You can have a maximum of ten rules per rule group.

To create and configure a `RuleGroup`, perform the following steps:

1. Create and update the `Rules` that you want to include in the `RuleGroup`. See CreateRule (p. 28).
2. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an UpdateRuleGroup (p. 192) request.
3. Submit an `UpdateRuleGroup` request to add `Rules` to the `RuleGroup`.
4. Create and update a `WebACL` that contains the `RuleGroup`. See CreateWebACL (p. 41).

If you want to replace one `Rule` with another, you delete the existing one and add the new one.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "RuleGroupId": "string",
   "Updates": [
      {
         "Action": "string",
         "ActivatedRule": {
            "Action": {
               "Type": "string"
            },
            "OverrideAction": {
               "Type": "string"
            },
            "Priority": number,
            "RuleId": "string",
            "Type": "string"
         }
      }
   ]
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 192)

The value returned by the most recent call to GetChangeToken (p. 90).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

RuleGroupId (p. 192)

The `RuleGroupId` of the RuleGroup (p. 475) that you want to update. `RuleGroupId` is returned by CreateRuleGroup (p. 32) and by ListRuleGroups (p. 144).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Updates (p. 192)

An array of `RuleGroupUpdate` objects that you want to insert into or delete from a RuleGroup (p. 475).

You can only insert `REGULAR` rules into a rule group.

`ActivatedRule|OverrideAction` applies only when updating or adding a `RuleGroup` to a `WebACL`. In this case you do not use `ActivatedRule|Action`. For all other update requests, `ActivatedRule|Action` is used instead of `ActivatedRule|OverrideAction`.

Type: Array of RuleGroupUpdate (p. 478) objects

Array Members: Minimum number of 1 item.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 193)

The `ChangeToken` that you used to submit the `UpdateRuleGroup` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 92).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFNonexistentContainerException

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a `Rule` to or delete a `Rule` from a `WebACL` that doesn't exist.
- You tried to add a `ByteMatchSet` to or delete a `ByteMatchSet` from a `Rule` that doesn't exist.
- You tried to add an IP address to or delete an IP address from an `IPSet` that doesn't exist.
- You tried to add a `ByteMatchTuple` to or delete a `ByteMatchTuple` from a `ByteMatchSet` that doesn't exist.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

UpdateSizeConstraintSet

Service: AWS WAF

Inserts or deletes SizeConstraint (p. 483) objects (filters) in a SizeConstraintSet (p. 486). For each `SizeConstraint` object, you specify the following values:

- Whether to insert or delete the object from the array. If you want to change a `SizeConstraintSetUpdate` object, you delete the existing object and add a new one.
- The part of a web request that you want AWS WAF to evaluate, such as the length of a query string or the length of the `User-Agent` header.
- Whether to perform any transformations on the request, such as converting it to lowercase, before checking its length. Note that transformations of the request body are not supported because the AWS resource forwards only the first `8192` bytes of your request to AWS WAF.

  You can only specify a single type of TextTransformation.
- A `ComparisonOperator` used for evaluating the selected part of the request against the specified `Size`, such as equals, greater than, less than, and so on.
- The length, in bytes, that you want AWS WAF to watch for in selected part of the request. The length is computed after applying the transformation.

For example, you can add a `SizeConstraintSetUpdate` object that matches web requests in which the length of the `User-Agent` header is greater than 100 bytes. You can then configure AWS WAF to block those requests.

To create and configure a `SizeConstraintSet`, perform the following steps:

1. Create a `SizeConstraintSet.` For more information, see CreateSizeConstraintSet (p. 35).
2. Use GetChangeToken (p. 90) to get the change token that you provide in the `ChangeToken` parameter of an `UpdateSizeConstraintSet` request.
3. Submit an `UpdateSizeConstraintSet` request to specify the part of the request that you want AWS WAF to inspect (for example, the header or the URI) and the value that you want AWS WAF to watch for.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "SizeConstraintSetId": "string",
   "Updates": [
      {
         "Action": "string",
         "SizeConstraint": {
            "ComparisonOperator": "string",
            "FieldToMatch": {
               "Data": "string",
               "Type": "string"
            },
            "Size": number,
            "TextTransformation": "string"
         }
      }
   ]
```

```
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 196)

The value returned by the most recent call to GetChangeToken (p. 90).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

SizeConstraintSetId (p. 196)

The `SizeConstraintSetId` of the SizeConstraintSet (p. 486) that you want to update. `SizeConstraintSetId` is returned by CreateSizeConstraintSet (p. 35) and by ListSizeConstraintSets (p. 148).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Updates (p. 196)

An array of `SizeConstraintSetUpdate` objects that you want to insert into or delete from a SizeConstraintSet (p. 486). For more information, see the applicable data types:

- SizeConstraintSetUpdate (p. 488): Contains `Action` and `SizeConstraint`
- SizeConstraint (p. 483): Contains `FieldToMatch`, `TextTransformation`, `ComparisonOperator`, and `Size`
- FieldToMatch (p. 444): Contains `Data` and `Type`

Type: Array of SizeConstraintSetUpdate (p. 488) objects

Array Members: Minimum number of 1 item.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 197)

The `ChangeToken` that you used to submit the `UpdateSizeConstraintSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 92).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFNonexistentContainerException

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a `Rule` to or delete a `Rule` from a `WebACL` that doesn't exist.
- You tried to add a `ByteMatchSet` to or delete a `ByteMatchSet` from a `Rule` that doesn't exist.
- You tried to add an IP address to or delete an IP address from an `IPSet` that doesn't exist.
- You tried to add a `ByteMatchTuple` to or delete a `ByteMatchTuple` from a `ByteMatchSet` that doesn't exist.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

UpdateSqlInjectionMatchSet

Service: AWS WAF

Inserts or deletes SqlInjectionMatchTuple (p. 492) objects (filters) in a SqlInjectionMatchSet (p. 489). For each `SqlInjectionMatchTuple` object, you specify the following values:

- `Action`: Whether to insert the object into or delete the object from the array. To change a `SqlInjectionMatchTuple`, you delete the existing object and add a new one.
- `FieldToMatch`: The part of web requests that you want AWS WAF to inspect and, if you want AWS WAF to inspect a header or custom query parameter, the name of the header or parameter.
- `TextTransformation`: Which text transformation, if any, to perform on the web request before inspecting the request for snippets of malicious SQL code.

  You can only specify a single type of TextTransformation.

You use `SqlInjectionMatchSet` objects to specify which CloudFront requests you want to allow, block, or count. For example, if you're receiving requests that contain snippets of SQL code in the query string and you want to block the requests, you can create a `SqlInjectionMatchSet` with the applicable settings, and then configure AWS WAF to block the requests.

To create and configure a `SqlInjectionMatchSet`, perform the following steps:

1. Submit a CreateSqlInjectionMatchSet (p. 38) request.
2. Use GetChangeToken (p. 90) to get the change token that you provide in the `ChangeToken` parameter of an UpdateIPSet (p. 172) request.
3. Submit an `UpdateSqlInjectionMatchSet` request to specify the parts of web requests that you want AWS WAF to inspect for snippets of SQL code.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "SqlInjectionMatchSetId": "string",
   "Updates": [
      {
         "Action": "string",
         "SqlInjectionMatchTuple": {
            "FieldToMatch": {
               "Data": "string",
               "Type": "string"
            },
            "TextTransformation": "string"
         }
      }
   ]
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 200)

The value returned by the most recent call to GetChangeToken (p. 90).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

SqlInjectionMatchSetId (p. 200)

The `SqlInjectionMatchSetId` of the `SqlInjectionMatchSet` that you want to update. `SqlInjectionMatchSetId` is returned by CreateSqlInjectionMatchSet (p. 38) and by ListSqlInjectionMatchSets (p. 150).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Updates (p. 200)

An array of `SqlInjectionMatchSetUpdate` objects that you want to insert into or delete from a SqlInjectionMatchSet (p. 489). For more information, see the applicable data types:

- SqlInjectionMatchSetUpdate (p. 491): Contains `Action` and `SqlInjectionMatchTuple`
- SqlInjectionMatchTuple (p. 492): Contains `FieldToMatch` and `TextTransformation`
- FieldToMatch (p. 444): Contains `Data` and `Type`

Type: Array of SqlInjectionMatchSetUpdate (p. 491) objects

Array Members: Minimum number of 1 item.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 201)

The `ChangeToken` that you used to submit the `UpdateSqlInjectionMatchSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 92).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFNonexistentContainerException

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a `Rule` to or delete a `Rule` from a `WebACL` that doesn't exist.
- You tried to add a `ByteMatchSet` to or delete a `ByteMatchSet` from a `Rule` that doesn't exist.
- You tried to add an IP address to or delete an IP address from an `IPSet` that doesn't exist.
- You tried to add a `ByteMatchTuple` to or delete a `ByteMatchTuple` from a `ByteMatchSet` that doesn't exist.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

UpdateWebACL

Service: AWS WAF

Inserts or deletes ActivatedRule (p. 434) objects in a `WebACL`. Each `Rule` identifies web requests that you want to allow, block, or count. When you update a `WebACL`, you specify the following values:

- A default action for the `WebACL`, either `ALLOW` or `BLOCK`. AWS WAF performs the default action if a request doesn't match the criteria in any of the `Rules` in a `WebACL`.
- The `Rules` that you want to add and/or delete. If you want to replace one `Rule` with another, you delete the existing `Rule` and add the new one.
- For each `Rule`, whether you want AWS WAF to allow requests, block requests, or count requests that match the conditions in the `Rule`.
- The order in which you want AWS WAF to evaluate the `Rules` in a `WebACL`. If you add more than one `Rule` to a `WebACL`, AWS WAF evaluates each request against the `Rules` in order based on the value of `Priority`. (The `Rule` that has the lowest value for `Priority` is evaluated first.) When a web request matches all of the predicates (such as `ByteMatchSets` and `IPSets`) in a `Rule`, AWS WAF immediately takes the corresponding action, allow or block, and doesn't evaluate the request against the remaining `Rules` in the `WebACL`, if any.

To create and configure a `WebACL`, perform the following steps:

1. Create and update the predicates that you want to include in `Rules`. For more information, see CreateByteMatchSet (p. 8), UpdateByteMatchSet (p. 164), CreateIPSet (p. 14), UpdateIPSet (p. 172), CreateSqlInjectionMatchSet (p. 38), and UpdateSqlInjectionMatchSet (p. 200).
2. Create and update the `Rules` that you want to include in the `WebACL`. For more information, see CreateRule (p. 28) and UpdateRule (p. 188).
3. Create a `WebACL`. See CreateWebACL (p. 41).
4. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an UpdateWebACL (p. 204) request.
5. Submit an `UpdateWebACL` request to specify the `Rules` that you want to include in the `WebACL`, to specify the default action, and to associate the `WebACL` with a CloudFront distribution.

Be aware that if you try to add a RATE_BASED rule to a web ACL without setting the rule type when first creating the rule, the UpdateWebACL (p. 204) request will fail because the request tries to add a REGULAR rule (the default rule type) with the specified ID, which does not exist.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "DefaultAction": {
      "Type": "string"
   },
   "Updates": [
      {
         "Action": "string",
         "ActivatedRule": {
            "Action": {
               "Type": "string"
            },
            "OverrideAction": {
               "Type": "string"
```

```
            },
            "Priority": number,
            "RuleId": "string",
            "Type": "string"
        }
    }
],
"WebACLId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 204)

The value returned by the most recent call to GetChangeToken (p. 90).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

DefaultAction (p. 204)

A default action for the web ACL, either ALLOW or BLOCK. AWS WAF performs the default action if a request doesn't match the criteria in any of the rules in a web ACL.

Type: WafAction (p. 496) object

Required: No

Updates (p. 204)

An array of updates to make to the WebACL (p. 498).

An array of `WebACLUpdate` objects that you want to insert into or delete from a WebACL (p. 498). For more information, see the applicable data types:

- WebACLUpdate (p. 501): Contains `Action` and `ActivatedRule`
- ActivatedRule (p. 434): Contains `Action`, `OverrideAction`, `Priority`, `RuleId`, and `Type`. `ActivatedRule|OverrideAction` applies only when updating or adding a `RuleGroup` to a `WebACL`. In this case you do not use `ActivatedRule|Action`. For all other update requests, `ActivatedRule|Action` is used instead of `ActivatedRule|OverrideAction`.
- WafAction (p. 496): Contains `Type`

Type: Array of WebACLUpdate (p. 501) objects

Required: No

WebACLId (p. 204)

The `WebACLId` of the WebACL (p. 498) that you want to update. `WebACLId` is returned by CreateWebACL (p. 41) and by ListWebACLs (p. 154).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 206)

The `ChangeToken` that you used to submit the `UpdateWebACL` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 92).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFNonexistentContainerException

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a `Rule` to or delete a `Rule` from a `WebACL` that doesn't exist.
- You tried to add a `ByteMatchSet` to or delete a `ByteMatchSet` from a `Rule` that doesn't exist.
- You tried to add an IP address to or delete an IP address from an `IPSet` that doesn't exist.
- You tried to add a `ByteMatchTuple` to or delete a `ByteMatchTuple` from a `ByteMatchSet` that doesn't exist.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

WAFSubscriptionNotFoundException

The specified subscription does not exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

UpdateXssMatchSet

Service: AWS WAF

Inserts or deletes XssMatchTuple (p. 505) objects (filters) in an XssMatchSet (p. 502). For each `XssMatchTuple` object, you specify the following values:

- `Action`: Whether to insert the object into or delete the object from the array. To change a `XssMatchTuple`, you delete the existing object and add a new one.
- `FieldToMatch`: The part of web requests that you want AWS WAF to inspect and, if you want AWS WAF to inspect a header or custom query parameter, the name of the header or parameter.
- `TextTransformation`: Which text transformation, if any, to perform on the web request before inspecting the request for cross-site scripting attacks.

  You can only specify a single type of TextTransformation.

You use `XssMatchSet` objects to specify which CloudFront requests you want to allow, block, or count. For example, if you're receiving requests that contain cross-site scripting attacks in the request body and you want to block the requests, you can create an `XssMatchSet` with the applicable settings, and then configure AWS WAF to block the requests.

To create and configure an `XssMatchSet`, perform the following steps:

1. Submit a CreateXssMatchSet (p. 45) request.
2. Use GetChangeToken (p. 90) to get the change token that you provide in the `ChangeToken` parameter of an UpdateIPSet (p. 172) request.
3. Submit an `UpdateXssMatchSet` request to specify the parts of web requests that you want AWS WAF to inspect for cross-site scripting attacks.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "Updates": [
      {
         "Action": "string",
         "XssMatchTuple": {
            "FieldToMatch": {
               "Data": "string",
               "Type": "string"
            },
            "TextTransformation": "string"
         }
      }
   ],
   "XssMatchSetId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 209)

The value returned by the most recent call to GetChangeToken (p. 90).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

Updates (p. 209)

An array of `XssMatchSetUpdate` objects that you want to insert into or delete from a XssMatchSet (p. 502). For more information, see the applicable data types:

- XssMatchSetUpdate (p. 504): Contains `Action` and `XssMatchTuple`
- XssMatchTuple (p. 505): Contains `FieldToMatch` and `TextTransformation`
- FieldToMatch (p. 444): Contains `Data` and `Type`

Type: Array of XssMatchSetUpdate (p. 504) objects

Array Members: Minimum number of 1 item.

Required: Yes

XssMatchSetId (p. 209)

The `XssMatchSetId` of the `XssMatchSet` that you want to update. `XssMatchSetId` is returned by CreateXssMatchSet (p. 45) and by ListXssMatchSets (p. 156).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 210)

The `ChangeToken` that you used to submit the `UpdateXssMatchSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 92).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFNonexistentContainerException

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a `Rule` to or delete a `Rule` from a `WebACL` that doesn't exist.
- You tried to add a `ByteMatchSet` to or delete a `ByteMatchSet` from a `Rule` that doesn't exist.

- You tried to add an IP address to or delete an IP address from an `IPSet` that doesn't exist.
- You tried to add a `ByteMatchTuple` to or delete a `ByteMatchTuple` from a `ByteMatchSet` that doesn't exist.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

AWS WAF Regional

The following actions are supported by AWS WAF Regional:

- AssociateWebACL (p. 215)
- CreateByteMatchSet (p. 217)
- CreateGeoMatchSet (p. 220)
- CreateIPSet (p. 223)
- CreateRateBasedRule (p. 226)
- CreateRegexMatchSet (p. 231)
- CreateRegexPatternSet (p. 234)
- CreateRule (p. 237)
- CreateRuleGroup (p. 241)
- CreateSizeConstraintSet (p. 244)
- CreateSqlInjectionMatchSet (p. 247)
- CreateWebACL (p. 250)
- CreateXssMatchSet (p. 254)
- DeleteByteMatchSet (p. 257)

- DeleteGeoMatchSet (p. 260)
- DeleteIPSet (p. 263)
- DeleteLoggingConfiguration (p. 266)
- DeletePermissionPolicy (p. 268)
- DeleteRateBasedRule (p. 270)
- DeleteRegexMatchSet (p. 273)
- DeleteRegexPatternSet (p. 276)
- DeleteRule (p. 279)
- DeleteRuleGroup (p. 282)
- DeleteSizeConstraintSet (p. 285)
- DeleteSqlInjectionMatchSet (p. 288)
- DeleteWebACL (p. 291)
- DeleteXssMatchSet (p. 294)
- DisassociateWebACL (p. 297)
- GetByteMatchSet (p. 299)
- GetChangeToken (p. 301)
- GetChangeTokenStatus (p. 303)
- GetGeoMatchSet (p. 305)
- GetIPSet (p. 307)
- GetLoggingConfiguration (p. 309)
- GetPermissionPolicy (p. 311)
- GetRateBasedRule (p. 313)
- GetRateBasedRuleManagedKeys (p. 315)
- GetRegexMatchSet (p. 318)
- GetRegexPatternSet (p. 320)
- GetRule (p. 322)
- GetRuleGroup (p. 324)
- GetSampledRequests (p. 326)
- GetSizeConstraintSet (p. 329)
- GetSqlInjectionMatchSet (p. 331)
- GetWebACL (p. 333)
- GetWebACLForResource (p. 335)
- GetXssMatchSet (p. 338)
- ListActivatedRulesInRuleGroup (p. 340)
- ListByteMatchSets (p. 343)
- ListGeoMatchSets (p. 345)
- ListIPSets (p. 347)
- ListLoggingConfigurations (p. 349)
- ListRateBasedRules (p. 352)
- ListRegexMatchSets (p. 354)
- ListRegexPatternSets (p. 356)
- ListResourcesForWebACL (p. 358)
- ListRuleGroups (p. 361)
- ListRules (p. 363)
- ListSizeConstraintSets (p. 365)
- ListSqlInjectionMatchSets (p. 367)

- ListSubscribedRuleGroups (p. 369)
- ListWebACLs (p. 371)
- ListXssMatchSets (p. 373)
- PutLoggingConfiguration (p. 375)
- PutPermissionPolicy (p. 378)
- UpdateByteMatchSet (p. 381)
- UpdateGeoMatchSet (p. 385)
- UpdateIPSet (p. 389)
- UpdateRateBasedRule (p. 393)
- UpdateRegexMatchSet (p. 397)
- UpdateRegexPatternSet (p. 401)
- UpdateRule (p. 405)
- UpdateRuleGroup (p. 409)
- UpdateSizeConstraintSet (p. 413)
- UpdateSqlInjectionMatchSet (p. 417)
- UpdateWebACL (p. 421)
- UpdateXssMatchSet (p. 426)

AssociateWebACL

Service: AWS WAF Regional

Associates a web ACL with a resource.

Request Syntax

```
{
   "ResourceArn": "string",
   "WebACLId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ResourceArn (p. 215)

The ARN (Amazon Resource Name) of the resource to be protected.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Required: Yes

WebACLId (p. 215)

A unique identifier (ID) for the web ACL.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFUnavailableEntityException

The operation failed because the entity referenced is temporarily unavailable. Retry your request.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateByteMatchSet

Service: AWS WAF Regional

Creates a `ByteMatchSet`. You then use UpdateByteMatchSet (p. 381) to identify the part of a web request that you want AWS WAF to inspect, such as the values of the `User-Agent` header or the query string. For example, you can create a `ByteMatchSet` that matches any requests with `User-Agent` headers that contain the string `BadBot`. You can then configure AWS WAF to reject those requests.

To create and configure a `ByteMatchSet`, perform the following steps:

1. Use GetChangeToken (p. 301) to get the change token that you provide in the `ChangeToken` parameter of a `CreateByteMatchSet` request.
2. Submit a `CreateByteMatchSet` request.
3. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an `UpdateByteMatchSet` request.
4. Submit an UpdateByteMatchSet (p. 381) request to specify the part of the request that you want AWS WAF to inspect (for example, the header or the URI) and the value that you want AWS WAF to watch for.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "Name": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 217)

The value returned by the most recent call to GetChangeToken (p. 301).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

Name (p. 217)

A friendly name or description of the ByteMatchSet (p. 510). You can't change `Name` after you create a `ByteMatchSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ByteMatchSet": {
      "ByteMatchSetId": "string",
      "ByteMatchTuples": [
         {
            "FieldToMatch": {
               "Data": "string",
               "Type": "string"
            },
            "PositionalConstraint": "string",
            "TargetString": blob,
            "TextTransformation": "string"
         }
      ],
      "Name": "string"
   },
   "ChangeToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ByteMatchSet (p. 218)

A ByteMatchSet (p. 510) that contains no `ByteMatchTuple` objects.

Type: ByteMatchSet (p. 510) object

ChangeToken (p. 218)

The `ChangeToken` that you used to submit the `CreateByteMatchSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 303).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFDisallowedNameException

The name specified is invalid.

HTTP Status Code: 400

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateGeoMatchSet

Service: AWS WAF Regional

Creates an GeoMatchSet (p. 521), which you use to specify which web requests you want to allow or block based on the country that the requests originate from. For example, if you're receiving a lot of requests from one or more countries and you want to block the requests, you can create an `GeoMatchSet` that contains those countries and then configure AWS WAF to block the requests.

To create and configure a `GeoMatchSet`, perform the following steps:

1. Use GetChangeToken (p. 301) to get the change token that you provide in the `ChangeToken` parameter of a `CreateGeoMatchSet` request.
2. Submit a `CreateGeoMatchSet` request.
3. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an UpdateGeoMatchSet (p. 385) request.
4. Submit an `UpdateGeoMatchSetSet` request to specify the countries that you want AWS WAF to watch for.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "Name": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 220)

The value returned by the most recent call to GetChangeToken (p. 301).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

Name (p. 220)

A friendly name or description of the GeoMatchSet (p. 521). You can't change `Name` after you create the `GeoMatchSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string",
   "GeoMatchSet": {
      "GeoMatchConstraints": [
         {
            "Type": "string",
            "Value": "string"
         }
      ],
      "GeoMatchSetId": "string",
      "Name": "string"
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 221)

The `ChangeToken` that you used to submit the `CreateGeoMatchSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 303).

Type: String

Length Constraints: Minimum length of 1.

GeoMatchSet (p. 221)

The GeoMatchSet (p. 521) returned in the `CreateGeoMatchSet` response. The `GeoMatchSet` contains no `GeoMatchConstraints`.

Type: GeoMatchSet (p. 521) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFDisallowedNameException

The name specified is invalid.

HTTP Status Code: 400

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateIPSet

Service: AWS WAF Regional

Creates an IPSet (p. 527), which you use to specify which web requests you want to allow or block based on the IP addresses that the requests originate from. For example, if you're receiving a lot of requests from one or more individual IP addresses or one or more ranges of IP addresses and you want to block the requests, you can create an `IPSet` that contains those IP addresses and then configure AWS WAF to block the requests.

To create and configure an `IPSet`, perform the following steps:

1. Use GetChangeToken (p. 301) to get the change token that you provide in the `ChangeToken` parameter of a `CreateIPSet` request.
2. Submit a `CreateIPSet` request.
3. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an UpdateIPSet (p. 389) request.
4. Submit an `UpdateIPSet` request to specify the IP addresses that you want AWS WAF to watch for.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "Name": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 223)

The value returned by the most recent call to GetChangeToken (p. 301).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

Name (p. 223)

A friendly name or description of the IPSet (p. 527). You can't change `Name` after you create the `IPSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string",
   "IPSet": {
      "IPSetDescriptors": [
         {
            "Type": "string",
            "Value": "string"
         }
      ],
      "IPSetId": "string",
      "Name": "string"
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 224)

The `ChangeToken` that you used to submit the `CreateIPSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 303).

Type: String

Length Constraints: Minimum length of 1.

IPSet (p. 224)

The IPSet (p. 527) returned in the `CreateIPSet` response.

Type: IPSet (p. 527) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFDisallowedNameException

The name specified is invalid.

HTTP Status Code: 400

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateRateBasedRule

Service: AWS WAF Regional

Creates a RateBasedRule (p. 535). The `RateBasedRule` contains a `RateLimit`, which specifies the maximum number of requests that AWS WAF allows from a specified IP address in a five-minute period. The `RateBasedRule` also contains the `IPSet` objects, `ByteMatchSet` objects, and other predicates that identify the requests that you want to count or block if these requests exceed the `RateLimit`.

If you add more than one predicate to a `RateBasedRule`, a request not only must exceed the `RateLimit`, but it also must match all the specifications to be counted or blocked. For example, suppose you add the following to a `RateBasedRule`:

- An `IPSet` that matches the IP address `192.0.2.44/32`
- A `ByteMatchSet` that matches `BadBot` in the `User-Agent` header

Further, you specify a `RateLimit` of 15,000.

You then add the `RateBasedRule` to a `WebACL` and specify that you want to block requests that meet the conditions in the rule. For a request to be blocked, it must come from the IP address 192.0.2.44 *and* the `User-Agent` header in the request must contain the value `BadBot`. Further, requests that match these two conditions must be received at a rate of more than 15,000 requests every five minutes. If both conditions are met and the rate is exceeded, AWS WAF blocks the requests. If the rate drops below 15,000 for a five-minute period, AWS WAF no longer blocks the requests.

As a second example, suppose you want to limit requests to a particular page on your site. To do this, you could add the following to a `RateBasedRule`:

- A `ByteMatchSet` with `FieldToMatch` of `URI`
- A `PositionalConstraint` of `STARTS_WITH`
- A `TargetString` of `login`

Further, you specify a `RateLimit` of 15,000.

By adding this `RateBasedRule` to a `WebACL`, you could limit requests to your login page without affecting the rest of your site.

To create and configure a `RateBasedRule`, perform the following steps:

1. Create and update the predicates that you want to include in the rule. For more information, see CreateByteMatchSet (p. 217), CreateIPSet (p. 223), and CreateSqlInjectionMatchSet (p. 247).
2. Use GetChangeToken (p. 301) to get the change token that you provide in the `ChangeToken` parameter of a `CreateRule` request.
3. Submit a `CreateRateBasedRule` request.
4. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an UpdateRule (p. 405) request.
5. Submit an `UpdateRateBasedRule` request to specify the predicates that you want to include in the rule.
6. Create and update a `WebACL` that contains the `RateBasedRule`. For more information, see CreateWebACL (p. 250).

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "MetricName": "string",
   "Name": "string",
   "RateKey": "string",
   "RateLimit": number
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 227)

The `ChangeToken` that you used to submit the `CreateRateBasedRule` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 303).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

MetricName (p. 227)

A friendly name or description for the metrics for this `RateBasedRule`. The name can contain only alphanumeric characters (A-Z, a-z, 0-9); the name can't contain whitespace. You can't change the name of the metric after you create the `RateBasedRule`.

Type: String

Required: Yes

Name (p. 227)

A friendly name or description of the RateBasedRule (p. 535). You can't change the name of a `RateBasedRule` after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

RateKey (p. 227)

The field that AWS WAF uses to determine if requests are likely arriving from a single source and thus subject to rate monitoring. The only valid value for `RateKey` is `IP`. `IP` indicates that requests that arrive from the same IP address are subject to the `RateLimit` that is specified in the `RateBasedRule`.

Type: String

Valid Values: `IP`

Required: Yes

RateLimit (p. 227)

The maximum number of requests, which have an identical value in the field that is specified by `RateKey`, allowed in a five-minute period. If the number of requests exceeds the `RateLimit` and the other predicates specified in the rule are also met, AWS WAF triggers the action that is specified for this rule.

Type: Long

Valid Range: Minimum value of 2000. Maximum value of 2000000000.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string",
   "Rule": {
      "MatchPredicates": [
         {
            "DataId": "string",
            "Negated": boolean,
            "Type": "string"
         }
      ],
      "MetricName": "string",
      "Name": "string",
      "RateKey": "string",
      "RateLimit": number,
      "RuleId": "string"
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 228)

The `ChangeToken` that you used to submit the `CreateRateBasedRule` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 303).

Type: String

Length Constraints: Minimum length of 1.

Rule (p. 228)

The RateBasedRule (p. 535) that is returned in the `CreateRateBasedRule` response.

Type: RateBasedRule (p. 535) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFDisallowedNameException

The name specified is invalid.

HTTP Status Code: 400

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3

- AWS SDK for Python
- AWS SDK for Ruby V2

CreateRegexMatchSet

Service: AWS WAF Regional

Creates a RegexMatchSet (p. 537). You then use UpdateRegexMatchSet (p. 397) to identify the part of a web request that you want AWS WAF to inspect, such as the values of the `User-Agent` header or the query string. For example, you can create a `RegexMatchSet` that contains a `RegexMatchTuple` that looks for any requests with `User-Agent` headers that match a `RegexPatternSet` with pattern `B[a@]dB[o0]t`. You can then configure AWS WAF to reject those requests.

To create and configure a `RegexMatchSet`, perform the following steps:

1. Use GetChangeToken (p. 301) to get the change token that you provide in the `ChangeToken` parameter of a `CreateRegexMatchSet` request.
2. Submit a `CreateRegexMatchSet` request.
3. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an `UpdateRegexMatchSet` request.
4. Submit an UpdateRegexMatchSet (p. 397) request to specify the part of the request that you want AWS WAF to inspect (for example, the header or the URI) and the value, using a `RegexPatternSet`, that you want AWS WAF to watch for.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "Name": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 231)

The value returned by the most recent call to GetChangeToken (p. 301).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

Name (p. 231)

A friendly name or description of the RegexMatchSet (p. 537). You can't change `Name` after you create a `RegexMatchSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string",
   "RegexMatchSet": {
      "Name": "string",
      "RegexMatchSetId": "string",
      "RegexMatchTuples": [
         {
            "FieldToMatch": {
               "Data": "string",
               "Type": "string"
            },
            "RegexPatternSetId": "string",
            "TextTransformation": "string"
         }
      ]
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 232)

The `ChangeToken` that you used to submit the `CreateRegexMatchSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 303).

Type: String

Length Constraints: Minimum length of 1.

RegexMatchSet (p. 232)

A RegexMatchSet (p. 537) that contains no `RegexMatchTuple` objects.

Type: RegexMatchSet (p. 537) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFDisallowedNameException

The name specified is invalid.

HTTP Status Code: 400

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateRegexPatternSet

Service: AWS WAF Regional

Creates a `RegexPatternSet`. You then use UpdateRegexPatternSet (p. 401) to specify the regular expression (regex) pattern that you want AWS WAF to search for, such as `B[a@]dB[o0]t`. You can then configure AWS WAF to reject those requests.

To create and configure a `RegexPatternSet`, perform the following steps:

1. Use GetChangeToken (p. 301) to get the change token that you provide in the `ChangeToken` parameter of a `CreateRegexPatternSet` request.
2. Submit a `CreateRegexPatternSet` request.
3. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an `UpdateRegexPatternSet` request.
4. Submit an UpdateRegexPatternSet (p. 401) request to specify the string that you want AWS WAF to watch for.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "Name": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 234)

The value returned by the most recent call to GetChangeToken (p. 301).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

Name (p. 234)

A friendly name or description of the RegexPatternSet (p. 544). You can't change `Name` after you create a `RegexPatternSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string",
   "RegexPatternSet": {
      "Name": "string",
      "RegexPatternSetId": "string",
      "RegexPatternStrings": [ "string" ]
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 235)

The `ChangeToken` that you used to submit the `CreateRegexPatternSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 303).

Type: String

Length Constraints: Minimum length of 1.

RegexPatternSet (p. 235)

A RegexPatternSet (p. 544) that contains no objects.

Type: RegexPatternSet (p. 544) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFDisallowedNameException

The name specified is invalid.

HTTP Status Code: 400

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateRule

Service: AWS WAF Regional

Creates a `Rule`, which contains the `IPSet` objects, `ByteMatchSet` objects, and other predicates that identify the requests that you want to block. If you add more than one predicate to a `Rule`, a request must match all of the specifications to be allowed or blocked. For example, suppose you add the following to a `Rule`:

- An `IPSet` that matches the IP address `192.0.2.44/32`
- A `ByteMatchSet` that matches `BadBot` in the `User-Agent` header

You then add the `Rule` to a `WebACL` and specify that you want to blocks requests that satisfy the `Rule`. For a request to be blocked, it must come from the IP address 192.0.2.44 *and* the `User-Agent` header in the request must contain the value `BadBot`.

To create and configure a `Rule`, perform the following steps:

1. Create and update the predicates that you want to include in the `Rule`. For more information, see CreateByteMatchSet (p. 217), CreateIPSet (p. 223), and CreateSqlInjectionMatchSet (p. 247).
2. Use GetChangeToken (p. 301) to get the change token that you provide in the `ChangeToken` parameter of a `CreateRule` request.
3. Submit a `CreateRule` request.
4. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an UpdateRule (p. 405) request.
5. Submit an `UpdateRule` request to specify the predicates that you want to include in the `Rule`.
6. Create and update a `WebACL` that contains the `Rule`. For more information, see CreateWebACL (p. 250).

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "MetricName": "string",
   "Name": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 237)

The value returned by the most recent call to GetChangeToken (p. 301).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

MetricName (p. 237)

A friendly name or description for the metrics for this `Rule`. The name can contain only alphanumeric characters (A-Z, a-z, 0-9); the name can't contain whitespace. You can't change the name of the metric after you create the `Rule`.

Type: String

Required: Yes

Name (p. 237)

A friendly name or description of the Rule (p. 547). You can't change the name of a `Rule` after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string",
   "Rule": {
      "MetricName": "string",
      "Name": "string",
      "Predicates": [
         {
            "DataId": "string",
            "Negated": boolean,
            "Type": "string"
         }
      ],
      "RuleId": "string"
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 238)

The `ChangeToken` that you used to submit the `CreateRule` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 303).

Type: String

Length Constraints: Minimum length of 1.

Rule (p. 238)

The Rule (p. 547) returned in the `CreateRule` response.

Type: Rule (p. 547) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFDisallowedNameException

The name specified is invalid.

HTTP Status Code: 400

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go

- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateRuleGroup

Service: AWS WAF Regional

Creates a `RuleGroup`. A rule group is a collection of predefined rules that you add to a web ACL. You use UpdateRuleGroup (p. 409) to add rules to the rule group.

Rule groups are subject to the following limits:

- Three rule groups per account. You can request an increase to this limit by contacting customer support.
- One rule group per web ACL.
- Ten rules per rule group.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "MetricName": "string",
   "Name": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 241)

The value returned by the most recent call to GetChangeToken (p. 301).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

MetricName (p. 241)

A friendly name or description for the metrics for this `RuleGroup`. The name can contain only alphanumeric characters (A-Z, a-z, 0-9); the name can't contain whitespace. You can't change the name of the metric after you create the `RuleGroup`.

Type: String

Required: Yes

Name (p. 241)

A friendly name or description of the RuleGroup (p. 549). You can't change `Name` after you create a `RuleGroup`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string",
   "RuleGroup": {
      "MetricName": "string",
      "Name": "string",
      "RuleGroupId": "string"
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 242)

The `ChangeToken` that you used to submit the `CreateRuleGroup` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 303).

Type: String

Length Constraints: Minimum length of 1.

RuleGroup (p. 242)

An empty RuleGroup (p. 549).

Type: RuleGroup (p. 549) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFDisallowedNameException

The name specified is invalid.

HTTP Status Code: 400

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateSizeConstraintSet

Service: AWS WAF Regional

Creates a `SizeConstraintSet`. You then use UpdateSizeConstraintSet (p. 413) to identify the part of a web request that you want AWS WAF to check for length, such as the length of the `User-Agent` header or the length of the query string. For example, you can create a `SizeConstraintSet` that matches any requests that have a query string that is longer than 100 bytes. You can then configure AWS WAF to reject those requests.

To create and configure a `SizeConstraintSet`, perform the following steps:

1. Use GetChangeToken (p. 301) to get the change token that you provide in the `ChangeToken` parameter of a `CreateSizeConstraintSet` request.
2. Submit a `CreateSizeConstraintSet` request.
3. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an `UpdateSizeConstraintSet` request.
4. Submit an UpdateSizeConstraintSet (p. 413) request to specify the part of the request that you want AWS WAF to inspect (for example, the header or the URI) and the value that you want AWS WAF to watch for.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "Name": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 244)

The value returned by the most recent call to GetChangeToken (p. 301).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

Name (p. 244)

A friendly name or description of the SizeConstraintSet (p. 560). You can't change `Name` after you create a `SizeConstraintSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string",
   "SizeConstraintSet": {
      "Name": "string",
      "SizeConstraints": [
         {
            "ComparisonOperator": "string",
            "FieldToMatch": {
               "Data": "string",
               "Type": "string"
            },
            "Size": number,
            "TextTransformation": "string"
         }
      ],
      "SizeConstraintSetId": "string"
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 245)

The `ChangeToken` that you used to submit the `CreateSizeConstraintSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 303).

Type: String

Length Constraints: Minimum length of 1.

SizeConstraintSet (p. 245)

A SizeConstraintSet (p. 560) that contains no `SizeConstraint` objects.

Type: SizeConstraintSet (p. 560) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFDisallowedNameException

The name specified is invalid.

HTTP Status Code: 400

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateSqlInjectionMatchSet

Service: AWS WAF Regional

Creates a SqlInjectionMatchSet (p. 563), which you use to allow, block, or count requests that contain snippets of SQL code in a specified part of web requests. AWS WAF searches for character sequences that are likely to be malicious strings.

To create and configure a `SqlInjectionMatchSet`, perform the following steps:

1. Use GetChangeToken (p. 301) to get the change token that you provide in the `ChangeToken` parameter of a `CreateSqlInjectionMatchSet` request.
2. Submit a `CreateSqlInjectionMatchSet` request.
3. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an UpdateSqlInjectionMatchSet (p. 417) request.
4. Submit an UpdateSqlInjectionMatchSet (p. 417) request to specify the parts of web requests in which you want to allow, block, or count malicious SQL code.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "Name": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 247)

The value returned by the most recent call to GetChangeToken (p. 301).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

Name (p. 247)

A friendly name or description for the SqlInjectionMatchSet (p. 563) that you're creating. You can't change `Name` after you create the `SqlInjectionMatchSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string",
   "SqlInjectionMatchSet": {
      "Name": "string",
      "SqlInjectionMatchSetId": "string",
      "SqlInjectionMatchTuples": [
         {
            "FieldToMatch": {
               "Data": "string",
               "Type": "string"
            },
            "TextTransformation": "string"
         }
      ]
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 248)

The `ChangeToken` that you used to submit the `CreateSqlInjectionMatchSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 303).

Type: String

Length Constraints: Minimum length of 1.

SqlInjectionMatchSet (p. 248)

A SqlInjectionMatchSet (p. 563).

Type: SqlInjectionMatchSet (p. 563) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFDisallowedNameException

The name specified is invalid.

HTTP Status Code: 400

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateWebACL

Service: AWS WAF Regional

Creates a `WebACL`, which contains the `Rules` that identify the CloudFront web requests that you want to allow, block, or count. AWS WAF evaluates `Rules` in order based on the value of `Priority` for each `Rule`.

You also specify a default action, either `ALLOW` or `BLOCK`. If a web request doesn't match any of the `Rules` in a `WebACL`, AWS WAF responds to the request with the default action.

To create and configure a `WebACL`, perform the following steps:

1. Create and update the `ByteMatchSet` objects and other predicates that you want to include in `Rules`. For more information, see CreateByteMatchSet (p. 217), UpdateByteMatchSet (p. 381), CreateIPSet (p. 223), UpdateIPSet (p. 389), CreateSqlInjectionMatchSet (p. 247), and UpdateSqlInjectionMatchSet (p. 417).
2. Create and update the `Rules` that you want to include in the `WebACL`. For more information, see CreateRule (p. 237) and UpdateRule (p. 405).
3. Use GetChangeToken (p. 301) to get the change token that you provide in the `ChangeToken` parameter of a `CreateWebACL` request.
4. Submit a `CreateWebACL` request.
5. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an UpdateWebACL (p. 421) request.
6. Submit an UpdateWebACL (p. 421) request to specify the `Rules` that you want to include in the `WebACL`, to specify the default action, and to associate the `WebACL` with a CloudFront distribution.

For more information about how to use the AWS WAF API, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "DefaultAction": {
      "Type": "string"
   },
   "MetricName": "string",
   "Name": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 250)

The value returned by the most recent call to GetChangeToken (p. 301).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

DefaultAction (p. 250)

The action that you want AWS WAF to take when a request doesn't match the criteria specified in any of the `Rule` objects that are associated with the `WebACL`.

Type: WafAction (p. 570) object

Required: Yes

MetricName (p. 250)

A friendly name or description for the metrics for this `WebACL`. The name can contain only alphanumeric characters (A-Z, a-z, 0-9); the name can't contain whitespace. You can't change `MetricName` after you create the `WebACL`.

Type: String

Required: Yes

Name (p. 250)

A friendly name or description of the WebACL (p. 572). You can't change `Name` after you create the `WebACL`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string",
   "WebACL": {
      "DefaultAction": {
         "Type": "string"
      },
      "MetricName": "string",
      "Name": "string",
      "Rules": [
         {
            "Action": {
               "Type": "string"
            },
            "OverrideAction": {
               "Type": "string"
            },
            "Priority": number,
            "RuleId": "string",
            "Type": "string"
         }
      ],
      "WebACLArn": "string",
      "WebACLId": "string"
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 251)

The `ChangeToken` that you used to submit the `CreateWebACL` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 303).

Type: String

Length Constraints: Minimum length of 1.

WebACL (p. 251)

The WebACL (p. 572) returned in the `CreateWebACL` response.

Type: WebACL (p. 572) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFDisallowedNameException

The name specified is invalid.

HTTP Status Code: 400

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateXssMatchSet

Service: AWS WAF Regional

Creates an XssMatchSet (p. 576), which you use to allow, block, or count requests that contain cross-site scripting attacks in the specified part of web requests. AWS WAF searches for character sequences that are likely to be malicious strings.

To create and configure an `XssMatchSet`, perform the following steps:

1. Use GetChangeToken (p. 301) to get the change token that you provide in the `ChangeToken` parameter of a `CreateXssMatchSet` request.
2. Submit a `CreateXssMatchSet` request.
3. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an UpdateXssMatchSet (p. 426) request.
4. Submit an UpdateXssMatchSet (p. 426) request to specify the parts of web requests in which you want to allow, block, or count cross-site scripting attacks.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "Name": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 254)

The value returned by the most recent call to GetChangeToken (p. 301).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

Name (p. 254)

A friendly name or description for the XssMatchSet (p. 576) that you're creating. You can't change `Name` after you create the `XssMatchSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string",
   "XssMatchSet": {
      "Name": "string",
      "XssMatchSetId": "string",
      "XssMatchTuples": [
         {
            "FieldToMatch": {
               "Data": "string",
               "Type": "string"
            },
            "TextTransformation": "string"
         }
      ]
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 255)

The `ChangeToken` that you used to submit the `CreateXssMatchSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 303).

Type: String

Length Constraints: Minimum length of 1.

XssMatchSet (p. 255)

An XssMatchSet (p. 576).

Type: XssMatchSet (p. 576) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFDisallowedNameException

The name specified is invalid.

HTTP Status Code: 400

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteByteMatchSet

Service: AWS WAF Regional

Permanently deletes a ByteMatchSet (p. 510). You can't delete a `ByteMatchSet` if it's still used in any `Rules` or if it still includes any ByteMatchTuple (p. 514) objects (any filters).

If you just want to remove a `ByteMatchSet` from a `Rule`, use UpdateRule (p. 405).

To permanently delete a `ByteMatchSet`, perform the following steps:

1. Update the `ByteMatchSet` to remove filters, if any. For more information, see UpdateByteMatchSet (p. 381).
2. Use GetChangeToken (p. 301) to get the change token that you provide in the `ChangeToken` parameter of a `DeleteByteMatchSet` request.
3. Submit a `DeleteByteMatchSet` request.

Request Syntax

```
{
   "ByteMatchSetId": "string",
   "ChangeToken": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ByteMatchSetId (p. 257)

The `ByteMatchSetId` of the ByteMatchSet (p. 510) that you want to delete. `ByteMatchSetId` is returned by CreateByteMatchSet (p. 217) and by ListByteMatchSets (p. 343).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

ChangeToken (p. 257)

The value returned by the most recent call to GetChangeToken (p. 301).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
```

```
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 257)

The `ChangeToken` that you used to submit the `DeleteByteMatchSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 303).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a `WebACL` that still contains one or more `Rule` objects.
- You tried to delete a `Rule` that still contains one or more `ByteMatchSet` objects or other predicates.
- You tried to delete a `ByteMatchSet` that contains one or more `ByteMatchTuple` objects.
- You tried to delete an `IPSet` that references one or more IP addresses.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteGeoMatchSet

Service: AWS WAF Regional

Permanently deletes a GeoMatchSet (p. 521). You can't delete a `GeoMatchSet` if it's still used in any `Rules` or if it still includes any countries.

If you just want to remove a `GeoMatchSet` from a `Rule`, use UpdateRule (p. 405).

To permanently delete a `GeoMatchSet` from AWS WAF, perform the following steps:

1. Update the `GeoMatchSet` to remove any countries. For more information, see UpdateGeoMatchSet (p. 385).
2. Use GetChangeToken (p. 301) to get the change token that you provide in the `ChangeToken` parameter of a `DeleteGeoMatchSet` request.
3. Submit a `DeleteGeoMatchSet` request.

Request Syntax

```
{
   "ChangeToken": "string",
   "GeoMatchSetId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 260)

The value returned by the most recent call to GetChangeToken (p. 301).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

GeoMatchSetId (p. 260)

The `GeoMatchSetID` of the GeoMatchSet (p. 521) that you want to delete. `GeoMatchSetId` is returned by CreateGeoMatchSet (p. 220) and by ListGeoMatchSets (p. 345).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
```

```
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 260)

The `ChangeToken` that you used to submit the `DeleteGeoMatchSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 303).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a `WebACL` that still contains one or more `Rule` objects.
- You tried to delete a `Rule` that still contains one or more `ByteMatchSet` objects or other predicates.
- You tried to delete a `ByteMatchSet` that contains one or more `ByteMatchTuple` objects.
- You tried to delete an `IPSet` that references one or more IP addresses.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteIPSet

Service: AWS WAF Regional

Permanently deletes an IPSet (p. 527). You can't delete an `IPSet` if it's still used in any `Rules` or if it still includes any IP addresses.

If you just want to remove an `IPSet` from a `Rule`, use UpdateRule (p. 405).

To permanently delete an `IPSet` from AWS WAF, perform the following steps:

1. Update the `IPSet` to remove IP address ranges, if any. For more information, see UpdateIPSet (p. 389).
2. Use GetChangeToken (p. 301) to get the change token that you provide in the `ChangeToken` parameter of a `DeleteIPSet` request.
3. Submit a `DeleteIPSet` request.

Request Syntax

```
{
   "ChangeToken": "string",
   "IPSetId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 263)

The value returned by the most recent call to GetChangeToken (p. 301).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

IPSetId (p. 263)

The `IPSetId` of the IPSet (p. 527) that you want to delete. `IPSetId` is returned by CreateIPSet (p. 223) and by ListIPSets (p. 347).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
```

```
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 263)

The `ChangeToken` that you used to submit the `DeleteIPSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 303).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a `WebACL` that still contains one or more `Rule` objects.
- You tried to delete a `Rule` that still contains one or more `ByteMatchSet` objects or other predicates.
- You tried to delete a `ByteMatchSet` that contains one or more `ByteMatchTuple` objects.
- You tried to delete an `IPSet` that references one or more IP addresses.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteLoggingConfiguration

Service: AWS WAF Regional

Permanently deletes the LoggingConfiguration (p. 532) from the specified web ACL.

Request Syntax

```
{
   "ResourceArn": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ResourceArn (p. 266)

The Amazon Resource Name (ARN) of the web ACL from which you want to delete the LoggingConfiguration (p. 532).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Required: Yes

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeletePermissionPolicy

Service: AWS WAF Regional

Permanently deletes an IAM policy from the specified RuleGroup.

The user making the request must be the owner of the RuleGroup.

Request Syntax

```
{
   "ResourceArn": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ResourceArn (p. 268)

The Amazon Resource Name (ARN) of the RuleGroup from which you want to delete the policy.

The user making the request must be the owner of the RuleGroup.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Required: Yes

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteRateBasedRule

Service: AWS WAF Regional

Permanently deletes a RateBasedRule (p. 535). You can't delete a rule if it's still used in any `WebACL` objects or if it still includes any predicates, such as `ByteMatchSet` objects.

If you just want to remove a rule from a `WebACL`, use UpdateWebACL (p. 421).

To permanently delete a `RateBasedRule` from AWS WAF, perform the following steps:

1. Update the `RateBasedRule` to remove predicates, if any. For more information, see UpdateRateBasedRule (p. 393).
2. Use GetChangeToken (p. 301) to get the change token that you provide in the `ChangeToken` parameter of a `DeleteRateBasedRule` request.
3. Submit a `DeleteRateBasedRule` request.

Request Syntax

```
{
   "ChangeToken": "string",
   "RuleId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 270)

The value returned by the most recent call to GetChangeToken (p. 301).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

RuleId (p. 270)

The `RuleId` of the RateBasedRule (p. 535) that you want to delete. `RuleId` is returned by CreateRateBasedRule (p. 226) and by ListRateBasedRules (p. 352).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
```

```
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 270)

The `ChangeToken` that you used to submit the `DeleteRateBasedRule` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 303).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a `WebACL` that still contains one or more `Rule` objects.
- You tried to delete a `Rule` that still contains one or more `ByteMatchSet` objects or other predicates.
- You tried to delete a `ByteMatchSet` that contains one or more `ByteMatchTuple` objects.
- You tried to delete an `IPSet` that references one or more IP addresses.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteRegexMatchSet

Service: AWS WAF Regional

Permanently deletes a RegexMatchSet (p. 537). You can't delete a `RegexMatchSet` if it's still used in any `Rules` or if it still includes any `RegexMatchTuples` objects (any filters).

If you just want to remove a `RegexMatchSet` from a `Rule`, use UpdateRule (p. 405).

To permanently delete a `RegexMatchSet`, perform the following steps:

1. Update the `RegexMatchSet` to remove filters, if any. For more information, see UpdateRegexMatchSet (p. 397).
2. Use GetChangeToken (p. 301) to get the change token that you provide in the `ChangeToken` parameter of a `DeleteRegexMatchSet` request.
3. Submit a `DeleteRegexMatchSet` request.

Request Syntax

```
{
   "ChangeToken": "string",
   "RegexMatchSetId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 273)

The value returned by the most recent call to GetChangeToken (p. 301).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

RegexMatchSetId (p. 273)

The `RegexMatchSetId` of the RegexMatchSet (p. 537) that you want to delete. `RegexMatchSetId` is returned by CreateRegexMatchSet (p. 231) and by ListRegexMatchSets (p. 354).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
```

```
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 273)

The `ChangeToken` that you used to submit the `DeleteRegexMatchSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 303).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a `WebACL` that still contains one or more `Rule` objects.
- You tried to delete a `Rule` that still contains one or more `ByteMatchSet` objects or other predicates.
- You tried to delete a `ByteMatchSet` that contains one or more `ByteMatchTuple` objects.
- You tried to delete an `IPSet` that references one or more IP addresses.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteRegexPatternSet

Service: AWS WAF Regional

Permanently deletes a RegexPatternSet (p. 544). You can't delete a `RegexPatternSet` if it's still used in any `RegexMatchSet` or if the `RegexPatternSet` is not empty.

Request Syntax

```
{
   "ChangeToken": "string",
   "RegexPatternSetId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 276)

The value returned by the most recent call to GetChangeToken (p. 301).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

RegexPatternSetId (p. 276)

The `RegexPatternSetId` of the RegexPatternSet (p. 544) that you want to delete. `RegexPatternSetId` is returned by CreateRegexPatternSet (p. 234) and by ListRegexPatternSets (p. 356).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 276)

The `ChangeToken` that you used to submit the `DeleteRegexPatternSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 303).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a `WebACL` that still contains one or more `Rule` objects.
- You tried to delete a `Rule` that still contains one or more `ByteMatchSet` objects or other predicates.
- You tried to delete a `ByteMatchSet` that contains one or more `ByteMatchTuple` objects.
- You tried to delete an `IPSet` that references one or more IP addresses.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteRule

Service: AWS WAF Regional

Permanently deletes a Rule (p. 547). You can't delete a `Rule` if it's still used in any `WebACL` objects or if it still includes any predicates, such as `ByteMatchSet` objects.

If you just want to remove a `Rule` from a `WebACL`, use UpdateWebACL (p. 421).

To permanently delete a `Rule` from AWS WAF, perform the following steps:

1. Update the `Rule` to remove predicates, if any. For more information, see UpdateRule (p. 405).
2. Use GetChangeToken (p. 301) to get the change token that you provide in the `ChangeToken` parameter of a `DeleteRule` request.
3. Submit a `DeleteRule` request.

Request Syntax

```
{
   "ChangeToken": "string",
   "RuleId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 279)

The value returned by the most recent call to GetChangeToken (p. 301).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

RuleId (p. 279)

The `RuleId` of the Rule (p. 547) that you want to delete. `RuleId` is returned by CreateRule (p. 237) and by ListRules (p. 363).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 279)

The `ChangeToken` that you used to submit the `DeleteRule` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 303).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a `WebACL` that still contains one or more `Rule` objects.
- You tried to delete a `Rule` that still contains one or more `ByteMatchSet` objects or other predicates.
- You tried to delete a `ByteMatchSet` that contains one or more `ByteMatchTuple` objects.
- You tried to delete an `IPSet` that references one or more IP addresses.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteRuleGroup

Service: AWS WAF Regional

Permanently deletes a RuleGroup (p. 549). You can't delete a `RuleGroup` if it's still used in any `WebACL` objects or if it still includes any rules.

If you just want to remove a `RuleGroup` from a `WebACL`, use UpdateWebACL (p. 421).

To permanently delete a `RuleGroup` from AWS WAF, perform the following steps:

1. Update the `RuleGroup` to remove rules, if any. For more information, see UpdateRuleGroup (p. 409).
2. Use GetChangeToken (p. 301) to get the change token that you provide in the `ChangeToken` parameter of a `DeleteRuleGroup` request.
3. Submit a `DeleteRuleGroup` request.

Request Syntax

```
{
   "ChangeToken": "string",
   "RuleGroupId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 282)

The value returned by the most recent call to GetChangeToken (p. 301).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

RuleGroupId (p. 282)

The `RuleGroupId` of the RuleGroup (p. 549) that you want to delete. `RuleGroupId` is returned by CreateRuleGroup (p. 241) and by ListRuleGroups (p. 361).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
```

```
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 282)

The `ChangeToken` that you used to submit the `DeleteRuleGroup` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 303).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a `WebACL` that still contains one or more `Rule` objects.
- You tried to delete a `Rule` that still contains one or more `ByteMatchSet` objects or other predicates.
- You tried to delete a `ByteMatchSet` that contains one or more `ByteMatchTuple` objects.
- You tried to delete an `IPSet` that references one or more IP addresses.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteSizeConstraintSet

Service: AWS WAF Regional

Permanently deletes a SizeConstraintSet (p. 560). You can't delete a `SizeConstraintSet` if it's still used in any `Rules` or if it still includes any SizeConstraint (p. 557) objects (any filters).

If you just want to remove a `SizeConstraintSet` from a `Rule`, use UpdateRule (p. 405).

To permanently delete a `SizeConstraintSet`, perform the following steps:

1. Update the `SizeConstraintSet` to remove filters, if any. For more information, see UpdateSizeConstraintSet (p. 413).
2. Use GetChangeToken (p. 301) to get the change token that you provide in the `ChangeToken` parameter of a `DeleteSizeConstraintSet` request.
3. Submit a `DeleteSizeConstraintSet` request.

Request Syntax

```
{
   "ChangeToken": "string",
   "SizeConstraintSetId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 285)

The value returned by the most recent call to GetChangeToken (p. 301).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

SizeConstraintSetId (p. 285)

The `SizeConstraintSetId` of the SizeConstraintSet (p. 560) that you want to delete. `SizeConstraintSetId` is returned by CreateSizeConstraintSet (p. 244) and by ListSizeConstraintSets (p. 365).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
```

```
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 285)

The `ChangeToken` that you used to submit the `DeleteSizeConstraintSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 303).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a `WebACL` that still contains one or more `Rule` objects.
- You tried to delete a `Rule` that still contains one or more `ByteMatchSet` objects or other predicates.
- You tried to delete a `ByteMatchSet` that contains one or more `ByteMatchTuple` objects.
- You tried to delete an `IPSet` that references one or more IP addresses.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteSqlInjectionMatchSet

Service: AWS WAF Regional

Permanently deletes a SqlInjectionMatchSet (p. 563). You can't delete a `SqlInjectionMatchSet` if it's still used in any `Rules` or if it still contains any SqlInjectionMatchTuple (p. 566) objects.

If you just want to remove a `SqlInjectionMatchSet` from a `Rule`, use UpdateRule (p. 405).

To permanently delete a `SqlInjectionMatchSet` from AWS WAF, perform the following steps:

1. Update the `SqlInjectionMatchSet` to remove filters, if any. For more information, see UpdateSqlInjectionMatchSet (p. 417).
2. Use GetChangeToken (p. 301) to get the change token that you provide in the `ChangeToken` parameter of a `DeleteSqlInjectionMatchSet` request.
3. Submit a `DeleteSqlInjectionMatchSet` request.

Request Syntax

```
{
   "ChangeToken": "string",
   "SqlInjectionMatchSetId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 288)

The value returned by the most recent call to GetChangeToken (p. 301).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

SqlInjectionMatchSetId (p. 288)

The `SqlInjectionMatchSetId` of the SqlInjectionMatchSet (p. 563) that you want to delete. `SqlInjectionMatchSetId` is returned by CreateSqlInjectionMatchSet (p. 247) and by ListSqlInjectionMatchSets (p. 367).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
```

```
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 288)

The `ChangeToken` that you used to submit the `DeleteSqlInjectionMatchSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 303).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a `WebACL` that still contains one or more `Rule` objects.
- You tried to delete a `Rule` that still contains one or more `ByteMatchSet` objects or other predicates.
- You tried to delete a `ByteMatchSet` that contains one or more `ByteMatchTuple` objects.
- You tried to delete an `IPSet` that references one or more IP addresses.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteWebACL

Service: AWS WAF Regional

Permanently deletes a WebACL (p. 572). You can't delete a `WebACL` if it still contains any `Rules`.

To delete a `WebACL`, perform the following steps:

1. Update the `WebACL` to remove `Rules`, if any. For more information, see UpdateWebACL (p. 421).
2. Use GetChangeToken (p. 301) to get the change token that you provide in the `ChangeToken` parameter of a `DeleteWebACL` request.
3. Submit a `DeleteWebACL` request.

Request Syntax

```
{
   "ChangeToken": "string",
   "WebACLId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 291)

The value returned by the most recent call to GetChangeToken (p. 301).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

WebACLId (p. 291)

The `WebACLId` of the WebACL (p. 572) that you want to delete. `WebACLId` is returned by CreateWebACL (p. 250) and by ListWebACLs (p. 371).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 291)

The `ChangeToken` that you used to submit the `DeleteWebACL` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 303).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a `WebACL` that still contains one or more `Rule` objects.
- You tried to delete a `Rule` that still contains one or more `ByteMatchSet` objects or other predicates.
- You tried to delete a `ByteMatchSet` that contains one or more `ByteMatchTuple` objects.
- You tried to delete an `IPSet` that references one or more IP addresses.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteXssMatchSet

Service: AWS WAF Regional

Permanently deletes an XssMatchSet (p. 576). You can't delete an `XssMatchSet` if it's still used in any `Rules` or if it still contains any XssMatchTuple (p. 579) objects.

If you just want to remove an `XssMatchSet` from a `Rule`, use UpdateRule (p. 405).

To permanently delete an `XssMatchSet` from AWS WAF, perform the following steps:

1. Update the `XssMatchSet` to remove filters, if any. For more information, see UpdateXssMatchSet (p. 426).
2. Use GetChangeToken (p. 301) to get the change token that you provide in the `ChangeToken` parameter of a `DeleteXssMatchSet` request.
3. Submit a `DeleteXssMatchSet` request.

Request Syntax

```
{
   "ChangeToken": "string",
   "XssMatchSetId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 294)

The value returned by the most recent call to GetChangeToken (p. 301).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

XssMatchSetId (p. 294)

The `XssMatchSetId` of the XssMatchSet (p. 576) that you want to delete. `XssMatchSetId` is returned by CreateXssMatchSet (p. 254) and by ListXssMatchSets (p. 373).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
```

```
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 294)

The `ChangeToken` that you used to submit the `DeleteXssMatchSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 303).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonEmptyEntityException

The operation failed because you tried to delete an object that isn't empty. For example:

- You tried to delete a `WebACL` that still contains one or more `Rule` objects.
- You tried to delete a `Rule` that still contains one or more `ByteMatchSet` objects or other predicates.
- You tried to delete a `ByteMatchSet` that contains one or more `ByteMatchTuple` objects.
- You tried to delete an `IPSet` that references one or more IP addresses.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DisassociateWebACL

Service: AWS WAF Regional

Removes a web ACL from the specified resource.

Request Syntax

```
{
   "ResourceArn": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ResourceArn (p. 297)

The ARN (Amazon Resource Name) of the resource from which the web ACL is being removed.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Required: Yes

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.

- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetByteMatchSet

Service: AWS WAF Regional

Returns the ByteMatchSet (p. 510) specified by `ByteMatchSetId`.

Request Syntax

```
{
   "ByteMatchSetId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ByteMatchSetId (p. 299)

The `ByteMatchSetId` of the ByteMatchSet (p. 510) that you want to get. `ByteMatchSetId` is returned by CreateByteMatchSet (p. 217) and by ListByteMatchSets (p. 343).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ByteMatchSet": {
      "ByteMatchSetId": "string",
      "ByteMatchTuples": [
         {
            "FieldToMatch": {
               "Data": "string",
               "Type": "string"
            },
            "PositionalConstraint": "string",
            "TargetString": blob,
            "TextTransformation": "string"
         }
      ],
      "Name": "string"
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ByteMatchSet (p. 299)

Information about the ByteMatchSet (p. 510) that you specified in the `GetByteMatchSet` request. For more information, see the following topics:

- ByteMatchSet (p. 510): Contains `ByteMatchSetId`, `ByteMatchTuples`, and `Name`
- `ByteMatchTuples`: Contains an array of ByteMatchTuple (p. 514) objects. Each `ByteMatchTuple` object contains FieldToMatch (p. 518), `PositionalConstraint`, `TargetString`, and `TextTransformation`
- FieldToMatch (p. 518): Contains `Data` and `Type`

Type: ByteMatchSet (p. 510) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetChangeToken

Service: AWS WAF Regional

When you want to create, update, or delete AWS WAF objects, get a change token and include the change token in the create, update, or delete request. Change tokens ensure that your application doesn't submit conflicting requests to AWS WAF.

Each create, update, or delete request must use a unique change token. If your application submits a `GetChangeToken` request and then submits a second `GetChangeToken` request before submitting a create, update, or delete request, the second `GetChangeToken` request returns the same value as the first `GetChangeToken` request.

When you use a change token in a create, update, or delete request, the status of the change token changes to `PENDING`, which indicates that AWS WAF is propagating the change to all AWS WAF servers. Use `GetChangeTokenStatus` to determine the status of your change token.

Response Syntax

```
{
   "ChangeToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 301)

The `ChangeToken` that you used in the request. Use this value in a `GetChangeTokenStatus` request to get the current status of the request.

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++

- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetChangeTokenStatus

Service: AWS WAF Regional

Returns the status of a `ChangeToken` that you got by calling GetChangeToken (p. 301). `ChangeTokenStatus` is one of the following values:

- `PROVISIONED`: You requested the change token by calling `GetChangeToken`, but you haven't used it yet in a call to create, update, or delete an AWS WAF object.
- `PENDING`: AWS WAF is propagating the create, update, or delete request to all AWS WAF servers.
- `IN_SYNC`: Propagation is complete.

Request Syntax

```
{
   "ChangeToken": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 303)

The change token for which you want to get the status. This change token was previously returned in the `GetChangeToken` response.

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

Response Syntax

```
{
   "ChangeTokenStatus": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeTokenStatus (p. 303)

The status of the change token.

Type: String

Valid Values: `PROVISIONED` | `PENDING` | `INSYNC`

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetGeoMatchSet

Service: AWS WAF Regional

Returns the GeoMatchSet (p. 521) that is specified by `GeoMatchSetId`.

Request Syntax

```
{
   "GeoMatchSetId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

GeoMatchSetId (p. 305)

The `GeoMatchSetId` of the GeoMatchSet (p. 521) that you want to get. `GeoMatchSetId` is returned by CreateGeoMatchSet (p. 220) and by ListGeoMatchSets (p. 345).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "GeoMatchSet": {
      "GeoMatchConstraints": [
         {
            "Type": "string",
            "Value": "string"
         }
      ],
      "GeoMatchSetId": "string",
      "Name": "string"
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

GeoMatchSet (p. 305)

Information about the GeoMatchSet (p. 521) that you specified in the `GetGeoMatchSet` request. This includes the `Type`, which for a `GeoMatchContraint` is always `Country`, as well as the `Value`, which is the identifier for a specific country.

Type: GeoMatchSet (p. 521) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetIPSet

Service: AWS WAF Regional

Returns the IPSet (p. 527) that is specified by `IPSetId`.

Request Syntax

```
{
   "IPSetId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

IPSetId (p. 307)

The `IPSetId` of the IPSet (p. 527) that you want to get. `IPSetId` is returned by CreateIPSet (p. 223) and by ListIPSets (p. 347).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "IPSet": {
      "IPSetDescriptors": [
         {
            "Type": "string",
            "Value": "string"
         }
      ],
      "IPSetId": "string",
      "Name": "string"
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

IPSet (p. 307)

Information about the IPSet (p. 527) that you specified in the `GetIPSet` request. For more information, see the following topics:

- IPSet (p. 527): Contains `IPSetDescriptors`, `IPSetId`, and `Name`

- `IPSetDescriptors`: Contains an array of IPSetDescriptor (p. 529) objects. Each `IPSetDescriptor` object contains `Type` and `Value`

Type: IPSet (p. 527) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetLoggingConfiguration

Service: AWS WAF Regional

Returns the LoggingConfiguration (p. 532) for the specified web ACL.

Request Syntax

```
{
   "ResourceArn": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ResourceArn (p. 309)

The Amazon Resource Name (ARN) of the web ACL for which you want to get the LoggingConfiguration (p. 532).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Required: Yes

Response Syntax

```
{
   "LoggingConfiguration": {
      "LogDestinationConfigs": [ "string" ],
      "RedactedFields": [
         {
            "Data": "string",
            "Type": "string"
         }
      ],
      "ResourceArn": "string"
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

LoggingConfiguration (p. 309)

The LoggingConfiguration (p. 532) for the specified web ACL.

Type: LoggingConfiguration (p. 532) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetPermissionPolicy

Service: AWS WAF Regional

Returns the IAM policy attached to the RuleGroup.

Request Syntax

```
{
   "ResourceArn": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ResourceArn (p. 311)

The Amazon Resource Name (ARN) of the RuleGroup for which you want to get the policy.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Required: Yes

Response Syntax

```
{
   "Policy": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Policy (p. 311)

The IAM policy attached to the specified RuleGroup.

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetRateBasedRule

Service: AWS WAF Regional

Returns the RateBasedRule (p. 535) that is specified by the `RuleId` that you included in the `GetRateBasedRule` request.

Request Syntax

```
{
   "RuleId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

RuleId (p. 313)

The `RuleId` of the RateBasedRule (p. 535) that you want to get. `RuleId` is returned by CreateRateBasedRule (p. 226) and by ListRateBasedRules (p. 352).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "Rule": {
      "MatchPredicates": [
         {
            "DataId": "string",
            "Negated": boolean,
            "Type": "string"
         }
      ],
      "MetricName": "string",
      "Name": "string",
      "RateKey": "string",
      "RateLimit": number,
      "RuleId": "string"
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Rule (p. 313)

Information about the RateBasedRule (p. 535) that you specified in the `GetRateBasedRule` request.

Type: RateBasedRule (p. 535) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetRateBasedRuleManagedKeys

Service: AWS WAF Regional

Returns an array of IP addresses currently being blocked by the RateBasedRule (p. 535) that is specified by the `RuleId`. The maximum number of managed keys that will be blocked is 10,000. If more than 10,000 addresses exceed the rate limit, the 10,000 addresses with the highest rates will be blocked.

Request Syntax

```
{
   "NextMarker": "string",
   "RuleId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

NextMarker (p. 315)

A null value and not currently used. Do not include this in your request.

Type: String

Length Constraints: Minimum length of 1.

Required: No

RuleId (p. 315)

The `RuleId` of the RateBasedRule (p. 535) for which you want to get a list of `ManagedKeys`. `RuleId` is returned by CreateRateBasedRule (p. 226) and by ListRateBasedRules (p. 352).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ManagedKeys": [ "string" ],
   "NextMarker": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ManagedKeys (p. 315)

An array of IP addresses that currently are blocked by the specified RateBasedRule (p. 535).

Type: Array of strings

NextMarker (p. 315)

A null value and not currently used.

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetRegexMatchSet

Service: AWS WAF Regional

Returns the RegexMatchSet (p. 537) specified by `RegexMatchSetId`.

Request Syntax

```
{
   "RegexMatchSetId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

RegexMatchSetId (p. 318)

The `RegexMatchSetId` of the RegexMatchSet (p. 537) that you want to get. `RegexMatchSetId` is returned by CreateRegexMatchSet (p. 231) and by ListRegexMatchSets (p. 354).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "RegexMatchSet": {
      "Name": "string",
      "RegexMatchSetId": "string",
      "RegexMatchTuples": [
         {
            "FieldToMatch": {
               "Data": "string",
               "Type": "string"
            },
            "RegexPatternSetId": "string",
            "TextTransformation": "string"
         }
      ]
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

RegexMatchSet (p. 318)

Information about the RegexMatchSet (p. 537) that you specified in the `GetRegexMatchSet` request. For more information, see RegexMatchTuple (p. 541).

Type: RegexMatchSet (p. 537) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetRegexPatternSet

Service: AWS WAF Regional

Returns the RegexPatternSet (p. 544) specified by `RegexPatternSetId`.

Request Syntax

```
{
   "RegexPatternSetId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

RegexPatternSetId (p. 320)

The `RegexPatternSetId` of the RegexPatternSet (p. 544) that you want to get. `RegexPatternSetId` is returned by CreateRegexPatternSet (p. 234) and by ListRegexPatternSets (p. 356).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "RegexPatternSet": {
      "Name": "string",
      "RegexPatternSetId": "string",
      "RegexPatternStrings": [ "string" ]
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

RegexPatternSet (p. 320)

Information about the RegexPatternSet (p. 544) that you specified in the `GetRegexPatternSet` request, including the identifier of the pattern set and the regular expression patterns you want AWS WAF to search for.

Type: RegexPatternSet (p. 544) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetRule

Service: AWS WAF Regional

Returns the Rule (p. 547) that is specified by the `RuleId` that you included in the `GetRule` request.

Request Syntax

```
{
   "RuleId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

RuleId (p. 322)

The `RuleId` of the Rule (p. 547) that you want to get. `RuleId` is returned by CreateRule (p. 237) and by ListRules (p. 363).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "Rule": {
      "MetricName": "string",
      "Name": "string",
      "Predicates": [
         {
            "DataId": "string",
            "Negated": boolean,
            "Type": "string"
         }
      ],
      "RuleId": "string"
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Rule (p. 322)

Information about the Rule (p. 547) that you specified in the `GetRule` request. For more information, see the following topics:

- Rule (p. 547): Contains `MetricName`, `Name`, an array of `Predicate` objects, and `RuleId`
- Predicate (p. 533): Each `Predicate` object contains `DataId`, `Negated`, and `Type`

Type: Rule (p. 547) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetRuleGroup

Service: AWS WAF Regional

Returns the RuleGroup (p. 549) that is specified by the `RuleGroupId` that you included in the `GetRuleGroup` request.

To view the rules in a rule group, use ListActivatedRulesInRuleGroup (p. 340).

Request Syntax

```
{
   "RuleGroupId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

RuleGroupId (p. 324)

The `RuleGroupId` of the RuleGroup (p. 549) that you want to get. `RuleGroupId` is returned by CreateRuleGroup (p. 241) and by ListRuleGroups (p. 361).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "RuleGroup": {
      "MetricName": "string",
      "Name": "string",
      "RuleGroupId": "string"
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

RuleGroup (p. 324)

Information about the RuleGroup (p. 549) that you specified in the `GetRuleGroup` request.

Type: RuleGroup (p. 549) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetSampledRequests

Service: AWS WAF Regional

Gets detailed information about a specified number of requests--a sample--that AWS WAF randomly selects from among the first 5,000 requests that your AWS resource received during a time range that you choose. You can specify a sample size of up to 500 requests, and you can specify any time range in the previous three hours.

`GetSampledRequests` returns a time range, which is usually the time range that you specified. However, if your resource (such as a CloudFront distribution) received 5,000 requests before the specified time range elapsed, `GetSampledRequests` returns an updated time range. This new time range indicates the actual period during which AWS WAF selected the requests in the sample.

Request Syntax

```
{
   "MaxItems": number,
   "RuleId": "string",
   "TimeWindow": {
      "EndTime": number,
      "StartTime": number
   },
   "WebAclId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

MaxItems (p. 326)

The number of requests that you want AWS WAF to return from among the first 5,000 requests that your AWS resource received during the time range. If your resource received fewer requests than the value of `MaxItems`, `GetSampledRequests` returns information about all of them.

Type: Long

Valid Range: Minimum value of 1. Maximum value of 500.

Required: Yes

RuleId (p. 326)

`RuleId` is one of three values:

- The `RuleId` of the `Rule` or the `RuleGroupId` of the `RuleGroup` for which you want `GetSampledRequests` to return a sample of requests.
- `Default_Action`, which causes `GetSampledRequests` to return a sample of the requests that didn't match any of the rules in the specified `WebACL`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

TimeWindow (p. 326)

The start date and time and the end date and time of the range for which you want `GetSampledRequests` to return a sample of requests. Specify the date and time in the following format: `"2016-09-27T14:50Z"`. You can specify any time range in the previous three hours.

Type: TimeWindow (p. 569) object

Required: Yes

WebAclId (p. 326)

The `WebACLId` of the `WebACL` for which you want `GetSampledRequests` to return a sample of requests.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "PopulationSize": number,
   "SampledRequests": [
      {
         "Action": "string",
         "Request": {
            "ClientIP": "string",
            "Country": "string",
            "Headers": [
               {
                  "Name": "string",
                  "Value": "string"
               }
            ],
            "HTTPVersion": "string",
            "Method": "string",
            "URI": "string"
         },
         "RuleWithinRuleGroup": "string",
         "Timestamp": number,
         "Weight": number
      }
   ],
   "TimeWindow": {
      "EndTime": number,
      "StartTime": number
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

PopulationSize (p. 327)

The total number of requests from which `GetSampledRequests` got a sample of `MaxItems` requests. If `PopulationSize` is less than `MaxItems`, the sample includes every request that your AWS resource received during the specified time range.

Type: Long

SampledRequests (p. 327)

A complex type that contains detailed information about each of the requests in the sample.

Type: Array of SampledHTTPRequest (p. 555) objects

TimeWindow (p. 327)

Usually, `TimeWindow` is the time range that you specified in the `GetSampledRequests` request. However, if your AWS resource received more than 5,000 requests during the time range that you specified in the request, `GetSampledRequests` returns the time range for the first 5,000 requests.

Type: TimeWindow (p. 569) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetSizeConstraintSet

Service: AWS WAF Regional

Returns the SizeConstraintSet (p. 560) specified by `SizeConstraintSetId`.

Request Syntax

```
{
   "SizeConstraintSetId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

SizeConstraintSetId (p. 329)

The `SizeConstraintSetId` of the SizeConstraintSet (p. 560) that you want to get. `SizeConstraintSetId` is returned by CreateSizeConstraintSet (p. 244) and by ListSizeConstraintSets (p. 365).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "SizeConstraintSet": {
      "Name": "string",
      "SizeConstraints": [
         {
            "ComparisonOperator": "string",
            "FieldToMatch": {
               "Data": "string",
               "Type": "string"
            },
            "Size": number,
            "TextTransformation": "string"
         }
      ],
      "SizeConstraintSetId": "string"
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

SizeConstraintSet (p. 329)

Information about the SizeConstraintSet (p. 560) that you specified in the `GetSizeConstraintSet` request. For more information, see the following topics:

- SizeConstraintSet (p. 560): Contains `SizeConstraintSetId`, `SizeConstraints`, and `Name`
- `SizeConstraints`: Contains an array of SizeConstraint (p. 557) objects. Each `SizeConstraint` object contains FieldToMatch (p. 518), `TextTransformation`, `ComparisonOperator`, and `Size`
- FieldToMatch (p. 518): Contains `Data` and `Type`

Type: SizeConstraintSet (p. 560) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetSqlInjectionMatchSet

Service: AWS WAF Regional

Returns the SqlInjectionMatchSet (p. 563) that is specified by `SqlInjectionMatchSetId`.

Request Syntax

```
{
   "SqlInjectionMatchSetId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

SqlInjectionMatchSetId (p. 331)

The `SqlInjectionMatchSetId` of the SqlInjectionMatchSet (p. 563) that you want to get. `SqlInjectionMatchSetId` is returned by CreateSqlInjectionMatchSet (p. 247) and by ListSqlInjectionMatchSets (p. 367).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "SqlInjectionMatchSet": {
      "Name": "string",
      "SqlInjectionMatchSetId": "string",
      "SqlInjectionMatchTuples": [
         {
            "FieldToMatch": {
               "Data": "string",
               "Type": "string"
            },
            "TextTransformation": "string"
         }
      ]
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

SqlInjectionMatchSet (p. 331)

Information about the SqlInjectionMatchSet (p. 563) that you specified in the `GetSqlInjectionMatchSet` request. For more information, see the following topics:

- SqlInjectionMatchSet (p. 563): Contains `Name`, `SqlInjectionMatchSetId`, and an array of `SqlInjectionMatchTuple` objects
- SqlInjectionMatchTuple (p. 566): Each `SqlInjectionMatchTuple` object contains `FieldToMatch` and `TextTransformation`
- FieldToMatch (p. 518): Contains `Data` and `Type`

Type: SqlInjectionMatchSet (p. 563) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetWebACL

Service: AWS WAF Regional

Returns the WebACL (p. 572) that is specified by `WebACLId`.

Request Syntax

```
{
   "WebACLId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

WebACLId (p. 333)

The `WebACLId` of the WebACL (p. 572) that you want to get. `WebACLId` is returned by CreateWebACL (p. 250) and by ListWebACLs (p. 371).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "WebACL": {
      "DefaultAction": {
         "Type": "string"
      },
      "MetricName": "string",
      "Name": "string",
      "Rules": [
         {
            "Action": {
               "Type": "string"
            },
            "OverrideAction": {
               "Type": "string"
            },
            "Priority": number,
            "RuleId": "string",
            "Type": "string"
         }
      ],
      "WebACLArn": "string",
      "WebACLId": "string"
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

WebACL (p. 333)

Information about the WebACL (p. 572) that you specified in the `GetWebACL` request. For more information, see the following topics:

- WebACL (p. 572): Contains `DefaultAction`, `MetricName`, `Name`, an array of `Rule` objects, and `WebACLId`
- `DefaultAction` (Data type is WafAction (p. 570)): Contains `Type`
- `Rules`: Contains an array of `ActivatedRule` objects, which contain `Action`, `Priority`, and `RuleId`
- `Action`: Contains `Type`

Type: WebACL (p. 572) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetWebACLForResource

Service: AWS WAF Regional

Returns the web ACL for the specified resource.

Request Syntax

```
{
   "ResourceArn": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ResourceArn (p. 335)

The ARN (Amazon Resource Name) of the resource for which to get the web ACL.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Required: Yes

Response Syntax

```
{
   "WebACLSummary": {
      "Name": "string",
      "WebACLId": "string"
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

WebACLSummary (p. 335)

Information about the web ACL that you specified in the `GetWebACLForResource` request. If there is no associated resource, a null WebACLSummary is returned.

Type: WebACLSummary (p. 574) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFUnavailableEntityException

The operation failed because the entity referenced is temporarily unavailable. Retry your request.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetXssMatchSet

Service: AWS WAF Regional

Returns the XssMatchSet (p. 576) that is specified by `XssMatchSetId`.

Request Syntax

```
{
   "XssMatchSetId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

XssMatchSetId (p. 338)

The `XssMatchSetId` of the XssMatchSet (p. 576) that you want to get. `XssMatchSetId` is returned by CreateXssMatchSet (p. 254) and by ListXssMatchSets (p. 373).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "XssMatchSet": {
      "Name": "string",
      "XssMatchSetId": "string",
      "XssMatchTuples": [
         {
            "FieldToMatch": {
               "Data": "string",
               "Type": "string"
            },
            "TextTransformation": "string"
         }
      ]
   }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

XssMatchSet (p. 338)

Information about the XssMatchSet (p. 576) that you specified in the `GetXssMatchSet` request. For more information, see the following topics:

- XssMatchSet (p. 576): Contains `Name`, `XssMatchSetId`, and an array of `XssMatchTuple` objects
- XssMatchTuple (p. 579): Each `XssMatchTuple` object contains `FieldToMatch` and `TextTransformation`
- FieldToMatch (p. 518): Contains `Data` and `Type`

Type: XssMatchSet (p. 576) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ListActivatedRulesInRuleGroup

Service: AWS WAF Regional

Returns an array of ActivatedRule (p. 508) objects.

Request Syntax

```
{
   "Limit": number,
   "NextMarker": "string",
   "RuleGroupId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

Limit (p. 340)

Specifies the number of `ActivatedRules` that you want AWS WAF to return for this request. If you have more `ActivatedRules` than the number that you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of `ActivatedRules`.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

NextMarker (p. 340)

If you specify a value for `Limit` and you have more `ActivatedRules` than the value of `Limit`, AWS WAF returns a `NextMarker` value in the response that allows you to list another group of `ActivatedRules`. For the second and subsequent `ListActivatedRulesInRuleGroup` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `ActivatedRules`.

Type: String

Length Constraints: Minimum length of 1.

Required: No

RuleGroupId (p. 340)

The `RuleGroupId` of the RuleGroup (p. 549) for which you want to get a list of ActivatedRule (p. 508) objects.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: No

Response Syntax

```
{
```

```
   "ActivatedRules": [
      {
         "Action": {
            "Type": "string"
         },
         "OverrideAction": {
            "Type": "string"
         },
         "Priority": number,
         "RuleId": "string",
         "Type": "string"
      }
   ],
   "NextMarker": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ActivatedRules (p. 340)

An array of `ActivatedRules` objects.

Type: Array of ActivatedRule (p. 508) objects

NextMarker (p. 340)

If you have more `ActivatedRules` than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `ActivatedRules`, submit another `ListActivatedRulesInRuleGroup` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.

- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ListByteMatchSets

Service: AWS WAF Regional

Returns an array of ByteMatchSetSummary (p. 512) objects.

Request Syntax

```
{
   "Limit": number,
   "NextMarker": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

Limit (p. 343)

Specifies the number of `ByteMatchSet` objects that you want AWS WAF to return for this request. If you have more `ByteMatchSets` objects than the number you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of `ByteMatchSet` objects.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

NextMarker (p. 343)

If you specify a value for `Limit` and you have more `ByteMatchSets` than the value of `Limit`, AWS WAF returns a `NextMarker` value in the response that allows you to list another group of `ByteMatchSets`. For the second and subsequent `ListByteMatchSets` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `ByteMatchSets`.

Type: String

Length Constraints: Minimum length of 1.

Required: No

Response Syntax

```
{
   "ByteMatchSets": [
      {
         "ByteMatchSetId": "string",
         "Name": "string"
      }
   ],
   "NextMarker": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ByteMatchSets (p. 343)

An array of ByteMatchSetSummary (p. 512) objects.

Type: Array of ByteMatchSetSummary (p. 512) objects

NextMarker (p. 343)

If you have more `ByteMatchSet` objects than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `ByteMatchSet` objects, submit another `ListByteMatchSets` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ListGeoMatchSets

Service: AWS WAF Regional

Returns an array of GeoMatchSetSummary (p. 522) objects in the response.

Request Syntax

```
{
   "Limit": number,
   "NextMarker": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

Limit (p. 345)

Specifies the number of `GeoMatchSet` objects that you want AWS WAF to return for this request. If you have more `GeoMatchSet` objects than the number you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of `GeoMatchSet` objects.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

NextMarker (p. 345)

If you specify a value for `Limit` and you have more `GeoMatchSets` than the value of `Limit`, AWS WAF returns a `NextMarker` value in the response that allows you to list another group of `GeoMatchSet` objects. For the second and subsequent `ListGeoMatchSets` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `GeoMatchSet` objects.

Type: String

Length Constraints: Minimum length of 1.

Required: No

Response Syntax

```
{
   "GeoMatchSets": [
      {
         "GeoMatchSetId": "string",
         "Name": "string"
      }
   ],
   "NextMarker": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

GeoMatchSets (p. 345)

An array of GeoMatchSetSummary (p. 522) objects.

Type: Array of GeoMatchSetSummary (p. 522) objects

NextMarker (p. 345)

If you have more `GeoMatchSet` objects than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `GeoMatchSet` objects, submit another `ListGeoMatchSets` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ListIPSets

Service: AWS WAF Regional

Returns an array of IPSetSummary (p. 530) objects in the response.

Request Syntax

```
{
   "Limit": number,
   "NextMarker": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

Limit (p. 347)

Specifies the number of `IPSet` objects that you want AWS WAF to return for this request. If you have more `IPSet` objects than the number you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of `IPSet` objects.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

NextMarker (p. 347)

If you specify a value for `Limit` and you have more `IPSets` than the value of `Limit`, AWS WAF returns a `NextMarker` value in the response that allows you to list another group of `IPSets`. For the second and subsequent `ListIPSets` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `IPSets`.

Type: String

Length Constraints: Minimum length of 1.

Required: No

Response Syntax

```
{
   "IPSets": [
      {
         "IPSetId": "string",
         "Name": "string"
      }
   ],
   "NextMarker": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

IPSets (p. 347)

An array of IPSetSummary (p. 530) objects.

Type: Array of IPSetSummary (p. 530) objects

NextMarker (p. 347)

If you have more `IPSet` objects than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `IPSet` objects, submit another `ListIPSets` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ListLoggingConfigurations

Service: AWS WAF Regional

Returns an array of LoggingConfiguration (p. 532) objects.

Request Syntax

```
{
   "Limit": number,
   "NextMarker": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

Limit (p. 349)

Specifies the number of `LoggingConfigurations` that you want AWS WAF to return for this request. If you have more `LoggingConfigurations` than the number that you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of `LoggingConfigurations`.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

NextMarker (p. 349)

If you specify a value for `Limit` and you have more `LoggingConfigurations` than the value of `Limit`, AWS WAF returns a `NextMarker` value in the response that allows you to list another group of `LoggingConfigurations`. For the second and subsequent `ListLoggingConfigurations` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `ListLoggingConfigurations`.

Type: String

Length Constraints: Minimum length of 1.

Required: No

Response Syntax

```
{
   "LoggingConfigurations": [
      {
         "LogDestinationConfigs": [ "string" ],
         "RedactedFields": [
            {
               "Data": "string",
               "Type": "string"
            }
         ],
```

```
            "ResourceArn": "string"
        }
    ],
    "NextMarker": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

LoggingConfigurations (p. 349)

An array of LoggingConfiguration (p. 532) objects.

Type: Array of LoggingConfiguration (p. 532) objects

NextMarker (p. 349)

If you have more `LoggingConfigurations` than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `LoggingConfigurations`, submit another `ListLoggingConfigurations` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ListRateBasedRules

Service: AWS WAF Regional

Returns an array of RuleSummary (p. 553) objects.

Request Syntax

```
{
   "Limit": number,
   "NextMarker": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

Limit (p. 352)

Specifies the number of `Rules` that you want AWS WAF to return for this request. If you have more `Rules` than the number that you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of `Rules`.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

NextMarker (p. 352)

If you specify a value for `Limit` and you have more `Rules` than the value of `Limit`, AWS WAF returns a `NextMarker` value in the response that allows you to list another group of `Rules`. For the second and subsequent `ListRateBasedRules` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `Rules`.

Type: String

Length Constraints: Minimum length of 1.

Required: No

Response Syntax

```
{
   "NextMarker": "string",
   "Rules": [
      {
         "Name": "string",
         "RuleId": "string"
      }
   ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

NextMarker (p. 352)

If you have more `Rules` than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `Rules`, submit another `ListRateBasedRules` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1.

Rules (p. 352)

An array of RuleSummary (p. 553) objects.

Type: Array of RuleSummary (p. 553) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ListRegexMatchSets

Service: AWS WAF Regional

Returns an array of RegexMatchSetSummary (p. 539) objects.

Request Syntax

```
{
   "Limit": number,
   "NextMarker": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

Limit (p. 354)

Specifies the number of `RegexMatchSet` objects that you want AWS WAF to return for this request. If you have more `RegexMatchSet` objects than the number you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of `RegexMatchSet` objects.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

NextMarker (p. 354)

If you specify a value for `Limit` and you have more `RegexMatchSet` objects than the value of `Limit`, AWS WAF returns a `NextMarker` value in the response that allows you to list another group of `ByteMatchSets`. For the second and subsequent `ListRegexMatchSets` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `RegexMatchSet` objects.

Type: String

Length Constraints: Minimum length of 1.

Required: No

Response Syntax

```
{
   "NextMarker": "string",
   "RegexMatchSets": [
      {
         "Name": "string",
         "RegexMatchSetId": "string"
      }
   ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

NextMarker (p. 354)

If you have more `RegexMatchSet` objects than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `RegexMatchSet` objects, submit another `ListRegexMatchSets` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1.

RegexMatchSets (p. 354)

An array of RegexMatchSetSummary (p. 539) objects.

Type: Array of RegexMatchSetSummary (p. 539) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ListRegexPatternSets

Service: AWS WAF Regional

Returns an array of RegexPatternSetSummary (p. 545) objects.

Request Syntax

```
{
   "Limit": number,
   "NextMarker": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

Limit (p. 356)

Specifies the number of `RegexPatternSet` objects that you want AWS WAF to return for this request. If you have more `RegexPatternSet` objects than the number you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of `RegexPatternSet` objects.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

NextMarker (p. 356)

If you specify a value for `Limit` and you have more `RegexPatternSet` objects than the value of `Limit`, AWS WAF returns a `NextMarker` value in the response that allows you to list another group of `RegexPatternSet` objects. For the second and subsequent `ListRegexPatternSets` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `RegexPatternSet` objects.

Type: String

Length Constraints: Minimum length of 1.

Required: No

Response Syntax

```
{
   "NextMarker": "string",
   "RegexPatternSets": [
      {
         "Name": "string",
         "RegexPatternSetId": "string"
      }
   ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

NextMarker (p. 356)

If you have more `RegexPatternSet` objects than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `RegexPatternSet` objects, submit another `ListRegexPatternSets` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1.

RegexPatternSets (p. 356)

An array of RegexPatternSetSummary (p. 545) objects.

Type: Array of RegexPatternSetSummary (p. 545) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ListResourcesForWebACL

Service: AWS WAF Regional

Returns an array of resources associated with the specified web ACL.

Request Syntax

```
{
   "ResourceType": "string",
   "WebACLId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ResourceType (p. 358)

The type of resource to list, either an application load balancer or Amazon API Gateway.

Type: String

Valid Values: `APPLICATION_LOAD_BALANCER | API_GATEWAY`

Required: No

WebACLId (p. 358)

The unique identifier (ID) of the web ACL for which to list the associated resources.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ResourceArns": [ "string" ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ResourceArns (p. 358)

An array of ARNs (Amazon Resource Names) of the resources associated with the specified web ACL. An array with zero elements is returned if there are no resources associated with the web ACL.

Type: Array of strings

Length Constraints: Minimum length of 1. Maximum length of 1224.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3

- AWS SDK for Python
- AWS SDK for Ruby V2

ListRuleGroups

Service: AWS WAF Regional

Returns an array of RuleGroup (p. 549) objects.

Request Syntax

```
{
   "Limit": number,
   "NextMarker": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

Limit (p. 361)

Specifies the number of `RuleGroups` that you want AWS WAF to return for this request. If you have more `RuleGroups` than the number that you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of `RuleGroups`.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

NextMarker (p. 361)

If you specify a value for `Limit` and you have more `RuleGroups` than the value of `Limit`, AWS WAF returns a `NextMarker` value in the response that allows you to list another group of `RuleGroups`. For the second and subsequent `ListRuleGroups` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `RuleGroups`.

Type: String

Length Constraints: Minimum length of 1.

Required: No

Response Syntax

```
{
   "NextMarker": "string",
   "RuleGroups": [
      {
         "Name": "string",
         "RuleGroupId": "string"
      }
   ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

NextMarker (p. 361)

If you have more `RuleGroups` than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `RuleGroups`, submit another `ListRuleGroups` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1.

RuleGroups (p. 361)

An array of RuleGroup (p. 549) objects.

Type: Array of RuleGroupSummary (p. 551) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ListRules

Service: AWS WAF Regional

Returns an array of RuleSummary (p. 553) objects.

Request Syntax

```
{
   "Limit": number,
   "NextMarker": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

Limit (p. 363)

Specifies the number of `Rules` that you want AWS WAF to return for this request. If you have more `Rules` than the number that you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of `Rules`.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

NextMarker (p. 363)

If you specify a value for `Limit` and you have more `Rules` than the value of `Limit`, AWS WAF returns a `NextMarker` value in the response that allows you to list another group of `Rules`. For the second and subsequent `ListRules` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `Rules`.

Type: String

Length Constraints: Minimum length of 1.

Required: No

Response Syntax

```
{
   "NextMarker": "string",
   "Rules": [
      {
         "Name": "string",
         "RuleId": "string"
      }
   ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

NextMarker (p. 363)

If you have more `Rules` than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `Rules`, submit another `ListRules` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1.

Rules (p. 363)

An array of RuleSummary (p. 553) objects.

Type: Array of RuleSummary (p. 553) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ListSizeConstraintSets

Service: AWS WAF Regional

Returns an array of SizeConstraintSetSummary (p. 561) objects.

Request Syntax

```
{
   "Limit": number,
   "NextMarker": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

Limit (p. 365)

Specifies the number of `SizeConstraintSet` objects that you want AWS WAF to return for this request. If you have more `SizeConstraintSets` objects than the number you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of `SizeConstraintSet` objects.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

NextMarker (p. 365)

If you specify a value for `Limit` and you have more `SizeConstraintSets` than the value of `Limit`, AWS WAF returns a `NextMarker` value in the response that allows you to list another group of `SizeConstraintSets`. For the second and subsequent `ListSizeConstraintSets` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `SizeConstraintSets`.

Type: String

Length Constraints: Minimum length of 1.

Required: No

Response Syntax

```
{
   "NextMarker": "string",
   "SizeConstraintSets": [
      {
         "Name": "string",
         "SizeConstraintSetId": "string"
      }
   ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

NextMarker (p. 365)

If you have more `SizeConstraintSet` objects than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `SizeConstraintSet` objects, submit another `ListSizeConstraintSets` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1.

SizeConstraintSets (p. 365)

An array of SizeConstraintSetSummary (p. 561) objects.

Type: Array of SizeConstraintSetSummary (p. 561) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ListSqlInjectionMatchSets

Service: AWS WAF Regional

Returns an array of SqlInjectionMatchSet (p. 563) objects.

Request Syntax

```
{
   "Limit": number,
   "NextMarker": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

Limit (p. 367)

Specifies the number of SqlInjectionMatchSet (p. 563) objects that you want AWS WAF to return for this request. If you have more `SqlInjectionMatchSet` objects than the number you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of `Rules`.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

NextMarker (p. 367)

If you specify a value for `Limit` and you have more SqlInjectionMatchSet (p. 563) objects than the value of `Limit`, AWS WAF returns a `NextMarker` value in the response that allows you to list another group of `SqlInjectionMatchSets`. For the second and subsequent `ListSqlInjectionMatchSets` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `SqlInjectionMatchSets`.

Type: String

Length Constraints: Minimum length of 1.

Required: No

Response Syntax

```
{
   "NextMarker": "string",
   "SqlInjectionMatchSets": [
      {
         "Name": "string",
         "SqlInjectionMatchSetId": "string"
      }
   ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

NextMarker (p. 367)

If you have more SqlInjectionMatchSet (p. 563) objects than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `SqlInjectionMatchSet` objects, submit another `ListSqlInjectionMatchSets` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1.

SqlInjectionMatchSets (p. 367)

An array of SqlInjectionMatchSetSummary (p. 564) objects.

Type: Array of SqlInjectionMatchSetSummary (p. 564) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ListSubscribedRuleGroups

Service: AWS WAF Regional

Returns an array of RuleGroup (p. 549) objects that you are subscribed to.

Request Syntax

```
{
   "Limit": number,
   "NextMarker": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

Limit (p. 369)

Specifies the number of subscribed rule groups that you want AWS WAF to return for this request. If you have more objects than the number you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of objects.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

NextMarker (p. 369)

If you specify a value for `Limit` and you have more `ByteMatchSets`subscribed rule groups than the value of `Limit`, AWS WAF returns a `NextMarker` value in the response that allows you to list another group of subscribed rule groups. For the second and subsequent `ListSubscribedRuleGroupsRequest` requests, specify the value of `NextMarker` from the previous response to get information about another batch of subscribed rule groups.

Type: String

Length Constraints: Minimum length of 1.

Required: No

Response Syntax

```
{
   "NextMarker": "string",
   "RuleGroups": [
      {
         "MetricName": "string",
         "Name": "string",
         "RuleGroupId": "string"
      }
   ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

NextMarker (p. 369)

If you have more objects than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more objects, submit another `ListSubscribedRuleGroups` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1.

RuleGroups (p. 369)

An array of RuleGroup (p. 549) objects.

Type: Array of SubscribedRuleGroupSummary (p. 568) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ListWebACLs

Service: AWS WAF Regional

Returns an array of WebACLSummary (p. 574) objects in the response.

Request Syntax

```
{
   "Limit": number,
   "NextMarker": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

Limit (p. 371)

Specifies the number of `WebACL` objects that you want AWS WAF to return for this request. If you have more `WebACL` objects than the number that you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of `WebACL` objects.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

NextMarker (p. 371)

If you specify a value for `Limit` and you have more `WebACL` objects than the number that you specify for `Limit`, AWS WAF returns a `NextMarker` value in the response that allows you to list another group of `WebACL` objects. For the second and subsequent `ListWebACLs` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `WebACL` objects.

Type: String

Length Constraints: Minimum length of 1.

Required: No

Response Syntax

```
{
   "NextMarker": "string",
   "WebACLs": [
      {
         "Name": "string",
         "WebACLId": "string"
      }
   ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

NextMarker (p. 371)

If you have more `WebACL` objects than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `WebACL` objects, submit another `ListWebACLs` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1.

WebACLs (p. 371)

An array of WebACLSummary (p. 574) objects.

Type: Array of WebACLSummary (p. 574) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ListXssMatchSets

Service: AWS WAF Regional

Returns an array of XssMatchSet (p. 576) objects.

Request Syntax

```
{
   "Limit": number,
   "NextMarker": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

Limit (p. 373)

Specifies the number of XssMatchSet (p. 576) objects that you want AWS WAF to return for this request. If you have more `XssMatchSet` objects than the number you specify for `Limit`, the response includes a `NextMarker` value that you can use to get another batch of `Rules`.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 100.

Required: No

NextMarker (p. 373)

If you specify a value for `Limit` and you have more XssMatchSet (p. 576) objects than the value of `Limit`, AWS WAF returns a `NextMarker` value in the response that allows you to list another group of `XssMatchSets`. For the second and subsequent `ListXssMatchSets` requests, specify the value of `NextMarker` from the previous response to get information about another batch of `XssMatchSets`.

Type: String

Length Constraints: Minimum length of 1.

Required: No

Response Syntax

```
{
   "NextMarker": "string",
   "XssMatchSets": [
      {
         "Name": "string",
         "XssMatchSetId": "string"
      }
   ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

NextMarker (p. 373)

If you have more XssMatchSet (p. 576) objects than the number that you specified for `Limit` in the request, the response includes a `NextMarker` value. To list more `XssMatchSet` objects, submit another `ListXssMatchSets` request, and specify the `NextMarker` value from the response in the `NextMarker` value in the next request.

Type: String

Length Constraints: Minimum length of 1.

XssMatchSets (p. 373)

An array of XssMatchSetSummary (p. 577) objects.

Type: Array of XssMatchSetSummary (p. 577) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

PutLoggingConfiguration

Service: AWS WAF Regional

Associates a LoggingConfiguration (p. 532) with a specified web ACL.

You can access information about all traffic that AWS WAF inspects using the following steps:

1. Create an Amazon Kinesis Data Firehose .
2. Associate that firehose to your web ACL using a `PutLoggingConfiguration` request.

When you successfully enable logging using a `PutLoggingConfiguration` request, AWS WAF will create a service linked role with the necessary permissions to write logs to the Amazon Kinesis Data Firehose. For more information, see Logging Web ACL Traffic Information in the *AWS WAF Developer Guide*.

Request Syntax

```
{
   "LoggingConfiguration": {
      "LogDestinationConfigs": [ "string" ],
      "RedactedFields": [
         {
            "Data": "string",
            "Type": "string"
         }
      ],
      "ResourceArn": "string"
   }
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

LoggingConfiguration (p. 375)

The Amazon Kinesis Data Firehose that contains the inspected traffic information, the redacted fields details, and the Amazon Resource Name (ARN) of the web ACL to monitor.

Type: LoggingConfiguration (p. 532) object

Required: Yes

Response Syntax

```
{
   "LoggingConfiguration": {
      "LogDestinationConfigs": [ "string" ],
      "RedactedFields": [
         {
            "Data": "string",
            "Type": "string"
         }
```

```
        ],
        "ResourceArn": "string"
    }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

LoggingConfiguration (p. 375)

The LoggingConfiguration (p. 532) that you submitted in the request.

Type: LoggingConfiguration (p. 532) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFServiceLinkedRoleErrorException

AWS WAF is not able to access the service linked role. This can be caused by a previous `PutLoggingConfiguration` request, which can lock the service linked role for about 20 seconds. Please try your request again. The service linked role can also be locked by a previous `DeleteServiceLinkedRole` request, which can lock the role for 15 minutes or more. If you recently made a `DeleteServiceLinkedRole`, wait at least 15 minutes and try the request again. If you receive this same exception again, you will have to wait additional time until the role is unlocked.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

PutPermissionPolicy

Service: AWS WAF Regional

Attaches a IAM policy to the specified resource. The only supported use for this action is to share a RuleGroup across accounts.

The `PutPermissionPolicy` is subject to the following restrictions:

- You can attach only one policy with each `PutPermissionPolicy` request.
- The policy must include an `Effect`, `Action` and `Principal`.
- `Effect` must specify `Allow`.
- The `Action` in the policy must be `waf:UpdateWebACL`, `waf-regional:UpdateWebACL`, `waf:GetRuleGroup` and `waf-regional:GetRuleGroup` . Any extra or wildcard actions in the policy will be rejected.
- The policy cannot include a `Resource` parameter.
- The ARN in the request must be a valid WAF RuleGroup ARN and the RuleGroup must exist in the same region.
- The user making the request must be the owner of the RuleGroup.
- Your policy must be composed using IAM Policy version 2012-10-17.

For more information, see IAM Policies.

An example of a valid policy parameter is shown in the Examples section below.

Request Syntax

```
{
   "Policy": "string",
   "ResourceArn": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

Policy (p. 378)

The policy to attach to the specified RuleGroup.

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

ResourceArn (p. 378)

The Amazon Resource Name (ARN) of the RuleGroup to which you want to attach the policy.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Required: Yes

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidPermissionPolicyException

The operation failed because the specified policy is not in the proper format.

The policy is subject to the following restrictions:

- You can attach only one policy with each `PutPermissionPolicy` request.
- The policy must include an `Effect`, `Action` and `Principal`.
- `Effect` must specify `Allow`.
- The `Action` in the policy must be `waf:UpdateWebACL`, `waf-regional:UpdateWebACL`, `waf:GetRuleGroup` and `waf-regional:GetRuleGroup` . Any extra or wildcard actions in the policy will be rejected.
- The policy cannot include a `Resource` parameter.
- The ARN in the request must be a valid WAF RuleGroup ARN and the RuleGroup must exist in the same region.
- The user making the request must be the owner of the RuleGroup.
- Your policy must be composed using IAM Policy version 2012-10-17.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

Examples

Example policy parameter - No escape characters

```
{
   "Version": "2012-10-17",
    "Statement": [
```

```
        {
          "Effect": "Allow",
          "Principal": {
          "AWS": "arn:aws:iam::111111111111:user/MyUserName"
                      },
           "Action": [
               "waf:UpdateWebACL",
               "waf-regional:UpdateWebACL",
               "waf:GetRuleGroup",
               "waf-regional:GetRuleGroup"

                     ]
         }
                 ]
}
```

Example policy parameter - AWS Command Line Interface (CLI)

```
{\"Version\":\"2012-10-17\",\"Statement\":[{\"Effect\":\"Allow\",\"Principal\":{\"AWS\":
\"arn:aws:iam::111111111111:user\/MyUserName\"},\"Action\":[\"waf:UpdateWebACL\",\"waf-
regional:UpdateWebACL\",\"waf:GetRuleGroup\",\"waf-regional:GetRuleGroup\"]}]}
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

UpdateByteMatchSet

Service: AWS WAF Regional

Inserts or deletes ByteMatchTuple (p. 514) objects (filters) in a ByteMatchSet (p. 510). For each `ByteMatchTuple` object, you specify the following values:

- Whether to insert or delete the object from the array. If you want to change a `ByteMatchSetUpdate` object, you delete the existing object and add a new one.
- The part of a web request that you want AWS WAF to inspect, such as a query string or the value of the `User-Agent` header.
- The bytes (typically a string that corresponds with ASCII characters) that you want AWS WAF to look for. For more information, including how you specify the values for the AWS WAF API and the AWS CLI or SDKs, see `TargetString` in the ByteMatchTuple (p. 514) data type.
- Where to look, such as at the beginning or the end of a query string.
- Whether to perform any conversions on the request, such as converting it to lowercase, before inspecting it for the specified string.

For example, you can add a `ByteMatchSetUpdate` object that matches web requests in which `User-Agent` headers contain the string `BadBot`. You can then configure AWS WAF to block those requests.

To create and configure a `ByteMatchSet`, perform the following steps:

1. Create a `ByteMatchSet`. For more information, see CreateByteMatchSet (p. 217).
2. Use GetChangeToken (p. 301) to get the change token that you provide in the `ChangeToken` parameter of an `UpdateByteMatchSet` request.
3. Submit an `UpdateByteMatchSet` request to specify the part of the request that you want AWS WAF to inspect (for example, the header or the URI) and the value that you want AWS WAF to watch for.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ByteMatchSetId": "string",
   "ChangeToken": "string",
   "Updates": [
      {
         "Action": "string",
         "ByteMatchTuple": {
            "FieldToMatch": {
               "Data": "string",
               "Type": "string"
            },
            "PositionalConstraint": "string",
            "TargetString": blob,
            "TextTransformation": "string"
         }
      }
   ]
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ByteMatchSetId (p. 381)

The `ByteMatchSetId` of the ByteMatchSet (p. 510) that you want to update. `ByteMatchSetId` is returned by CreateByteMatchSet (p. 217) and by ListByteMatchSets (p. 343).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

ChangeToken (p. 381)

The value returned by the most recent call to GetChangeToken (p. 301).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

Updates (p. 381)

An array of `ByteMatchSetUpdate` objects that you want to insert into or delete from a ByteMatchSet (p. 510). For more information, see the applicable data types:

- ByteMatchSetUpdate (p. 513): Contains `Action` and `ByteMatchTuple`
- ByteMatchTuple (p. 514): Contains `FieldToMatch`, `PositionalConstraint`, `TargetString`, and `TextTransformation`
- FieldToMatch (p. 518): Contains `Data` and `Type`

Type: Array of ByteMatchSetUpdate (p. 513) objects

Array Members: Minimum number of 1 item.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 382)

The `ChangeToken` that you used to submit the `UpdateByteMatchSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 303).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFNonexistentContainerException

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a `Rule` to or delete a `Rule` from a `WebACL` that doesn't exist.
- You tried to add a `ByteMatchSet` to or delete a `ByteMatchSet` from a `Rule` that doesn't exist.
- You tried to add an IP address to or delete an IP address from an `IPSet` that doesn't exist.
- You tried to add a `ByteMatchTuple` to or delete a `ByteMatchTuple` from a `ByteMatchSet` that doesn't exist.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

UpdateGeoMatchSet

Service: AWS WAF Regional

Inserts or deletes GeoMatchConstraint (p. 520) objects in an `GeoMatchSet`. For each `GeoMatchConstraint` object, you specify the following values:

- Whether to insert or delete the object from the array. If you want to change an `GeoMatchConstraint` object, you delete the existing object and add a new one.
- The `Type`. The only valid value for `Type` is `Country`.
- The `Value`, which is a two character code for the country to add to the `GeoMatchConstraint` object. Valid codes are listed in GeoMatchConstraint:Value (p. 520).

To create and configure an `GeoMatchSet`, perform the following steps:

1. Submit a CreateGeoMatchSet (p. 220) request.
2. Use GetChangeToken (p. 301) to get the change token that you provide in the `ChangeToken` parameter of an UpdateGeoMatchSet (p. 385) request.
3. Submit an `UpdateGeoMatchSet` request to specify the country that you want AWS WAF to watch for.

When you update an `GeoMatchSet`, you specify the country that you want to add and/or the country that you want to delete. If you want to change a country, you delete the existing country and add the new one.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "GeoMatchSetId": "string",
   "Updates": [
      {
         "Action": "string",
         "GeoMatchConstraint": {
            "Type": "string",
            "Value": "string"
         }
      }
   ]
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 385)

The value returned by the most recent call to GetChangeToken (p. 301).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

GeoMatchSetId (p. 385)

The `GeoMatchSetId` of the GeoMatchSet (p. 521) that you want to update. `GeoMatchSetId` is returned by CreateGeoMatchSet (p. 220) and by ListGeoMatchSets (p. 345).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Updates (p. 385)

An array of `GeoMatchSetUpdate` objects that you want to insert into or delete from an GeoMatchSet (p. 521). For more information, see the applicable data types:

- GeoMatchSetUpdate (p. 523): Contains `Action` and `GeoMatchConstraint`
- GeoMatchConstraint (p. 520): Contains `Type` and `Value`

  You can have only one `Type` and `Value` per `GeoMatchConstraint`. To add multiple countries, include multiple `GeoMatchSetUpdate` objects in your request.

Type: Array of GeoMatchSetUpdate (p. 523) objects

Array Members: Minimum number of 1 item.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 386)

The `ChangeToken` that you used to submit the `UpdateGeoMatchSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 303).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFNonexistentContainerException

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a `Rule` to or delete a `Rule` from a `WebACL` that doesn't exist.
- You tried to add a `ByteMatchSet` to or delete a `ByteMatchSet` from a `Rule` that doesn't exist.
- You tried to add an IP address to or delete an IP address from an `IPSet` that doesn't exist.
- You tried to add a `ByteMatchTuple` to or delete a `ByteMatchTuple` from a `ByteMatchSet` that doesn't exist.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

UpdateIPSet

Service: AWS WAF Regional

Inserts or deletes IPSetDescriptor (p. 529) objects in an `IPSet`. For each `IPSetDescriptor` object, you specify the following values:

- Whether to insert or delete the object from the array. If you want to change an `IPSetDescriptor` object, you delete the existing object and add a new one.
- The IP address version, `IPv4` or `IPv6`.
- The IP address in CIDR notation, for example, `192.0.2.0/24` (for the range of IP addresses from `192.0.2.0` to `192.0.2.255`) or `192.0.2.44/32` (for the individual IP address `192.0.2.44`).

AWS WAF supports IPv4 address ranges: /8 and any range between /16 through /32. AWS WAF supports IPv6 address ranges: /16, /24, /32, /48, /56, /64, and /128. For more information about CIDR notation, see the Wikipedia entry Classless Inter-Domain Routing.

IPv6 addresses can be represented using any of the following formats:

- 1111:0000:0000:0000:0000:0000:0000:0111/128
- 1111:0:0:0:0:0:0:0111/128
- 1111::0111/128
- 1111::111/128

You use an `IPSet` to specify which web requests you want to allow or block based on the IP addresses that the requests originated from. For example, if you're receiving a lot of requests from one or a small number of IP addresses and you want to block the requests, you can create an `IPSet` that specifies those IP addresses, and then configure AWS WAF to block the requests.

To create and configure an `IPSet`, perform the following steps:

1. Submit a CreateIPSet (p. 223) request.
2. Use GetChangeToken (p. 301) to get the change token that you provide in the `ChangeToken` parameter of an UpdateIPSet (p. 389) request.
3. Submit an `UpdateIPSet` request to specify the IP addresses that you want AWS WAF to watch for.

When you update an `IPSet`, you specify the IP addresses that you want to add and/or the IP addresses that you want to delete. If you want to change an IP address, you delete the existing IP address and add the new one.

You can insert a maximum of 1000 addresses in a single request.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "IPSetId": "string",
   "Updates": [
      {
         "Action": "string",
         "IPSetDescriptor": {
            "Type": "string",
```

```
            "Value": "string"
        }
    }
  ]
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 389)

The value returned by the most recent call to GetChangeToken (p. 301).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

IPSetId (p. 389)

The `IPSetId` of the IPSet (p. 527) that you want to update. `IPSetId` is returned by CreateIPSet (p. 223) and by ListIPSets (p. 347).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Updates (p. 389)

An array of `IPSetUpdate` objects that you want to insert into or delete from an IPSet (p. 527). For more information, see the applicable data types:

- IPSetUpdate (p. 531): Contains `Action` and `IPSetDescriptor`
- IPSetDescriptor (p. 529): Contains `Type` and `Value`

You can insert a maximum of 1000 addresses in a single request.

Type: Array of IPSetUpdate (p. 531) objects

Array Members: Minimum number of 1 item.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 390)

The `ChangeToken` that you used to submit the `UpdateIPSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 303).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFNonexistentContainerException

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a `Rule` to or delete a `Rule` from a `WebACL` that doesn't exist.
- You tried to add a `ByteMatchSet` to or delete a `ByteMatchSet` from a `Rule` that doesn't exist.
- You tried to add an IP address to or delete an IP address from an `IPSet` that doesn't exist.
- You tried to add a `ByteMatchTuple` to or delete a `ByteMatchTuple` from a `ByteMatchSet` that doesn't exist.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

UpdateRateBasedRule

Service: AWS WAF Regional

Inserts or deletes Predicate (p. 533) objects in a rule and updates the `RateLimit` in the rule.

Each `Predicate` object identifies a predicate, such as a ByteMatchSet (p. 510) or an IPSet (p. 527), that specifies the web requests that you want to block or count. The `RateLimit` specifies the number of requests every five minutes that triggers the rule.

If you add more than one predicate to a `RateBasedRule`, a request must match all the predicates and exceed the `RateLimit` to be counted or blocked. For example, suppose you add the following to a `RateBasedRule`:

- An `IPSet` that matches the IP address `192.0.2.44/32`
- A `ByteMatchSet` that matches `BadBot` in the `User-Agent` header

Further, you specify a `RateLimit` of 15,000.

You then add the `RateBasedRule` to a `WebACL` and specify that you want to block requests that satisfy the rule. For a request to be blocked, it must come from the IP address 192.0.2.44 *and* the `User-Agent` header in the request must contain the value `BadBot`. Further, requests that match these two conditions much be received at a rate of more than 15,000 every five minutes. If the rate drops below this limit, AWS WAF no longer blocks the requests.

As a second example, suppose you want to limit requests to a particular page on your site. To do this, you could add the following to a `RateBasedRule`:

- A `ByteMatchSet` with `FieldToMatch` of `URI`
- A `PositionalConstraint` of `STARTS_WITH`
- A `TargetString` of `login`

Further, you specify a `RateLimit` of 15,000.

By adding this `RateBasedRule` to a `WebACL`, you could limit requests to your login page without affecting the rest of your site.

Request Syntax

```
{
   "ChangeToken": "string",
   "RateLimit": number,
   "RuleId": "string",
   "Updates": [
      {
         "Action": "string",
         "Predicate": {
            "DataId": "string",
            "Negated": boolean,
            "Type": "string"
         }
      }
   ]
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 393)

The value returned by the most recent call to GetChangeToken (p. 301).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

RateLimit (p. 393)

The maximum number of requests, which have an identical value in the field specified by the `RateKey`, allowed in a five-minute period. If the number of requests exceeds the `RateLimit` and the other predicates specified in the rule are also met, AWS WAF triggers the action that is specified for this rule.

Type: Long

Valid Range: Minimum value of 2000. Maximum value of 2000000000.

Required: Yes

RuleId (p. 393)

The `RuleId` of the `RateBasedRule` that you want to update. `RuleId` is returned by `CreateRateBasedRule` and by ListRateBasedRules (p. 352).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Updates (p. 393)

An array of `RuleUpdate` objects that you want to insert into or delete from a RateBasedRule (p. 535).

Type: Array of RuleUpdate (p. 554) objects

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 394)

The `ChangeToken` that you used to submit the `UpdateRateBasedRule` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 303).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFNonexistentContainerException

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a `Rule` to or delete a `Rule` from a `WebACL` that doesn't exist.
- You tried to add a `ByteMatchSet` to or delete a `ByteMatchSet` from a `Rule` that doesn't exist.
- You tried to add an IP address to or delete an IP address from an `IPSet` that doesn't exist.
- You tried to add a `ByteMatchTuple` to or delete a `ByteMatchTuple` from a `ByteMatchSet` that doesn't exist.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

UpdateRegexMatchSet

Service: AWS WAF Regional

Inserts or deletes RegexMatchTuple (p. 541) objects (filters) in a RegexMatchSet (p. 537). For each `RegexMatchSetUpdate` object, you specify the following values:

- Whether to insert or delete the object from the array. If you want to change a `RegexMatchSetUpdate` object, you delete the existing object and add a new one.
- The part of a web request that you want AWS WAF to inspectupdate, such as a query string or the value of the `User-Agent` header.
- The identifier of the pattern (a regular expression) that you want AWS WAF to look for. For more information, see RegexPatternSet (p. 544).
- Whether to perform any conversions on the request, such as converting it to lowercase, before inspecting it for the specified string.

For example, you can create a `RegexPatternSet` that matches any requests with `User-Agent` headers that contain the string `B[a@]dB[o0]t`. You can then configure AWS WAF to reject those requests.

To create and configure a `RegexMatchSet`, perform the following steps:

1. Create a `RegexMatchSet`. For more information, see CreateRegexMatchSet (p. 231).
2. Use GetChangeToken (p. 301) to get the change token that you provide in the `ChangeToken` parameter of an `UpdateRegexMatchSet` request.
3. Submit an `UpdateRegexMatchSet` request to specify the part of the request that you want AWS WAF to inspect (for example, the header or the URI) and the identifier of the `RegexPatternSet` that contain the regular expression patters you want AWS WAF to watch for.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "RegexMatchSetId": "string",
   "Updates": [
      {
         "Action": "string",
         "RegexMatchTuple": {
            "FieldToMatch": {
               "Data": "string",
               "Type": "string"
            },
            "RegexPatternSetId": "string",
            "TextTransformation": "string"
         }
      }
   ]
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 397)

The value returned by the most recent call to GetChangeToken (p. 301).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

RegexMatchSetId (p. 397)

The `RegexMatchSetId` of the RegexMatchSet (p. 537) that you want to update. `RegexMatchSetId` is returned by CreateRegexMatchSet (p. 231) and by ListRegexMatchSets (p. 354).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Updates (p. 397)

An array of `RegexMatchSetUpdate` objects that you want to insert into or delete from a RegexMatchSet (p. 537). For more information, see RegexMatchTuple (p. 541).

Type: Array of RegexMatchSetUpdate (p. 540) objects

Array Members: Minimum number of 1 item.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 398)

The `ChangeToken` that you used to submit the `UpdateRegexMatchSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 303).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFDisallowedNameException

The name specified is invalid.

HTTP Status Code: 400

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFNonexistentContainerException

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a `Rule` to or delete a `Rule` from a `WebACL` that doesn't exist.
- You tried to add a `ByteMatchSet` to or delete a `ByteMatchSet` from a `Rule` that doesn't exist.
- You tried to add an IP address to or delete an IP address from an `IPSet` that doesn't exist.
- You tried to add a `ByteMatchTuple` to or delete a `ByteMatchTuple` from a `ByteMatchSet` that doesn't exist.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

UpdateRegexPatternSet

Service: AWS WAF Regional

Inserts or deletes `RegexPatternString` objects in a RegexPatternSet (p. 544). For each `RegexPatternString` object, you specify the following values:

- Whether to insert or delete the `RegexPatternString`.
- The regular expression pattern that you want to insert or delete. For more information, see RegexPatternSet (p. 544).

For example, you can create a `RegexPatternString` such as `B[a@]dB[o0]t`. AWS WAF will match this `RegexPatternString` to:

- BadBot
- BadB0t
- B@dBot
- B@dB0t

To create and configure a `RegexPatternSet`, perform the following steps:

1. Create a `RegexPatternSet.` For more information, see CreateRegexPatternSet (p. 234).
2. Use GetChangeToken (p. 301) to get the change token that you provide in the `ChangeToken` parameter of an `UpdateRegexPatternSet` request.
3. Submit an `UpdateRegexPatternSet` request to specify the regular expression pattern that you want AWS WAF to watch for.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "RegexPatternSetId": "string",
   "Updates": [
      {
         "Action": "string",
         "RegexPatternString": "string"
      }
   ]
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 401)

The value returned by the most recent call to GetChangeToken (p. 301).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

RegexPatternSetId (p. 401)

The `RegexPatternSetId` of the RegexPatternSet (p. 544) that you want to update. `RegexPatternSetId` is returned by CreateRegexPatternSet (p. 234) and by ListRegexPatternSets (p. 356).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Updates (p. 401)

An array of `RegexPatternSetUpdate` objects that you want to insert into or delete from a RegexPatternSet (p. 544).

Type: Array of RegexPatternSetUpdate (p. 546) objects

Array Members: Minimum number of 1 item.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 402)

The `ChangeToken` that you used to submit the `UpdateRegexPatternSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 303).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

WAFInvalidRegexPatternException

The regular expression (regex) you specified in `RegexPatternString` is invalid.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFNonexistentContainerException

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a `Rule` to or delete a `Rule` from a `WebACL` that doesn't exist.
- You tried to add a `ByteMatchSet` to or delete a `ByteMatchSet` from a `Rule` that doesn't exist.
- You tried to add an IP address to or delete an IP address from an `IPSet` that doesn't exist.
- You tried to add a `ByteMatchTuple` to or delete a `ByteMatchTuple` from a `ByteMatchSet` that doesn't exist.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

UpdateRule

Service: AWS WAF Regional

Inserts or deletes Predicate (p. 533) objects in a `Rule`. Each `Predicate` object identifies a predicate, such as a ByteMatchSet (p. 510) or an IPSet (p. 527), that specifies the web requests that you want to allow, block, or count. If you add more than one predicate to a `Rule`, a request must match all of the specifications to be allowed, blocked, or counted. For example, suppose you add the following to a `Rule`:

- A `ByteMatchSet` that matches the value `BadBot` in the `User-Agent` header
- An `IPSet` that matches the IP address `192.0.2.44`

You then add the `Rule` to a `WebACL` and specify that you want to block requests that satisfy the `Rule`. For a request to be blocked, the `User-Agent` header in the request must contain the value `BadBot` *and* the request must originate from the IP address 192.0.2.44.

To create and configure a `Rule`, perform the following steps:

1. Create and update the predicates that you want to include in the `Rule`.
2. Create the `Rule`. See CreateRule (p. 237).
3. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an UpdateRule (p. 405) request.
4. Submit an `UpdateRule` request to add predicates to the `Rule`.
5. Create and update a `WebACL` that contains the `Rule`. See CreateWebACL (p. 250).

If you want to replace one `ByteMatchSet` or `IPSet` with another, you delete the existing one and add the new one.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "RuleId": "string",
   "Updates": [
      {
         "Action": "string",
         "Predicate": {
            "DataId": "string",
            "Negated": boolean,
            "Type": "string"
         }
      }
   ]
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 405)

The value returned by the most recent call to GetChangeToken (p. 301).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

RuleId (p. 405)

The `RuleId` of the `Rule` that you want to update. `RuleId` is returned by `CreateRule` and by ListRules (p. 363).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Updates (p. 405)

An array of `RuleUpdate` objects that you want to insert into or delete from a Rule (p. 547). For more information, see the applicable data types:

- RuleUpdate (p. 554): Contains `Action` and `Predicate`
- Predicate (p. 533): Contains `DataId`, `Negated`, and `Type`
- FieldToMatch (p. 518): Contains `Data` and `Type`

Type: Array of RuleUpdate (p. 554) objects

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 406)

The `ChangeToken` that you used to submit the `UpdateRule` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 303).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFNonexistentContainerException

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a `Rule` to or delete a `Rule` from a `WebACL` that doesn't exist.
- You tried to add a `ByteMatchSet` to or delete a `ByteMatchSet` from a `Rule` that doesn't exist.

- You tried to add an IP address to or delete an IP address from an `IPSet` that doesn't exist.
- You tried to add a `ByteMatchTuple` to or delete a `ByteMatchTuple` from a `ByteMatchSet` that doesn't exist.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

UpdateRuleGroup

Service: AWS WAF Regional

Inserts or deletes ActivatedRule (p. 508) objects in a `RuleGroup`.

You can only insert `REGULAR` rules into a rule group.

You can have a maximum of ten rules per rule group.

To create and configure a `RuleGroup`, perform the following steps:

1. Create and update the `Rules` that you want to include in the `RuleGroup`. See CreateRule (p. 237).
2. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an UpdateRuleGroup (p. 409) request.
3. Submit an `UpdateRuleGroup` request to add `Rules` to the `RuleGroup`.
4. Create and update a `WebACL` that contains the `RuleGroup`. See CreateWebACL (p. 250).

If you want to replace one `Rule` with another, you delete the existing one and add the new one.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "RuleGroupId": "string",
   "Updates": [
      {
         "Action": "string",
         "ActivatedRule": {
            "Action": {
               "Type": "string"
            },
            "OverrideAction": {
               "Type": "string"
            },
            "Priority": number,
            "RuleId": "string",
            "Type": "string"
         }
      }
   ]
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 409)

The value returned by the most recent call to GetChangeToken (p. 301).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

RuleGroupId (p. 409)

The `RuleGroupId` of the RuleGroup (p. 549) that you want to update. `RuleGroupId` is returned by CreateRuleGroup (p. 241) and by ListRuleGroups (p. 361).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Updates (p. 409)

An array of `RuleGroupUpdate` objects that you want to insert into or delete from a RuleGroup (p. 549).

You can only insert `REGULAR` rules into a rule group.

`ActivatedRule|OverrideAction` applies only when updating or adding a `RuleGroup` to a `WebACL`. In this case you do not use `ActivatedRule|Action`. For all other update requests, `ActivatedRule|Action` is used instead of `ActivatedRule|OverrideAction`.

Type: Array of RuleGroupUpdate (p. 552) objects

Array Members: Minimum number of 1 item.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 410)

The `ChangeToken` that you used to submit the `UpdateRuleGroup` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 303).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFNonexistentContainerException

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a `Rule` to or delete a `Rule` from a `WebACL` that doesn't exist.
- You tried to add a `ByteMatchSet` to or delete a `ByteMatchSet` from a `Rule` that doesn't exist.
- You tried to add an IP address to or delete an IP address from an `IPSet` that doesn't exist.
- You tried to add a `ByteMatchTuple` to or delete a `ByteMatchTuple` from a `ByteMatchSet` that doesn't exist.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

UpdateSizeConstraintSet

Service: AWS WAF Regional

Inserts or deletes SizeConstraint (p. 557) objects (filters) in a SizeConstraintSet (p. 560). For each `SizeConstraint` object, you specify the following values:

- Whether to insert or delete the object from the array. If you want to change a `SizeConstraintSetUpdate` object, you delete the existing object and add a new one.
- The part of a web request that you want AWS WAF to evaluate, such as the length of a query string or the length of the `User-Agent` header.
- Whether to perform any transformations on the request, such as converting it to lowercase, before checking its length. Note that transformations of the request body are not supported because the AWS resource forwards only the first `8192` bytes of your request to AWS WAF.

  You can only specify a single type of TextTransformation.
- A `ComparisonOperator` used for evaluating the selected part of the request against the specified `Size`, such as equals, greater than, less than, and so on.
- The length, in bytes, that you want AWS WAF to watch for in selected part of the request. The length is computed after applying the transformation.

For example, you can add a `SizeConstraintSetUpdate` object that matches web requests in which the length of the `User-Agent` header is greater than 100 bytes. You can then configure AWS WAF to block those requests.

To create and configure a `SizeConstraintSet`, perform the following steps:

1. Create a `SizeConstraintSet.` For more information, see CreateSizeConstraintSet (p. 244).
2. Use GetChangeToken (p. 301) to get the change token that you provide in the `ChangeToken` parameter of an `UpdateSizeConstraintSet` request.
3. Submit an `UpdateSizeConstraintSet` request to specify the part of the request that you want AWS WAF to inspect (for example, the header or the URI) and the value that you want AWS WAF to watch for.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "SizeConstraintSetId": "string",
   "Updates": [
      {
         "Action": "string",
         "SizeConstraint": {
            "ComparisonOperator": "string",
            "FieldToMatch": {
               "Data": "string",
               "Type": "string"
            },
            "Size": number,
            "TextTransformation": "string"
         }
      }
   ]
```

```
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 413)

The value returned by the most recent call to GetChangeToken (p. 301).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

SizeConstraintSetId (p. 413)

The `SizeConstraintSetId` of the SizeConstraintSet (p. 560) that you want to update. `SizeConstraintSetId` is returned by CreateSizeConstraintSet (p. 244) and by ListSizeConstraintSets (p. 365).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Updates (p. 413)

An array of `SizeConstraintSetUpdate` objects that you want to insert into or delete from a SizeConstraintSet (p. 560). For more information, see the applicable data types:

- SizeConstraintSetUpdate (p. 562): Contains `Action` and `SizeConstraint`
- SizeConstraint (p. 557): Contains `FieldToMatch`, `TextTransformation`, `ComparisonOperator`, and `Size`
- FieldToMatch (p. 518): Contains `Data` and `Type`

Type: Array of SizeConstraintSetUpdate (p. 562) objects

Array Members: Minimum number of 1 item.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 414)

The `ChangeToken` that you used to submit the `UpdateSizeConstraintSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 303).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFNonexistentContainerException

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a `Rule` to or delete a `Rule` from a `WebACL` that doesn't exist.
- You tried to add a `ByteMatchSet` to or delete a `ByteMatchSet` from a `Rule` that doesn't exist.
- You tried to add an IP address to or delete an IP address from an `IPSet` that doesn't exist.
- You tried to add a `ByteMatchTuple` to or delete a `ByteMatchTuple` from a `ByteMatchSet` that doesn't exist.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

UpdateSqlInjectionMatchSet

Service: AWS WAF Regional

Inserts or deletes SqlInjectionMatchTuple (p. 566) objects (filters) in a SqlInjectionMatchSet (p. 563). For each `SqlInjectionMatchTuple` object, you specify the following values:

- `Action`: Whether to insert the object into or delete the object from the array. To change a `SqlInjectionMatchTuple`, you delete the existing object and add a new one.
- `FieldToMatch`: The part of web requests that you want AWS WAF to inspect and, if you want AWS WAF to inspect a header or custom query parameter, the name of the header or parameter.
- `TextTransformation`: Which text transformation, if any, to perform on the web request before inspecting the request for snippets of malicious SQL code.

  You can only specify a single type of TextTransformation.

You use `SqlInjectionMatchSet` objects to specify which CloudFront requests you want to allow, block, or count. For example, if you're receiving requests that contain snippets of SQL code in the query string and you want to block the requests, you can create a `SqlInjectionMatchSet` with the applicable settings, and then configure AWS WAF to block the requests.

To create and configure a `SqlInjectionMatchSet`, perform the following steps:

1. Submit a CreateSqlInjectionMatchSet (p. 247) request.
2. Use GetChangeToken (p. 301) to get the change token that you provide in the `ChangeToken` parameter of an UpdateIPSet (p. 389) request.
3. Submit an `UpdateSqlInjectionMatchSet` request to specify the parts of web requests that you want AWS WAF to inspect for snippets of SQL code.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "SqlInjectionMatchSetId": "string",
   "Updates": [
      {
         "Action": "string",
         "SqlInjectionMatchTuple": {
            "FieldToMatch": {
               "Data": "string",
               "Type": "string"
            },
            "TextTransformation": "string"
         }
      }
   ]
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 417)

The value returned by the most recent call to GetChangeToken (p. 301).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

SqlInjectionMatchSetId (p. 417)

The `SqlInjectionMatchSetId` of the `SqlInjectionMatchSet` that you want to update. `SqlInjectionMatchSetId` is returned by CreateSqlInjectionMatchSet (p. 247) and by ListSqlInjectionMatchSets (p. 367).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Updates (p. 417)

An array of `SqlInjectionMatchSetUpdate` objects that you want to insert into or delete from a SqlInjectionMatchSet (p. 563). For more information, see the applicable data types:

- SqlInjectionMatchSetUpdate (p. 565): Contains `Action` and `SqlInjectionMatchTuple`
- SqlInjectionMatchTuple (p. 566): Contains `FieldToMatch` and `TextTransformation`
- FieldToMatch (p. 518): Contains `Data` and `Type`

Type: Array of SqlInjectionMatchSetUpdate (p. 565) objects

Array Members: Minimum number of 1 item.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 418)

The `ChangeToken` that you used to submit the `UpdateSqlInjectionMatchSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 303).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFNonexistentContainerException

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a `Rule` to or delete a `Rule` from a `WebACL` that doesn't exist.
- You tried to add a `ByteMatchSet` to or delete a `ByteMatchSet` from a `Rule` that doesn't exist.
- You tried to add an IP address to or delete an IP address from an `IPSet` that doesn't exist.
- You tried to add a `ByteMatchTuple` to or delete a `ByteMatchTuple` from a `ByteMatchSet` that doesn't exist.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

UpdateWebACL

Service: AWS WAF Regional

Inserts or deletes ActivatedRule (p. 508) objects in a `WebACL`. Each `Rule` identifies web requests that you want to allow, block, or count. When you update a `WebACL`, you specify the following values:

- A default action for the `WebACL`, either `ALLOW` or `BLOCK`. AWS WAF performs the default action if a request doesn't match the criteria in any of the `Rules` in a `WebACL`.
- The `Rules` that you want to add and/or delete. If you want to replace one `Rule` with another, you delete the existing `Rule` and add the new one.
- For each `Rule`, whether you want AWS WAF to allow requests, block requests, or count requests that match the conditions in the `Rule`.
- The order in which you want AWS WAF to evaluate the `Rules` in a `WebACL`. If you add more than one `Rule` to a `WebACL`, AWS WAF evaluates each request against the `Rules` in order based on the value of `Priority`. (The `Rule` that has the lowest value for `Priority` is evaluated first.) When a web request matches all of the predicates (such as `ByteMatchSets` and `IPSets`) in a `Rule`, AWS WAF immediately takes the corresponding action, allow or block, and doesn't evaluate the request against the remaining `Rules` in the `WebACL`, if any.

To create and configure a `WebACL`, perform the following steps:

1. Create and update the predicates that you want to include in `Rules`. For more information, see CreateByteMatchSet (p. 217), UpdateByteMatchSet (p. 381), CreateIPSet (p. 223), UpdateIPSet (p. 389), CreateSqlInjectionMatchSet (p. 247), and UpdateSqlInjectionMatchSet (p. 417).
2. Create and update the `Rules` that you want to include in the `WebACL`. For more information, see CreateRule (p. 237) and UpdateRule (p. 405).
3. Create a `WebACL`. See CreateWebACL (p. 250).
4. Use `GetChangeToken` to get the change token that you provide in the `ChangeToken` parameter of an UpdateWebACL (p. 421) request.
5. Submit an `UpdateWebACL` request to specify the `Rules` that you want to include in the `WebACL`, to specify the default action, and to associate the `WebACL` with a CloudFront distribution.

Be aware that if you try to add a RATE_BASED rule to a web ACL without setting the rule type when first creating the rule, the UpdateWebACL (p. 421) request will fail because the request tries to add a REGULAR rule (the default rule type) with the specified ID, which does not exist.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "DefaultAction": {
      "Type": "string"
   },
   "Updates": [
      {
         "Action": "string",
         "ActivatedRule": {
            "Action": {
               "Type": "string"
            },
            "OverrideAction": {
               "Type": "string"
```

```
            },
            "Priority": number,
            "RuleId": "string",
            "Type": "string"
        }
    }
  ],
  "WebACLId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 421)

The value returned by the most recent call to GetChangeToken (p. 301).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

DefaultAction (p. 421)

A default action for the web ACL, either ALLOW or BLOCK. AWS WAF performs the default action if a request doesn't match the criteria in any of the rules in a web ACL.

Type: WafAction (p. 570) object

Required: No

Updates (p. 421)

An array of updates to make to the WebACL (p. 572).

An array of `WebACLUpdate` objects that you want to insert into or delete from a WebACL (p. 572). For more information, see the applicable data types:

- WebACLUpdate (p. 575): Contains `Action` and `ActivatedRule`
- ActivatedRule (p. 508): Contains `Action`, `OverrideAction`, `Priority`, `RuleId`, and `Type`. `ActivatedRule|OverrideAction` applies only when updating or adding a `RuleGroup` to a `WebACL`. In this case you do not use `ActivatedRule|Action`. For all other update requests, `ActivatedRule|Action` is used instead of `ActivatedRule|OverrideAction`.
- WafAction (p. 570): Contains `Type`

Type: Array of WebACLUpdate (p. 575) objects

Required: No

WebACLId (p. 421)

The `WebACLId` of the WebACL (p. 572) that you want to update. `WebACLId` is returned by CreateWebACL (p. 250) and by ListWebACLs (p. 371).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 423)

The `ChangeToken` that you used to submit the `UpdateWebACL` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 303).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFNonexistentContainerException

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a `Rule` to or delete a `Rule` from a `WebACL` that doesn't exist.
- You tried to add a `ByteMatchSet` to or delete a `ByteMatchSet` from a `Rule` that doesn't exist.
- You tried to add an IP address to or delete an IP address from an `IPSet` that doesn't exist.
- You tried to add a `ByteMatchTuple` to or delete a `ByteMatchTuple` from a `ByteMatchSet` that doesn't exist.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFReferencedItemException

The operation failed because you tried to delete an object that is still in use. For example:

- You tried to delete a `ByteMatchSet` that is still referenced by a `Rule`.
- You tried to delete a `Rule` that is still referenced by a `WebACL`.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

WAFSubscriptionNotFoundException

The specified subscription does not exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

UpdateXssMatchSet

Service: AWS WAF Regional

Inserts or deletes XssMatchTuple (p. 579) objects (filters) in an XssMatchSet (p. 576). For each `XssMatchTuple` object, you specify the following values:

- `Action`: Whether to insert the object into or delete the object from the array. To change a `XssMatchTuple`, you delete the existing object and add a new one.
- `FieldToMatch`: The part of web requests that you want AWS WAF to inspect and, if you want AWS WAF to inspect a header or custom query parameter, the name of the header or parameter.
- `TextTransformation`: Which text transformation, if any, to perform on the web request before inspecting the request for cross-site scripting attacks.

  You can only specify a single type of TextTransformation.

You use `XssMatchSet` objects to specify which CloudFront requests you want to allow, block, or count. For example, if you're receiving requests that contain cross-site scripting attacks in the request body and you want to block the requests, you can create an `XssMatchSet` with the applicable settings, and then configure AWS WAF to block the requests.

To create and configure an `XssMatchSet`, perform the following steps:

1. Submit a CreateXssMatchSet (p. 254) request.
2. Use GetChangeToken (p. 301) to get the change token that you provide in the `ChangeToken` parameter of an UpdateIPSet (p. 389) request.
3. Submit an `UpdateXssMatchSet` request to specify the parts of web requests that you want AWS WAF to inspect for cross-site scripting attacks.

For more information about how to use the AWS WAF API to allow or block HTTP requests, see the AWS WAF Developer Guide.

Request Syntax

```
{
   "ChangeToken": "string",
   "Updates": [
      {
         "Action": "string",
         "XssMatchTuple": {
            "FieldToMatch": {
               "Data": "string",
               "Type": "string"
            },
            "TextTransformation": "string"
         }
      }
   ],
   "XssMatchSetId": "string"
}
```

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 581).

The request accepts the following data in JSON format.

ChangeToken (p. 426)

The value returned by the most recent call to GetChangeToken (p. 301).

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

Updates (p. 426)

An array of `XssMatchSetUpdate` objects that you want to insert into or delete from a XssMatchSet (p. 576). For more information, see the applicable data types:

- XssMatchSetUpdate (p. 578): Contains `Action` and `XssMatchTuple`
- XssMatchTuple (p. 579): Contains `FieldToMatch` and `TextTransformation`
- FieldToMatch (p. 518): Contains `Data` and `Type`

Type: Array of XssMatchSetUpdate (p. 578) objects

Array Members: Minimum number of 1 item.

Required: Yes

XssMatchSetId (p. 426)

The `XssMatchSetId` of the `XssMatchSet` that you want to update. `XssMatchSetId` is returned by CreateXssMatchSet (p. 254) and by ListXssMatchSets (p. 373).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Response Syntax

```
{
   "ChangeToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ChangeToken (p. 427)

The `ChangeToken` that you used to submit the `UpdateXssMatchSet` request. You can also use this value to query the status of the request. For more information, see GetChangeTokenStatus (p. 303).

Type: String

Length Constraints: Minimum length of 1.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 583).

WAFInternalErrorException

The operation failed because of a system problem, even though the request was valid. Retry your request.

HTTP Status Code: 500

WAFInvalidAccountException

The operation failed because you tried to create, update, or delete an object by using an invalid account identifier.

HTTP Status Code: 400

WAFInvalidOperationException

The operation failed because there was nothing to do. For example:

- You tried to remove a `Rule` from a `WebACL`, but the `Rule` isn't in the specified `WebACL`.
- You tried to remove an IP address from an `IPSet`, but the IP address isn't in the specified `IPSet`.
- You tried to remove a `ByteMatchTuple` from a `ByteMatchSet`, but the `ByteMatchTuple` isn't in the specified `WebACL`.
- You tried to add a `Rule` to a `WebACL`, but the `Rule` already exists in the specified `WebACL`.
- You tried to add a `ByteMatchTuple` to a `ByteMatchSet`, but the `ByteMatchTuple` already exists in the specified `WebACL`.

HTTP Status Code: 400

WAFInvalidParameterException

The operation failed because AWS WAF didn't recognize a parameter in the request. For example:

- You specified an invalid parameter name.
- You specified an invalid value.
- You tried to update an object (`ByteMatchSet`, `IPSet`, `Rule`, or `WebACL`) using an action other than `INSERT` or `DELETE`.
- You tried to create a `WebACL` with a `DefaultAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to create a `RateBasedRule` with a `RateKey` value other than `IP`.
- You tried to update a `WebACL` with a `WafAction` `Type` other than `ALLOW`, `BLOCK`, or `COUNT`.
- You tried to update a `ByteMatchSet` with a `FieldToMatch` `Type` other than HEADER, METHOD, QUERY_STRING, URI, or BODY.
- You tried to update a `ByteMatchSet` with a `Field` of `HEADER` but no value for `Data`.
- Your request references an ARN that is malformed, or corresponds to a resource with which a web ACL cannot be associated.

HTTP Status Code: 400

WAFLimitsExceededException

The operation exceeds a resource limit, for example, the maximum number of `WebACL` objects that you can create for an AWS account. For more information, see Limits in the *AWS WAF Developer Guide*.

HTTP Status Code: 400

WAFNonexistentContainerException

The operation failed because you tried to add an object to or delete an object from another object that doesn't exist. For example:

- You tried to add a `Rule` to or delete a `Rule` from a `WebACL` that doesn't exist.
- You tried to add a `ByteMatchSet` to or delete a `ByteMatchSet` from a `Rule` that doesn't exist.

- You tried to add an IP address to or delete an IP address from an `IPSet` that doesn't exist.
- You tried to add a `ByteMatchTuple` to or delete a `ByteMatchTuple` from a `ByteMatchSet` that doesn't exist.

HTTP Status Code: 400

WAFNonexistentItemException

The operation failed because the referenced object doesn't exist.

HTTP Status Code: 400

WAFStaleDataException

The operation failed because you tried to create, update, or delete an object by using a change token that has already been used.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

Data Types

The following data types are supported by AWS WAF:

- ActivatedRule (p. 434)
- ByteMatchSet (p. 436)
- ByteMatchSetSummary (p. 438)
- ByteMatchSetUpdate (p. 439)
- ByteMatchTuple (p. 440)
- FieldToMatch (p. 444)
- GeoMatchConstraint (p. 446)
- GeoMatchSet (p. 447)
- GeoMatchSetSummary (p. 448)
- GeoMatchSetUpdate (p. 449)
- HTTPHeader (p. 450)
- HTTPRequest (p. 451)
- IPSet (p. 453)
- IPSetDescriptor (p. 455)
- IPSetSummary (p. 456)
- IPSetUpdate (p. 457)
- LoggingConfiguration (p. 458)
- Predicate (p. 459)
- RateBasedRule (p. 461)
- RegexMatchSet (p. 463)
- RegexMatchSetSummary (p. 465)
- RegexMatchSetUpdate (p. 466)
- RegexMatchTuple (p. 467)
- RegexPatternSet (p. 470)
- RegexPatternSetSummary (p. 471)
- RegexPatternSetUpdate (p. 472)
- Rule (p. 473)
- RuleGroup (p. 475)
- RuleGroupSummary (p. 477)
- RuleGroupUpdate (p. 478)
- RuleSummary (p. 479)
- RuleUpdate (p. 480)
- SampledHTTPRequest (p. 481)
- SizeConstraint (p. 483)
- SizeConstraintSet (p. 486)
- SizeConstraintSetSummary (p. 487)
- SizeConstraintSetUpdate (p. 488)
- SqlInjectionMatchSet (p. 489)
- SqlInjectionMatchSetSummary (p. 490)
- SqlInjectionMatchSetUpdate (p. 491)

- SqlInjectionMatchTuple (p. 492)
- SubscribedRuleGroupSummary (p. 494)
- TimeWindow (p. 495)
- WafAction (p. 496)
- WafOverrideAction (p. 497)
- WebACL (p. 498)
- WebACLSummary (p. 500)
- WebACLUpdate (p. 501)
- XssMatchSet (p. 502)
- XssMatchSetSummary (p. 503)
- XssMatchSetUpdate (p. 504)
- XssMatchTuple (p. 505)

The following data types are supported by AWS WAF Regional:

- ActivatedRule (p. 508)
- ByteMatchSet (p. 510)
- ByteMatchSetSummary (p. 512)
- ByteMatchSetUpdate (p. 513)
- ByteMatchTuple (p. 514)
- FieldToMatch (p. 518)
- GeoMatchConstraint (p. 520)
- GeoMatchSet (p. 521)
- GeoMatchSetSummary (p. 522)
- GeoMatchSetUpdate (p. 523)
- HTTPHeader (p. 524)
- HTTPRequest (p. 525)
- IPSet (p. 527)
- IPSetDescriptor (p. 529)
- IPSetSummary (p. 530)
- IPSetUpdate (p. 531)
- LoggingConfiguration (p. 532)
- Predicate (p. 533)
- RateBasedRule (p. 535)
- RegexMatchSet (p. 537)
- RegexMatchSetSummary (p. 539)
- RegexMatchSetUpdate (p. 540)
- RegexMatchTuple (p. 541)
- RegexPatternSet (p. 544)
- RegexPatternSetSummary (p. 545)
- RegexPatternSetUpdate (p. 546)
- Rule (p. 547)
- RuleGroup (p. 549)
- RuleGroupSummary (p. 551)
- RuleGroupUpdate (p. 552)
- RuleSummary (p. 553)

- RuleUpdate (p. 554)
- SampledHTTPRequest (p. 555)
- SizeConstraint (p. 557)
- SizeConstraintSet (p. 560)
- SizeConstraintSetSummary (p. 561)
- SizeConstraintSetUpdate (p. 562)
- SqlInjectionMatchSet (p. 563)
- SqlInjectionMatchSetSummary (p. 564)
- SqlInjectionMatchSetUpdate (p. 565)
- SqlInjectionMatchTuple (p. 566)
- SubscribedRuleGroupSummary (p. 568)
- TimeWindow (p. 569)
- WafAction (p. 570)
- WafOverrideAction (p. 571)
- WebACL (p. 572)
- WebACLSummary (p. 574)
- WebACLUpdate (p. 575)
- XssMatchSet (p. 576)
- XssMatchSetSummary (p. 577)
- XssMatchSetUpdate (p. 578)
- XssMatchTuple (p. 579)

AWS WAF

The following data types are supported by AWS WAF:

- ActivatedRule (p. 434)
- ByteMatchSet (p. 436)
- ByteMatchSetSummary (p. 438)
- ByteMatchSetUpdate (p. 439)
- ByteMatchTuple (p. 440)
- FieldToMatch (p. 444)
- GeoMatchConstraint (p. 446)
- GeoMatchSet (p. 447)
- GeoMatchSetSummary (p. 448)
- GeoMatchSetUpdate (p. 449)
- HTTPHeader (p. 450)
- HTTPRequest (p. 451)
- IPSet (p. 453)
- IPSetDescriptor (p. 455)
- IPSetSummary (p. 456)
- IPSetUpdate (p. 457)
- LoggingConfiguration (p. 458)
- Predicate (p. 459)
- RateBasedRule (p. 461)

- RegexMatchSet (p. 463)
- RegexMatchSetSummary (p. 465)
- RegexMatchSetUpdate (p. 466)
- RegexMatchTuple (p. 467)
- RegexPatternSet (p. 470)
- RegexPatternSetSummary (p. 471)
- RegexPatternSetUpdate (p. 472)
- Rule (p. 473)
- RuleGroup (p. 475)
- RuleGroupSummary (p. 477)
- RuleGroupUpdate (p. 478)
- RuleSummary (p. 479)
- RuleUpdate (p. 480)
- SampledHTTPRequest (p. 481)
- SizeConstraint (p. 483)
- SizeConstraintSet (p. 486)
- SizeConstraintSetSummary (p. 487)
- SizeConstraintSetUpdate (p. 488)
- SqlInjectionMatchSet (p. 489)
- SqlInjectionMatchSetSummary (p. 490)
- SqlInjectionMatchSetUpdate (p. 491)
- SqlInjectionMatchTuple (p. 492)
- SubscribedRuleGroupSummary (p. 494)
- TimeWindow (p. 495)
- WafAction (p. 496)
- WafOverrideAction (p. 497)
- WebACL (p. 498)
- WebACLSummary (p. 500)
- WebACLUpdate (p. 501)
- XssMatchSet (p. 502)
- XssMatchSetSummary (p. 503)
- XssMatchSetUpdate (p. 504)
- XssMatchTuple (p. 505)

ActivatedRule

Service: AWS WAF

The `ActivatedRule` object in an UpdateWebACL (p. 204) request specifies a `Rule` that you want to insert or delete, the priority of the `Rule` in the `WebACL`, and the action that you want AWS WAF to take when a web request matches the `Rule` (`ALLOW`, `BLOCK`, or `COUNT`).

To specify whether to insert or delete a `Rule`, use the `Action` parameter in the WebACLUpdate (p. 501) data type.

Contents

Action

Specifies the action that CloudFront or AWS WAF takes when a web request matches the conditions in the `Rule`. Valid values for `Action` include the following:

- `ALLOW`: CloudFront responds with the requested object.
- `BLOCK`: CloudFront responds with an HTTP 403 (Forbidden) status code.
- `COUNT`: AWS WAF increments a counter of requests that match the conditions in the rule and then continues to inspect the web request based on the remaining rules in the web ACL.

`ActivatedRule|OverrideAction` applies only when updating or adding a `RuleGroup` to a `WebACL`. In this case you do not use `ActivatedRule|Action`. For all other update requests, `ActivatedRule|Action` is used instead of `ActivatedRule|OverrideAction`.

Type: WafAction (p. 496) object

Required: No

OverrideAction

Use the `OverrideAction` to test your `RuleGroup`.

Any rule in a `RuleGroup` can potentially block a request. If you set the `OverrideAction` to `None`, the `RuleGroup` will block a request if any individual rule in the `RuleGroup` matches the request and is configured to block that request. However if you first want to test the `RuleGroup`, set the `OverrideAction` to `Count`. The `RuleGroup` will then override any block action specified by individual rules contained within the group. Instead of blocking matching requests, those requests will be counted. You can view a record of counted requests using GetSampledRequests (p. 115).

`ActivatedRule|OverrideAction` applies only when updating or adding a `RuleGroup` to a `WebACL`. In this case you do not use `ActivatedRule|Action`. For all other update requests, `ActivatedRule|Action` is used instead of `ActivatedRule|OverrideAction`.

Type: WafOverrideAction (p. 497) object

Required: No

Priority

Specifies the order in which the `Rules` in a `WebACL` are evaluated. Rules with a lower value for `Priority` are evaluated before `Rules` with a higher value. The value must be a unique integer. If you add multiple `Rules` to a `WebACL`, the values don't need to be consecutive.

Type: Integer

Required: Yes

RuleId

The `RuleId` for a `Rule`. You use `RuleId` to get more information about a `Rule` (see GetRule (p. 111)), update a `Rule` (see UpdateRule (p. 188)), insert a `Rule` into a `WebACL` or delete a one from a `WebACL` (see UpdateWebACL (p. 204)), or delete a `Rule` from AWS WAF (see DeleteRule (p. 70)).

`RuleId` is returned by CreateRule (p. 28) and by ListRules (p. 146).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Type

The rule type, either `REGULAR`, as defined by Rule (p. 473), `RATE_BASED`, as defined by RateBasedRule (p. 461), or `GROUP`, as defined by RuleGroup (p. 475). The default is REGULAR. Although this field is optional, be aware that if you try to add a RATE_BASED rule to a web ACL without setting the type, the UpdateWebACL (p. 204) request will fail because the request tries to add a REGULAR rule with the specified ID, which does not exist.

Type: String

Valid Values: `REGULAR` | `RATE_BASED` | `GROUP`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ByteMatchSet

Service: AWS WAF

In a GetByteMatchSet (p. 88) request, `ByteMatchSet` is a complex type that contains the `ByteMatchSetId` and `Name` of a `ByteMatchSet`, and the values that you specified when you updated the `ByteMatchSet`.

A complex type that contains `ByteMatchTuple` objects, which specify the parts of web requests that you want AWS WAF to inspect and the values that you want AWS WAF to search for. If a `ByteMatchSet` contains more than one `ByteMatchTuple` object, a request needs to match the settings in only one `ByteMatchTuple` to be considered a match.

Contents

ByteMatchSetId

The `ByteMatchSetId` for a `ByteMatchSet`. You use `ByteMatchSetId` to get information about a `ByteMatchSet` (see GetByteMatchSet (p. 88)), update a `ByteMatchSet` (see UpdateByteMatchSet (p. 164)), insert a `ByteMatchSet` into a `Rule` or delete one from a `Rule` (see UpdateRule (p. 188)), and delete a `ByteMatchSet` from AWS WAF (see DeleteByteMatchSet (p. 48)).

`ByteMatchSetId` is returned by CreateByteMatchSet (p. 8) and by ListByteMatchSets (p. 129).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

ByteMatchTuples

Specifies the bytes (typically a string that corresponds with ASCII characters) that you want AWS WAF to search for in web requests, the location in requests that you want AWS WAF to search, and other settings.

Type: Array of ByteMatchTuple (p. 440) objects

Required: Yes

Name

A friendly name or description of the ByteMatchSet (p. 436). You can't change `Name` after you create a `ByteMatchSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ByteMatchSetSummary

Service: AWS WAF

Returned by ListByteMatchSets (p. 129). Each `ByteMatchSetSummary` object includes the `Name` and `ByteMatchSetId` for one ByteMatchSet (p. 436).

Contents

ByteMatchSetId

The `ByteMatchSetId` for a `ByteMatchSet`. You use `ByteMatchSetId` to get information about a `ByteMatchSet`, update a `ByteMatchSet`, remove a `ByteMatchSet` from a `Rule`, and delete a `ByteMatchSet` from AWS WAF.

`ByteMatchSetId` is returned by CreateByteMatchSet (p. 8) and by ListByteMatchSets (p. 129).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Name

A friendly name or description of the ByteMatchSet (p. 436). You can't change `Name` after you create a `ByteMatchSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ByteMatchSetUpdate

Service: AWS WAF

In an UpdateByteMatchSet (p. 164) request, `ByteMatchSetUpdate` specifies whether to insert or delete a ByteMatchTuple (p. 440) and includes the settings for the `ByteMatchTuple`.

Contents

Action

Specifies whether to insert or delete a ByteMatchTuple (p. 440).

Type: String

Valid Values: `INSERT | DELETE`

Required: Yes

ByteMatchTuple

Information about the part of a web request that you want AWS WAF to inspect and the value that you want AWS WAF to search for. If you specify `DELETE` for the value of `Action`, the `ByteMatchTuple` values must exactly match the values in the `ByteMatchTuple` that you want to delete from the `ByteMatchSet`.

Type: ByteMatchTuple (p. 440) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ByteMatchTuple

Service: AWS WAF

The bytes (typically a string that corresponds with ASCII characters) that you want AWS WAF to search for in web requests, the location in requests that you want AWS WAF to search, and other settings.

Contents

FieldToMatch

The part of a web request that you want AWS WAF to search, such as a specified header or a query string. For more information, see FieldToMatch (p. 444).

Type: FieldToMatch (p. 444) object

Required: Yes

PositionalConstraint

Within the portion of a web request that you want to search (for example, in the query string, if any), specify where you want AWS WAF to search. Valid values include the following:

CONTAINS

The specified part of the web request must include the value of `TargetString`, but the location doesn't matter.

CONTAINS_WORD

The specified part of the web request must include the value of `TargetString`, and `TargetString` must contain only alphanumeric characters or underscore (A-Z, a-z, 0-9, or _). In addition, `TargetString` must be a word, which means one of the following:

- `TargetString` exactly matches the value of the specified part of the web request, such as the value of a header.
- `TargetString` is at the beginning of the specified part of the web request and is followed by a character other than an alphanumeric character or underscore (_), for example, `BadBot;`.
- `TargetString` is at the end of the specified part of the web request and is preceded by a character other than an alphanumeric character or underscore (_), for example, `;BadBot`.
- `TargetString` is in the middle of the specified part of the web request and is preceded and followed by characters other than alphanumeric characters or underscore (_), for example, `–BadBot;`.

EXACTLY

The value of the specified part of the web request must exactly match the value of `TargetString`.

STARTS_WITH

The value of `TargetString` must appear at the beginning of the specified part of the web request.

ENDS_WITH

The value of `TargetString` must appear at the end of the specified part of the web request.

Type: String

Valid Values: `EXACTLY` | `STARTS_WITH` | `ENDS_WITH` | `CONTAINS` | `CONTAINS_WORD`

Required: Yes

TargetString

The value that you want AWS WAF to search for. AWS WAF searches for the specified string in the part of web requests that you specified in `FieldToMatch`. The maximum length of the value is 50 bytes.

Valid values depend on the values that you specified for `FieldToMatch`:

- `HEADER`: The value that you want AWS WAF to search for in the request header that you specified in FieldToMatch (p. 444), for example, the value of the `User-Agent` or `Referer` header.
- `METHOD`: The HTTP method, which indicates the type of operation specified in the request. CloudFront supports the following methods: `DELETE`, `GET`, `HEAD`, `OPTIONS`, `PATCH`, `POST`, and `PUT`.
- `QUERY_STRING`: The value that you want AWS WAF to search for in the query string, which is the part of a URL that appears after a `?` character.
- `URI`: The value that you want AWS WAF to search for in the part of a URL that identifies a resource, for example, `/images/daily-ad.jpg`.
- `BODY`: The part of a request that contains any additional data that you want to send to your web server as the HTTP request body, such as data from a form. The request body immediately follows the request headers. Note that only the first `8192` bytes of the request body are forwarded to AWS WAF for inspection. To allow or block requests based on the length of the body, you can create a size constraint set. For more information, see CreateSizeConstraintSet (p. 35).
- `SINGLE_QUERY_ARG`: The parameter in the query string that you will inspect, such as *UserName* or *SalesRegion*. The maximum length for `SINGLE_QUERY_ARG` is 30 characters.
- `ALL_QUERY_ARGS`: Similar to `SINGLE_QUERY_ARG`, but instead of inspecting a single parameter, AWS WAF inspects all parameters within the query string for the value or regex pattern that you specify in `TargetString`.

If `TargetString` includes alphabetic characters A-Z and a-z, note that the value is case sensitive.

If you're using the AWS WAF API

Specify a base64-encoded version of the value. The maximum length of the value before you base64-encode it is 50 bytes.

For example, suppose the value of `Type` is `HEADER` and the value of `Data` is `User-Agent`. If you want to search the `User-Agent` header for the value `BadBot`, you base64-encode `BadBot` using MIME base64 encoding and include the resulting value, `QmFkQm90`, in the value of `TargetString`.

If you're using the AWS CLI or one of the AWS SDKs

The value that you want AWS WAF to search for. The SDK automatically base64 encodes the value.

Type: Base64-encoded binary data object

Required: Yes

TextTransformation

Text transformations eliminate some of the unusual formatting that attackers use in web requests in an effort to bypass AWS WAF. If you specify a transformation, AWS WAF performs the transformation on `TargetString` before inspecting a request for a match.

You can only specify a single type of TextTransformation.

CMD_LINE

When you're concerned that attackers are injecting an operating system command line command and using unusual formatting to disguise some or all of the command, use this option to perform the following transformations:

- Delete the following characters: \ " ' ^
- Delete spaces before the following characters: / (
- Replace the following characters with a space: , ;
- Replace multiple spaces with one space
- Convert uppercase letters (A-Z) to lowercase (a-z)

COMPRESS_WHITE_SPACE

Use this option to replace the following characters with a space character (decimal 32):

- \f, formfeed, decimal 12
- \t, tab, decimal 9
- \n, newline, decimal 10
- \r, carriage return, decimal 13
- \v, vertical tab, decimal 11
- non-breaking space, decimal 160

`COMPRESS_WHITE_SPACE` also replaces multiple spaces with one space.

HTML_ENTITY_DECODE

Use this option to replace HTML-encoded characters with unencoded characters. `HTML_ENTITY_DECODE` performs the following operations:

- Replaces `(ampersand)quot;` with `"`
- Replaces `(ampersand)nbsp;` with a non-breaking space, decimal 160
- Replaces `(ampersand)lt;` with a "less than" symbol
- Replaces `(ampersand)gt;` with >
- Replaces characters that are represented in hexadecimal format, `(ampersand)#xhhhh;`, with the corresponding characters
- Replaces characters that are represented in decimal format, `(ampersand)#nnnn;`, with the corresponding characters

LOWERCASE

Use this option to convert uppercase letters (A-Z) to lowercase (a-z).

URL_DECODE

Use this option to decode a URL-encoded value.

NONE

Specify `NONE` if you don't want to perform any text transformations.

Type: String

Valid Values: `NONE | COMPRESS_WHITE_SPACE | HTML_ENTITY_DECODE | LOWERCASE | CMD_LINE | URL_DECODE`

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++

- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

FieldToMatch

Service: AWS WAF

Specifies where in a web request to look for `TargetString`.

Contents

Data

When the value of `Type` is `HEADER`, enter the name of the header that you want AWS WAF to search, for example, `User-Agent` or `Referer`. The name of the header is not case sensitive.

When the value of `Type` is `SINGLE_QUERY_ARG`, enter the name of the parameter that you want AWS WAF to search, for example, `UserName` or `SalesRegion`. The parameter name is not case sensitive.

If the value of `Type` is any other value, omit `Data`.

Type: String

Required: No

Type

The part of the web request that you want AWS WAF to search for a specified string. Parts of a request that you can search include the following:

- `HEADER`: A specified request header, for example, the value of the `User-Agent` or `Referer` header. If you choose `HEADER` for the type, specify the name of the header in `Data`.
- `METHOD`: The HTTP method, which indicated the type of operation that the request is asking the origin to perform. Amazon CloudFront supports the following methods: `DELETE`, `GET`, `HEAD`, `OPTIONS`, `PATCH`, `POST`, and `PUT`.
- `QUERY_STRING`: A query string, which is the part of a URL that appears after a `?` character, if any.
- `URI`: The part of a web request that identifies a resource, for example, `/images/daily-ad.jpg`.
- `BODY`: The part of a request that contains any additional data that you want to send to your web server as the HTTP request body, such as data from a form. The request body immediately follows the request headers. Note that only the first `8192` bytes of the request body are forwarded to AWS WAF for inspection. To allow or block requests based on the length of the body, you can create a size constraint set. For more information, see CreateSizeConstraintSet (p. 35).
- `SINGLE_QUERY_ARG`: The parameter in the query string that you will inspect, such as *UserName* or *SalesRegion*. The maximum length for `SINGLE_QUERY_ARG` is 30 characters.
- `ALL_QUERY_ARGS`: Similar to `SINGLE_QUERY_ARG`, but rather than inspecting a single parameter, AWS WAF will inspect all parameters within the query for the value or regex pattern that you specify in `TargetString`.

Type: String

Valid Values: `URI` | `QUERY_STRING` | `HEADER` | `METHOD` | `BODY` | `SINGLE_QUERY_ARG` | `ALL_QUERY_ARGS`

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++

- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

GeoMatchConstraint

Service: AWS WAF

The country from which web requests originate that you want AWS WAF to search for.

Contents

Type

The type of geographical area you want AWS WAF to search for. Currently `Country` is the only valid value.

Type: String

Valid Values: `Country`

Required: Yes

Value

The country that you want AWS WAF to search for.

Type: String

Valid Values: `AF | AX | AL | DZ | AS | AD | AO | AI | AQ | AG | AR | AM | AW | AU | AT | AZ | BS | BH | BD | BB | BY | BE | BZ | BJ | BM | BT | BO | BQ | BA | BW | BV | BR | IO | BN | BG | BF | BI | KH | CM | CA | CV | KY | CF | TD | CL | CN | CX | CC | CO | KM | CG | CD | CK | CR | CI | HR | CU | CW | CY | CZ | DK | DJ | DM | DO | EC | EG | SV | GQ | ER | EE | ET | FK | FO | FJ | FI | FR | GF | PF | TF | GA | GM | GE | DE | GH | GI | GR | GL | GD | GP | GU | GT | GG | GN | GW | GY | HT | HM | VA | HN | HK | HU | IS | IN | ID | IR | IQ | IE | IM | IL | IT | JM | JP | JE | JO | KZ | KE | KI | KP | KR | KW | KG | LA | LV | LB | LS | LR | LY | LI | LT | LU | MO | MK | MG | MW | MY | MV | ML | MT | MH | MQ | MR | MU | YT | MX | FM | MD | MC | MN | ME | MS | MA | MZ | MM | NA | NR | NP | NL | NC | NZ | NI | NE | NG | NU | NF | MP | NO | OM | PK | PW | PS | PA | PG | PY | PE | PH | PN | PL | PT | PR | QA | RE | RO | RU | RW | BL | SH | KN | LC | MF | PM | VC | WS | SM | ST | SA | SN | RS | SC | SL | SG | SX | SK | SI | SB | SO | ZA | GS | SS | ES | LK | SD | SR | SJ | SZ | SE | CH | SY | TW | TJ | TZ | TH | TL | TG | TK | TO | TT | TN | TR | TM | TC | TV | UG | UA | AE | GB | US | UM | UY | UZ | VU | VE | VN | VG | VI | WF | EH | YE | ZM | ZW`

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

GeoMatchSet

Service: AWS WAF

Contains one or more countries that AWS WAF will search for.

Contents

GeoMatchConstraints

An array of GeoMatchConstraint (p. 446) objects, which contain the country that you want AWS WAF to search for.

Type: Array of GeoMatchConstraint (p. 446) objects

Required: Yes

GeoMatchSetId

The `GeoMatchSetId` for an `GeoMatchSet`. You use `GeoMatchSetId` to get information about a `GeoMatchSet` (see GeoMatchSet (p. 447)), update a `GeoMatchSet` (see UpdateGeoMatchSet (p. 168)), insert a `GeoMatchSet` into a `Rule` or delete one from a `Rule` (see UpdateRule (p. 188)), and delete a `GeoMatchSet` from AWS WAF (see DeleteGeoMatchSet (p. 51)).

`GeoMatchSetId` is returned by CreateGeoMatchSet (p. 11) and by ListGeoMatchSets (p. 131).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Name

A friendly name or description of the GeoMatchSet (p. 447). You can't change the name of an `GeoMatchSet` after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

GeoMatchSetSummary

Service: AWS WAF

Contains the identifier and the name of the `GeoMatchSet`.

Contents

GeoMatchSetId

The `GeoMatchSetId` for an GeoMatchSet (p. 447). You can use `GeoMatchSetId` in a GetGeoMatchSet (p. 94) request to get detailed information about an GeoMatchSet (p. 447).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Name

A friendly name or description of the GeoMatchSet (p. 447). You can't change the name of an `GeoMatchSet` after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

GeoMatchSetUpdate

Service: AWS WAF

Specifies the type of update to perform to an GeoMatchSet (p. 447) with UpdateGeoMatchSet (p. 168).

Contents

Action

Specifies whether to insert or delete a country with UpdateGeoMatchSet (p. 168).

Type: String

Valid Values: `INSERT | DELETE`

Required: Yes

GeoMatchConstraint

The country from which web requests originate that you want AWS WAF to search for.

Type: GeoMatchConstraint (p. 446) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

HTTPHeader

Service: AWS WAF

The response from a GetSampledRequests (p. 115) request includes an `HTTPHeader` complex type that appears as `Headers` in the response syntax. `HTTPHeader` contains the names and values of all of the headers that appear in one of the web requests that were returned by `GetSampledRequests`.

Contents

Name

The name of one of the headers in the sampled web request.

Type: String

Required: No

Value

The value of one of the headers in the sampled web request.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

HTTPRequest

Service: AWS WAF

The response from a GetSampledRequests (p. 115) request includes an `HTTPRequest` complex type that appears as `Request` in the response syntax. `HTTPRequest` contains information about one of the web requests that were returned by `GetSampledRequests`.

Contents

ClientIP

The IP address that the request originated from. If the `WebACL` is associated with a CloudFront distribution, this is the value of one of the following fields in CloudFront access logs:

- `c-ip`, if the viewer did not use an HTTP proxy or a load balancer to send the request
- `x-forwarded-for`, if the viewer did use an HTTP proxy or a load balancer to send the request

Type: String

Required: No

Country

The two-letter country code for the country that the request originated from. For a current list of country codes, see the Wikipedia entry ISO 3166-1 alpha-2.

Type: String

Required: No

Headers

A complex type that contains two values for each header in the sampled web request: the name of the header and the value of the header.

Type: Array of HTTPHeader (p. 450) objects

Required: No

HTTPVersion

The HTTP version specified in the sampled web request, for example, `HTTP/1.1`.

Type: String

Required: No

Method

The HTTP method specified in the sampled web request. CloudFront supports the following methods: `DELETE`, `GET`, `HEAD`, `OPTIONS`, `PATCH`, `POST`, and `PUT`.

Type: String

Required: No

URI

The part of a web request that identifies the resource, for example, `/images/daily-ad.jpg`.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

IPSet

Service: AWS WAF

Contains one or more IP addresses or blocks of IP addresses specified in Classless Inter-Domain Routing (CIDR) notation. AWS WAF supports IPv4 address ranges: /8 and any range between /16 through /32. AWS WAF supports IPv6 address ranges: /16, /24, /32, /48, /56, /64, and /128.

To specify an individual IP address, you specify the four-part IP address followed by a `/32`, for example, 192.0.2.0/31. To block a range of IP addresses, you can specify /8 or any range between /16 through /32 (for IPv4) or /16, /24, /32, /48, /56, /64, or /128 (for IPv6). For more information about CIDR notation, see the Wikipedia entry Classless Inter-Domain Routing.

Contents

IPSetDescriptors

The IP address type (`IPV4` or `IPV6`) and the IP address range (in CIDR notation) that web requests originate from. If the `WebACL` is associated with a CloudFront distribution and the viewer did not use an HTTP proxy or a load balancer to send the request, this is the value of the c-ip field in the CloudFront access logs.

Type: Array of IPSetDescriptor (p. 455) objects

Required: Yes

IPSetId

The `IPSetId` for an `IPSet`. You use `IPSetId` to get information about an `IPSet` (see GetIPSet (p. 96)), update an `IPSet` (see UpdateIPSet (p. 172)), insert an `IPSet` into a `Rule` or delete one from a `Rule` (see UpdateRule (p. 188)), and delete an `IPSet` from AWS WAF (see DeleteIPSet (p. 54)).

`IPSetId` is returned by CreateIPSet (p. 14) and by ListIPSets (p. 133).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Name

A friendly name or description of the IPSet (p. 453). You can't change the name of an `IPSet` after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java

- AWS SDK for Ruby V2

IPSetDescriptor

Service: AWS WAF

Specifies the IP address type (`IPV4` or `IPV6`) and the IP address range (in CIDR format) that web requests originate from.

Contents

Type

Specify `IPV4` or `IPV6`.

Type: String

Valid Values: `IPV4 | IPV6`

Required: Yes

Value

Specify an IPv4 address by using CIDR notation. For example:

- To configure AWS WAF to allow, block, or count requests that originated from the IP address 192.0.2.44, specify `192.0.2.44/32`.
- To configure AWS WAF to allow, block, or count requests that originated from IP addresses from 192.0.2.0 to 192.0.2.255, specify `192.0.2.0/24`.

For more information about CIDR notation, see the Wikipedia entry Classless Inter-Domain Routing.

Specify an IPv6 address by using CIDR notation. For example:

- To configure AWS WAF to allow, block, or count requests that originated from the IP address 1111:0000:0000:0000:0000:0000:0000:0111, specify `1111:0000:0000:0000:0000:0000:0000:0111/128`.
- To configure AWS WAF to allow, block, or count requests that originated from IP addresses 1111:0000:0000:0000:0000:0000:0000:0000 to 1111:0000:0000:0000:ffff:ffff:ffff:ffff, specify `1111:0000:0000:0000:0000:0000:0000:0000/64`.

Type: String

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

IPSetSummary

Service: AWS WAF

Contains the identifier and the name of the `IPSet`.

Contents

IPSetId

The `IPSetId` for an IPSet (p. 453). You can use `IPSetId` in a GetIPSet (p. 96) request to get detailed information about an IPSet (p. 453).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Name

A friendly name or description of the IPSet (p. 453). You can't change the name of an `IPSet` after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

IPSetUpdate

Service: AWS WAF

Specifies the type of update to perform to an IPSet (p. 453) with UpdateIPSet (p. 172).

Contents

Action

Specifies whether to insert or delete an IP address with UpdateIPSet (p. 172).

Type: String

Valid Values: `INSERT | DELETE`

Required: Yes

IPSetDescriptor

The IP address type (`IPV4` or `IPV6`) and the IP address range (in CIDR notation) that web requests originate from.

Type: IPSetDescriptor (p. 455) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

LoggingConfiguration

Service: AWS WAF

The Amazon Kinesis Data Firehose, `RedactedFields` information, and the web ACL Amazon Resource Name (ARN).

Contents

LogDestinationConfigs

An array of Amazon Kinesis Data Firehose ARNs.

Type: Array of strings

Array Members: Fixed number of 1 item.

Length Constraints: Minimum length of 1. Maximum length of 1224.

Required: Yes

RedactedFields

The parts of the request that you want redacted from the logs. For example, if you redact the cookie field, the cookie field in the firehose will be `xxx`.

Type: Array of FieldToMatch (p. 444) objects

Required: No

ResourceArn

The Amazon Resource Name (ARN) of the web ACL that you want to associate with `LogDestinationConfigs`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

Predicate

Service: AWS WAF

Specifies the ByteMatchSet (p. 436), IPSet (p. 453), SqlInjectionMatchSet (p. 489), XssMatchSet (p. 502), RegexMatchSet (p. 463), GeoMatchSet (p. 447), and SizeConstraintSet (p. 486) objects that you want to add to a `Rule` and, for each object, indicates whether you want to negate the settings, for example, requests that do NOT originate from the IP address 192.0.2.44.

Contents

DataId

A unique identifier for a predicate in a `Rule`, such as `ByteMatchSetId` or `IPSetId`. The ID is returned by the corresponding `Create` or `List` command.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Negated

Set `Negated` to `False` if you want AWS WAF to allow, block, or count requests based on the settings in the specified ByteMatchSet (p. 436), IPSet (p. 453), SqlInjectionMatchSet (p. 489), XssMatchSet (p. 502), RegexMatchSet (p. 463), GeoMatchSet (p. 447), or SizeConstraintSet (p. 486). For example, if an `IPSet` includes the IP address `192.0.2.44`, AWS WAF will allow or block requests based on that IP address.

Set `Negated` to `True` if you want AWS WAF to allow or block a request based on the negation of the settings in the ByteMatchSet (p. 436), IPSet (p. 453), SqlInjectionMatchSet (p. 489), XssMatchSet (p. 502), RegexMatchSet (p. 463), GeoMatchSet (p. 447), or SizeConstraintSet (p. 486). For example, if an `IPSet` includes the IP address `192.0.2.44`, AWS WAF will allow, block, or count requests based on all IP addresses *except* `192.0.2.44`.

Type: Boolean

Required: Yes

Type

The type of predicate in a `Rule`, such as `ByteMatch` or `IPSet`.

Type: String

Valid Values: `IPMatch | ByteMatch | SqlInjectionMatch | GeoMatch | SizeConstraint | XssMatch | RegexMatch`

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java

- AWS SDK for Ruby V2

RateBasedRule

Service: AWS WAF

A `RateBasedRule` is identical to a regular Rule (p. 473), with one addition: a `RateBasedRule` counts the number of requests that arrive from a specified IP address every five minutes. For example, based on recent requests that you've seen from an attacker, you might create a `RateBasedRule` that includes the following conditions:

- The requests come from 192.0.2.44.
- They contain the value `BadBot` in the `User-Agent` header.

In the rule, you also define the rate limit as 15,000.

Requests that meet both of these conditions and exceed 15,000 requests every five minutes trigger the rule's action (block or count), which is defined in the web ACL.

Contents

MatchPredicates

The `Predicates` object contains one `Predicate` element for each ByteMatchSet (p. 436), IPSet (p. 453), or SqlInjectionMatchSet (p. 489) object that you want to include in a `RateBasedRule`.

Type: Array of Predicate (p. 459) objects

Required: Yes

MetricName

A friendly name or description for the metrics for a `RateBasedRule`. The name can contain only alphanumeric characters (A-Z, a-z, 0-9); the name can't contain whitespace. You can't change the name of the metric after you create the `RateBasedRule`.

Type: String

Required: No

Name

A friendly name or description for a `RateBasedRule`. You can't change the name of a `RateBasedRule` after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: No

RateKey

The field that AWS WAF uses to determine if requests are likely arriving from single source and thus subject to rate monitoring. The only valid value for `RateKey` is `IP`. `IP` indicates that requests arriving from the same IP address are subject to the `RateLimit` that is specified in the `RateBasedRule`.

Type: String

Valid Values: `IP`

Required: Yes

RateLimit

The maximum number of requests, which have an identical value in the field specified by the `RateKey`, allowed in a five-minute period. If the number of requests exceeds the `RateLimit` and the other predicates specified in the rule are also met, AWS WAF triggers the action that is specified for this rule.

Type: Long

Valid Range: Minimum value of 2000. Maximum value of 2000000000.

Required: Yes

RuleId

A unique identifier for a `RateBasedRule`. You use `RuleId` to get more information about a `RateBasedRule` (see GetRateBasedRule (p. 102)), update a `RateBasedRule` (see UpdateRateBasedRule (p. 176)), insert a `RateBasedRule` into a `WebACL` or delete one from a `WebACL` (see UpdateWebACL (p. 204)), or delete a `RateBasedRule` from AWS WAF (see DeleteRateBasedRule (p. 61)).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

RegexMatchSet

Service: AWS WAF

In a GetRegexMatchSet (p. 107) request, `RegexMatchSet` is a complex type that contains the `RegexMatchSetId` and `Name` of a `RegexMatchSet`, and the values that you specified when you updated the `RegexMatchSet`.

The values are contained in a `RegexMatchTuple` object, which specify the parts of web requests that you want AWS WAF to inspect and the values that you want AWS WAF to search for. If a `RegexMatchSet` contains more than one `RegexMatchTuple` object, a request needs to match the settings in only one `ByteMatchTuple` to be considered a match.

Contents

Name

A friendly name or description of the RegexMatchSet (p. 463). You can't change `Name` after you create a `RegexMatchSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: No

RegexMatchSetId

The `RegexMatchSetId` for a `RegexMatchSet`. You use `RegexMatchSetId` to get information about a `RegexMatchSet` (see GetRegexMatchSet (p. 107)), update a `RegexMatchSet` (see UpdateRegexMatchSet (p. 180)), insert a `RegexMatchSet` into a `Rule` or delete one from a `Rule` (see UpdateRule (p. 188)), and delete a `RegexMatchSet` from AWS WAF (see DeleteRegexMatchSet (p. 64)).

`RegexMatchSetId` is returned by CreateRegexMatchSet (p. 22) and by ListRegexMatchSets (p. 140).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: No

RegexMatchTuples

Contains an array of RegexMatchTuple (p. 467) objects. Each `RegexMatchTuple` object contains:

- The part of a web request that you want AWS WAF to inspect, such as a query string or the value of the `User-Agent` header.
- The identifier of the pattern (a regular expression) that you want AWS WAF to look for. For more information, see RegexPatternSet (p. 470).
- Whether to perform any conversions on the request, such as converting it to lowercase, before inspecting it for the specified string.

Type: Array of RegexMatchTuple (p. 467) objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

RegexMatchSetSummary

Service: AWS WAF

Returned by ListRegexMatchSets (p. 140). Each `RegexMatchSetSummary` object includes the `Name` and `RegexMatchSetId` for one RegexMatchSet (p. 463).

Contents

Name

A friendly name or description of the RegexMatchSet (p. 463). You can't change `Name` after you create a `RegexMatchSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

RegexMatchSetId

The `RegexMatchSetId` for a `RegexMatchSet`. You use `RegexMatchSetId` to get information about a `RegexMatchSet`, update a `RegexMatchSet`, remove a `RegexMatchSet` from a `Rule`, and delete a `RegexMatchSet` from AWS WAF.

`RegexMatchSetId` is returned by CreateRegexMatchSet (p. 22) and by ListRegexMatchSets (p. 140).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

RegexMatchSetUpdate

Service: AWS WAF

In an UpdateRegexMatchSet (p. 180) request, `RegexMatchSetUpdate` specifies whether to insert or delete a RegexMatchTuple (p. 467) and includes the settings for the `RegexMatchTuple`.

Contents

Action

Specifies whether to insert or delete a RegexMatchTuple (p. 467).

Type: String

Valid Values: `INSERT | DELETE`

Required: Yes

RegexMatchTuple

Information about the part of a web request that you want AWS WAF to inspect and the identifier of the regular expression (regex) pattern that you want AWS WAF to search for. If you specify `DELETE` for the value of `Action`, the `RegexMatchTuple` values must exactly match the values in the `RegexMatchTuple` that you want to delete from the `RegexMatchSet`.

Type: RegexMatchTuple (p. 467) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

RegexMatchTuple

Service: AWS WAF

The regular expression pattern that you want AWS WAF to search for in web requests, the location in requests that you want AWS WAF to search, and other settings. Each `RegexMatchTuple` object contains:

- The part of a web request that you want AWS WAF to inspect, such as a query string or the value of the `User-Agent` header.
- The identifier of the pattern (a regular expression) that you want AWS WAF to look for. For more information, see RegexPatternSet (p. 470).
- Whether to perform any conversions on the request, such as converting it to lowercase, before inspecting it for the specified string.

Contents

FieldToMatch

Specifies where in a web request to look for the `RegexPatternSet`.

Type: FieldToMatch (p. 444) object

Required: Yes

RegexPatternSetId

The `RegexPatternSetId` for a `RegexPatternSet`. You use `RegexPatternSetId` to get information about a `RegexPatternSet` (see GetRegexPatternSet (p. 109)), update a `RegexPatternSet` (see UpdateRegexPatternSet (p. 184)), insert a `RegexPatternSet` into a `RegexMatchSet` or delete one from a `RegexMatchSet` (see UpdateRegexMatchSet (p. 180)), and delete an `RegexPatternSet` from AWS WAF (see DeleteRegexPatternSet (p. 67)).

`RegexPatternSetId` is returned by CreateRegexPatternSet (p. 25) and by ListRegexPatternSets (p. 142).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

TextTransformation

Text transformations eliminate some of the unusual formatting that attackers use in web requests in an effort to bypass AWS WAF. If you specify a transformation, AWS WAF performs the transformation on `RegexPatternSet` before inspecting a request for a match.

You can only specify a single type of TextTransformation.

CMD_LINE

When you're concerned that attackers are injecting an operating system commandline command and using unusual formatting to disguise some or all of the command, use this option to perform the following transformations:

- Delete the following characters: \ " ' ^
- Delete spaces before the following characters: / (
- Replace the following characters with a space: , ;
- Replace multiple spaces with one space

- Convert uppercase letters (A-Z) to lowercase (a-z)

COMPRESS_WHITE_SPACE

Use this option to replace the following characters with a space character (decimal 32):

- \f, formfeed, decimal 12
- \t, tab, decimal 9
- \n, newline, decimal 10
- \r, carriage return, decimal 13
- \v, vertical tab, decimal 11
- non-breaking space, decimal 160

`COMPRESS_WHITE_SPACE` also replaces multiple spaces with one space.

HTML_ENTITY_DECODE

Use this option to replace HTML-encoded characters with unencoded characters. `HTML_ENTITY_DECODE` performs the following operations:

- Replaces `(ampersand)quot;` with `"`
- Replaces `(ampersand)nbsp;` with a non-breaking space, decimal 160
- Replaces `(ampersand)lt;` with a "less than" symbol
- Replaces `(ampersand)gt;` with >
- Replaces characters that are represented in hexadecimal format, `(ampersand)#xhhhh;`, with the corresponding characters
- Replaces characters that are represented in decimal format, `(ampersand)#nnnn;`, with the corresponding characters

LOWERCASE

Use this option to convert uppercase letters (A-Z) to lowercase (a-z).

URL_DECODE

Use this option to decode a URL-encoded value.

NONE

Specify `NONE` if you don't want to perform any text transformations.

Type: String

Valid Values: `NONE | COMPRESS_WHITE_SPACE | HTML_ENTITY_DECODE | LOWERCASE | CMD_LINE | URL_DECODE`

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

RegexPatternSet

Service: AWS WAF

The `RegexPatternSet` specifies the regular expression (regex) pattern that you want AWS WAF to search for, such as `B[a@]dB[o0]t`. You can then configure AWS WAF to reject those requests.

Contents

Name

A friendly name or description of the RegexPatternSet (p. 470). You can't change `Name` after you create a `RegexPatternSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: No

RegexPatternSetId

The identifier for the `RegexPatternSet`. You use `RegexPatternSetId` to get information about a `RegexPatternSet`, update a `RegexPatternSet`, remove a `RegexPatternSet` from a `RegexMatchSet`, and delete a `RegexPatternSet` from AWS WAF.

`RegexMatchSetId` is returned by CreateRegexPatternSet (p. 25) and by ListRegexPatternSets (p. 142).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

RegexPatternStrings

Specifies the regular expression (regex) patterns that you want AWS WAF to search for, such as `B[a@]dB[o0]t`.

Type: Array of strings

Array Members: Maximum number of 10 items.

Length Constraints: Minimum length of 1.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

RegexPatternSetSummary

Service: AWS WAF

Returned by ListRegexPatternSets (p. 142). Each `RegexPatternSetSummary` object includes the `Name` and `RegexPatternSetId` for one RegexPatternSet (p. 470).

Contents

Name

A friendly name or description of the RegexPatternSet (p. 470). You can't change `Name` after you create a `RegexPatternSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

RegexPatternSetId

The `RegexPatternSetId` for a `RegexPatternSet`. You use `RegexPatternSetId` to get information about a `RegexPatternSet`, update a `RegexPatternSet`, remove a `RegexPatternSet` from a `RegexMatchSet`, and delete a `RegexPatternSet` from AWS WAF.

`RegexPatternSetId` is returned by CreateRegexPatternSet (p. 25) and by ListRegexPatternSets (p. 142).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

RegexPatternSetUpdate

Service: AWS WAF

In an UpdateRegexPatternSet (p. 184) request, `RegexPatternSetUpdate` specifies whether to insert or delete a `RegexPatternString` and includes the settings for the `RegexPatternString`.

Contents

Action

Specifies whether to insert or delete a `RegexPatternString`.

Type: String

Valid Values: `INSERT | DELETE`

Required: Yes

RegexPatternString

Specifies the regular expression (regex) pattern that you want AWS WAF to search for, such as `B[a@]dB[o0]t`.

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

Rule

Service: AWS WAF

A combination of ByteMatchSet (p. 436), IPSet (p. 453), and/or SqlInjectionMatchSet (p. 489) objects that identify the web requests that you want to allow, block, or count. For example, you might create a `Rule` that includes the following predicates:

- An `IPSet` that causes AWS WAF to search for web requests that originate from the IP address `192.0.2.44`
- A `ByteMatchSet` that causes AWS WAF to search for web requests for which the value of the `User-Agent` header is `BadBot`.

To match the settings in this `Rule`, a request must originate from `192.0.2.44` AND include a `User-Agent` header for which the value is `BadBot`.

Contents

MetricName

A friendly name or description for the metrics for this `Rule`. The name can contain only alphanumeric characters (A-Z, a-z, 0-9); the name can't contain whitespace. You can't change `MetricName` after you create the `Rule`.

Type: String

Required: No

Name

The friendly name or description for the `Rule`. You can't change the name of a `Rule` after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: No

Predicates

The `Predicates` object contains one `Predicate` element for each ByteMatchSet (p. 436), IPSet (p. 453), or SqlInjectionMatchSet (p. 489) object that you want to include in a `Rule`.

Type: Array of Predicate (p. 459) objects

Required: Yes

RuleId

A unique identifier for a `Rule`. You use `RuleId` to get more information about a `Rule` (see GetRule (p. 111)), update a `Rule` (see UpdateRule (p. 188)), insert a `Rule` into a `WebACL` or delete a one from a `WebACL` (see UpdateWebACL (p. 204)), or delete a `Rule` from AWS WAF (see DeleteRule (p. 70)).

`RuleId` is returned by CreateRule (p. 28) and by ListRules (p. 146).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

RuleGroup

Service: AWS WAF

A collection of predefined rules that you can add to a web ACL.

Rule groups are subject to the following limits:

- Three rule groups per account. You can request an increase to this limit by contacting customer support.
- One rule group per web ACL.
- Ten rules per rule group.

Contents

MetricName

A friendly name or description for the metrics for this `RuleGroup`. The name can contain only alphanumeric characters (A-Z, a-z, 0-9); the name can't contain whitespace. You can't change the name of the metric after you create the `RuleGroup`.

Type: String

Required: No

Name

The friendly name or description for the `RuleGroup`. You can't change the name of a `RuleGroup` after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: No

RuleGroupId

A unique identifier for a `RuleGroup`. You use `RuleGroupId` to get more information about a `RuleGroup` (see GetRuleGroup (p. 113)), update a `RuleGroup` (see UpdateRuleGroup (p. 192)), insert a `RuleGroup` into a `WebACL` or delete a one from a `WebACL` (see UpdateWebACL (p. 204)), or delete a `RuleGroup` from AWS WAF (see DeleteRuleGroup (p. 73)).

`RuleGroupId` is returned by CreateRuleGroup (p. 32) and by ListRuleGroups (p. 144).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java

- AWS SDK for Ruby V2

RuleGroupSummary

Service: AWS WAF

Contains the identifier and the friendly name or description of the `RuleGroup`.

Contents

Name

A friendly name or description of the RuleGroup (p. 475). You can't change the name of a `RuleGroup` after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

RuleGroupId

A unique identifier for a `RuleGroup`. You use `RuleGroupId` to get more information about a `RuleGroup` (see GetRuleGroup (p. 113)), update a `RuleGroup` (see UpdateRuleGroup (p. 192)), insert a `RuleGroup` into a `WebACL` or delete one from a `WebACL` (see UpdateWebACL (p. 204)), or delete a `RuleGroup` from AWS WAF (see DeleteRuleGroup (p. 73)).

`RuleGroupId` is returned by CreateRuleGroup (p. 32) and by ListRuleGroups (p. 144).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

RuleGroupUpdate

Service: AWS WAF

Specifies an `ActivatedRule` and indicates whether you want to add it to a `RuleGroup` or delete it from a `RuleGroup`.

Contents

Action

Specify `INSERT` to add an `ActivatedRule` to a `RuleGroup`. Use `DELETE` to remove an `ActivatedRule` from a `RuleGroup`.

Type: String

Valid Values: `INSERT | DELETE`

Required: Yes

ActivatedRule

The `ActivatedRule` object specifies a `Rule` that you want to insert or delete, the priority of the `Rule` in the `WebACL`, and the action that you want AWS WAF to take when a web request matches the `Rule` (`ALLOW`, `BLOCK`, or `COUNT`).

Type: ActivatedRule (p. 434) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

RuleSummary

Service: AWS WAF

Contains the identifier and the friendly name or description of the `Rule`.

Contents

Name

A friendly name or description of the Rule (p. 473). You can't change the name of a `Rule` after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

RuleId

A unique identifier for a `Rule`. You use `RuleId` to get more information about a `Rule` (see GetRule (p. 111)), update a `Rule` (see UpdateRule (p. 188)), insert a `Rule` into a `WebACL` or delete one from a `WebACL` (see UpdateWebACL (p. 204)), or delete a `Rule` from AWS WAF (see DeleteRule (p. 70)).

`RuleId` is returned by CreateRule (p. 28) and by ListRules (p. 146).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

RuleUpdate

Service: AWS WAF

Specifies a `Predicate` (such as an `IPSet`) and indicates whether you want to add it to a `Rule` or delete it from a `Rule`.

Contents

Action

Specify `INSERT` to add a `Predicate` to a `Rule`. Use `DELETE` to remove a `Predicate` from a `Rule`.

Type: String

Valid Values: `INSERT | DELETE`

Required: Yes

Predicate

The ID of the `Predicate` (such as an `IPSet`) that you want to add to a `Rule`.

Type: Predicate (p. 459) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

SampledHTTPRequest

Service: AWS WAF

The response from a GetSampledRequests (p. 115) request includes a `SampledHTTPRequests` complex type that appears as `SampledRequests` in the response syntax. `SampledHTTPRequests` contains one `SampledHTTPRequest` object for each web request that is returned by `GetSampledRequests`.

Contents

Action

The action for the `Rule` that the request matched: `ALLOW`, `BLOCK`, or `COUNT`.

Type: String

Required: No

Request

A complex type that contains detailed information about the request.

Type: HTTPRequest (p. 451) object

Required: Yes

RuleWithinRuleGroup

This value is returned if the `GetSampledRequests` request specifies the ID of a `RuleGroup` rather than the ID of an individual rule. `RuleWithinRuleGroup` is the rule within the specified `RuleGroup` that matched the request listed in the response.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: No

Timestamp

The time at which AWS WAF received the request from your AWS resource, in Unix time format (in seconds).

Type: Timestamp

Required: No

Weight

A value that indicates how one result in the response relates proportionally to other results in the response. A result that has a weight of `2` represents roughly twice as many CloudFront web requests as a result that has a weight of `1`.

Type: Long

Valid Range: Minimum value of 0.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

SizeConstraint

Service: AWS WAF

Specifies a constraint on the size of a part of the web request. AWS WAF uses the `Size`, `ComparisonOperator`, and `FieldToMatch` to build an expression in the form of "`Size ComparisonOperator` size in bytes of `FieldToMatch`". If that expression is true, the `SizeConstraint` is considered to match.

Contents

ComparisonOperator

The type of comparison you want AWS WAF to perform. AWS WAF uses this in combination with the provided `Size` and `FieldToMatch` to build an expression in the form of "`Size ComparisonOperator` size in bytes of `FieldToMatch`". If that expression is true, the `SizeConstraint` is considered to match.

EQ: Used to test if the `Size` is equal to the size of the `FieldToMatch`

NE: Used to test if the `Size` is not equal to the size of the `FieldToMatch`

LE: Used to test if the `Size` is less than or equal to the size of the `FieldToMatch`

LT: Used to test if the `Size` is strictly less than the size of the `FieldToMatch`

GE: Used to test if the `Size` is greater than or equal to the size of the `FieldToMatch`

GT: Used to test if the `Size` is strictly greater than the size of the `FieldToMatch`

Type: String

Valid Values: `EQ | NE | LE | LT | GE | GT`

Required: Yes

FieldToMatch

Specifies where in a web request to look for the size constraint.

Type: FieldToMatch (p. 444) object

Required: Yes

Size

The size in bytes that you want AWS WAF to compare against the size of the specified `FieldToMatch`. AWS WAF uses this in combination with `ComparisonOperator` and `FieldToMatch` to build an expression in the form of "`Size ComparisonOperator` size in bytes of `FieldToMatch`". If that expression is true, the `SizeConstraint` is considered to match.

Valid values for size are 0 - 21474836480 bytes (0 - 20 GB).

If you specify `URI` for the value of `Type`, the / in the URI counts as one character. For example, the URI `/logo.jpg` is nine characters long.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 21474836480.

Required: Yes

TextTransformation

Text transformations eliminate some of the unusual formatting that attackers use in web requests in an effort to bypass AWS WAF. If you specify a transformation, AWS WAF performs the transformation on `FieldToMatch` before inspecting a request for a match.

You can only specify a single type of TextTransformation.

Note that if you choose `BODY` for the value of `Type`, you must choose `NONE` for `TextTransformation` because CloudFront forwards only the first 8192 bytes for inspection.

NONE

Specify `NONE` if you don't want to perform any text transformations.

CMD_LINE

When you're concerned that attackers are injecting an operating system command line command and using unusual formatting to disguise some or all of the command, use this option to perform the following transformations:

- Delete the following characters: \ " ' ^
- Delete spaces before the following characters: / (
- Replace the following characters with a space: , ;
- Replace multiple spaces with one space
- Convert uppercase letters (A-Z) to lowercase (a-z)

COMPRESS_WHITE_SPACE

Use this option to replace the following characters with a space character (decimal 32):

- \f, formfeed, decimal 12
- \t, tab, decimal 9
- \n, newline, decimal 10
- \r, carriage return, decimal 13
- \v, vertical tab, decimal 11
- non-breaking space, decimal 160

`COMPRESS_WHITE_SPACE` also replaces multiple spaces with one space.

HTML_ENTITY_DECODE

Use this option to replace HTML-encoded characters with unencoded characters. `HTML_ENTITY_DECODE` performs the following operations:

- Replaces `(ampersand)quot;` with "
- Replaces `(ampersand)nbsp;` with a non-breaking space, decimal 160
- Replaces `(ampersand)lt;` with a "less than" symbol
- Replaces `(ampersand)gt;` with >
- Replaces characters that are represented in hexadecimal format, `(ampersand)#xhhhh;`, with the corresponding characters
- Replaces characters that are represented in decimal format, `(ampersand)#nnnn;`, with the corresponding characters

LOWERCASE

Use this option to convert uppercase letters (A-Z) to lowercase (a-z).

URL_DECODE

Use this option to decode a URL-encoded value.

Type: String

Valid Values: `NONE | COMPRESS_WHITE_SPACE | HTML_ENTITY_DECODE | LOWERCASE | CMD_LINE | URL_DECODE`

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

SizeConstraintSet

Service: AWS WAF

A complex type that contains `SizeConstraint` objects, which specify the parts of web requests that you want AWS WAF to inspect the size of. If a `SizeConstraintSet` contains more than one `SizeConstraint` object, a request only needs to match one constraint to be considered a match.

Contents

Name

The name, if any, of the `SizeConstraintSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: No

SizeConstraints

Specifies the parts of web requests that you want to inspect the size of.

Type: Array of SizeConstraint (p. 483) objects

Required: Yes

SizeConstraintSetId

A unique identifier for a `SizeConstraintSet`. You use `SizeConstraintSetId` to get information about a `SizeConstraintSet` (see GetSizeConstraintSet (p. 118)), update a `SizeConstraintSet` (see UpdateSizeConstraintSet (p. 196)), insert a `SizeConstraintSet` into a `Rule` or delete one from a `Rule` (see UpdateRule (p. 188)), and delete a `SizeConstraintSet` from AWS WAF (see DeleteSizeConstraintSet (p. 76)).

`SizeConstraintSetId` is returned by CreateSizeConstraintSet (p. 35) and by ListSizeConstraintSets (p. 148).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

SizeConstraintSetSummary

Service: AWS WAF

The `Id` and `Name` of a `SizeConstraintSet`.

Contents

Name

The name of the `SizeConstraintSet`, if any.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

SizeConstraintSetId

A unique identifier for a `SizeConstraintSet`. You use `SizeConstraintSetId` to get information about a `SizeConstraintSet` (see GetSizeConstraintSet (p. 118)), update a `SizeConstraintSet` (see UpdateSizeConstraintSet (p. 196)), insert a `SizeConstraintSet` into a `Rule` or delete one from a `Rule` (see UpdateRule (p. 188)), and delete a `SizeConstraintSet` from AWS WAF (see DeleteSizeConstraintSet (p. 76)).

`SizeConstraintSetId` is returned by CreateSizeConstraintSet (p. 35) and by ListSizeConstraintSets (p. 148).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

SizeConstraintSetUpdate

Service: AWS WAF

Specifies the part of a web request that you want to inspect the size of and indicates whether you want to add the specification to a SizeConstraintSet (p. 486) or delete it from a `SizeConstraintSet`.

Contents

Action

Specify `INSERT` to add a SizeConstraintSetUpdate (p. 488) to a SizeConstraintSet (p. 486). Use `DELETE` to remove a `SizeConstraintSetUpdate` from a `SizeConstraintSet`.

Type: String

Valid Values: `INSERT | DELETE`

Required: Yes

SizeConstraint

Specifies a constraint on the size of a part of the web request. AWS WAF uses the `Size`, `ComparisonOperator`, and `FieldToMatch` to build an expression in the form of "`Size ComparisonOperator` size in bytes of `FieldToMatch`". If that expression is true, the `SizeConstraint` is considered to match.

Type: SizeConstraint (p. 483) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

SqlInjectionMatchSet

Service: AWS WAF

A complex type that contains `SqlInjectionMatchTuple` objects, which specify the parts of web requests that you want AWS WAF to inspect for snippets of malicious SQL code and, if you want AWS WAF to inspect a header, the name of the header. If a `SqlInjectionMatchSet` contains more than one `SqlInjectionMatchTuple` object, a request needs to include snippets of SQL code in only one of the specified parts of the request to be considered a match.

Contents

Name

The name, if any, of the `SqlInjectionMatchSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: No

SqlInjectionMatchSetId

A unique identifier for a `SqlInjectionMatchSet`. You use `SqlInjectionMatchSetId` to get information about a `SqlInjectionMatchSet` (see GetSqlInjectionMatchSet (p. 120)), update a `SqlInjectionMatchSet` (see UpdateSqlInjectionMatchSet (p. 200)), insert a `SqlInjectionMatchSet` into a `Rule` or delete one from a `Rule` (see UpdateRule (p. 188)), and delete a `SqlInjectionMatchSet` from AWS WAF (see DeleteSqlInjectionMatchSet (p. 79)).

`SqlInjectionMatchSetId` is returned by CreateSqlInjectionMatchSet (p. 38) and by ListSqlInjectionMatchSets (p. 150).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

SqlInjectionMatchTuples

Specifies the parts of web requests that you want to inspect for snippets of malicious SQL code.

Type: Array of SqlInjectionMatchTuple (p. 492) objects

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

SqlInjectionMatchSetSummary

Service: AWS WAF

The `Id` and `Name` of a `SqlInjectionMatchSet`.

Contents

Name

The name of the `SqlInjectionMatchSet`, if any, specified by `Id`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

SqlInjectionMatchSetId

A unique identifier for a `SqlInjectionMatchSet`. You use `SqlInjectionMatchSetId` to get information about a `SqlInjectionMatchSet` (see GetSqlInjectionMatchSet (p. 120)), update a `SqlInjectionMatchSet` (see UpdateSqlInjectionMatchSet (p. 200)), insert a `SqlInjectionMatchSet` into a `Rule` or delete one from a `Rule` (see UpdateRule (p. 188)), and delete a `SqlInjectionMatchSet` from AWS WAF (see DeleteSqlInjectionMatchSet (p. 79)).

`SqlInjectionMatchSetId` is returned by CreateSqlInjectionMatchSet (p. 38) and by ListSqlInjectionMatchSets (p. 150).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

SqlInjectionMatchSetUpdate

Service: AWS WAF

Specifies the part of a web request that you want to inspect for snippets of malicious SQL code and indicates whether you want to add the specification to a SqlInjectionMatchSet (p. 489) or delete it from a `SqlInjectionMatchSet`.

Contents

Action

Specify `INSERT` to add a SqlInjectionMatchSetUpdate (p. 491) to a SqlInjectionMatchSet (p. 489). Use `DELETE` to remove a `SqlInjectionMatchSetUpdate` from a `SqlInjectionMatchSet`.

Type: String

Valid Values: `INSERT | DELETE`

Required: Yes

SqlInjectionMatchTuple

Specifies the part of a web request that you want AWS WAF to inspect for snippets of malicious SQL code and, if you want AWS WAF to inspect a header, the name of the header.

Type: SqlInjectionMatchTuple (p. 492) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

SqlInjectionMatchTuple

Service: AWS WAF

Specifies the part of a web request that you want AWS WAF to inspect for snippets of malicious SQL code and, if you want AWS WAF to inspect a header, the name of the header.

Contents

FieldToMatch

Specifies where in a web request to look for snippets of malicious SQL code.

Type: FieldToMatch (p. 444) object

Required: Yes

TextTransformation

Text transformations eliminate some of the unusual formatting that attackers use in web requests in an effort to bypass AWS WAF. If you specify a transformation, AWS WAF performs the transformation on `FieldToMatch` before inspecting a request for a match.

You can only specify a single type of TextTransformation.

CMD_LINE

When you're concerned that attackers are injecting an operating system command line command and using unusual formatting to disguise some or all of the command, use this option to perform the following transformations:

- Delete the following characters: \ " ' ^
- Delete spaces before the following characters: / (
- Replace the following characters with a space: , ;
- Replace multiple spaces with one space
- Convert uppercase letters (A-Z) to lowercase (a-z)

COMPRESS_WHITE_SPACE

Use this option to replace the following characters with a space character (decimal 32):

- \f, formfeed, decimal 12
- \t, tab, decimal 9
- \n, newline, decimal 10
- \r, carriage return, decimal 13
- \v, vertical tab, decimal 11
- non-breaking space, decimal 160

`COMPRESS_WHITE_SPACE` also replaces multiple spaces with one space.

HTML_ENTITY_DECODE

Use this option to replace HTML-encoded characters with unencoded characters. `HTML_ENTITY_DECODE` performs the following operations:

- Replaces `(ampersand)quot;` with "
- Replaces `(ampersand)nbsp;` with a non-breaking space, decimal 160
- Replaces `(ampersand)lt;` with a "less than" symbol
- Replaces `(ampersand)gt;` with >

- Replaces characters that are represented in hexadecimal format, `(ampersand)#xhhhh;`, with the corresponding characters
- Replaces characters that are represented in decimal format, `(ampersand)#nnnn;`, with the corresponding characters

LOWERCASE

Use this option to convert uppercase letters (A-Z) to lowercase (a-z).

URL_DECODE

Use this option to decode a URL-encoded value.

NONE

Specify `NONE` if you don't want to perform any text transformations.

Type: String

Valid Values: `NONE | COMPRESS_WHITE_SPACE | HTML_ENTITY_DECODE | LOWERCASE | CMD_LINE | URL_DECODE`

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

SubscribedRuleGroupSummary

Service: AWS WAF

A summary of the rule groups you are subscribed to.

Contents

MetricName

A friendly name or description for the metrics for this `RuleGroup`. The name can contain only alphanumeric characters (A-Z, a-z, 0-9); the name can't contain whitespace. You can't change the name of the metric after you create the `RuleGroup`.

Type: String

Required: Yes

Name

A friendly name or description of the `RuleGroup`. You can't change the name of a `RuleGroup` after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

RuleGroupId

A unique identifier for a `RuleGroup`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

TimeWindow

Service: AWS WAF

In a GetSampledRequests (p. 115) request, the `StartTime` and `EndTime` objects specify the time range for which you want AWS WAF to return a sample of web requests.

In a GetSampledRequests (p. 115) response, the `StartTime` and `EndTime` objects specify the time range for which AWS WAF actually returned a sample of web requests. AWS WAF gets the specified number of requests from among the first 5,000 requests that your AWS resource receives during the specified time period. If your resource receives more than 5,000 requests during that period, AWS WAF stops sampling after the 5,000th request. In that case, `EndTime` is the time that AWS WAF received the 5,000th request.

Contents

EndTime

The end of the time range from which you want `GetSampledRequests` to return a sample of the requests that your AWS resource received. Specify the date and time in the following format: `"2016-09-27T14:50Z"`. You can specify any time range in the previous three hours.

Type: Timestamp

Required: Yes

StartTime

The beginning of the time range from which you want `GetSampledRequests` to return a sample of the requests that your AWS resource received. Specify the date and time in the following format: `"2016-09-27T14:50Z"`. You can specify any time range in the previous three hours.

Type: Timestamp

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

WafAction

Service: AWS WAF

For the action that is associated with a rule in a `WebACL`, specifies the action that you want AWS WAF to perform when a web request matches all of the conditions in a rule. For the default action in a `WebACL`, specifies the action that you want AWS WAF to take when a web request doesn't match all of the conditions in any of the rules in a `WebACL`.

Contents

Type

Specifies how you want AWS WAF to respond to requests that match the settings in a `Rule`. Valid settings include the following:

- `ALLOW`: AWS WAF allows requests
- `BLOCK`: AWS WAF blocks requests
- `COUNT`: AWS WAF increments a counter of the requests that match all of the conditions in the rule. AWS WAF then continues to inspect the web request based on the remaining rules in the web ACL. You can't specify `COUNT` for the default action for a `WebACL`.

Type: String

Valid Values: `BLOCK` | `ALLOW` | `COUNT`

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

WafOverrideAction

Service: AWS WAF

The action to take if any rule within the `RuleGroup` matches a request.

Contents

Type

`COUNT` overrides the action specified by the individual rule within a `RuleGroup` . If set to `NONE`, the rule's action will take place.

Type: String

Valid Values: `NONE` | `COUNT`

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

WebACL

Service: AWS WAF

Contains the `Rules` that identify the requests that you want to allow, block, or count. In a `WebACL`, you also specify a default action (`ALLOW` or `BLOCK`), and the action for each `Rule` that you add to a `WebACL`, for example, block requests from specified IP addresses or block requests from specified referrers. You also associate the `WebACL` with a CloudFront distribution to identify the requests that you want AWS WAF to filter. If you add more than one `Rule` to a `WebACL`, a request needs to match only one of the specifications to be allowed, blocked, or counted. For more information, see UpdateWebACL (p. 204).

Contents

DefaultAction

The action to perform if none of the `Rules` contained in the `WebACL` match. The action is specified by the WafAction (p. 496) object.

Type: WafAction (p. 496) object

Required: Yes

MetricName

A friendly name or description for the metrics for this `WebACL`. The name can contain only alphanumeric characters (A-Z, a-z, 0-9); the name can't contain whitespace. You can't change `MetricName` after you create the `WebACL`.

Type: String

Required: No

Name

A friendly name or description of the `WebACL`. You can't change the name of a `WebACL` after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: No

Rules

An array that contains the action for each `Rule` in a `WebACL`, the priority of the `Rule`, and the ID of the `Rule`.

Type: Array of ActivatedRule (p. 434) objects

Required: Yes

WebACLArn

Tha Amazon Resource Name (ARN) of the web ACL.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Required: No

WebACLId

A unique identifier for a `WebACL`. You use `WebACLId` to get information about a `WebACL` (see GetWebACL (p. 122)), update a `WebACL` (see UpdateWebACL (p. 204)), and delete a `WebACL` from AWS WAF (see DeleteWebACL (p. 82)).

`WebACLId` is returned by CreateWebACL (p. 41) and by ListWebACLs (p. 154).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

WebACLSummary

Service: AWS WAF

Contains the identifier and the name or description of the WebACL (p. 498).

Contents

Name

A friendly name or description of the WebACL (p. 498). You can't change the name of a `WebACL` after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

WebACLId

A unique identifier for a `WebACL`. You use `WebACLId` to get information about a `WebACL` (see GetWebACL (p. 122)), update a `WebACL` (see UpdateWebACL (p. 204)), and delete a `WebACL` from AWS WAF (see DeleteWebACL (p. 82)).

`WebACLId` is returned by CreateWebACL (p. 41) and by ListWebACLs (p. 154).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

WebACLUpdate

Service: AWS WAF

Specifies whether to insert a `Rule` into or delete a `Rule` from a `WebACL`.

Contents

Action

Specifies whether to insert a `Rule` into or delete a `Rule` from a `WebACL`.

Type: String

Valid Values: `INSERT | DELETE`

Required: Yes

ActivatedRule

The `ActivatedRule` object in an UpdateWebACL (p. 204) request specifies a `Rule` that you want to insert or delete, the priority of the `Rule` in the `WebACL`, and the action that you want AWS WAF to take when a web request matches the `Rule` (`ALLOW`, `BLOCK`, or `COUNT`).

Type: ActivatedRule (p. 434) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

XssMatchSet

Service: AWS WAF

A complex type that contains `XssMatchTuple` objects, which specify the parts of web requests that you want AWS WAF to inspect for cross-site scripting attacks and, if you want AWS WAF to inspect a header, the name of the header. If a `XssMatchSet` contains more than one `XssMatchTuple` object, a request needs to include cross-site scripting attacks in only one of the specified parts of the request to be considered a match.

Contents

Name

The name, if any, of the `XssMatchSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: No

XssMatchSetId

A unique identifier for an `XssMatchSet`. You use `XssMatchSetId` to get information about an `XssMatchSet` (see GetXssMatchSet (p. 124)), update an `XssMatchSet` (see UpdateXssMatchSet (p. 209)), insert an `XssMatchSet` into a `Rule` or delete one from a `Rule` (see UpdateRule (p. 188)), and delete an `XssMatchSet` from AWS WAF (see DeleteXssMatchSet (p. 85)).

`XssMatchSetId` is returned by CreateXssMatchSet (p. 45) and by ListXssMatchSets (p. 156).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

XssMatchTuples

Specifies the parts of web requests that you want to inspect for cross-site scripting attacks.

Type: Array of XssMatchTuple (p. 505) objects

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

XssMatchSetSummary

Service: AWS WAF

The `Id` and `Name` of an `XssMatchSet`.

Contents

Name

The name of the `XssMatchSet`, if any, specified by `Id`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

XssMatchSetId

A unique identifier for an `XssMatchSet`. You use `XssMatchSetId` to get information about a `XssMatchSet` (see GetXssMatchSet (p. 124)), update an `XssMatchSet` (see UpdateXssMatchSet (p. 209)), insert an `XssMatchSet` into a `Rule` or delete one from a `Rule` (see UpdateRule (p. 188)), and delete an `XssMatchSet` from AWS WAF (see DeleteXssMatchSet (p. 85)).

`XssMatchSetId` is returned by CreateXssMatchSet (p. 45) and by ListXssMatchSets (p. 156).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

XssMatchSetUpdate

Service: AWS WAF

Specifies the part of a web request that you want to inspect for cross-site scripting attacks and indicates whether you want to add the specification to an XssMatchSet (p. 502) or delete it from an `XssMatchSet`.

Contents

Action

Specify `INSERT` to add a XssMatchSetUpdate (p. 504) to an XssMatchSet (p. 502). Use `DELETE` to remove a `XssMatchSetUpdate` from an `XssMatchSet`.

Type: String

Valid Values: `INSERT | DELETE`

Required: Yes

XssMatchTuple

Specifies the part of a web request that you want AWS WAF to inspect for cross-site scripting attacks and, if you want AWS WAF to inspect a header, the name of the header.

Type: XssMatchTuple (p. 505) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

XssMatchTuple

Service: AWS WAF

Specifies the part of a web request that you want AWS WAF to inspect for cross-site scripting attacks and, if you want AWS WAF to inspect a header, the name of the header.

Contents

FieldToMatch

Specifies where in a web request to look for cross-site scripting attacks.

Type: FieldToMatch (p. 444) object

Required: Yes

TextTransformation

Text transformations eliminate some of the unusual formatting that attackers use in web requests in an effort to bypass AWS WAF. If you specify a transformation, AWS WAF performs the transformation on `FieldToMatch` before inspecting a request for a match.

You can only specify a single type of TextTransformation.

CMD_LINE

When you're concerned that attackers are injecting an operating system command line command and using unusual formatting to disguise some or all of the command, use this option to perform the following transformations:

- Delete the following characters: \ " ' ^
- Delete spaces before the following characters: / (
- Replace the following characters with a space: , ;
- Replace multiple spaces with one space
- Convert uppercase letters (A-Z) to lowercase (a-z)

COMPRESS_WHITE_SPACE

Use this option to replace the following characters with a space character (decimal 32):

- \f, formfeed, decimal 12
- \t, tab, decimal 9
- \n, newline, decimal 10
- \r, carriage return, decimal 13
- \v, vertical tab, decimal 11
- non-breaking space, decimal 160

`COMPRESS_WHITE_SPACE` also replaces multiple spaces with one space.

HTML_ENTITY_DECODE

Use this option to replace HTML-encoded characters with unencoded characters. `HTML_ENTITY_DECODE` performs the following operations:

- Replaces `(ampersand)quot;` with "
- Replaces `(ampersand)nbsp;` with a non-breaking space, decimal 160
- Replaces `(ampersand)lt;` with a "less than" symbol
- Replaces `(ampersand)gt;` with >

- Replaces characters that are represented in hexadecimal format, `(ampersand)#xhhhh;`, with the corresponding characters
- Replaces characters that are represented in decimal format, `(ampersand)#nnnn;`, with the corresponding characters

LOWERCASE

Use this option to convert uppercase letters (A-Z) to lowercase (a-z).

URL_DECODE

Use this option to decode a URL-encoded value.

NONE

Specify `NONE` if you don't want to perform any text transformations.

Type: String

Valid Values: `NONE | COMPRESS_WHITE_SPACE | HTML_ENTITY_DECODE | LOWERCASE | CMD_LINE | URL_DECODE`

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

AWS WAF Regional

The following data types are supported by AWS WAF Regional:

- ActivatedRule (p. 508)
- ByteMatchSet (p. 510)
- ByteMatchSetSummary (p. 512)
- ByteMatchSetUpdate (p. 513)
- ByteMatchTuple (p. 514)
- FieldToMatch (p. 518)
- GeoMatchConstraint (p. 520)
- GeoMatchSet (p. 521)
- GeoMatchSetSummary (p. 522)
- GeoMatchSetUpdate (p. 523)
- HTTPHeader (p. 524)
- HTTPRequest (p. 525)
- IPSet (p. 527)
- IPSetDescriptor (p. 529)

- IPSetSummary (p. 530)
- IPSetUpdate (p. 531)
- LoggingConfiguration (p. 532)
- Predicate (p. 533)
- RateBasedRule (p. 535)
- RegexMatchSet (p. 537)
- RegexMatchSetSummary (p. 539)
- RegexMatchSetUpdate (p. 540)
- RegexMatchTuple (p. 541)
- RegexPatternSet (p. 544)
- RegexPatternSetSummary (p. 545)
- RegexPatternSetUpdate (p. 546)
- Rule (p. 547)
- RuleGroup (p. 549)
- RuleGroupSummary (p. 551)
- RuleGroupUpdate (p. 552)
- RuleSummary (p. 553)
- RuleUpdate (p. 554)
- SampledHTTPRequest (p. 555)
- SizeConstraint (p. 557)
- SizeConstraintSet (p. 560)
- SizeConstraintSetSummary (p. 561)
- SizeConstraintSetUpdate (p. 562)
- SqlInjectionMatchSet (p. 563)
- SqlInjectionMatchSetSummary (p. 564)
- SqlInjectionMatchSetUpdate (p. 565)
- SqlInjectionMatchTuple (p. 566)
- SubscribedRuleGroupSummary (p. 568)
- TimeWindow (p. 569)
- WafAction (p. 570)
- WafOverrideAction (p. 571)
- WebACL (p. 572)
- WebACLSummary (p. 574)
- WebACLUpdate (p. 575)
- XssMatchSet (p. 576)
- XssMatchSetSummary (p. 577)
- XssMatchSetUpdate (p. 578)
- XssMatchTuple (p. 579)

ActivatedRule

Service: AWS WAF Regional

The `ActivatedRule` object in an UpdateWebACL (p. 421) request specifies a `Rule` that you want to insert or delete, the priority of the `Rule` in the `WebACL`, and the action that you want AWS WAF to take when a web request matches the `Rule` (`ALLOW`, `BLOCK`, or `COUNT`).

To specify whether to insert or delete a `Rule`, use the `Action` parameter in the WebACLUpdate (p. 575) data type.

Contents

Action

Specifies the action that CloudFront or AWS WAF takes when a web request matches the conditions in the `Rule`. Valid values for `Action` include the following:

- `ALLOW`: CloudFront responds with the requested object.
- `BLOCK`: CloudFront responds with an HTTP 403 (Forbidden) status code.
- `COUNT`: AWS WAF increments a counter of requests that match the conditions in the rule and then continues to inspect the web request based on the remaining rules in the web ACL.

`ActivatedRule|OverrideAction` applies only when updating or adding a `RuleGroup` to a `WebACL`. In this case you do not use `ActivatedRule|Action`. For all other update requests, `ActivatedRule|Action` is used instead of `ActivatedRule|OverrideAction`.

Type: WafAction (p. 570) object

Required: No

OverrideAction

Use the `OverrideAction` to test your `RuleGroup`.

Any rule in a `RuleGroup` can potentially block a request. If you set the `OverrideAction` to `None`, the `RuleGroup` will block a request if any individual rule in the `RuleGroup` matches the request and is configured to block that request. However if you first want to test the `RuleGroup`, set the `OverrideAction` to `Count`. The `RuleGroup` will then override any block action specified by individual rules contained within the group. Instead of blocking matching requests, those requests will be counted. You can view a record of counted requests using GetSampledRequests (p. 326).

`ActivatedRule|OverrideAction` applies only when updating or adding a `RuleGroup` to a `WebACL`. In this case you do not use `ActivatedRule|Action`. For all other update requests, `ActivatedRule|Action` is used instead of `ActivatedRule|OverrideAction`.

Type: WafOverrideAction (p. 571) object

Required: No

Priority

Specifies the order in which the `Rules` in a `WebACL` are evaluated. Rules with a lower value for `Priority` are evaluated before `Rules` with a higher value. The value must be a unique integer. If you add multiple `Rules` to a `WebACL`, the values don't need to be consecutive.

Type: Integer

Required: Yes

RuleId

The `RuleId` for a `Rule`. You use `RuleId` to get more information about a `Rule` (see GetRule (p. 322)), update a `Rule` (see UpdateRule (p. 405)), insert a `Rule` into a `WebACL` or delete a one from a `WebACL` (see UpdateWebACL (p. 421)), or delete a `Rule` from AWS WAF (see DeleteRule (p. 279)).

`RuleId` is returned by CreateRule (p. 237) and by ListRules (p. 363).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Type

The rule type, either `REGULAR`, as defined by Rule (p. 547), `RATE_BASED`, as defined by RateBasedRule (p. 535), or `GROUP`, as defined by RuleGroup (p. 549). The default is REGULAR. Although this field is optional, be aware that if you try to add a RATE_BASED rule to a web ACL without setting the type, the UpdateWebACL (p. 421) request will fail because the request tries to add a REGULAR rule with the specified ID, which does not exist.

Type: String

Valid Values: `REGULAR` | `RATE_BASED` | `GROUP`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ByteMatchSet

Service: AWS WAF Regional

In a GetByteMatchSet (p. 299) request, `ByteMatchSet` is a complex type that contains the `ByteMatchSetId` and `Name` of a `ByteMatchSet`, and the values that you specified when you updated the `ByteMatchSet`.

A complex type that contains `ByteMatchTuple` objects, which specify the parts of web requests that you want AWS WAF to inspect and the values that you want AWS WAF to search for. If a `ByteMatchSet` contains more than one `ByteMatchTuple` object, a request needs to match the settings in only one `ByteMatchTuple` to be considered a match.

Contents

ByteMatchSetId

The `ByteMatchSetId` for a `ByteMatchSet`. You use `ByteMatchSetId` to get information about a `ByteMatchSet` (see GetByteMatchSet (p. 299)), update a `ByteMatchSet` (see UpdateByteMatchSet (p. 381)), insert a `ByteMatchSet` into a `Rule` or delete one from a `Rule` (see UpdateRule (p. 405)), and delete a `ByteMatchSet` from AWS WAF (see DeleteByteMatchSet (p. 257)).

`ByteMatchSetId` is returned by CreateByteMatchSet (p. 217) and by ListByteMatchSets (p. 343).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

ByteMatchTuples

Specifies the bytes (typically a string that corresponds with ASCII characters) that you want AWS WAF to search for in web requests, the location in requests that you want AWS WAF to search, and other settings.

Type: Array of ByteMatchTuple (p. 514) objects

Required: Yes

Name

A friendly name or description of the ByteMatchSet (p. 510). You can't change `Name` after you create a `ByteMatchSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java

- AWS SDK for Ruby V2

ByteMatchSetSummary

Service: AWS WAF Regional

Returned by ListByteMatchSets (p. 343). Each `ByteMatchSetSummary` object includes the `Name` and `ByteMatchSetId` for one ByteMatchSet (p. 510).

Contents

ByteMatchSetId

The `ByteMatchSetId` for a `ByteMatchSet`. You use `ByteMatchSetId` to get information about a `ByteMatchSet`, update a `ByteMatchSet`, remove a `ByteMatchSet` from a `Rule`, and delete a `ByteMatchSet` from AWS WAF.

`ByteMatchSetId` is returned by CreateByteMatchSet (p. 217) and by ListByteMatchSets (p. 343).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Name

A friendly name or description of the ByteMatchSet (p. 510). You can't change `Name` after you create a `ByteMatchSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ByteMatchSetUpdate

Service: AWS WAF Regional

In an UpdateByteMatchSet (p. 381) request, `ByteMatchSetUpdate` specifies whether to insert or delete a ByteMatchTuple (p. 514) and includes the settings for the `ByteMatchTuple`.

Contents

Action

Specifies whether to insert or delete a ByteMatchTuple (p. 514).

Type: String

Valid Values: `INSERT | DELETE`

Required: Yes

ByteMatchTuple

Information about the part of a web request that you want AWS WAF to inspect and the value that you want AWS WAF to search for. If you specify `DELETE` for the value of `Action`, the `ByteMatchTuple` values must exactly match the values in the `ByteMatchTuple` that you want to delete from the `ByteMatchSet`.

Type: ByteMatchTuple (p. 514) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ByteMatchTuple

Service: AWS WAF Regional

The bytes (typically a string that corresponds with ASCII characters) that you want AWS WAF to search for in web requests, the location in requests that you want AWS WAF to search, and other settings.

Contents

FieldToMatch

The part of a web request that you want AWS WAF to search, such as a specified header or a query string. For more information, see FieldToMatch (p. 518).

Type: FieldToMatch (p. 518) object

Required: Yes

PositionalConstraint

Within the portion of a web request that you want to search (for example, in the query string, if any), specify where you want AWS WAF to search. Valid values include the following:

CONTAINS

The specified part of the web request must include the value of `TargetString`, but the location doesn't matter.

CONTAINS_WORD

The specified part of the web request must include the value of `TargetString`, and `TargetString` must contain only alphanumeric characters or underscore (A-Z, a-z, 0-9, or _). In addition, `TargetString` must be a word, which means one of the following:

- `TargetString` exactly matches the value of the specified part of the web request, such as the value of a header.
- `TargetString` is at the beginning of the specified part of the web request and is followed by a character other than an alphanumeric character or underscore (_), for example, `BadBot;`.
- `TargetString` is at the end of the specified part of the web request and is preceded by a character other than an alphanumeric character or underscore (_), for example, `;BadBot`.
- `TargetString` is in the middle of the specified part of the web request and is preceded and followed by characters other than alphanumeric characters or underscore (_), for example, `–BadBot;`.

EXACTLY

The value of the specified part of the web request must exactly match the value of `TargetString`.

STARTS_WITH

The value of `TargetString` must appear at the beginning of the specified part of the web request.

ENDS_WITH

The value of `TargetString` must appear at the end of the specified part of the web request.

Type: String

Valid Values: `EXACTLY` | `STARTS_WITH` | `ENDS_WITH` | `CONTAINS` | `CONTAINS_WORD`

Required: Yes

TargetString

The value that you want AWS WAF to search for. AWS WAF searches for the specified string in the part of web requests that you specified in `FieldToMatch`. The maximum length of the value is 50 bytes.

Valid values depend on the values that you specified for `FieldToMatch`:

- `HEADER`: The value that you want AWS WAF to search for in the request header that you specified in FieldToMatch (p. 518), for example, the value of the `User-Agent` or `Referer` header.
- `METHOD`: The HTTP method, which indicates the type of operation specified in the request. CloudFront supports the following methods: `DELETE`, `GET`, `HEAD`, `OPTIONS`, `PATCH`, `POST`, and `PUT`.
- `QUERY_STRING`: The value that you want AWS WAF to search for in the query string, which is the part of a URL that appears after a `?` character.
- `URI`: The value that you want AWS WAF to search for in the part of a URL that identifies a resource, for example, `/images/daily-ad.jpg`.
- `BODY`: The part of a request that contains any additional data that you want to send to your web server as the HTTP request body, such as data from a form. The request body immediately follows the request headers. Note that only the first `8192` bytes of the request body are forwarded to AWS WAF for inspection. To allow or block requests based on the length of the body, you can create a size constraint set. For more information, see CreateSizeConstraintSet (p. 244).
- `SINGLE_QUERY_ARG`: The parameter in the query string that you will inspect, such as *UserName* or *SalesRegion*. The maximum length for `SINGLE_QUERY_ARG` is 30 characters.
- `ALL_QUERY_ARGS`: Similar to `SINGLE_QUERY_ARG`, but instead of inspecting a single parameter, AWS WAF inspects all parameters within the query string for the value or regex pattern that you specify in `TargetString`.

If `TargetString` includes alphabetic characters A-Z and a-z, note that the value is case sensitive.

If you're using the AWS WAF API

Specify a base64-encoded version of the value. The maximum length of the value before you base64-encode it is 50 bytes.

For example, suppose the value of `Type` is `HEADER` and the value of `Data` is `User-Agent`. If you want to search the `User-Agent` header for the value `BadBot`, you base64-encode `BadBot` using MIME base64 encoding and include the resulting value, `QmFkQm90`, in the value of `TargetString`.

If you're using the AWS CLI or one of the AWS SDKs

The value that you want AWS WAF to search for. The SDK automatically base64 encodes the value.

Type: Base64-encoded binary data object

Required: Yes

TextTransformation

Text transformations eliminate some of the unusual formatting that attackers use in web requests in an effort to bypass AWS WAF. If you specify a transformation, AWS WAF performs the transformation on `TargetString` before inspecting a request for a match.

You can only specify a single type of TextTransformation.

CMD_LINE

When you're concerned that attackers are injecting an operating system command line command and using unusual formatting to disguise some or all of the command, use this option to perform the following transformations:

- Delete the following characters: \ " ' ^
- Delete spaces before the following characters: / (
- Replace the following characters with a space: , ;
- Replace multiple spaces with one space
- Convert uppercase letters (A-Z) to lowercase (a-z)

COMPRESS_WHITE_SPACE

Use this option to replace the following characters with a space character (decimal 32):

- \f, formfeed, decimal 12
- \t, tab, decimal 9
- \n, newline, decimal 10
- \r, carriage return, decimal 13
- \v, vertical tab, decimal 11
- non-breaking space, decimal 160

`COMPRESS_WHITE_SPACE` also replaces multiple spaces with one space.

HTML_ENTITY_DECODE

Use this option to replace HTML-encoded characters with unencoded characters. `HTML_ENTITY_DECODE` performs the following operations:

- Replaces `(ampersand)quot;` with `"`
- Replaces `(ampersand)nbsp;` with a non-breaking space, decimal 160
- Replaces `(ampersand)lt;` with a "less than" symbol
- Replaces `(ampersand)gt;` with >
- Replaces characters that are represented in hexadecimal format, `(ampersand)#xhhhh;`, with the corresponding characters
- Replaces characters that are represented in decimal format, `(ampersand)#nnnn;`, with the corresponding characters

LOWERCASE

Use this option to convert uppercase letters (A-Z) to lowercase (a-z).

URL_DECODE

Use this option to decode a URL-encoded value.

NONE

Specify `NONE` if you don't want to perform any text transformations.

Type: String

Valid Values: `NONE | COMPRESS_WHITE_SPACE | HTML_ENTITY_DECODE | LOWERCASE | CMD_LINE | URL_DECODE`

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++

- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

FieldToMatch

Service: AWS WAF Regional

Specifies where in a web request to look for `TargetString`.

Contents

Data

When the value of `Type` is `HEADER`, enter the name of the header that you want AWS WAF to search, for example, `User-Agent` or `Referer`. The name of the header is not case sensitive.

When the value of `Type` is `SINGLE_QUERY_ARG`, enter the name of the parameter that you want AWS WAF to search, for example, `UserName` or `SalesRegion`. The parameter name is not case sensitive.

If the value of `Type` is any other value, omit `Data`.

Type: String

Required: No

Type

The part of the web request that you want AWS WAF to search for a specified string. Parts of a request that you can search include the following:

- `HEADER`: A specified request header, for example, the value of the `User-Agent` or `Referer` header. If you choose `HEADER` for the type, specify the name of the header in `Data`.
- `METHOD`: The HTTP method, which indicated the type of operation that the request is asking the origin to perform. Amazon CloudFront supports the following methods: `DELETE`, `GET`, `HEAD`, `OPTIONS`, `PATCH`, `POST`, and `PUT`.
- `QUERY_STRING`: A query string, which is the part of a URL that appears after a `?` character, if any.
- `URI`: The part of a web request that identifies a resource, for example, `/images/daily-ad.jpg`.
- `BODY`: The part of a request that contains any additional data that you want to send to your web server as the HTTP request body, such as data from a form. The request body immediately follows the request headers. Note that only the first `8192` bytes of the request body are forwarded to AWS WAF for inspection. To allow or block requests based on the length of the body, you can create a size constraint set. For more information, see CreateSizeConstraintSet (p. 244).
- `SINGLE_QUERY_ARG`: The parameter in the query string that you will inspect, such as *UserName* or *SalesRegion*. The maximum length for `SINGLE_QUERY_ARG` is 30 characters.
- `ALL_QUERY_ARGS`: Similar to `SINGLE_QUERY_ARG`, but rather than inspecting a single parameter, AWS WAF will inspect all parameters within the query for the value or regex pattern that you specify in `TargetString`.

Type: String

Valid Values: `URI` | `QUERY_STRING` | `HEADER` | `METHOD` | `BODY` | `SINGLE_QUERY_ARG` | `ALL_QUERY_ARGS`

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++

- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

GeoMatchConstraint

Service: AWS WAF Regional

The country from which web requests originate that you want AWS WAF to search for.

Contents

Type

The type of geographical area you want AWS WAF to search for. Currently `Country` is the only valid value.

Type: String

Valid Values: `Country`

Required: Yes

Value

The country that you want AWS WAF to search for.

Type: String

Valid Values: `AF | AX | AL | DZ | AS | AD | AO | AI | AQ | AG | AR | AM | AW | AU | AT | AZ | BS | BH | BD | BB | BY | BE | BZ | BJ | BM | BT | BO | BQ | BA | BW | BV | BR | IO | BN | BG | BF | BI | KH | CM | CA | CV | KY | CF | TD | CL | CN | CX | CC | CO | KM | CG | CD | CK | CR | CI | HR | CU | CW | CY | CZ | DK | DJ | DM | DO | EC | EG | SV | GQ | ER | EE | ET | FK | FO | FJ | FI | FR | GF | PF | TF | GA | GM | GE | DE | GH | GI | GR | GL | GD | GP | GU | GT | GG | GN | GW | GY | HT | HM | VA | HN | HK | HU | IS | IN | ID | IR | IQ | IE | IM | IL | IT | JM | JP | JE | JO | KZ | KE | KI | KP | KR | KW | KG | LA | LV | LB | LS | LR | LY | LI | LT | LU | MO | MK | MG | MW | MY | MV | ML | MT | MH | MQ | MR | MU | YT | MX | FM | MD | MC | MN | ME | MS | MA | MZ | MM | NA | NR | NP | NL | NC | NZ | NI | NE | NG | NU | NF | MP | NO | OM | PK | PW | PS | PA | PG | PY | PE | PH | PN | PL | PT | PR | QA | RE | RO | RU | RW | BL | SH | KN | LC | MF | PM | VC | WS | SM | ST | SA | SN | RS | SC | SL | SG | SX | SK | SI | SB | SO | ZA | GS | SS | ES | LK | SD | SR | SJ | SZ | SE | CH | SY | TW | TJ | TZ | TH | TL | TG | TK | TO | TT | TN | TR | TM | TC | TV | UG | UA | AE | GB | US | UM | UY | UZ | VU | VE | VN | VG | VI | WF | EH | YE | ZM | ZW`

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

GeoMatchSet

Service: AWS WAF Regional

Contains one or more countries that AWS WAF will search for.

Contents

GeoMatchConstraints

An array of GeoMatchConstraint (p. 520) objects, which contain the country that you want AWS WAF to search for.

Type: Array of GeoMatchConstraint (p. 520) objects

Required: Yes

GeoMatchSetId

The `GeoMatchSetId` for an `GeoMatchSet`. You use `GeoMatchSetId` to get information about a `GeoMatchSet` (see GeoMatchSet (p. 521)), update a `GeoMatchSet` (see UpdateGeoMatchSet (p. 385)), insert a `GeoMatchSet` into a `Rule` or delete one from a `Rule` (see UpdateRule (p. 405)), and delete a `GeoMatchSet` from AWS WAF (see DeleteGeoMatchSet (p. 260)).

`GeoMatchSetId` is returned by CreateGeoMatchSet (p. 220) and by ListGeoMatchSets (p. 345).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Name

A friendly name or description of the GeoMatchSet (p. 521). You can't change the name of an `GeoMatchSet` after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

GeoMatchSetSummary

Service: AWS WAF Regional

Contains the identifier and the name of the `GeoMatchSet`.

Contents

GeoMatchSetId

The `GeoMatchSetId` for an GeoMatchSet (p. 521). You can use `GeoMatchSetId` in a GetGeoMatchSet (p. 305) request to get detailed information about an GeoMatchSet (p. 521).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Name

A friendly name or description of the GeoMatchSet (p. 521). You can't change the name of an `GeoMatchSet` after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

GeoMatchSetUpdate

Service: AWS WAF Regional

Specifies the type of update to perform to an GeoMatchSet (p. 521) with UpdateGeoMatchSet (p. 385).

Contents

Action

Specifies whether to insert or delete a country with UpdateGeoMatchSet (p. 385).

Type: String

Valid Values: `INSERT | DELETE`

Required: Yes

GeoMatchConstraint

The country from which web requests originate that you want AWS WAF to search for.

Type: GeoMatchConstraint (p. 520) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

HTTPHeader

Service: AWS WAF Regional

The response from a GetSampledRequests (p. 326) request includes an `HTTPHeader` complex type that appears as `Headers` in the response syntax. `HTTPHeader` contains the names and values of all of the headers that appear in one of the web requests that were returned by `GetSampledRequests`.

Contents

Name

The name of one of the headers in the sampled web request.

Type: String

Required: No

Value

The value of one of the headers in the sampled web request.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

HTTPRequest

Service: AWS WAF Regional

The response from a GetSampledRequests (p. 326) request includes an `HTTPRequest` complex type that appears as `Request` in the response syntax. `HTTPRequest` contains information about one of the web requests that were returned by `GetSampledRequests`.

Contents

ClientIP

The IP address that the request originated from. If the `WebACL` is associated with a CloudFront distribution, this is the value of one of the following fields in CloudFront access logs:

- `c-ip`, if the viewer did not use an HTTP proxy or a load balancer to send the request
- `x-forwarded-for`, if the viewer did use an HTTP proxy or a load balancer to send the request

Type: String

Required: No

Country

The two-letter country code for the country that the request originated from. For a current list of country codes, see the Wikipedia entry ISO 3166-1 alpha-2.

Type: String

Required: No

Headers

A complex type that contains two values for each header in the sampled web request: the name of the header and the value of the header.

Type: Array of HTTPHeader (p. 524) objects

Required: No

HTTPVersion

The HTTP version specified in the sampled web request, for example, `HTTP/1.1`.

Type: String

Required: No

Method

The HTTP method specified in the sampled web request. CloudFront supports the following methods: `DELETE`, `GET`, `HEAD`, `OPTIONS`, `PATCH`, `POST`, and `PUT`.

Type: String

Required: No

URI

The part of a web request that identifies the resource, for example, `/images/daily-ad.jpg`.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

IPSet

Service: AWS WAF Regional

Contains one or more IP addresses or blocks of IP addresses specified in Classless Inter-Domain Routing (CIDR) notation. AWS WAF supports IPv4 address ranges: /8 and any range between /16 through /32. AWS WAF supports IPv6 address ranges: /16, /24, /32, /48, /56, /64, and /128.

To specify an individual IP address, you specify the four-part IP address followed by a `/32`, for example, 192.0.2.0/31. To block a range of IP addresses, you can specify /8 or any range between /16 through /32 (for IPv4) or /16, /24, /32, /48, /56, /64, or /128 (for IPv6). For more information about CIDR notation, see the Wikipedia entry Classless Inter-Domain Routing.

Contents

IPSetDescriptors

The IP address type (`IPV4` or `IPV6`) and the IP address range (in CIDR notation) that web requests originate from. If the `WebACL` is associated with a CloudFront distribution and the viewer did not use an HTTP proxy or a load balancer to send the request, this is the value of the c-ip field in the CloudFront access logs.

Type: Array of IPSetDescriptor (p. 529) objects

Required: Yes

IPSetId

The `IPSetId` for an `IPSet`. You use `IPSetId` to get information about an `IPSet` (see GetIPSet (p. 307)), update an `IPSet` (see UpdateIPSet (p. 389)), insert an `IPSet` into a `Rule` or delete one from a `Rule` (see UpdateRule (p. 405)), and delete an `IPSet` from AWS WAF (see DeleteIPSet (p. 263)).

`IPSetId` is returned by CreateIPSet (p. 223) and by ListIPSets (p. 347).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Name

A friendly name or description of the IPSet (p. 527). You can't change the name of an `IPSet` after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java

- AWS SDK for Ruby V2

IPSetDescriptor

Service: AWS WAF Regional

Specifies the IP address type (`IPV4` or `IPV6`) and the IP address range (in CIDR format) that web requests originate from.

Contents

Type

Specify `IPV4` or `IPV6`.

Type: String

Valid Values: `IPV4 | IPV6`

Required: Yes

Value

Specify an IPv4 address by using CIDR notation. For example:

- To configure AWS WAF to allow, block, or count requests that originated from the IP address 192.0.2.44, specify `192.0.2.44/32`.
- To configure AWS WAF to allow, block, or count requests that originated from IP addresses from 192.0.2.0 to 192.0.2.255, specify `192.0.2.0/24`.

For more information about CIDR notation, see the Wikipedia entry Classless Inter-Domain Routing.

Specify an IPv6 address by using CIDR notation. For example:

- To configure AWS WAF to allow, block, or count requests that originated from the IP address 1111:0000:0000:0000:0000:0000:0000:0111, specify `1111:0000:0000:0000:0000:0000:0000:0111/128`.
- To configure AWS WAF to allow, block, or count requests that originated from IP addresses 1111:0000:0000:0000:0000:0000:0000:0000 to 1111:0000:0000:0000:ffff:ffff:ffff:ffff, specify `1111:0000:0000:0000:0000:0000:0000:0000/64`.

Type: String

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

IPSetSummary

Service: AWS WAF Regional

Contains the identifier and the name of the `IPSet`.

Contents

IPSetId

The `IPSetId` for an IPSet (p. 527). You can use `IPSetId` in a GetIPSet (p. 307) request to get detailed information about an IPSet (p. 527).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Name

A friendly name or description of the IPSet (p. 527). You can't change the name of an `IPSet` after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

IPSetUpdate

Service: AWS WAF Regional

Specifies the type of update to perform to an IPSet (p. 527) with UpdateIPSet (p. 389).

Contents

Action

Specifies whether to insert or delete an IP address with UpdateIPSet (p. 389).

Type: String

Valid Values: `INSERT | DELETE`

Required: Yes

IPSetDescriptor

The IP address type (`IPV4` or `IPV6`) and the IP address range (in CIDR notation) that web requests originate from.

Type: IPSetDescriptor (p. 529) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

LoggingConfiguration

Service: AWS WAF Regional

The Amazon Kinesis Data Firehose, `RedactedFields` information, and the web ACL Amazon Resource Name (ARN).

Contents

LogDestinationConfigs

An array of Amazon Kinesis Data Firehose ARNs.

Type: Array of strings

Array Members: Fixed number of 1 item.

Length Constraints: Minimum length of 1. Maximum length of 1224.

Required: Yes

RedactedFields

The parts of the request that you want redacted from the logs. For example, if you redact the cookie field, the cookie field in the firehose will be `xxx`.

Type: Array of FieldToMatch (p. 518) objects

Required: No

ResourceArn

The Amazon Resource Name (ARN) of the web ACL that you want to associate with `LogDestinationConfigs`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

Predicate

Service: AWS WAF Regional

Specifies the ByteMatchSet (p. 510), IPSet (p. 527), SqlInjectionMatchSet (p. 563), XssMatchSet (p. 576), RegexMatchSet (p. 537), GeoMatchSet (p. 521), and SizeConstraintSet (p. 560) objects that you want to add to a `Rule` and, for each object, indicates whether you want to negate the settings, for example, requests that do NOT originate from the IP address 192.0.2.44.

Contents

DataId

A unique identifier for a predicate in a `Rule`, such as `ByteMatchSetId` or `IPSetId`. The ID is returned by the corresponding `Create` or `List` command.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

Negated

Set `Negated` to `False` if you want AWS WAF to allow, block, or count requests based on the settings in the specified ByteMatchSet (p. 510), IPSet (p. 527), SqlInjectionMatchSet (p. 563), XssMatchSet (p. 576), RegexMatchSet (p. 537), GeoMatchSet (p. 521), or SizeConstraintSet (p. 560). For example, if an `IPSet` includes the IP address `192.0.2.44`, AWS WAF will allow or block requests based on that IP address.

Set `Negated` to `True` if you want AWS WAF to allow or block a request based on the negation of the settings in the ByteMatchSet (p. 510), IPSet (p. 527), SqlInjectionMatchSet (p. 563), XssMatchSet (p. 576), RegexMatchSet (p. 537), GeoMatchSet (p. 521), or SizeConstraintSet (p. 560). For example, if an `IPSet` includes the IP address `192.0.2.44`, AWS WAF will allow, block, or count requests based on all IP addresses *except* `192.0.2.44`.

Type: Boolean

Required: Yes

Type

The type of predicate in a `Rule`, such as `ByteMatch` or `IPSet`.

Type: String

Valid Values: `IPMatch | ByteMatch | SqlInjectionMatch | GeoMatch | SizeConstraint | XssMatch | RegexMatch`

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java

- AWS SDK for Ruby V2

RateBasedRule

Service: AWS WAF Regional

A `RateBasedRule` is identical to a regular Rule (p. 547), with one addition: a `RateBasedRule` counts the number of requests that arrive from a specified IP address every five minutes. For example, based on recent requests that you've seen from an attacker, you might create a `RateBasedRule` that includes the following conditions:

- The requests come from 192.0.2.44.
- They contain the value `BadBot` in the `User-Agent` header.

In the rule, you also define the rate limit as 15,000.

Requests that meet both of these conditions and exceed 15,000 requests every five minutes trigger the rule's action (block or count), which is defined in the web ACL.

Contents

MatchPredicates

The `Predicates` object contains one `Predicate` element for each ByteMatchSet (p. 510), IPSet (p. 527), or SqlInjectionMatchSet (p. 563) object that you want to include in a `RateBasedRule`.

Type: Array of Predicate (p. 533) objects

Required: Yes

MetricName

A friendly name or description for the metrics for a `RateBasedRule`. The name can contain only alphanumeric characters (A-Z, a-z, 0-9); the name can't contain whitespace. You can't change the name of the metric after you create the `RateBasedRule`.

Type: String

Required: No

Name

A friendly name or description for a `RateBasedRule`. You can't change the name of a `RateBasedRule` after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: No

RateKey

The field that AWS WAF uses to determine if requests are likely arriving from single source and thus subject to rate monitoring. The only valid value for `RateKey` is `IP`. `IP` indicates that requests arriving from the same IP address are subject to the `RateLimit` that is specified in the `RateBasedRule`.

Type: String

Valid Values: `IP`

Required: Yes

RateLimit

The maximum number of requests, which have an identical value in the field specified by the `RateKey`, allowed in a five-minute period. If the number of requests exceeds the `RateLimit` and the other predicates specified in the rule are also met, AWS WAF triggers the action that is specified for this rule.

Type: Long

Valid Range: Minimum value of 2000. Maximum value of 2000000000.

Required: Yes

RuleId

A unique identifier for a `RateBasedRule`. You use `RuleId` to get more information about a `RateBasedRule` (see GetRateBasedRule (p. 313)), update a `RateBasedRule` (see UpdateRateBasedRule (p. 393)), insert a `RateBasedRule` into a `WebACL` or delete one from a `WebACL` (see UpdateWebACL (p. 421)), or delete a `RateBasedRule` from AWS WAF (see DeleteRateBasedRule (p. 270)).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

RegexMatchSet

Service: AWS WAF Regional

In a GetRegexMatchSet (p. 318) request, `RegexMatchSet` is a complex type that contains the `RegexMatchSetId` and `Name` of a `RegexMatchSet`, and the values that you specified when you updated the `RegexMatchSet`.

The values are contained in a `RegexMatchTuple` object, which specify the parts of web requests that you want AWS WAF to inspect and the values that you want AWS WAF to search for. If a `RegexMatchSet` contains more than one `RegexMatchTuple` object, a request needs to match the settings in only one `ByteMatchTuple` to be considered a match.

Contents

Name

A friendly name or description of the RegexMatchSet (p. 537). You can't change `Name` after you create a `RegexMatchSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: No

RegexMatchSetId

The `RegexMatchSetId` for a `RegexMatchSet`. You use `RegexMatchSetId` to get information about a `RegexMatchSet` (see GetRegexMatchSet (p. 318)), update a `RegexMatchSet` (see UpdateRegexMatchSet (p. 397)), insert a `RegexMatchSet` into a `Rule` or delete one from a `Rule` (see UpdateRule (p. 405)), and delete a `RegexMatchSet` from AWS WAF (see DeleteRegexMatchSet (p. 273)).

`RegexMatchSetId` is returned by CreateRegexMatchSet (p. 231) and by ListRegexMatchSets (p. 354).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: No

RegexMatchTuples

Contains an array of RegexMatchTuple (p. 541) objects. Each `RegexMatchTuple` object contains:

- The part of a web request that you want AWS WAF to inspect, such as a query string or the value of the `User-Agent` header.
- The identifier of the pattern (a regular expression) that you want AWS WAF to look for. For more information, see RegexPatternSet (p. 544).
- Whether to perform any conversions on the request, such as converting it to lowercase, before inspecting it for the specified string.

Type: Array of RegexMatchTuple (p. 541) objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

RegexMatchSetSummary

Service: AWS WAF Regional

Returned by ListRegexMatchSets (p. 354). Each `RegexMatchSetSummary` object includes the `Name` and `RegexMatchSetId` for one RegexMatchSet (p. 537).

Contents

Name

A friendly name or description of the RegexMatchSet (p. 537). You can't change `Name` after you create a `RegexMatchSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

RegexMatchSetId

The `RegexMatchSetId` for a `RegexMatchSet`. You use `RegexMatchSetId` to get information about a `RegexMatchSet`, update a `RegexMatchSet`, remove a `RegexMatchSet` from a `Rule`, and delete a `RegexMatchSet` from AWS WAF.

`RegexMatchSetId` is returned by CreateRegexMatchSet (p. 231) and by ListRegexMatchSets (p. 354).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

RegexMatchSetUpdate

Service: AWS WAF Regional

In an UpdateRegexMatchSet (p. 397) request, `RegexMatchSetUpdate` specifies whether to insert or delete a RegexMatchTuple (p. 541) and includes the settings for the `RegexMatchTuple`.

Contents

Action

Specifies whether to insert or delete a RegexMatchTuple (p. 541).

Type: String

Valid Values: `INSERT | DELETE`

Required: Yes

RegexMatchTuple

Information about the part of a web request that you want AWS WAF to inspect and the identifier of the regular expression (regex) pattern that you want AWS WAF to search for. If you specify `DELETE` for the value of `Action`, the `RegexMatchTuple` values must exactly match the values in the `RegexMatchTuple` that you want to delete from the `RegexMatchSet`.

Type: RegexMatchTuple (p. 541) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

RegexMatchTuple

Service: AWS WAF Regional

The regular expression pattern that you want AWS WAF to search for in web requests, the location in requests that you want AWS WAF to search, and other settings. Each `RegexMatchTuple` object contains:

- The part of a web request that you want AWS WAF to inspect, such as a query string or the value of the `User-Agent` header.
- The identifier of the pattern (a regular expression) that you want AWS WAF to look for. For more information, see RegexPatternSet (p. 544).
- Whether to perform any conversions on the request, such as converting it to lowercase, before inspecting it for the specified string.

Contents

FieldToMatch

Specifies where in a web request to look for the `RegexPatternSet`.

Type: FieldToMatch (p. 518) object

Required: Yes

RegexPatternSetId

The `RegexPatternSetId` for a `RegexPatternSet`. You use `RegexPatternSetId` to get information about a `RegexPatternSet` (see GetRegexPatternSet (p. 320)), update a `RegexPatternSet` (see UpdateRegexPatternSet (p. 401)), insert a `RegexPatternSet` into a `RegexMatchSet` or delete one from a `RegexMatchSet` (see UpdateRegexMatchSet (p. 397)), and delete an `RegexPatternSet` from AWS WAF (see DeleteRegexPatternSet (p. 276)).

`RegexPatternSetId` is returned by CreateRegexPatternSet (p. 234) and by ListRegexPatternSets (p. 356).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

TextTransformation

Text transformations eliminate some of the unusual formatting that attackers use in web requests in an effort to bypass AWS WAF. If you specify a transformation, AWS WAF performs the transformation on `RegexPatternSet` before inspecting a request for a match.

You can only specify a single type of TextTransformation.

CMD_LINE

When you're concerned that attackers are injecting an operating system commandline command and using unusual formatting to disguise some or all of the command, use this option to perform the following transformations:

- Delete the following characters: \ " ' ^
- Delete spaces before the following characters: / (
- Replace the following characters with a space: , ;
- Replace multiple spaces with one space

- Convert uppercase letters (A-Z) to lowercase (a-z)

COMPRESS_WHITE_SPACE

Use this option to replace the following characters with a space character (decimal 32):

- \f, formfeed, decimal 12
- \t, tab, decimal 9
- \n, newline, decimal 10
- \r, carriage return, decimal 13
- \v, vertical tab, decimal 11
- non-breaking space, decimal 160

`COMPRESS_WHITE_SPACE` also replaces multiple spaces with one space.

HTML_ENTITY_DECODE

Use this option to replace HTML-encoded characters with unencoded characters. `HTML_ENTITY_DECODE` performs the following operations:

- Replaces `(ampersand)quot;` with `"`
- Replaces `(ampersand)nbsp;` with a non-breaking space, decimal 160
- Replaces `(ampersand)lt;` with a "less than" symbol
- Replaces `(ampersand)gt;` with >
- Replaces characters that are represented in hexadecimal format, `(ampersand)#xhhhh;`, with the corresponding characters
- Replaces characters that are represented in decimal format, `(ampersand)#nnnn;`, with the corresponding characters

LOWERCASE

Use this option to convert uppercase letters (A-Z) to lowercase (a-z).

URL_DECODE

Use this option to decode a URL-encoded value.

NONE

Specify `NONE` if you don't want to perform any text transformations.

Type: String

Valid Values: `NONE | COMPRESS_WHITE_SPACE | HTML_ENTITY_DECODE | LOWERCASE | CMD_LINE | URL_DECODE`

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

RegexPatternSet

Service: AWS WAF Regional

The `RegexPatternSet` specifies the regular expression (regex) pattern that you want AWS WAF to search for, such as `B[a@]dB[o0]t`. You can then configure AWS WAF to reject those requests.

Contents

Name

A friendly name or description of the RegexPatternSet (p. 544). You can't change `Name` after you create a `RegexPatternSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: No

RegexPatternSetId

The identifier for the `RegexPatternSet`. You use `RegexPatternSetId` to get information about a `RegexPatternSet`, update a `RegexPatternSet`, remove a `RegexPatternSet` from a `RegexMatchSet`, and delete a `RegexPatternSet` from AWS WAF.

`RegexMatchSetId` is returned by CreateRegexPatternSet (p. 234) and by ListRegexPatternSets (p. 356).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

RegexPatternStrings

Specifies the regular expression (regex) patterns that you want AWS WAF to search for, such as `B[a@]dB[o0]t`.

Type: Array of strings

Array Members: Maximum number of 10 items.

Length Constraints: Minimum length of 1.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

RegexPatternSetSummary

Service: AWS WAF Regional

Returned by ListRegexPatternSets (p. 356). Each `RegexPatternSetSummary` object includes the `Name` and `RegexPatternSetId` for one RegexPatternSet (p. 544).

Contents

Name

A friendly name or description of the RegexPatternSet (p. 544). You can't change `Name` after you create a `RegexPatternSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

RegexPatternSetId

The `RegexPatternSetId` for a `RegexPatternSet`. You use `RegexPatternSetId` to get information about a `RegexPatternSet`, update a `RegexPatternSet`, remove a `RegexPatternSet` from a `RegexMatchSet`, and delete a `RegexPatternSet` from AWS WAF.

`RegexPatternSetId` is returned by CreateRegexPatternSet (p. 234) and by ListRegexPatternSets (p. 356).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

RegexPatternSetUpdate

Service: AWS WAF Regional

In an UpdateRegexPatternSet (p. 401) request, `RegexPatternSetUpdate` specifies whether to insert or delete a `RegexPatternString` and includes the settings for the `RegexPatternString`.

Contents

Action

Specifies whether to insert or delete a `RegexPatternString`.

Type: String

Valid Values: `INSERT | DELETE`

Required: Yes

RegexPatternString

Specifies the regular expression (regex) pattern that you want AWS WAF to search for, such as `B[a@]dB[o0]t`.

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

Rule

Service: AWS WAF Regional

A combination of ByteMatchSet (p. 510), IPSet (p. 527), and/or SqlInjectionMatchSet (p. 563) objects that identify the web requests that you want to allow, block, or count. For example, you might create a `Rule` that includes the following predicates:

- An `IPSet` that causes AWS WAF to search for web requests that originate from the IP address `192.0.2.44`
- A `ByteMatchSet` that causes AWS WAF to search for web requests for which the value of the `User-Agent` header is `BadBot`.

To match the settings in this `Rule`, a request must originate from `192.0.2.44` AND include a `User-Agent` header for which the value is `BadBot`.

Contents

MetricName

A friendly name or description for the metrics for this `Rule`. The name can contain only alphanumeric characters (A-Z, a-z, 0-9); the name can't contain whitespace. You can't change `MetricName` after you create the `Rule`.

Type: String

Required: No

Name

The friendly name or description for the `Rule`. You can't change the name of a `Rule` after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: No

Predicates

The `Predicates` object contains one `Predicate` element for each ByteMatchSet (p. 510), IPSet (p. 527), or SqlInjectionMatchSet (p. 563) object that you want to include in a `Rule`.

Type: Array of Predicate (p. 533) objects

Required: Yes

RuleId

A unique identifier for a `Rule`. You use `RuleId` to get more information about a `Rule` (see GetRule (p. 322)), update a `Rule` (see UpdateRule (p. 405)), insert a `Rule` into a `WebACL` or delete a one from a `WebACL` (see UpdateWebACL (p. 421)), or delete a `Rule` from AWS WAF (see DeleteRule (p. 279)).

`RuleId` is returned by CreateRule (p. 237) and by ListRules (p. 363).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

RuleGroup

Service: AWS WAF Regional

A collection of predefined rules that you can add to a web ACL.

Rule groups are subject to the following limits:

- Three rule groups per account. You can request an increase to this limit by contacting customer support.
- One rule group per web ACL.
- Ten rules per rule group.

Contents

MetricName

A friendly name or description for the metrics for this `RuleGroup`. The name can contain only alphanumeric characters (A-Z, a-z, 0-9); the name can't contain whitespace. You can't change the name of the metric after you create the `RuleGroup`.

Type: String

Required: No

Name

The friendly name or description for the `RuleGroup`. You can't change the name of a `RuleGroup` after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: No

RuleGroupId

A unique identifier for a `RuleGroup`. You use `RuleGroupId` to get more information about a `RuleGroup` (see GetRuleGroup (p. 324)), update a `RuleGroup` (see UpdateRuleGroup (p. 409)), insert a `RuleGroup` into a `WebACL` or delete a one from a `WebACL` (see UpdateWebACL (p. 421)), or delete a `RuleGroup` from AWS WAF (see DeleteRuleGroup (p. 282)).

`RuleGroupId` is returned by CreateRuleGroup (p. 241) and by ListRuleGroups (p. 361).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java

- AWS SDK for Ruby V2

RuleGroupSummary

Service: AWS WAF Regional

Contains the identifier and the friendly name or description of the `RuleGroup`.

Contents

Name

A friendly name or description of the RuleGroup (p. 549). You can't change the name of a `RuleGroup` after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

RuleGroupId

A unique identifier for a `RuleGroup`. You use `RuleGroupId` to get more information about a `RuleGroup` (see GetRuleGroup (p. 324)), update a `RuleGroup` (see UpdateRuleGroup (p. 409)), insert a `RuleGroup` into a `WebACL` or delete one from a `WebACL` (see UpdateWebACL (p. 421)), or delete a `RuleGroup` from AWS WAF (see DeleteRuleGroup (p. 282)).

`RuleGroupId` is returned by CreateRuleGroup (p. 241) and by ListRuleGroups (p. 361).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

RuleGroupUpdate

Service: AWS WAF Regional

Specifies an `ActivatedRule` and indicates whether you want to add it to a `RuleGroup` or delete it from a `RuleGroup`.

Contents

Action

Specify `INSERT` to add an `ActivatedRule` to a `RuleGroup`. Use `DELETE` to remove an `ActivatedRule` from a `RuleGroup`.

Type: String

Valid Values: `INSERT | DELETE`

Required: Yes

ActivatedRule

The `ActivatedRule` object specifies a `Rule` that you want to insert or delete, the priority of the `Rule` in the `WebACL`, and the action that you want AWS WAF to take when a web request matches the `Rule` (`ALLOW`, `BLOCK`, or `COUNT`).

Type: ActivatedRule (p. 508) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

RuleSummary

Service: AWS WAF Regional

Contains the identifier and the friendly name or description of the `Rule`.

Contents

Name

A friendly name or description of the Rule (p. 547). You can't change the name of a `Rule` after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

RuleId

A unique identifier for a `Rule`. You use `RuleId` to get more information about a `Rule` (see GetRule (p. 322)), update a `Rule` (see UpdateRule (p. 405)), insert a `Rule` into a `WebACL` or delete one from a `WebACL` (see UpdateWebACL (p. 421)), or delete a `Rule` from AWS WAF (see DeleteRule (p. 279)).

`RuleId` is returned by CreateRule (p. 237) and by ListRules (p. 363).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

RuleUpdate

Service: AWS WAF Regional

Specifies a `Predicate` (such as an `IPSet`) and indicates whether you want to add it to a `Rule` or delete it from a `Rule`.

Contents

Action

Specify `INSERT` to add a `Predicate` to a `Rule`. Use `DELETE` to remove a `Predicate` from a `Rule`.

Type: String

Valid Values: `INSERT | DELETE`

Required: Yes

Predicate

The ID of the `Predicate` (such as an `IPSet`) that you want to add to a `Rule`.

Type: Predicate (p. 533) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

SampledHTTPRequest

Service: AWS WAF Regional

The response from a GetSampledRequests (p. 326) request includes a `SampledHTTPRequests` complex type that appears as `SampledRequests` in the response syntax. `SampledHTTPRequests` contains one `SampledHTTPRequest` object for each web request that is returned by `GetSampledRequests`.

Contents

Action

The action for the `Rule` that the request matched: `ALLOW`, `BLOCK`, or `COUNT`.

Type: String

Required: No

Request

A complex type that contains detailed information about the request.

Type: HTTPRequest (p. 525) object

Required: Yes

RuleWithinRuleGroup

This value is returned if the `GetSampledRequests` request specifies the ID of a `RuleGroup` rather than the ID of an individual rule. `RuleWithinRuleGroup` is the rule within the specified `RuleGroup` that matched the request listed in the response.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: No

Timestamp

The time at which AWS WAF received the request from your AWS resource, in Unix time format (in seconds).

Type: Timestamp

Required: No

Weight

A value that indicates how one result in the response relates proportionally to other results in the response. A result that has a weight of `2` represents roughly twice as many CloudFront web requests as a result that has a weight of `1`.

Type: Long

Valid Range: Minimum value of 0.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

SizeConstraint

Service: AWS WAF Regional

Specifies a constraint on the size of a part of the web request. AWS WAF uses the `Size`, `ComparisonOperator`, and `FieldToMatch` to build an expression in the form of "`Size ComparisonOperator` size in bytes of `FieldToMatch`". If that expression is true, the `SizeConstraint` is considered to match.

Contents

ComparisonOperator

The type of comparison you want AWS WAF to perform. AWS WAF uses this in combination with the provided `Size` and `FieldToMatch` to build an expression in the form of "`Size ComparisonOperator` size in bytes of `FieldToMatch`". If that expression is true, the `SizeConstraint` is considered to match.

EQ: Used to test if the `Size` is equal to the size of the `FieldToMatch`

NE: Used to test if the `Size` is not equal to the size of the `FieldToMatch`

LE: Used to test if the `Size` is less than or equal to the size of the `FieldToMatch`

LT: Used to test if the `Size` is strictly less than the size of the `FieldToMatch`

GE: Used to test if the `Size` is greater than or equal to the size of the `FieldToMatch`

GT: Used to test if the `Size` is strictly greater than the size of the `FieldToMatch`

Type: String

Valid Values: `EQ | NE | LE | LT | GE | GT`

Required: Yes

FieldToMatch

Specifies where in a web request to look for the size constraint.

Type: FieldToMatch (p. 518) object

Required: Yes

Size

The size in bytes that you want AWS WAF to compare against the size of the specified `FieldToMatch`. AWS WAF uses this in combination with `ComparisonOperator` and `FieldToMatch` to build an expression in the form of "`Size ComparisonOperator` size in bytes of `FieldToMatch`". If that expression is true, the `SizeConstraint` is considered to match.

Valid values for size are 0 - 21474836480 bytes (0 - 20 GB).

If you specify `URI` for the value of `Type`, the / in the URI counts as one character. For example, the URI `/logo.jpg` is nine characters long.

Type: Long

Valid Range: Minimum value of 0. Maximum value of 21474836480.

Required: Yes

TextTransformation

Text transformations eliminate some of the unusual formatting that attackers use in web requests in an effort to bypass AWS WAF. If you specify a transformation, AWS WAF performs the transformation on `FieldToMatch` before inspecting a request for a match.

You can only specify a single type of TextTransformation.

Note that if you choose `BODY` for the value of `Type`, you must choose `NONE` for `TextTransformation` because CloudFront forwards only the first 8192 bytes for inspection.

NONE

Specify `NONE` if you don't want to perform any text transformations.

CMD_LINE

When you're concerned that attackers are injecting an operating system command line command and using unusual formatting to disguise some or all of the command, use this option to perform the following transformations:

- Delete the following characters: \ " ' ^
- Delete spaces before the following characters: / (
- Replace the following characters with a space: , ;
- Replace multiple spaces with one space
- Convert uppercase letters (A-Z) to lowercase (a-z)

COMPRESS_WHITE_SPACE

Use this option to replace the following characters with a space character (decimal 32):

- \f, formfeed, decimal 12
- \t, tab, decimal 9
- \n, newline, decimal 10
- \r, carriage return, decimal 13
- \v, vertical tab, decimal 11
- non-breaking space, decimal 160

`COMPRESS_WHITE_SPACE` also replaces multiple spaces with one space.

HTML_ENTITY_DECODE

Use this option to replace HTML-encoded characters with unencoded characters. `HTML_ENTITY_DECODE` performs the following operations:

- Replaces `(ampersand)quot;` with "
- Replaces `(ampersand)nbsp;` with a non-breaking space, decimal 160
- Replaces `(ampersand)lt;` with a "less than" symbol
- Replaces `(ampersand)gt;` with >
- Replaces characters that are represented in hexadecimal format, `(ampersand)#xhhhh;`, with the corresponding characters
- Replaces characters that are represented in decimal format, `(ampersand)#nnnn;`, with the corresponding characters

LOWERCASE

Use this option to convert uppercase letters (A-Z) to lowercase (a-z).

URL_DECODE

Use this option to decode a URL-encoded value.

Type: String

Valid Values: `NONE | COMPRESS_WHITE_SPACE | HTML_ENTITY_DECODE | LOWERCASE | CMD_LINE | URL_DECODE`

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

SizeConstraintSet

Service: AWS WAF Regional

A complex type that contains `SizeConstraint` objects, which specify the parts of web requests that you want AWS WAF to inspect the size of. If a `SizeConstraintSet` contains more than one `SizeConstraint` object, a request only needs to match one constraint to be considered a match.

Contents

Name

The name, if any, of the `SizeConstraintSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: No

SizeConstraints

Specifies the parts of web requests that you want to inspect the size of.

Type: Array of SizeConstraint (p. 557) objects

Required: Yes

SizeConstraintSetId

A unique identifier for a `SizeConstraintSet`. You use `SizeConstraintSetId` to get information about a `SizeConstraintSet` (see GetSizeConstraintSet (p. 329)), update a `SizeConstraintSet` (see UpdateSizeConstraintSet (p. 413)), insert a `SizeConstraintSet` into a `Rule` or delete one from a `Rule` (see UpdateRule (p. 405)), and delete a `SizeConstraintSet` from AWS WAF (see DeleteSizeConstraintSet (p. 285)).

`SizeConstraintSetId` is returned by CreateSizeConstraintSet (p. 244) and by ListSizeConstraintSets (p. 365).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

SizeConstraintSetSummary

Service: AWS WAF Regional

The `Id` and `Name` of a `SizeConstraintSet`.

Contents

Name

The name of the `SizeConstraintSet`, if any.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

SizeConstraintSetId

A unique identifier for a `SizeConstraintSet`. You use `SizeConstraintSetId` to get information about a `SizeConstraintSet` (see GetSizeConstraintSet (p. 329)), update a `SizeConstraintSet` (see UpdateSizeConstraintSet (p. 413)), insert a `SizeConstraintSet` into a `Rule` or delete one from a `Rule` (see UpdateRule (p. 405)), and delete a `SizeConstraintSet` from AWS WAF (see DeleteSizeConstraintSet (p. 285)).

`SizeConstraintSetId` is returned by CreateSizeConstraintSet (p. 244) and by ListSizeConstraintSets (p. 365).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

SizeConstraintSetUpdate

Service: AWS WAF Regional

Specifies the part of a web request that you want to inspect the size of and indicates whether you want to add the specification to a SizeConstraintSet (p. 560) or delete it from a `SizeConstraintSet`.

Contents

Action

Specify `INSERT` to add a SizeConstraintSetUpdate (p. 562) to a SizeConstraintSet (p. 560). Use `DELETE` to remove a `SizeConstraintSetUpdate` from a `SizeConstraintSet`.

Type: String

Valid Values: `INSERT | DELETE`

Required: Yes

SizeConstraint

Specifies a constraint on the size of a part of the web request. AWS WAF uses the `Size`, `ComparisonOperator`, and `FieldToMatch` to build an expression in the form of "`Size ComparisonOperator` size in bytes of `FieldToMatch`". If that expression is true, the `SizeConstraint` is considered to match.

Type: SizeConstraint (p. 557) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

SqlInjectionMatchSet

Service: AWS WAF Regional

A complex type that contains `SqlInjectionMatchTuple` objects, which specify the parts of web requests that you want AWS WAF to inspect for snippets of malicious SQL code and, if you want AWS WAF to inspect a header, the name of the header. If a `SqlInjectionMatchSet` contains more than one `SqlInjectionMatchTuple` object, a request needs to include snippets of SQL code in only one of the specified parts of the request to be considered a match.

Contents

Name

The name, if any, of the `SqlInjectionMatchSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: No

SqlInjectionMatchSetId

A unique identifier for a `SqlInjectionMatchSet`. You use `SqlInjectionMatchSetId` to get information about a `SqlInjectionMatchSet` (see GetSqlInjectionMatchSet (p. 331)), update a `SqlInjectionMatchSet` (see UpdateSqlInjectionMatchSet (p. 417)), insert a `SqlInjectionMatchSet` into a `Rule` or delete one from a `Rule` (see UpdateRule (p. 405)), and delete a `SqlInjectionMatchSet` from AWS WAF (see DeleteSqlInjectionMatchSet (p. 288)).

`SqlInjectionMatchSetId` is returned by CreateSqlInjectionMatchSet (p. 247) and by ListSqlInjectionMatchSets (p. 367).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

SqlInjectionMatchTuples

Specifies the parts of web requests that you want to inspect for snippets of malicious SQL code.

Type: Array of SqlInjectionMatchTuple (p. 566) objects

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

SqlInjectionMatchSetSummary

Service: AWS WAF Regional

The `Id` and `Name` of a `SqlInjectionMatchSet`.

Contents

Name

The name of the `SqlInjectionMatchSet`, if any, specified by `Id`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

SqlInjectionMatchSetId

A unique identifier for a `SqlInjectionMatchSet`. You use `SqlInjectionMatchSetId` to get information about a `SqlInjectionMatchSet` (see GetSqlInjectionMatchSet (p. 331)), update a `SqlInjectionMatchSet` (see UpdateSqlInjectionMatchSet (p. 417)), insert a `SqlInjectionMatchSet` into a `Rule` or delete one from a `Rule` (see UpdateRule (p. 405)), and delete a `SqlInjectionMatchSet` from AWS WAF (see DeleteSqlInjectionMatchSet (p. 288)).

`SqlInjectionMatchSetId` is returned by CreateSqlInjectionMatchSet (p. 247) and by ListSqlInjectionMatchSets (p. 367).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

SqlInjectionMatchSetUpdate

Service: AWS WAF Regional

Specifies the part of a web request that you want to inspect for snippets of malicious SQL code and indicates whether you want to add the specification to a SqlInjectionMatchSet (p. 563) or delete it from a `SqlInjectionMatchSet`.

Contents

Action

Specify `INSERT` to add a SqlInjectionMatchSetUpdate (p. 565) to a SqlInjectionMatchSet (p. 563). Use `DELETE` to remove a `SqlInjectionMatchSetUpdate` from a `SqlInjectionMatchSet`.

Type: String

Valid Values: `INSERT | DELETE`

Required: Yes

SqlInjectionMatchTuple

Specifies the part of a web request that you want AWS WAF to inspect for snippets of malicious SQL code and, if you want AWS WAF to inspect a header, the name of the header.

Type: SqlInjectionMatchTuple (p. 566) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

SqlInjectionMatchTuple

Service: AWS WAF Regional

Specifies the part of a web request that you want AWS WAF to inspect for snippets of malicious SQL code and, if you want AWS WAF to inspect a header, the name of the header.

Contents

FieldToMatch

Specifies where in a web request to look for snippets of malicious SQL code.

Type: FieldToMatch (p. 518) object

Required: Yes

TextTransformation

Text transformations eliminate some of the unusual formatting that attackers use in web requests in an effort to bypass AWS WAF. If you specify a transformation, AWS WAF performs the transformation on `FieldToMatch` before inspecting a request for a match.

You can only specify a single type of TextTransformation.

CMD_LINE

When you're concerned that attackers are injecting an operating system command line command and using unusual formatting to disguise some or all of the command, use this option to perform the following transformations:

- Delete the following characters: \ " ' ^
- Delete spaces before the following characters: / (
- Replace the following characters with a space: , ;
- Replace multiple spaces with one space
- Convert uppercase letters (A-Z) to lowercase (a-z)

COMPRESS_WHITE_SPACE

Use this option to replace the following characters with a space character (decimal 32):

- \f, formfeed, decimal 12
- \t, tab, decimal 9
- \n, newline, decimal 10
- \r, carriage return, decimal 13
- \v, vertical tab, decimal 11
- non-breaking space, decimal 160

`COMPRESS_WHITE_SPACE` also replaces multiple spaces with one space.

HTML_ENTITY_DECODE

Use this option to replace HTML-encoded characters with unencoded characters. `HTML_ENTITY_DECODE` performs the following operations:

- Replaces `(ampersand)quot;` with "
- Replaces `(ampersand)nbsp;` with a non-breaking space, decimal 160
- Replaces `(ampersand)lt;` with a "less than" symbol
- Replaces `(ampersand)gt;` with >

- Replaces characters that are represented in hexadecimal format, `(ampersand)#xhhhh;`, with the corresponding characters
- Replaces characters that are represented in decimal format, `(ampersand)#nnnn;`, with the corresponding characters

LOWERCASE

Use this option to convert uppercase letters (A-Z) to lowercase (a-z).

URL_DECODE

Use this option to decode a URL-encoded value.

NONE

Specify `NONE` if you don't want to perform any text transformations.

Type: String

Valid Values: `NONE | COMPRESS_WHITE_SPACE | HTML_ENTITY_DECODE | LOWERCASE | CMD_LINE | URL_DECODE`

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

SubscribedRuleGroupSummary

Service: AWS WAF Regional

A summary of the rule groups you are subscribed to.

Contents

MetricName

A friendly name or description for the metrics for this `RuleGroup`. The name can contain only alphanumeric characters (A-Z, a-z, 0-9); the name can't contain whitespace. You can't change the name of the metric after you create the `RuleGroup`.

Type: String

Required: Yes

Name

A friendly name or description of the `RuleGroup`. You can't change the name of a `RuleGroup` after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

RuleGroupId

A unique identifier for a `RuleGroup`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

TimeWindow

Service: AWS WAF Regional

In a GetSampledRequests (p. 326) request, the `StartTime` and `EndTime` objects specify the time range for which you want AWS WAF to return a sample of web requests.

In a GetSampledRequests (p. 326) response, the `StartTime` and `EndTime` objects specify the time range for which AWS WAF actually returned a sample of web requests. AWS WAF gets the specified number of requests from among the first 5,000 requests that your AWS resource receives during the specified time period. If your resource receives more than 5,000 requests during that period, AWS WAF stops sampling after the 5,000th request. In that case, `EndTime` is the time that AWS WAF received the 5,000th request.

Contents

EndTime

The end of the time range from which you want `GetSampledRequests` to return a sample of the requests that your AWS resource received. Specify the date and time in the following format: `"2016-09-27T14:50Z"`. You can specify any time range in the previous three hours.

Type: Timestamp

Required: Yes

StartTime

The beginning of the time range from which you want `GetSampledRequests` to return a sample of the requests that your AWS resource received. Specify the date and time in the following format: `"2016-09-27T14:50Z"`. You can specify any time range in the previous three hours.

Type: Timestamp

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

WafAction

Service: AWS WAF Regional

For the action that is associated with a rule in a `WebACL`, specifies the action that you want AWS WAF to perform when a web request matches all of the conditions in a rule. For the default action in a `WebACL`, specifies the action that you want AWS WAF to take when a web request doesn't match all of the conditions in any of the rules in a `WebACL`.

Contents

Type

Specifies how you want AWS WAF to respond to requests that match the settings in a `Rule`. Valid settings include the following:

- `ALLOW`: AWS WAF allows requests
- `BLOCK`: AWS WAF blocks requests
- `COUNT`: AWS WAF increments a counter of the requests that match all of the conditions in the rule. AWS WAF then continues to inspect the web request based on the remaining rules in the web ACL. You can't specify `COUNT` for the default action for a `WebACL`.

Type: String

Valid Values: `BLOCK` | `ALLOW` | `COUNT`

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

WafOverrideAction

Service: AWS WAF Regional

The action to take if any rule within the `RuleGroup` matches a request.

Contents

Type

`COUNT` overrides the action specified by the individual rule within a `RuleGroup` . If set to `NONE`, the rule's action will take place.

Type: String

Valid Values: `NONE` | `COUNT`

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

WebACL

Service: AWS WAF Regional

Contains the `Rules` that identify the requests that you want to allow, block, or count. In a `WebACL`, you also specify a default action (`ALLOW` or `BLOCK`), and the action for each `Rule` that you add to a `WebACL`, for example, block requests from specified IP addresses or block requests from specified referrers. You also associate the `WebACL` with a CloudFront distribution to identify the requests that you want AWS WAF to filter. If you add more than one `Rule` to a `WebACL`, a request needs to match only one of the specifications to be allowed, blocked, or counted. For more information, see UpdateWebACL (p. 421).

Contents

DefaultAction

The action to perform if none of the `Rules` contained in the `WebACL` match. The action is specified by the WafAction (p. 570) object.

Type: WafAction (p. 570) object

Required: Yes

MetricName

A friendly name or description for the metrics for this `WebACL`. The name can contain only alphanumeric characters (A-Z, a-z, 0-9); the name can't contain whitespace. You can't change `MetricName` after you create the `WebACL`.

Type: String

Required: No

Name

A friendly name or description of the `WebACL`. You can't change the name of a `WebACL` after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: No

Rules

An array that contains the action for each `Rule` in a `WebACL`, the priority of the `Rule`, and the ID of the `Rule`.

Type: Array of ActivatedRule (p. 508) objects

Required: Yes

WebACLArn

Tha Amazon Resource Name (ARN) of the web ACL.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1224.

Required: No

WebACLId

A unique identifier for a `WebACL`. You use `WebACLId` to get information about a `WebACL` (see GetWebACL (p. 333)), update a `WebACL` (see UpdateWebACL (p. 421)), and delete a `WebACL` from AWS WAF (see DeleteWebACL (p. 291)).

`WebACLId` is returned by CreateWebACL (p. 250) and by ListWebACLs (p. 371).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

WebACLSummary

Service: AWS WAF Regional

Contains the identifier and the name or description of the WebACL (p. 572).

Contents

Name

A friendly name or description of the WebACL (p. 572). You can't change the name of a `WebACL` after you create it.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

WebACLId

A unique identifier for a `WebACL`. You use `WebACLId` to get information about a `WebACL` (see GetWebACL (p. 333)), update a `WebACL` (see UpdateWebACL (p. 421)), and delete a `WebACL` from AWS WAF (see DeleteWebACL (p. 291)).

`WebACLId` is returned by CreateWebACL (p. 250) and by ListWebACLs (p. 371).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

WebACLUpdate

Service: AWS WAF Regional

Specifies whether to insert a `Rule` into or delete a `Rule` from a `WebACL`.

Contents

Action

Specifies whether to insert a `Rule` into or delete a `Rule` from a `WebACL`.

Type: String

Valid Values: `INSERT | DELETE`

Required: Yes

ActivatedRule

The `ActivatedRule` object in an UpdateWebACL (p. 421) request specifies a `Rule` that you want to insert or delete, the priority of the `Rule` in the `WebACL`, and the action that you want AWS WAF to take when a web request matches the `Rule` (`ALLOW`, `BLOCK`, or `COUNT`).

Type: ActivatedRule (p. 508) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

XssMatchSet

Service: AWS WAF Regional

A complex type that contains `XssMatchTuple` objects, which specify the parts of web requests that you want AWS WAF to inspect for cross-site scripting attacks and, if you want AWS WAF to inspect a header, the name of the header. If a `XssMatchSet` contains more than one `XssMatchTuple` object, a request needs to include cross-site scripting attacks in only one of the specified parts of the request to be considered a match.

Contents

Name

The name, if any, of the `XssMatchSet`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: No

XssMatchSetId

A unique identifier for an `XssMatchSet`. You use `XssMatchSetId` to get information about an `XssMatchSet` (see GetXssMatchSet (p. 338)), update an `XssMatchSet` (see UpdateXssMatchSet (p. 426)), insert an `XssMatchSet` into a `Rule` or delete one from a `Rule` (see UpdateRule (p. 405)), and delete an `XssMatchSet` from AWS WAF (see DeleteXssMatchSet (p. 294)).

`XssMatchSetId` is returned by CreateXssMatchSet (p. 254) and by ListXssMatchSets (p. 373).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

XssMatchTuples

Specifies the parts of web requests that you want to inspect for cross-site scripting attacks.

Type: Array of XssMatchTuple (p. 579) objects

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

XssMatchSetSummary

Service: AWS WAF Regional

The `Id` and `Name` of an `XssMatchSet`.

Contents

Name

The name of the `XssMatchSet`, if any, specified by `Id`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

XssMatchSetId

A unique identifier for an `XssMatchSet`. You use `XssMatchSetId` to get information about a `XssMatchSet` (see GetXssMatchSet (p. 338)), update an `XssMatchSet` (see UpdateXssMatchSet (p. 426)), insert an `XssMatchSet` into a `Rule` or delete one from a `Rule` (see UpdateRule (p. 405)), and delete an `XssMatchSet` from AWS WAF (see DeleteXssMatchSet (p. 294)).

`XssMatchSetId` is returned by CreateXssMatchSet (p. 254) and by ListXssMatchSets (p. 373).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

XssMatchSetUpdate

Service: AWS WAF Regional

Specifies the part of a web request that you want to inspect for cross-site scripting attacks and indicates whether you want to add the specification to an XssMatchSet (p. 576) or delete it from an `XssMatchSet`.

Contents

Action

Specify `INSERT` to add a XssMatchSetUpdate (p. 578) to an XssMatchSet (p. 576). Use `DELETE` to remove a `XssMatchSetUpdate` from an `XssMatchSet`.

Type: String

Valid Values: `INSERT | DELETE`

Required: Yes

XssMatchTuple

Specifies the part of a web request that you want AWS WAF to inspect for cross-site scripting attacks and, if you want AWS WAF to inspect a header, the name of the header.

Type: XssMatchTuple (p. 579) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

XssMatchTuple

Service: AWS WAF Regional

Specifies the part of a web request that you want AWS WAF to inspect for cross-site scripting attacks and, if you want AWS WAF to inspect a header, the name of the header.

Contents

FieldToMatch

Specifies where in a web request to look for cross-site scripting attacks.

Type: FieldToMatch (p. 518) object

Required: Yes

TextTransformation

Text transformations eliminate some of the unusual formatting that attackers use in web requests in an effort to bypass AWS WAF. If you specify a transformation, AWS WAF performs the transformation on `FieldToMatch` before inspecting a request for a match.

You can only specify a single type of TextTransformation.

CMD_LINE

When you're concerned that attackers are injecting an operating system command line command and using unusual formatting to disguise some or all of the command, use this option to perform the following transformations:

- Delete the following characters: \ " ' ^
- Delete spaces before the following characters: / (
- Replace the following characters with a space: , ;
- Replace multiple spaces with one space
- Convert uppercase letters (A-Z) to lowercase (a-z)

COMPRESS_WHITE_SPACE

Use this option to replace the following characters with a space character (decimal 32):

- \f, formfeed, decimal 12
- \t, tab, decimal 9
- \n, newline, decimal 10
- \r, carriage return, decimal 13
- \v, vertical tab, decimal 11
- non-breaking space, decimal 160

`COMPRESS_WHITE_SPACE` also replaces multiple spaces with one space.

HTML_ENTITY_DECODE

Use this option to replace HTML-encoded characters with unencoded characters. `HTML_ENTITY_DECODE` performs the following operations:

- Replaces `(ampersand)quot;` with "
- Replaces `(ampersand)nbsp;` with a non-breaking space, decimal 160
- Replaces `(ampersand)lt;` with a "less than" symbol
- Replaces `(ampersand)gt;` with >

- Replaces characters that are represented in hexadecimal format, `(ampersand)#xhhhh;`, with the corresponding characters
- Replaces characters that are represented in decimal format, `(ampersand)#nnnn;`, with the corresponding characters

LOWERCASE

Use this option to convert uppercase letters (A-Z) to lowercase (a-z).

URL_DECODE

Use this option to decode a URL-encoded value.

NONE

Specify `NONE` if you don't want to perform any text transformations.

Type: String

Valid Values: `NONE | COMPRESS_WHITE_SPACE | HTML_ENTITY_DECODE | LOWERCASE | CMD_LINE | URL_DECODE`

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

Common Parameters

The following list contains the parameters that all actions use for signing Signature Version 4 requests with a query string. Any action-specific parameters are listed in the topic for that action. For more information about Signature Version 4, see Signature Version 4 Signing Process in the *Amazon Web Services General Reference*.

Action

The action to be performed.

Type: string

Required: Yes

Version

The API version that the request is written for, expressed in the format YYYY-MM-DD.

Type: string

Required: Yes

X-Amz-Algorithm

The hash algorithm that you used to create the request signature.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Valid Values: `AWS4-HMAC-SHA256`

Required: Conditional

X-Amz-Credential

The credential scope value, which is a string that includes your access key, the date, the region you are targeting, the service you are requesting, and a termination string ("aws4_request"). The value is expressed in the following format: *access_key*/*YYYYMMDD*/*region*/*service*/aws4_request.

For more information, see Task 2: Create a String to Sign for Signature Version 4 in the *Amazon Web Services General Reference*.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

X-Amz-Date

The date that is used to create the signature. The format must be ISO 8601 basic format (YYYYMMDD'T'HHMMSS'Z'). For example, the following date time is a valid X-Amz-Date value: `20120325T120000Z`.

Condition: X-Amz-Date is optional for all requests; it can be used to override the date used for signing requests. If the Date header is specified in the ISO 8601 basic format, X-Amz-Date is

not required. When X-Amz-Date is used, it always overrides the value of the Date header. For more information, see Handling Dates in Signature Version 4 in the *Amazon Web Services General Reference*.

Type: string

Required: Conditional

X-Amz-Security-Token

The temporary security token that was obtained through a call to AWS Security Token Service (AWS STS). For a list of services that support temporary security credentials from AWS Security Token Service, go to AWS Services That Work with IAM in the *IAM User Guide*.

Condition: If you're using temporary security credentials from the AWS Security Token Service, you must include the security token.

Type: string

Required: Conditional

X-Amz-Signature

Specifies the hex-encoded signature that was calculated from the string to sign and the derived signing key.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

X-Amz-SignedHeaders

Specifies all the HTTP headers that were included as part of the canonical request. For more information about specifying signed headers, see Task 1: Create a Canonical Request For Signature Version 4 in the *Amazon Web Services General Reference*.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

Common Errors

This section lists the errors common to the API actions of all AWS services. For errors specific to an API action for this service, see the topic for that API action.

AccessDeniedException

You do not have sufficient access to perform this action.

HTTP Status Code: 400

IncompleteSignature

The request signature does not conform to AWS standards.

HTTP Status Code: 400

InternalFailure

The request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

InvalidAction

The action or operation requested is invalid. Verify that the action is typed correctly.

HTTP Status Code: 400

InvalidClientTokenId

The X.509 certificate or AWS access key ID provided does not exist in our records.

HTTP Status Code: 403

InvalidParameterCombination

Parameters that must not be used together were used together.

HTTP Status Code: 400

InvalidParameterValue

An invalid or out-of-range value was supplied for the input parameter.

HTTP Status Code: 400

InvalidQueryParameter

The AWS query string is malformed or does not adhere to AWS standards.

HTTP Status Code: 400

MalformedQueryString

The query string contains a syntax error.

HTTP Status Code: 404

MissingAction

The request is missing an action or a required parameter.

HTTP Status Code: 400

MissingAuthenticationToken

The request must contain either a valid (registered) AWS access key ID or X.509 certificate.

HTTP Status Code: 403

MissingParameter

A required parameter for the specified action is not supplied.

HTTP Status Code: 400

OptInRequired

The AWS access key ID needs a subscription for the service.

HTTP Status Code: 403

RequestExpired

The request reached the service more than 15 minutes after the date stamp on the request or more than 15 minutes after the request expiration date (such as for pre-signed URLs), or the date stamp on the request is more than 15 minutes in the future.

HTTP Status Code: 400

ServiceUnavailable

The request has failed due to a temporary failure of the server.

HTTP Status Code: 503

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 400

ValidationError

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400