

API Discovery

<https://campus.barracuda.com/doc/98225726/>

Overview

API discovery analyses application traffic to discover API endpoints and payload structure for that application. Every API endpoint consists of a base URL, a resource path, and the request payload details. The discovered information is used to create security rules (API profiles and key profiles). Applying these security rules to your application enables all subsequent API requests to be validated against the discovered characteristics.

Traffic Analytics

Traffic analytics provides information about the discovered API endpoint that helps the administrator to understand the traffic pattern. Barracuda-WAF-as-a-Service analyses traffic patterns for multiple days to discover relevant characteristics of the API endpoint and the associated structure.

A confidence factor is associated with each discovered endpoint and parameter. This confidence factor indicates the stability of the discovered entity. If the discovered characteristics of the entity do not vary significantly then the confidence factor will be high. The confidence factor is determined based on “Advanced API Discovery Engine”, which is further used to create API profiles.

Confidence Level	Description
60-75% (Moderate)	The discovered endpoint still has scope for analysis after which the confidence level may change.
76-85% (Confident)	The discovered endpoint is stable and JSON profile/Key profiles are recommended based on this confidence.
86-100% (Very Confident)	The discovered endpoint's characteristics do not vary significantly and JSON Profile/Key Profiles are recommended based on this confidence.

API Profile

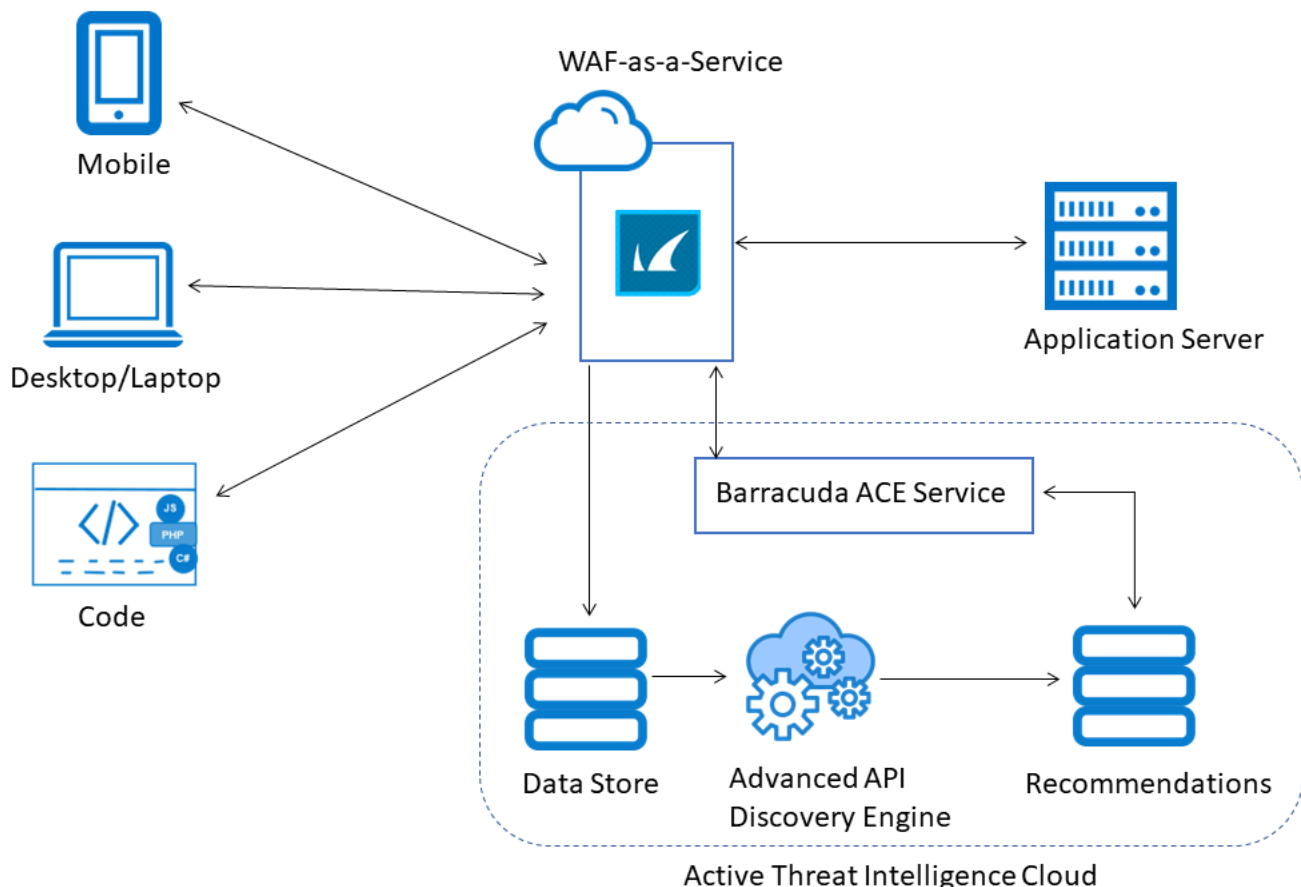
An API profile consists of two parts. The first part represents the API endpoint while the second captures information about each individual key and value that are a part of the API payload.

The endpoint of the API is represented by a JSON Profile which captures details such as content-type,

HTTP method, keys/params, security policy associated with the profile, etc. API profiles are generated/created when the Barracuda WAF-as-a-Service discovers API endpoints in the application.

Information related to the parameters and its values is captured in the Key Profile. It has information such as value type (String, Number, Array or Object), maximum and minimum length of characters/numbers/array elements or number of name/value pairs in the key, value class and allow NULL details of the key.

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Steps to Enable API Discovery

To enable API Discovery for an application, do the following:

1. On the WAF-as-a-Service web interface, go to the **APPLICATIONS** page and click on the application to which you want to enable API Discovery.
2. On the application page, click **API Discovery** in the left panel.

3. On the **API Discovery** page, click **Enable API Discovery**.
4. On the **API Discovery Settings** pop-up window:
5. Set **API Discovery** to **Enabled**.
6. Select an option (**Automatic** or **Manual**) to create API profiles for the discovered endpoints.:
 1. **Automatic** – In the **Automatic** mode, API endpoints and associated structures are learned, and the required security configuration is automatically applied to the discovered API endpoints and structures.
 2. **Manual** – In the **Manual** mode, API endpoints are learned, and profiles are displayed under API Discovery for review. You can review the endpoints, its structure, analytics information and apply the configuration.
7. Click **Save**.

To change the API learning behavior, click **Settings** on the **API Discovery** page.

API Discovery in the Automatic Mode

When **API Discovery** is enabled in the **Automatic** mode, the Barracuda WAF-as-a-Service analyzes the incoming traffic, creates API profiles for discovered endpoints and associated structures that have the higher confidence factor, and applies them automatically. You can view the applied API profiles and key profiles on the **JSON Security** page.

API Discovery in the Manual Mode

When **API Discovery** is enabled in the **Manual** mode, the Barracuda WAF-as-a-Service analyzes the incoming traffic, creates API profiles for discovered endpoints and associated structures, and displays them on the API Discovery page. You can review the URL endpoints, key profiles, and then apply them as needed.

Note: It is recommended to set **API Discovery** in the **Manual** mode.

Figures

1. API_Security.png

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