

# Configure Offline Data Loss Prevention

Offline data loss prevention (DLP) is a set of tools and processes for detecting and preventing data breaches, cyber exfiltration, and unwanted destruction of sensitive data. You use DLP to protect and secure an organization's data and to comply with regulations. The Versa Networks DLP solution oversees, tracks, and reports all data transactions in the network, scanning all content that passes through an organization's ports and protocols to ensure data security in the organization. All the data gathered is sent to Versa Analytics, which generates detailed reports about what data is being used, who is using it, and where the data is sent. These reports are available to users.

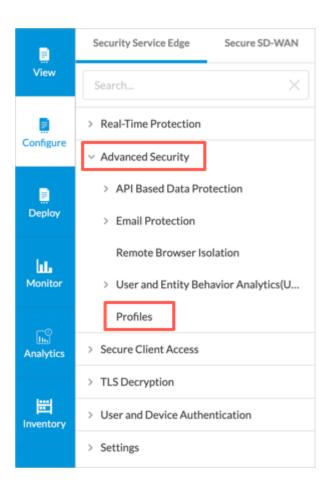
To configure DLP, you create a DLP profile that you associate with a security policy. To create the DLP profile, you do the following:

- 1. Configure data patterns—Data patterns define the specific data strings that you want to filter in a data protection profile. Concerto includes a large number of predefined data patterns that are provided in the Versa security pack (SPack) software, and you can create custom data patterns.
- 2. Define a data protection profile—You associate data patterns with a data protection profile, and you then use the data protection profile when you create DLP rules.
- 3. Define DLP rules—You create the rules that are used in a DLP profile to match data.
- 4. Configure a DLP profile—Create an ordered set of DLP rules that you can then apply to a security policy or to an internet protection rule.

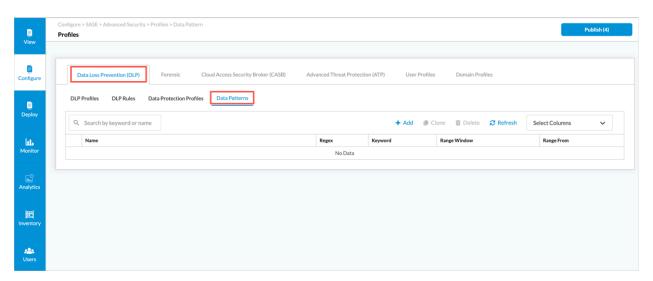
### **Configure Custom Data Patterns**

To configure custom data patterns:

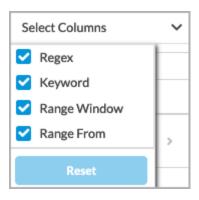
1. Go to Configure > Secure Services Edge > Advanced Security > Profiles.



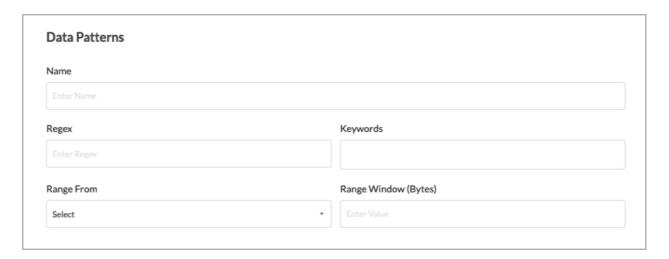
2. Select the Data Loss Prevention (DLP) tab, and then select the Data Patterns subtab.



3. To customize which columns display, click Select Columns down arrow, and then click the columns to select or deselect the ones you want to display. Click Reset to return to the default column display settings.



4. Click + Add to add a new data pattern. In the Data Patterns screen, enter information for the following fields.



| Field      | Description  |
|------------|--|
| Name       | Enter a name for the data pattern.   |
| Regex      | Enter an exact regular expression to search for in a file, for example, Employee.*Salary.  |
| Keywords   | Enter one or more keywords to search for in a file. Once a keyword is found, the DLP engine scans for the regex pattern within the given range. Use a comma to separate multiple keywords. |
| Range From | Select the location to search in the file:  Anywhere—Start the scan anywhere in the file.  Start—Start the scan at the beginning of the file.  |

| Field        | Description   |
|--------------|---|
|              | Enter a range for the search with the file, which is sometimes called the proximity.  If you select Range From Anywhere, you do not need to specify a range window, because the entire file is scanned. |
| Range Window | If you select Range From Start, enter the number of bytes to scan from the start of the file.   |
|              | If you do not enter a range window, the entire file is scanned.   |
|              | Range: 1 through 4294967295 bytes  Default: 8192 bytes  |

5. Click Save.

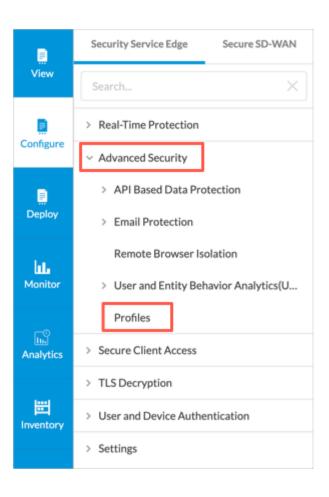
## **Configure Data Protection Profiles**

A data protection profile consists of an ordered set of rules in which each rule has one or more match conditions and an action. You can configure a data protection profile to stop evaluating rules after the first rule that matches (Exit on First Rule Match option) or to evaluate all rules and apply all those that match (default behavior).

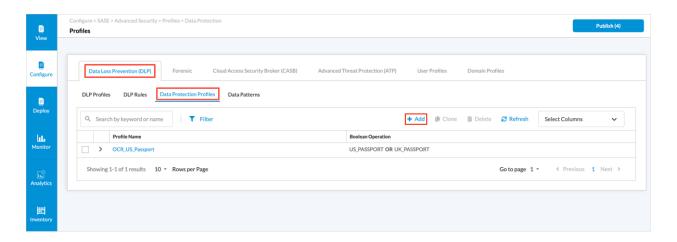
After you create a data protection profile, you can use it as part of the enforcement actions on a policy rule in a security access control policy.

To configure a data protection profile:

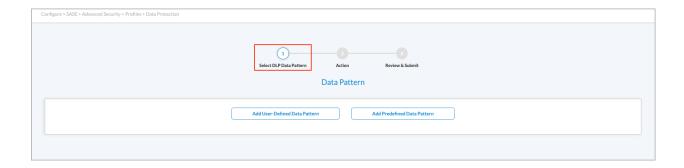
1. Go to Configure > Secure Services Edge > Advanced Security > Profiles.



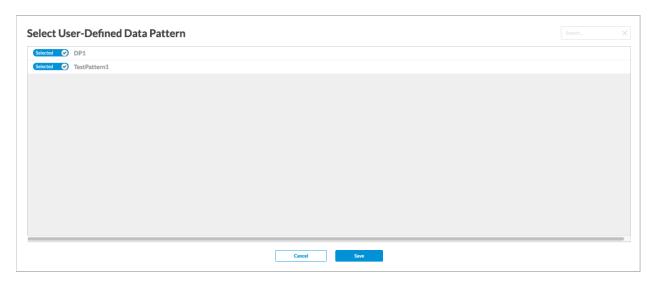
2. Select the Data Loss Prevention (DLP) tab, and then select the Data Protection Profiles subtab.



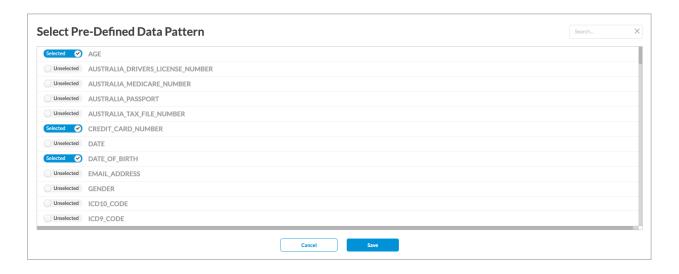
3. To create user-defined profiles, click + Add icon. The Data Pattern screen displays. You can add either user-defined (custom) or predefined data patterns.



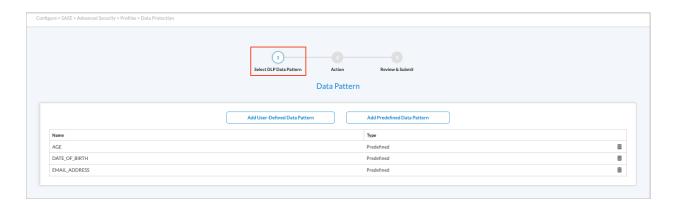
4. Click Add User-Defined Data Pattern, and then select one or more custom data patterns to use in the data protection profile.



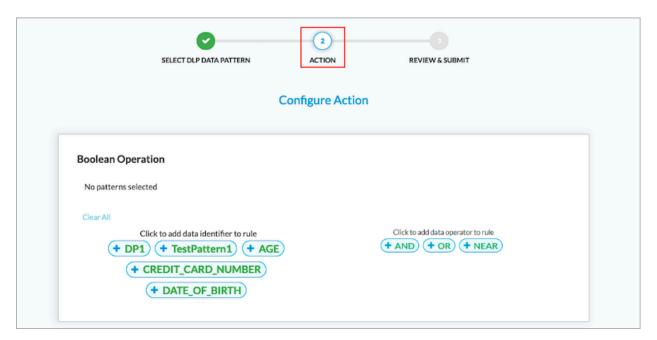
- 5. Click Save to add the user-defined data patterns to the data protection profile.
- 6. Click Add Predefined Data Pattern, and then select one or more predefined data patterns to use in the data protection profile.



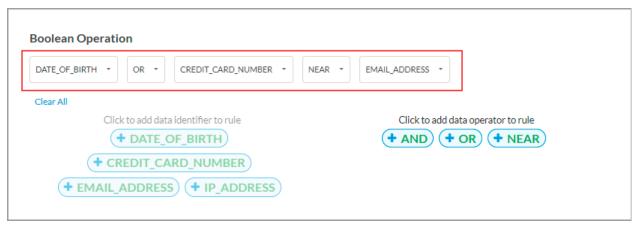
7. Click Save. The Data Pattern screen displays the selected data patterns.



8. Click Next.



9. In Step 2, Action, Create a Boolean operation that defines how to match the selected data patterns. To do this, click a data pattern, click a Boolean operator, and then click a second data pattern to complete the Boolean operation. The Boolean operation can include multiple data patterns, with each separated by a Boolean operator. The following example shows Boolean operation created from the data patterns shown in the previous screenshot:



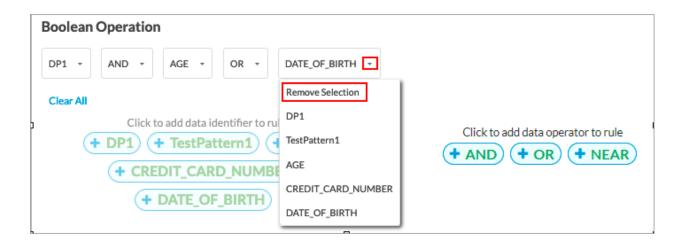
To replace one data pattern in the Boolean operation with another, click the down arrow next to the data pattern name, and then select a different one.



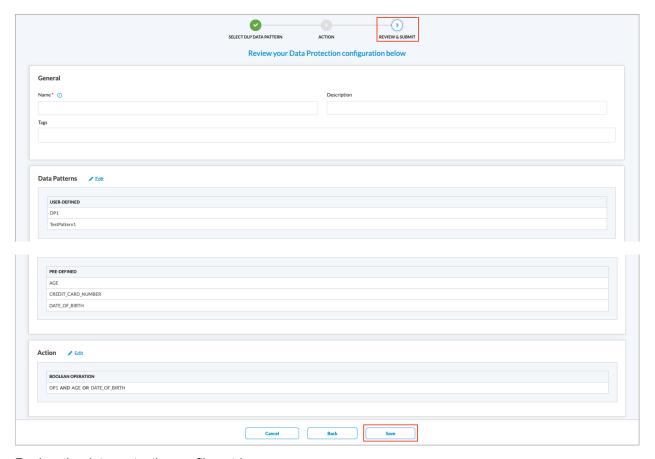
To change the Boolean operator, click the down arrow next to the operator name and then selecting a different one.



To remove the last element of a Boolean operation, click the down arrow and then click Remove Selection.



- 10. Click Next.
- 11. In Step 3, Review and Submit, enter a name for the data protection profile and, optionally, a text description and one or more tags. A tag is an alphanumeric descriptor, with no white spaces or special characters, that you can use to search the objects.



- 12. Review the data protection profile entries.
- 13. To change any of the information, click the PEdit icon in the section and then make the required changes.

14. Click Save to create the data protection profile.

### Configure DLP Rules

A DLP profile rule consists of the following components:

- Rule Type—You can select one of two rule types:
  - Document fingerprinting—Convert a standard form into a sensitive information type, which can then be used to define DLP policy rule. The DLP software examines files that have been fingerprinted and the directory path to these files to determine how similar a candidate file is to a previously fingerprinted file. The DLP software then computes a similarity threshold between the two files and compares the similarity threshold to the configured threshold. The configured threshold is the percentage of content that needs to be similar to the previously fingerprinted file stored in the folder path.
  - Exact data match (EDM)—Validate the match result of a custom or predefined data pattern against a userprovided data set. An exact data match rule can reduce false positives and can help to guarantee precise DLP for entries in the data set.
  - File DLP—Provide protection based on the configured file attributes.
  - Optical character recognition (OCR)—Converts images to text and applies DLP policies on the converted text data.
  - Machine Learning—Uses models trained with predefined and custom data for image classification, source code detection, and document fingerprinting.
- Protocol monitoring—DLP monitoring can scan the HTTP protocol.
- File-type filtering—You can configure data filters based on file types.

The following table shows the applications supported by DLP and the whether upload and download are supported for each of the listed actions

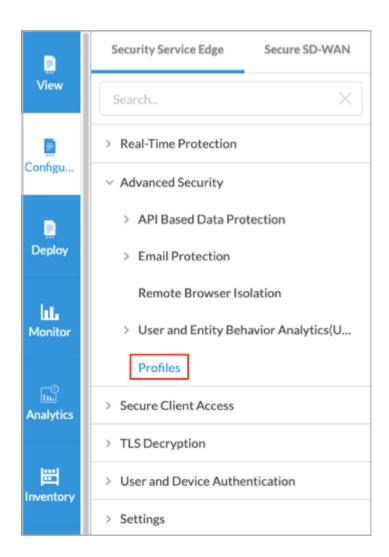
| each of the listed actions. |           |           |                   |          |
|-----------------------------|-----------|-----------|-------------------|----------|
| Application                 | Alert     | Allow     | Alert & Set Label | Allow &  |
| Box.com                     |           |           |                   | ·        |
| • Download                  | Supported | Supported | Supported         | Supporte |
| • Upload                    | Supported | Supported | Supported         | Supporte |
| Dropbox                     |           |           |                   | •        |
| • Download                  | Supported | Supported | Supported         | Supporte |
| • Upload                    | Supported | Supported | Not Supported     | Not Supp |

| Application | Alert         | Allow         | Alert & Set Label | Allow &  |
|-------------|---------------|---------------|-------------------|----------|
| G-Drive     |               |               |                   |          |
| Download    | Supported     | Supported     | Supported         | Supporte |
| • Upload    | Not Supported | Not Supported | Not Supported     | Not Supp |
| Github      |               |               |                   |          |
| • Download  | Supported     | Supported     | Supported         | Supporte |
| • Upload    | Supported     | Supported     | Not Supported     | Not Supp |
| Gmail       |               |               |                   |          |
| • Download  | Supported     | Supported     | Supported         | Supporte |
| • Upload    | Supported     | Supported     | Not Supported     | Not Supp |
| Google Chat |               |               |                   |          |
| • Download  | Supported     | Supported     | Supported         | Supporte |
| • Upload    | Supported     | Supported     | Not Supported     | Not Supp |
| One Drive   |               |               | I                 |          |
| • Download  | Supported     | Supported     | Supported         | Supporte |
| • Upload    | Supported     | Supported     | Supported         | Supporte |
| Outlook     | <u> </u>      | <u> </u>      | <u> </u>          | L        |
| Outlook     |               |               |                   |          |

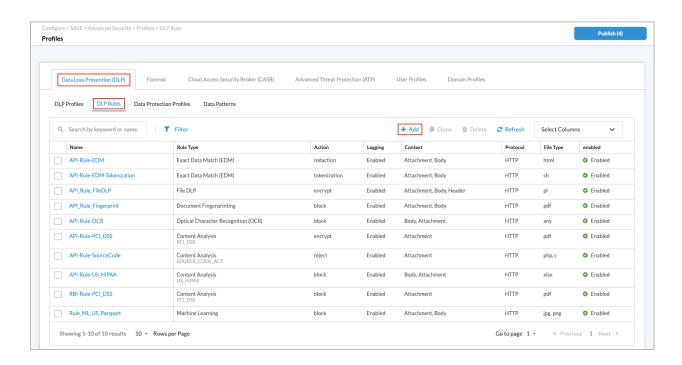
| Application | Alert     | Allow     | Alert & Set Label | Allow &  |
|-------------|-----------|-----------|-------------------|----------|
| Download    | Supported | Supported | Supported         | Supporte |
| • Upload    | Supported | Supported | Supported         | Supporte |
| Salesforce  |           |           |                   |          |
| Download    | Supported | Supported | Supported         | Supporte |
| • Upload    | Supported | Supported | Supported         | Supporte |
| Slack       |           |           |                   |          |
| • Download  | Supported | Supported | Supported         | Supporte |
| • Upload    | Supported | Supported | Not Supported     | Not Supp |
| Teams       |           |           |                   | L        |
| • Download  | Supported | Supported | Supported         | Supporte |
| • Upload    | Supported | Supported | Not Supported     | Not Supp |
| Yahoo Mail  |           |           |                   |          |
| • Download  | Supported | Supported | Supported         | Supporte |
| • Upload    | Supported | Supported | Supported         | Supporte |

To configure rules to use in DLP profiles:

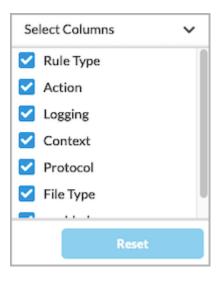
1. Go to Configure > Secure Services Edge > Advanced Security > Profiles.



The following screen displays.



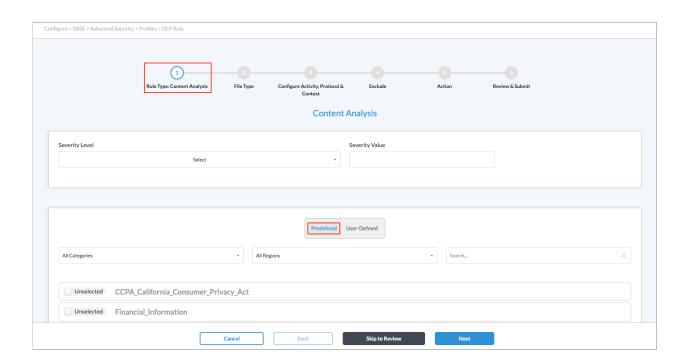
- 2. Select the Data Loss Prevention (DLP) tab, and then select the DLP Rules tab.
- 3. To customize which columns display, click Select Columns down arrow and then click the columns to select or deselect the ones you want to display. Click Reset to return to the default column display settings.



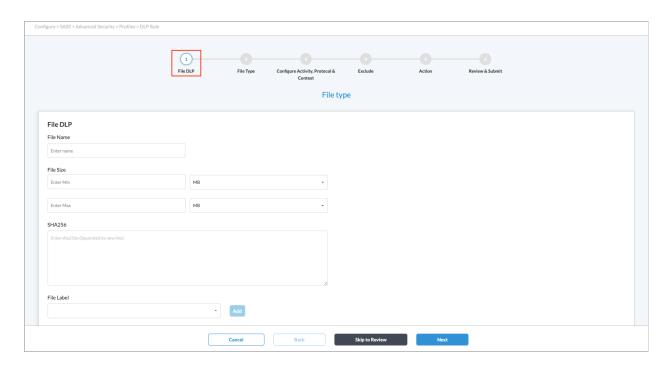
4. Click + Add to add a DLP rule. The Select a Rule Type screen displays. You can create Content Analysis, File DLP, Optical Character Recognition (OCR), Exact Data Match (EDM), Document Fingerprinting, and Machine Learning rule types. The following sections describe how to configure the DLP file types.



- 5. **Configure a Content Analysis Rule**—To create a content analysis rule, click the Content Analysis box in the Select a Rule Type screen. The following screen displays, which lists all predefined data protection profiles by default. The pre-defined profiles are:
  - AUSTRALIA\_FINANCIAL\_DATA
  - CCPA\_California\_Consumer\_Privacy\_Act
  - Financial Information
  - GDPR\_General\_Data\_Protection\_Regulation
  - GLBA\_Gramm\_Leach\_Bliley\_Act
  - PCI\_DSS
  - SOCIAL\_SECURITY\_NUMBER\_CONFIDENTIALITY\_ACT2000
  - SOURCE\_CODE\_ACT
  - UK\_ACCESS\_TO\_MEDICAL\_REPORTS\_Act1988
  - UK\_FINANCIAL\_DATA
  - UK PII
  - · US DRIVERS LICENSE NUMBER ALL STATES
  - US\_FEDERAL\_TRADE\_COMISSION\_RULES
  - US\_FINANCIAL\_DATA
  - US HIPAA
  - US\_PATRIOTS\_ACT
  - US\_PHI
  - US PII
  - WESTERN\_AUSTRALIA\_HEALTH\_SERVICES\_ACT

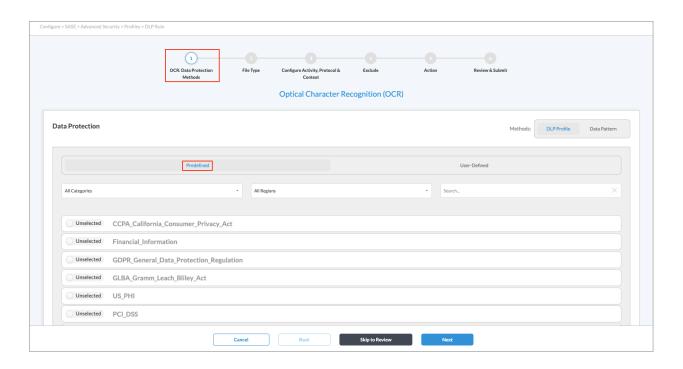


- 6. To view the custom data protection profiles, click User Defined.
- 7. To add the DLP rule for analysis, click one predefined or one user-defined data protection profile. You can select only one data protection profile, which can be either a predefined or a user-defined profile. To filter the data protection profiles by category, click All Categories. To filter the data protection profiles by region, click All Regions.
- 8. **Configure a File DLP Rule**—To create a file DLP rule, click File DLP in the Select a Rule Type screen. In the File DLP screen, enter information for the following fields.

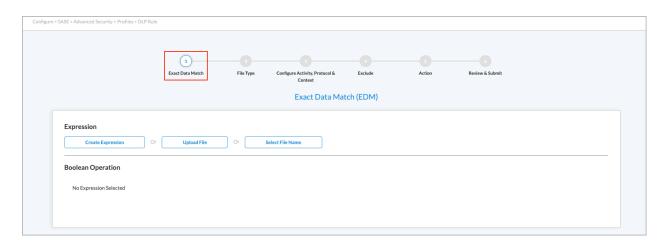


| Field                       | Description   |
|-----------------------------|---|
| Filename                    | Enter a name for the file.  |
| File Size (Group of Fields) |   |
| Enter Minimum               | Enter the minimum size of the DLP file, and then select the size unit, either megabytes (MB), gigabytes (GB), kilobytes (KB), or bytes. The configured action is taken on all files that are smaller than the minimum size and that match the configured file type. If you set the minimum size to 0, the maximum DLP file size is used for the action. |
| Enter Maximum               | Enter the maximum size of the DLP file, and then select the size unit, either megabytes (MB), gigabytes (GB), kilobytes (KB), or bytes. The configured action is taken on all the files that are larger than the maximum size that match the configured file type.  |
| SHA256                      | Enter the secure hash algorithm 256-bit (SHA256) value. To enter multiple SHA256 values, separate them by a new line.   |
| File Label                  | Enter a file label, and then click Add.   |

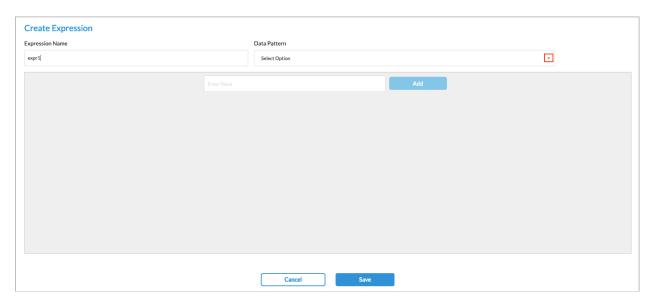
Configure an Optical Character Recognition Rule—To create an optical character recognition (OCR) rule, click
Optical Character Recognition in the Select a Rule Type screen. The following screen displays, which lists all
predefined data protection profiles by default.



- 10. To view the custom data protection profiles, click User Defined.
- 11. To add the DLP rule for analysis, click one predefined or one user-defined data protection profile. You can select only one data protection profile, which can be either a predefined or a user-defined profile. To filter the data protection profiles by category, click All Categories. To filter the data protection profiles by region, click All Regions.
- 12. **Configure an Exact Data Match Rule**—To create an exact data match rule, click Exact Data Match (EDM) in the Select a Rule Type screen. The following screen displays.

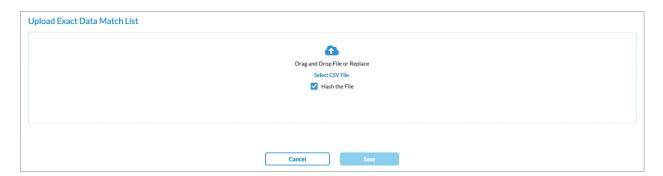


13. To create an expression, click Create Expression, and then enter information for the following fields.

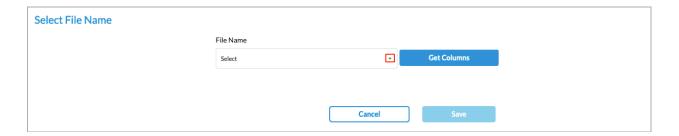


| Field        | Description                                      |
|--------------|--|
| Name         | Enter a name for the expression.                 |
| Data Pattern | Select a data pattern.                           |
| Enter Value  | Enter a value for the expression, the click Add. |

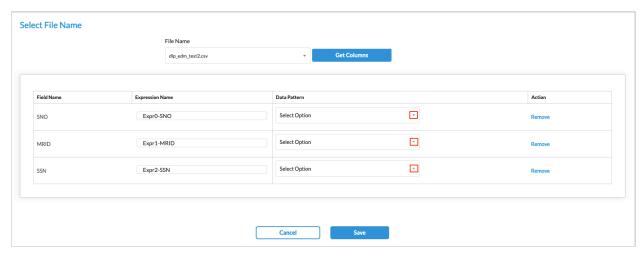
- 14. Click Save.
- 15. To upload a CSV file that contains a list of exact data matches, click Upload File.
  - 1. Drag and drop the CSV file into the window, or click Select CSV File to upload the file.
  - 2. To hash the CSV file, click Hash the File.
  - 3. Click Save.



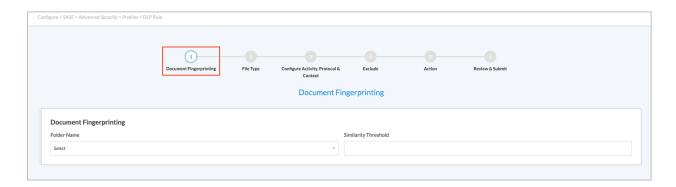
16. To select a filename, click Select File Name. The Select Filename screen displays.



- a. In the File Name field, select a filename. Note that this list shows the names of CSV files that were previously uploaded. For information about uploading CSV files, see the Manage DLP Files and Folders, below.
- b. Click Get Columns. The screen displays the columns for each field in the CSV file.



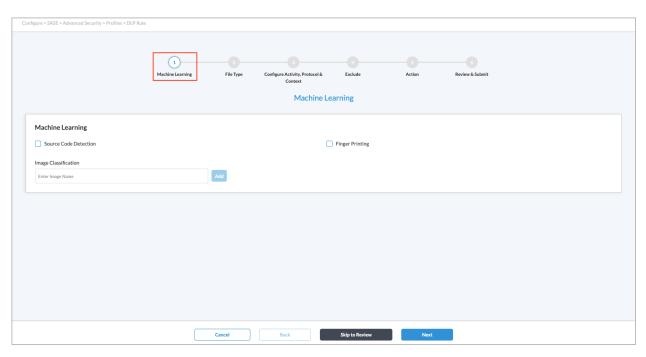
- c. In the Data Pattern column, select a data pattern to apply to each entry. Click Remove to remove an entry from the CSV file.
- d. Click Save.
- 17. **Configure a Document Fingerprinting Rule**—To create a document fingerprinting rule, click the Document Fingerprinting in the Select a Rule Type screen, and then enter information for the following fields.



| Field                | Description   |
|----------------------|---|
| Folder Name          | Select a folder.  |
| Similarity Threshold | Enter the percentage of content that needs to be similar to the previously fingerprinted file stored in the folder path.  Range: 1 through 100  Default: None |

- 18. **Configure a Machine Learning Rule**—Versa's ML based classifiers augment automated identification of sensitive data. The following options are available:
  - Image Classification: Versa's cutting edge ML model classifies predefined images like Credit card, Debit card, social security number, driving license, passport etc.
    - Besides the predefined images, Versa's ML model empowers user to train model with the proprietary images.
    - The new trained model will detect proprietary and predefined images as well.
    - The name or tag of the images can be configured in the 'Image classification' configuration.
  - Source code detection: It is very common to upload source code to generative AI model like chatGPT.
     Classical DLP needs a strong parser to detect different snippet of source code of each language.
     Versa's source detection model is trained with 15+ different type of source code like C, C++, perl, java, ruby, python etc.
    - Any small snippet of source code is detected by Source code detection model.
  - Document fingerprint: Versa's Document fingerprinting detection reads all the document empty template, form and store them in vector database.
    - Any data filled in the given template or forms are detected by Document fingerprint classifier.

To create a machine learning rule, click Machine Learning in the Select a Rule Type screen, and then enter information for the following fields.

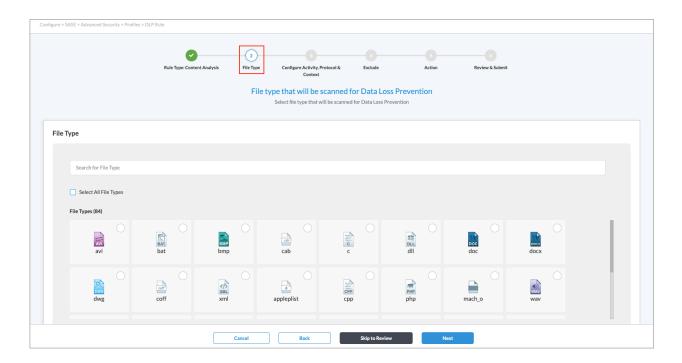


- Source Code Detection—Click to enable source-code detection.
- Finger Printing—Click to enable finger printing
- Image Classification—Enter the name of an image to classify.
- 19. Click Next to go to Step 2, File Type in the Create DLP Rule screen.
- 20. Select one or more file types to be analyzed. To search for specific file types, use the search box. To select all file types, click Select All File Types.

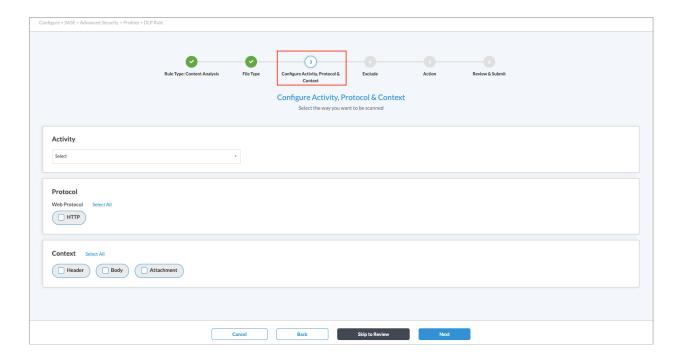
Concerto supports the following file types:

- 。 **C**
- class
- cpp
- doc
- docx
- html
- msoffice
- pdf
- php
- ∘ pl
- ppt
- pptx
- rtf
- ∘ sh
- txt

- xls
- xlsx
- xml



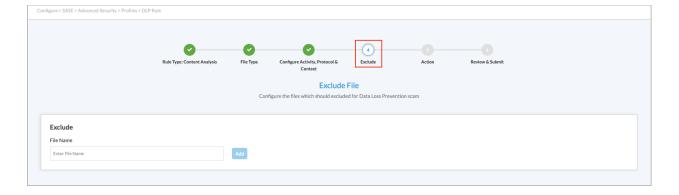
- 21. Click Next.
- 22. In Step 3 Configure Activity, Protocol, and Context, enter information for the following fields.



| Field    | Description  |
|----------|--|
| Activity | Select the direction of the traffic on which to apply the rule:  Both—Apply the rule to both download and upload traffic.  Download—Apply the rule when the client requests data from a server.  Upload—Apply the rule when the client posts data to a server. |
| Protocol | Click the protocol to scan:  • Web Protocol  • HTTP  |
| Context  | Select one or more HTTP contexts of data to scan:  Attachment—Data in an attachment Body—Data in the body Header—Data in the header of a packet  |

- 23. Click Next.
- 24. In Step 4, Exclude, in the Filename field, enter the names of a file to exclude, for example, budget.xlsx, and then click Add. The filename displays to the right of the Add button. You can exclude multiple files. To delete a filename

from the list, click the Trash icon next to the filename.

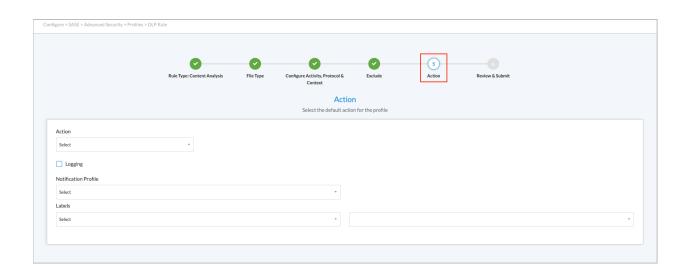


- 25. Click Next.
- 26. In Step 5, Action, enter information for the following fields.

The following table shows the applications supported by DLP and whether file-name matching is supported for

### upload and download.

| Applications                  | Download  | Upload        |
|-------------------------------|-----------|---------------|
| Вох                           | Supported | Supported     |
| Dropbox                       | Supported | Not supported |
| Github                        | Supported | Supported     |
| Gmail                         | Supported | Supported     |
| Google Chat                   | Supported | Not supported |
| Google Docs                   | Supported | Not supported |
| Google Drive                  | Supported | Not supported |
| MS Teams (web)                | Supported | Not supported |
| Office365                     | Supported | Not supported |
| OneDrive                      | Supported | Not supported |
| Salesforce                    | Supported | Supported     |
| Service Now Developer Console | Supported | Supported     |
| Sharepoint                    | Supported | Not supported |
| Slack                         | Supported | Supported     |
| Yahoo Mail                    | Supported | Not supported |



| Field                | Description   |  |
|----------------------|---|--|
| Action               | Select an action to take if the traffic matches the rule:  Alert—Allow traffic to pass and log it to Versa Analytics  Allow—Allow traffic to pass without logging it to Versa Analytics  Block—Drop the traffic without sending a notification to the client host that originated the traffic.  Encrypt—Encrypt the traffic before sending it.  Encrypt Upload—Encrypt the file and send it to the customer-provided cloud portal. To decrypt the file and view its contents, use a symmetric key. The session is rejected.  Quarantine—Send the traffic to the customer-provided cloud portal without encrypting it.  Redaction—If a rule match is detected in an editable, text-based file, change the content of the matched packet to random characters. Redaction is supported for exact data matches (EDMs) for file types .c, .html, .php, .sh, .txt, and .xml.  Reject—Drop the traffic and send a notification to the client host indicating that the traffic was dropped. |  |
| Logging              | Click to enable LEF logging to Analytics, which logs all actions to Versa Analytics, except fo actions that explicitly do not log. If you do not enable logging, no logging information is sent to Versa Analytics.   |  |
| Notification Profile | Select a notification profile. To configure a notification profile, see Configure SASE User-Defined Objects.  |  |
| Set Label            | Click Set Label or Remove Label to set or remove a sensitivity label on a file before uploading or downloading it.  |  |
| Enter Label          | Enter the text of the label to be set or removed.   |  |

- 27. Click Next.
- 28. In Step 6, Review and Submit, review the configuration entries
- 29. To change any of the information, click the 

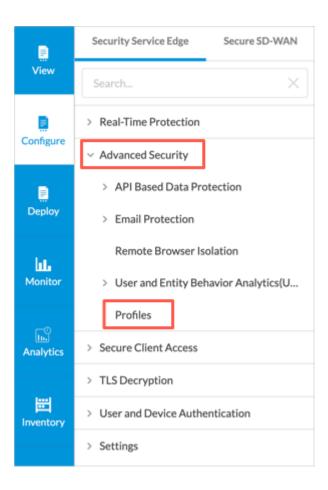
  Edit icon and then make the required changes.
- 30. Click Save to create the DLP rule.

## Configure DLP Profiles

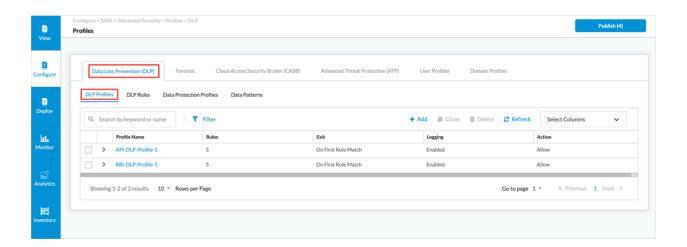
A DLP profile consists of one or more DLP rules.

To configure a DLP profile:

1. Go to Configure > Secure Services Edge > Advanced Security > Profiles.



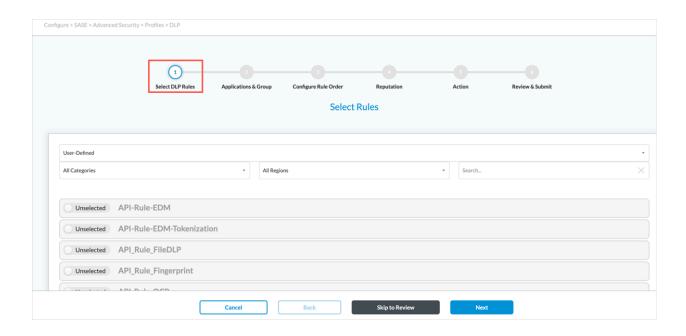
2. In the Data Loss Prevention (DLP) tab, select DLP Profiles tab.



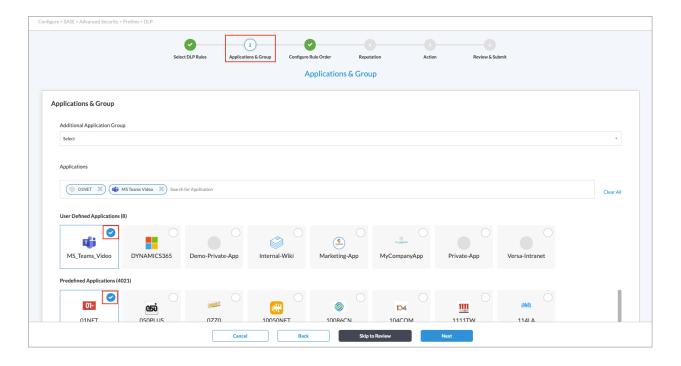
3. To customize which columns display, click Select Columns down arrow and then click the columns to select or deselect the ones you want to display. Click Reset to return to the default column display settings.



4. Click + Add to add a new DLP profile. The Select Rules screen displays with Step 1, Select DLP Rules selected by default.

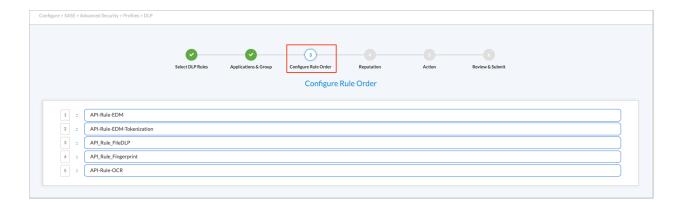


- 5. Select one or more DLP rules. To filter the types of rules that are displayed, use the User-Defined, All Categories, and All Regions boxes.
- 6. Click Next to go to Step 2, Applications and Group.

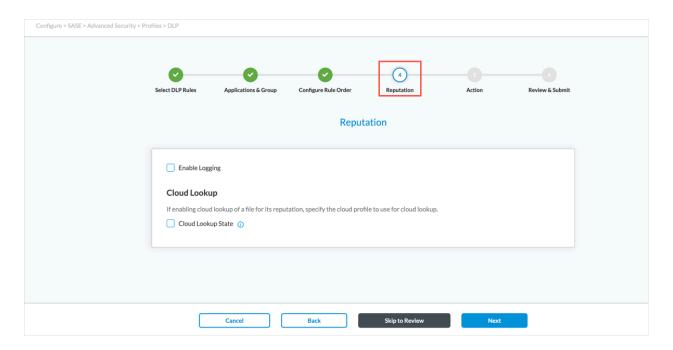


- 7. If any application groups have been defined, you can select a group from the list.
- 8. Select one or more user-defined and/or predefined applications.
- 9. Click Next to go to Step 3, Configure Rule Order. If you selected two or more DLP rules on the Select DLP Rules screen, you can change the order in which the rules are processed by dragging and dropping the rules to the

#### desired order.

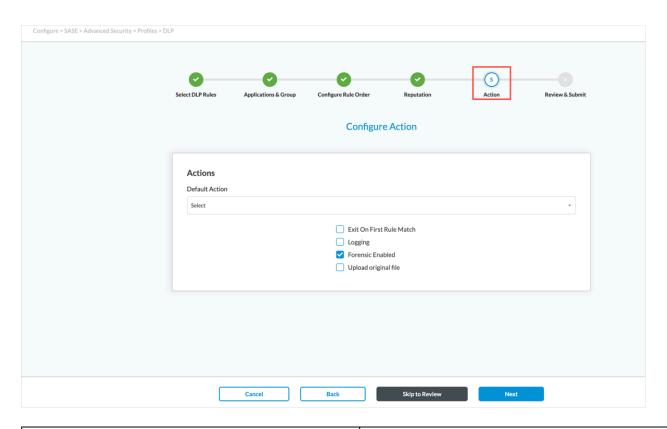


10. Click Next to go to Step 4, Reputation. Enter information for the following fields.



| Field              | Description   |
|--------------------|---|
| Enable Logging     | Click to enable logging.  |
| Cloud Lookup State | Click to enable the cloud lookup state. If the cloud lookup state is not configured for this profile, the cloud lookup state configurations are inherited from the tenant VOS device. |

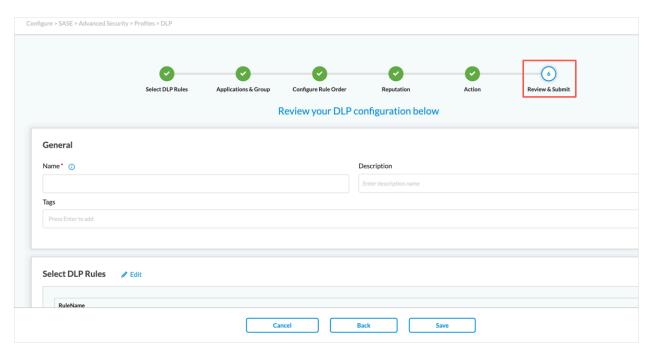
11. Click Next to go to Step 5, Action. Enter information for the following fields.



| Field                    | Description   |
|--------------------------|---|
| Default Action           | Click the down arrow and select a default action. The default action is applied if none of the scanned data matches a rule.  Alert Allow Block Reject |
| Exit on First Rule Match | Click to exit rule processing after the first match occurs.   |
| Logging                  | Enable logging of the DLP rules processing. All logs are sent to Versa Analytics.   |
| Forensics Enabled        | Enable forensics on uploaded original files.  |
| Upload Original File     | Upload an original file. This option is only selected if select Forensic Enabled.   |

### 12. Click Next.

13. In Step 6, Review & Submit. Enter a name for the DLP rule and, optionally, a description and one or more tags. A tag is an alphanumeric descriptor, with no white spaces or special characters, that you can use to search the rules.



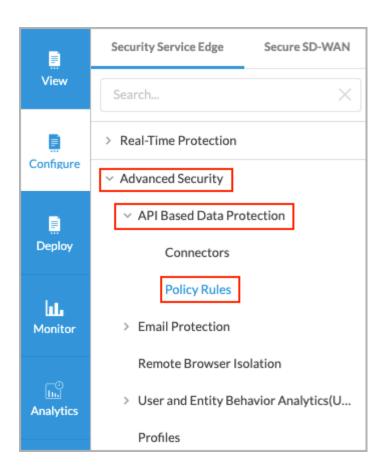
- 14. Review the configuration.
- 15. To change any of the information, click the PEdit icon and then make the required changes.
- 16. After review, click Save to create the new DLP profile.

## Associate a DLP Profile with SaaS Applications

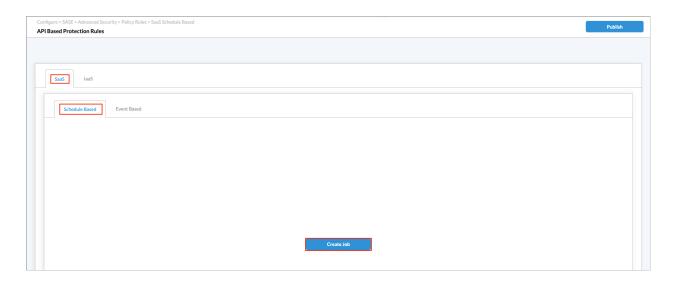
To oversee, track, and report all data transactions in the network and to scan all content that passes through an organization's ports and protocols to ensure data security in the organization, you can associate a DLP profile with SaaS applications. DLP provides a set of tools and processes for detecting and preventing data breaches, cyber exfiltration, and unwanted destruction of sensitive data. You use DLP to protect and secure an organization's data and to comply with regulations.

To associate a DLP profile with a SaaS application:

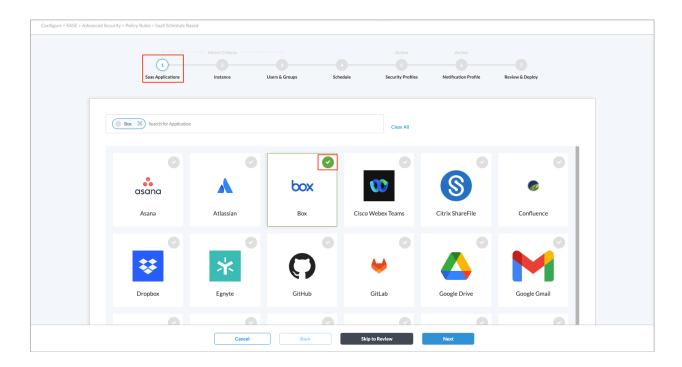
1. Go to Configure > Advanced Security > API Based Data Protection > Policy Rules.



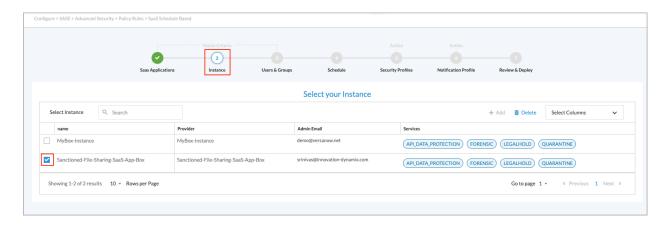
The following screen displays.



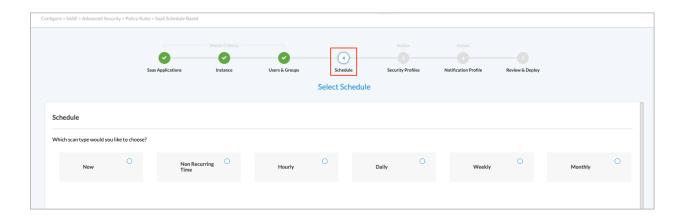
2. Select the SaaS tab, then select either Schedule Based or Event Based and click Create Job. This example uses the Schedule Based option. The following screen displays with Step 1, SaaS Applications, selected by default.



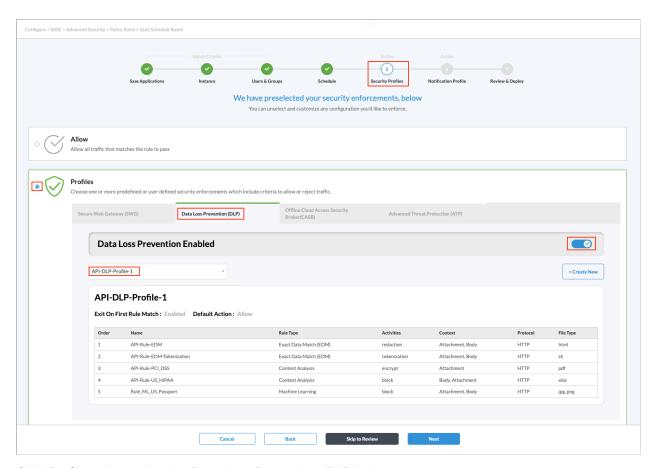
3. Click an application, then click Next.



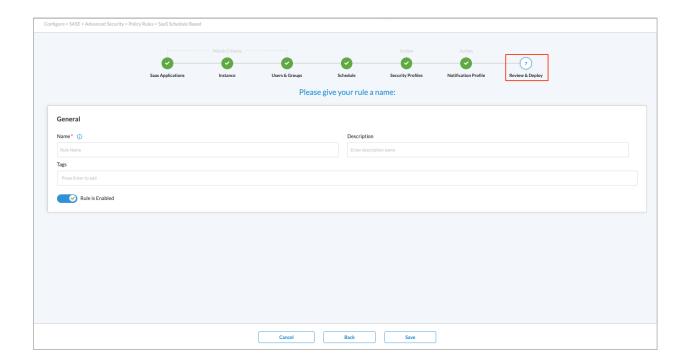
- 4. In the Step 2, Instance screen, select an instance, then click Next.
- 5. In the Step 3, Users & Groups screen, select the specific users or groups for the security posture, or click Next to accept the default settings and move to the next step.
- 6. In Step 4, Schedule, select a schedule and enter the required information.



7. Click Next to go to the Step 5, Security Profiles screen.



- 8. Click Profiles, then select the Data Loss Prevention (DLP) tab.
- 9. Click the slider bar to enable Data Loss Prevention, then select a profile from the drop-down list. The details of the profile display.
- 10. Click Next to go to Step 6, Notification Profile, and select a notification profile, if desired..
- 11. Click Next to go to Step 7, Review & Deploy, and then enter a name for the rule.



12. Click Save.

## **Additional Information**

Configure SASE Internet Protection Rules