

## Splunk and Avecto Defendpoint

Software Version: Splunk Enterprise 6.5+ and Defendpoint 4.5+

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# Chapter 1 - Setting up Splunk Enterprise to Collect Avecto Defendpoint Events

Splunk Enterprise is a data collection service that indexes events from a variety of sources. Splunk Enterprise can be used to capture and report on events from Avecto Defendpoint.

## 1.1 - Splunk Enterprise and Enterprise Reporting Versions

The following versions of Splunk Enterprise and Enterprise Reporting are supported:

- Splunk Enterprise 6.5 or greater.
- Enterprise Reporting 4.5 or greater.

## 1.2 - Getting Data into Splunk Enterprise

Splunk Enterprise allows you to collect Avecto events two different ways. This guide covers:

- From your endpoints or from your Windows Event Collector node using the Splunk Universal Forwarder, see [Splunk Universal Forwarder detailed on page 6](#). This approach is useful if you're collecting multiple events from multiple products including Avecto Defendpoint
- Importing events from the Enterprise Reporting database using Splunk DB Connect, see [Splunk DB Connect detailed on page 8](#). This approach can be used with Avecto Enterprise Reporting database version 4.5 or later deployed with any of our management platforms. With this approach you don't need to deploy further agents to your endpoints.

### 1.2.1 - Data Quantity

Typically, a well configured Defendpoint endpoint will generate about fifteen to twenty events per endpoint each day but this is highly dependent on configuration and can be significantly higher.

For DB Connect, the 'Execution Frequency' should be set to a period of at least a minute though we recommend every five minutes as a reasonable default. The 'cron' style set up allows updates at quiet times (for example, overnight) if timely delivery to Splunk is less important than conserving network bandwidth or database server resources.

For DB Connect, the 'Fetch Size' in the database connections can remain as the default (300). The 'Max rows to retrieve' can be configured to limit load (for example, after an outage), but leaving this as unlimited is recommend (0 or blank). This ensures that all the data is collected and the Splunk server does not fall behind which would be possible if this value is set too small.

Data that is held in the Enterprise Reporting database is de-duplicated. This can be beneficial if you have a tiered approach to your event collection as you can use the rising column value to assist with batch processing in this instance.

You can also filter the data when you query it so you only import what you need using DB Connect, see [Working with Data in Splunk Enterprise detailed on page 14](#).

## Chapter 2 - Configuring Splunk Enterprise

You need to configure Splunk Enterprise to receive events from either the Splunk Universal Forwarder or the Splunk DB Connect application.

For this installation we have assumed you have a Splunk Enterprise installation, you have the appropriate access to the system and you are familiar with the Splunk interface.


### To configure Splunk Enterprise to receive events:

1. Click **Settings > Forwarding Receiving** (under the **Data** menu).
2. Click **Configure Receiving** and then **New** to create a new entry.
3. Enter '9997' in the **Listen on this port** field and click **Save**.

Splunk Enterprise is now configured to listen for events that are being sent using any method.

## Chapter 3 - Splunk Universal Forwarder

You can either install the Splunk Universal Forwarder on your endpoints or you can install it on your Windows Event Collector node. The installation for both is largely the same. Differences are explained in the installation steps where applicable.

 If you want to get events from the Enterprise Reporting database instead, see [Splunk DB Connect detailed on page 8](#).

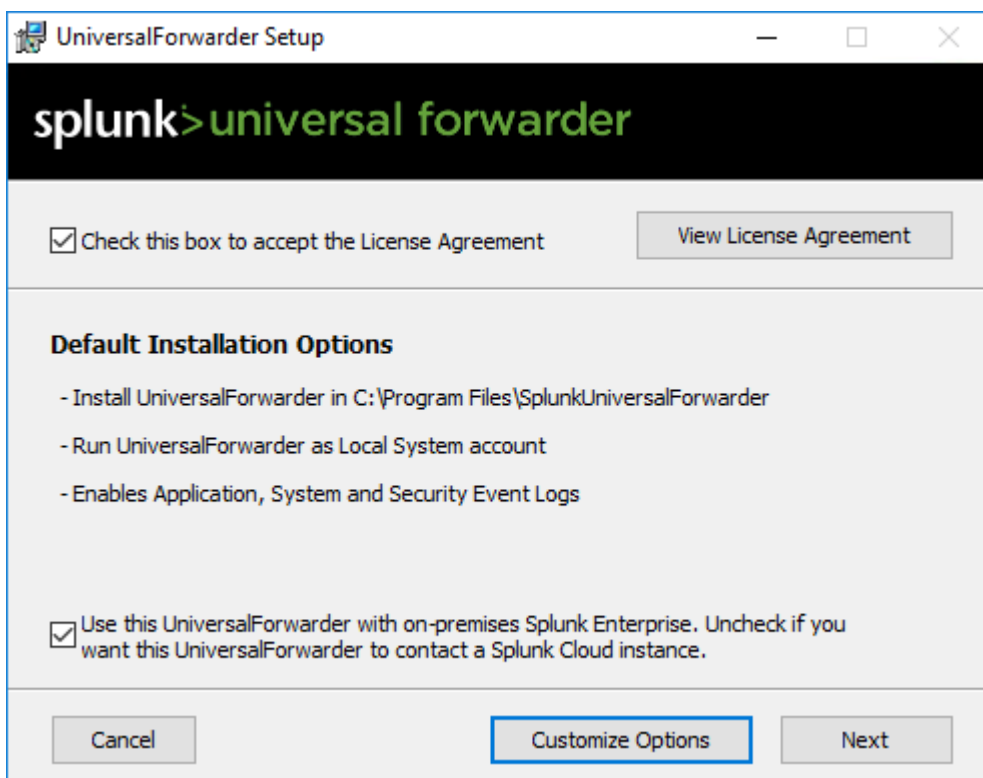
### 3.1 - Installing the Splunk Universal Forwarder

The Splunk Universal Forwarder can be used to collect data from your endpoints or your Windows Event Collector node.

The Splunk Universal Forwarder can be downloaded from Splunk: [https://www.splunk.com/en\\_us/download/universal-forwarder.html](https://www.splunk.com/en_us/download/universal-forwarder.html).

#### Installing the Splunk Universal Forwarder

1. Double click the Splunk Universal Forwarder and select the check box at the top of the Setup to accept the license agreement. Click **Customize Options**.



2. Select your installation location and click **Next**.
3. You can use an SSL certificate to encrypt the events you are sending to Splunk Enterprise in this section. Please follow the instructions to do this if required. Click **Next**.
4. You can leave the default as **Local System** as the Splunk Universal Forwarder only needs to read events stored locally, regardless of whether it is installed on an endpoint or a Windows Event Collector. Click **Next**.

5. If you are installing the Splunk Universal Forwarder on your endpoint, select the **Application Logs** check box to collect your application events from the endpoint. Alternatively, if you are installing Splunk on your Windows Event Collector node, select the **Forwarded Logs** check box to collect events that have been forwarded to the Windows Event Collector node. You can change this to just Defendpoint events after the installation if required. Click **Next**.



In the next section you can choose to configure your **Deployment Server** and **Receiving Indexer**. You need to have either a **Deployment Server** or a **Receiving Indexer**.

6. You can enter details of your Splunk Enterprise **Deployment Server** here if you're using one. Splunk deployment servers allow you to distribute configurations, applications and content to groups of Splunk Enterprise instances. Click **Next**.
7. You can enter details of your Splunk **Receiving Indexer** here if you're using one. Splunk Receiving Indexers allow you to receive events from one or more source. Click **Next**.
8. Click **Install** to complete the installation of the Splunk Universal Forwarder.

The next step is to configure the types of events you want to collect, see [Configuring Splunk Universal Forwarder detailed below](#).

## 3.2 - Configuring Splunk Universal Forwarder

Once you have installed the Splunk Universal Forwarder you can configure the types of events that you want to be sent to Splunk Enterprise.

To configure the type of events that are sent to Splunk Enterprise, you need to edit the `Inputs.conf` file. In a default installation of the Splunk Universal Forwarder the file is stored in this path:

```
C:\Program Files\SplunkUniversalForwarder\etc\system\local
```



Depending on your user access you may need to change the permissions of this file in Windows to allow you to edit it.

### Example to just collect Defendpoint events

This example will just collect Defendpoint events from that endpoint or the Windows Event Forwarder node.

```
[default]
host = DESKTOP-OU2VDC4

[WinEventLog://Avecto Defendpoint Service]
disabled = false
```

You need to restart the Splunk Universal Forwarder service after you've saved your changes for them to take effect.

Please refer to the additional Splunk Enterprise documentation for editing this file if required: <https://docs.splunk.com/Documentation/Splunk/6.6.2/Admin/Inputsconf>.


## Chapter 4 - Splunk DB Connect

Splunk DB Connect is an application from Splunk Enterprise that you can install in your Splunk Enterprise instance. Splunk DB Connect retrieves events from the database you define, such as Avecto Enterprise Reporting and inserts them into Splunk Enterprise.

You can use Splunk DB Connect to query the Export Views for Defendpoint. For more information see [Using Export Views detailed on page 16](#)

You can use SQL authentication or any of the default Enterprise Reporting accounts to authenticate with the Avecto database. The default accounts are Report Reader, Event Parser and Data Admin.

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 If you want to get events from your endpoints or your Windows Event Collection node instead, see [Splunk Universal Forwarder detailed on page 6](#).

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### 4.1 - Installing DB Connect

#### Prerequisites

- Splunk Enterprise 6.4.0 or later
- Java Platform, Standard Edition Development Kit (JDK) from Oracle, see <http://www.oracle.com/technetwork/java/javase/downloads/index.html>. The JRE alone is not sufficient, you need the JDK.
- Java Database Connection (JDBC) to allow you to connect to databases

Please see the Splunk DB Connect documentation if you need additional information: <http://docs.splunk.com/Documentation/DBX/3.1.0/DeployDBX/Prerequisites>

#### Installing on Splunk Enterprise:

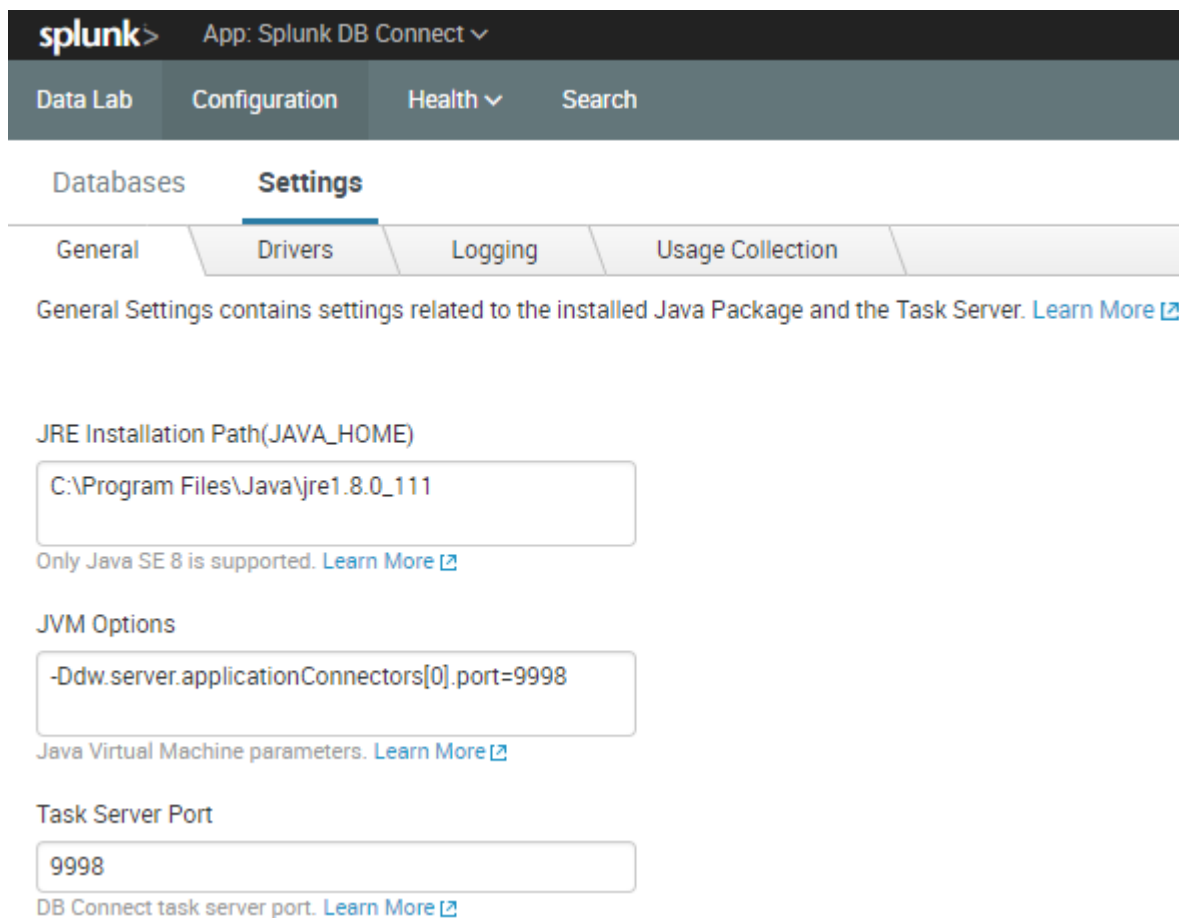
1. Open your Splunk Enterprise instance and click **App: Search & Reporting** from the top menu bar.
2. If **DB Connect** is installed it will appear in the list. Otherwise click **Find More Apps**.
3. Type 'DB Connect' in to the Search box if Splunk can connect to the Internet. Follow the onscreen instructions to install DB Connection. Alternatively you can download **DB Connect** directly from the Splunk store and install it manually: <https://splunkbase.splunk.com/app/2686/>.
4. Click **App: Search & Reporting > Manage Apps** to install **DB Connect** from a separate installer.
5. Click **Install app from file** and browse to the location of **DB Connect** that you downloaded.
6. Click **Upload** and follow the onscreen instructions to install **DB Connect**.
7. Once **DB Connect** has been installed you can access it from the **App: Search & Reporting** top menu.



## 4.2 - Configuring DB Connect

### Configuring Splunk DB Connect:

1. Click **App: Search & Reporting > Splunk DB Connect**.
2. Click **Configuration > Settings**. In the **General** tab you need to configure the path to your JRE Installation path on the machine hosting Splunk. The JVM Options and Task Server Port will be configured by Splunk, more information can be found in the Splunk documentation:  
<http://docs.splunk.com/Documentation/DBX/3.0.2/DeployDBX/ConfigureDBConnectsettings>.
3. Click **Save** to confirm your settings.



splunk > App: Splunk DB Connect ▾

Data Lab Configuration Health ▾ Search

Databases **Settings**

General Drivers Logging Usage Collection

General Settings contains settings related to the installed Java Package and the Task Server. [Learn More](#)

JRE Installation Path(JAVA\_HOME)

C:\Program Files\Java\jre1.8.0\_111

Only Java SE 8 is supported. [Learn More](#)

JVM Options

-Ddw.server.applicationConnectors[0].port=9998

Java Virtual Machine parameters. [Learn More](#)

Task Server Port

9998

DB Connect task server port. [Learn More](#)

4. Click the **Databases** tab > **Identities** tab. Click **New Identity**. This is the identity (user) that Splunk uses to authenticate to the Avecto database to export events.
  - Enter an **Identity Name** that you will use to identify the user.
  - You can either use SQL authentication as shown here or you can use Windows authentication and any of the standard Enterprise Reporting accounts that are set up by the installer. These are ReportReader, Event Parser and Data Admin, see the Enterprise Reporting installation guide for more information. Click **Save** to confirm your identity.

splunk> App: Splunk DB Connect ▾

Data Lab Configuration Health ▾ Search

## New Identity

Settings Permissions

Identity Name

AvectoIdentity

Username

sa

Password


.....

Use Windows Authentication Domain

Windows Authentication Domain

Configure your environment to use generic Microsoft driver with Windows auth. [Learn More](#)

---

 Leave the default permission set that Splunk Enterprise provides on the **Permissions** tab.

---

5. Click the **Connections** tab. This is where you configure the database that you will connect to.
  - Enter a **Connection Name**. This is to identify the connection in Splunk.
  - Select the Identity you created from the drop-down list.
  - Select the **Connection Type** 'MS SQL Server Using MS Generic Driver'.
  - Enter the host IP address of your database server. Leave the port as the default '1433'.
  - Enter the Default Database as the one containing your Avecto Enterprise Reporting data.
  - You can choose to configure the additional options if they are relevant for your environment.
  - Click **Save** to save your connection. This will also validate the connection.

splunk > App: Splunk DB Connect ▾

Data Lab Configuration Health ▾ Search

## New Connection

Settings Permissions

Connection Name

Identity

 ▾

Connection Type

 ▾

### JDBC URL Settings

Host

Port

Default Database

The usage and meaning of this parameter varies between database vendors. [Learn More](#) ↗

### JDBC URL Preview

```
jdbc:sqlserver://192.168.69.72:1433;databaseName=AvectoEnterpriseReporting;selectMethod=cursor
```

Edit JDBC URL

Leave the default permission set that Splunk Enterprise provides on the **Permissions** tab.

6. Click the **Data Lab** tab and click **New Input** on the right-hand side.
  - Enter a Name for you to identify the new Input by. You can also enter a Description if required.
  - Leave the **App** drop-down as 'Splunk DB Connect'.
  - Select your **Connection** from the drop-down menu. This also validates it.

**splunk** > App: Splunk DB Connect ▾

Data Lab Configuration Health ▾ Search

Inputs Outputs Lookups SQL Explorer

## New Input

▾ Name Input

Name

Description

App

Connection

● Valid connection

- Click **Continue**. This allows you to choose and preview a table. You can now import the Export Views into Splunk. These are ExportDefendpointStarts, ExportDefendpointLogins, ExportPrivilegedAccountProtection, and ExportProcesses. This example uses the ExportDefendpointStarts view.
  - Select **Rising Column**. This ensures the events you get from the Enterprise Reporting database are incremented rather than retrieving the same events repeatedly.
  - You can manually type a SQL query into the field here or select the **Checkpoint Column** and the **Checkpoint Value**. You should use a '?' as a placeholder in your SQL query for the Checkpoint Value as you set this manually below in the drop-down.
  - Click **Execute** to search for the specified events in the Enterprise Reporting database. This does not insert them into Splunk.

The screenshot shows the Splunk web interface for configuring a new input. At the top, the navigation bar includes 'splunk>', 'App: Splunk DB Connect', and tabs for 'Data Lab', 'Configuration', 'Health', and 'Search'. Below this, there are sub-tabs for 'Inputs', 'Outputs', 'Lookups', and 'SQL Explorer'. The main heading is 'New Input', followed by a 'Name Input' field. Under 'Choose and Preview Table', the 'Input Type' is set to 'Batch Input' and 'Rising Column'. A SQL query editor shows the following code:

```

1 SELECT *
2 FROM exportdefendpointstarts
3 WHERE sessionid > ?
4 ORDER BY sessionid

```

Below the query editor, the 'Checkpoint Column' is set to 'SessionID' and the 'Checkpoint Value' is '1'. A 'Parsing job...' indicator is visible at the bottom of the configuration area.

You can modify the SQL query to filter your results. This will help limit the data that is imported into Splunk Enterprise and your associated costs. For example, this SQL query imports events where the Defendpoint version is 4.3.349.0 only.

```
SELECT *
FROM exportdefendpointstarts
WHERE sessionid > ?
AND AgentVersion='4.0.349.0'
ORDER BY sessionid asc
```

8. Click **Execute** to search for the specified events in the Enterprise Reporting database. These are displayed below.
9. Click **Continue**. You can set parameters for the input here if required.
10. Click **Continue**. Each event that is imported into Splunk has the metadata you configure here as part of it. You can configure a new **Sourcetype** from the Settings menu on the top-right if required. See <http://docs.splunk.com/Documentation/SplunkCloud/6.6.1/Data/Createsourcetypes>.
11. Click **Save** to confirm your **Input Type** and start importing events into Splunk.

 You need to repeat steps 7 to 11 for each of the Export Views.

## 4.3 - Working with Data in Splunk Enterprise

Avecto provides four de-normalized views for use in Splunk Enterprise:

- ExportDefendpointStarts
- ExportLogons
- ExportPrivilegedAccountProtection
- ExportProcesses

The fields for each Defendpoint export view is detailed in the appendix [Using Export Views detailed on page 16](#).

These views allow you to import Avecto audit data into SIEM systems such as Splunk Enterprise. Each view has a rising column that allows the SIEM system to track what data has been imported already.

### 4.3.1 - ExportProcesses

This view returns the Process Control events such as elevating or blocking applications. The columns include **ApplicationDescription**, **Publisher**, **ProductVersion**, **UserName**, **HostName**, **WorkstyleName** as well as the event action flags including **Elevated**, **Blocked** or **Passive**.

**ProcessID** is the rising column and **ProcessStartTime** is the timestamp.

### 4.3.2 - ExportLogons

This view returns the Logon events in the database. The columns include **LogonTime**, **UserName**, **HostName** and **WorkstyleName**.

**LogonID** is the rising column and **LogonTime** is the timestamp.

### 4.3.3 - ExportDefendpointStarts

This view returns the Defendpoint started events in the database. The columns include **SessionStartTime**, **HostName**, **AgentVersion** and **OS**.

**SessionID** is the rising column and **SessionStartTime** is the timestamp.

#### 4.3.4 - ExportPrivilegedAccountProtection

This view returns the Privileged Account Management events in the database. The columns include **TimeGenerated**, **Access**, **WorkstyleName**, **UserName**, **HostName** and **ApplicationDescription**.

**ID** is the rising column and **TimeGenerated** is the timestamp.

## Appendix A - Using Export Views

Avecto provides four de-normalized export views for Defendpoint events:

- [ExportDefendpointStarts](#) detailed below
- [ExportDefendpointLogons](#) detailed on the next page
- [ExportPrivilegedAccountProtection](#) detailed on page 19
- [ExportProcesses](#) detailed on page 21

Each of these views can be queried in Splunk. For each view the following data is given to Splunk. These Export Views are correct as of Enterprise Reporting 4.5.

### A.1 - ExportDefendpointStarts

| Column_name       | Type             | Length | Index | Description                                 | Example   |
|-------------------|------------------|--------|-------|---|---|
| SessionID         | bigint           |        | 3     | Ascending Identity                          | 1   |
| SessionGUID       | uniqueidentifier |        |       | UUID of the session                         | 5CD221E9-CEB5-441D-B380-CB266400B320            |
| SessionStartTime  | datetime         |        |       | Time session started                        | 2017-01-03 10:24:00.000                         |
| SessionEndTime    | datetime         |        |       | Always NULL (not used)                      | NULL  |
| HostSID           | nvarchar         | 200    | 1     | Host SID                                    | S-1-21-123456789-123456789-1635717638-390614945 |
| AgentVersion      | nvarchar         | 20     |       | Defendpoint Client Version                  | 4.0.384.0                                       |
| ePOMode           | int              |        |       | 1 if DP client is in ePO mode. 0 otherwise. | 1   |
| CertificateMode   | int              |        |       | Certificate Mode                            | 0   |
| PolicyAuditMode   | int              |        |       | Policy Audit Mode                           | 7   |
| DefaultUILanguage | int              |        |       | Locale Identifier of UI Language            | 2057  |
| DefaultLocale     | int              |        |       | Locale Identifier of Locale                 | 2057  |



| Column_name           | Type     | Length | Index | Description           | Example                               |
|-----------------------|----------|--------|-------|-----------------------|---------------------------------------|
| SystemDefaultTimezone | int      |        |       | Not set so always "0" | 0                                     |
| ChassisType           | nvarchar | 40     |       | Chassis Type          | Other                                 |
| HostName              | nvarchar | 1024   | 2*    | Host name             | EGHostWin1                            |
| HostNameNETBIOS       | nvarchar | 15     | 2*    | Host NETBIOS          | EGHOSTWIN1                            |
| OS                    | nvarchar | 20     |       | OS Version            | 6.3                                   |
| OSProductType         | int      | 4      |       | OS Product Type.      | 1                                     |
| PlatformType          | nvarchar | 10     |       | Platform Type         | Windows                               |
| HostDomainSID         | nvarchar | 200    |       | Host Domain SID       | S-1-21-123456789-123456789-1635717638 |
| HostDomainName        | nvarchar | 1024   |       | Host Domain           | EGDomain                              |
| HostDomainNameNETBIOS | nvarchar | 15     |       | Host Domain NETBIOS   | EGDOMAIN                              |

## A.2 - ExportDefendpointLogons

| Column_name | Type             | Length | Index | Description                | Example  |
|-------------|------------------|--------|-------|----------------------------|--|
| LogonID     | bigint           |        | 3     | Ascending Identity         | 1  |
| LogonGUID   | uniqueidentifier |        |       | UUID of the logon          | 819EF606-F9B6-40BE-9C0C-A033A34EC4F8             |
| HostSID     | nvarchar         | 200    | 1     | Host SID                   | S-1-21-123456789-123456789-1635717638-390614945  |
| UserSID     | nvarchar         | 200    |       | User SID                   | S-1-21-123456789-123456789-1635717638-1072059836 |
| LogonTime   | datetime         |        |       | Logon Date/Time            | 2017-01-03 10:24:00.000                          |
| IsAdmin     | bit              |        |       | 1 if an admin, 0 otherwise | 0  |

| Column_name           | Type     | Length | Index | Description                          | Example                               |
|-----------------------|----------|--------|-------|--------------------------------------|---------------------------------------|
| IsPowerUser           | bit      |        |       | 1 if a power user, 0 otherwise       | 0                                     |
| UILanguage            | int      |        |       | Locale Identifier of the UI Language | 1033                                  |
| Locale                | int      |        |       | Locale Identifier of the Locale      | 2057                                  |
| UserName              | nvarchar | 1024   |       | User name                            | EGUser1                               |
| UserDomainSID         | nvarchar | 200    |       | User Domain SID                      | S-1-21-123456789-123456789-1635717638 |
| UserDomainName        | nvarchar | 1024   |       | User Domain                          | EGDomain                              |
| UserNameNETBIOS       | nvarchar | 15     |       | User NETBIOS                         | EGDOMAIN                              |
| ChassisType           | nvarchar | 40     |       | Chassis Type                         | Docking Station                       |
| HostName              | nvarchar | 1024   | 2*    | Host name                            | EGHostWin1                            |
| HostNameNETBIOS       | nvarchar | 15     | 2*    | Host NETBIOS                         | EGHOSTWIN1                            |
| OS                    | nvarchar | 20     |       | OS Version                           | 6.3                                   |
| OSProductType         | int      |        |       | OS Product Type                      | 1                                     |
| PlatformType          | nvarchar | 10     |       | Platform Type                        | Windows                               |
| HostDomainSID         | nvarchar | 200    |       | Host Domain SID                      | S-1-21-123456789-123456789-1635717638 |
| HostDomainName        | nvarchar | 1024   |       | Host Domain                          | EGDomain                              |
| HostDomainNameNETBIOS | nvarchar | 15     |       | Host Domain NETBIOS                  | EGDOMAIN                              |
| PolicyName            | nvarchar | 1024   |       | Policy Name                          | EventGen Test Policy                  |
| WorkstyleName         | nvarchar | 1024   |       | Workstyle name                       | EventGen Test Workstyle               |

## A.3 - ExportPrivilegedAccountProtection

| Column_name         | Type             | Length | Index | Description                          | Example   |
|---------------------|------------------|--------|-------|--------------------------------------|---|
| ID                  | bigint           |        | 1     | Ascending Identity                   | 1   |
| TimeGenerated       | datetime         |        |       | Event Generation Date/Time           |   |
| CommandLine         | nvarchar         | 1024   |       | Command Line                         | <None>  |
| PrivilegedGroupName | nvarchar         | 200    |       | Privileged Group Name                | Administrators  |
| PrivilegedGroupRID  | nvarchar         | 10     |       | Privileged Group Relative Identifier | 544   |
| Access              | nvarchar         | 200    |       | Group Access Details                 | Add Member&#44; Remove Member&#44; List Members&#44; Read Information |
| PolicyGUID          | uniqueidentifier |        |       | Policy UUID                          | E7654321-AAAA-5AD2-B954-12342918D604                                  |
| PolicyName          | nvarchar         | 1024   |       | Policy Name                          | EventGen Test Policy  |
| WorkstyleName       | nvarchar         | 1024   |       | Workstyle name                       | EventGen Test Workstyle   |
| FileName            | nvarchar         | 255    |       | File name                            | <None>  |
| ApplicationHash     | nvarchar         | 40     |       | Application SHA1                     | 921CA2B3293F3FCB905B24A9536D8525461DE2A3                              |
| ProductCode         | nvarchar         | 1024   |       | Product Code                         | <None>  |
| UpgradeCode         | nvarchar         | 1024   |       | Upgrade Code                         | <None>  |
| FileVersion         | nvarchar         | 1024   |       | File Version                         | <None>  |
| MD5                 | nvarchar         | 32     |       | MD5 Hash                             | 3279476E39DE235B426D69CFE8DEBF55                                      |
| UserSID             | nvarchar         | 200    |       | User SID                             | S-1-21-123456789-123456789-1635717638-1072059836                      |
| UserName            | nvarchar         | 1024   |       | User Name                            | EGUser1   |
| UserDomainSID       | nvarchar         | 200    |       | User Domain SID                      | S-1-21-123456789-123456789-1635717638                                 |

| Column_name            | Type     | Length | Index | Description                 | Example  |
|------------------------|----------|--------|-------|-----------------------------|--|
| UserDomainName         | nvarchar | 1024   |       | User Domain                 | EGDomain   |
| UserNameNETBIOS        | nvarchar | 15     |       | User Domain NETBIOS         | EGDOMAIN   |
| ChassisType            | nvarchar | 40     |       | Chassis Type                | Other  |
| HostSID                | nvarchar | 200    |       | Host SID                    | S-1-21-123456789-123456789-1635717638-390614945                |
| HostName               | nvarchar | 1024   |       | Host Name                   | EGHostWin1   |
| HostNameNETBIOS        | nvarchar | 15     |       | Host NETBIOS                | EGHOSTWIN1   |
| OS                     | nvarchar | 20     |       | OS Version                  | 6.3  |
| OSProductType          | int      |        |       | OS Product Type             | 1  |
| HostDomainSID          | nvarchar | 200    |       | Host Domain SID             | S-1-21-123456789-123456789-1635717638                          |
| HostDomainName         | nvarchar | 1024   |       | Host Domain                 | EGDomain   |
| HostDomainNameNETBIOS  | nvarchar | 15     |       | Host domain NETBIOS         | EGDOMAIN   |
| FileOwnerUserSID       | nvarchar | 200    |       | File Owner SID              | S-1-5-80-956008885-3418522649-1831038044-1853292631-2271478464 |
| FileOwnerUserName      | nvarchar | 1024   |       | File Owner                  | NT SERVICE\TrustedInstaller                                    |
| FileOwnerDomainName    | nvarchar | 1024   |       | File Owner Domain           | NT SERVICE   |
| ApplicationURI         | nvarchar | 1024   |       | URI of a macOS application  | com.apple.preference.datetime                                  |
| ApplicationDescription | nvarchar | 2048   |       | Application description     | lusrmgr.msc  |
| FirstDiscovered        | datetime |        |       | First time app was seen     | 2017-01-03 10:25:50.110  |
| FirstExecuted          | datetime |        |       | First time app was executed | 2017-01-03 10:24:00.000  |
| PlatformType           | nvarchar | 10     |       | Platform Type               | Windows  |

| Column_name    | Type     | Length | Index | Description                       | Example           |
|----------------|----------|--------|-------|-----------------------------------|-------------------|
| ProductName    | nvarchar | 1024   |       | Product name                      | <None>            |
| ProductVersion | nvarchar | 1024   |       | Product version                   | <None>            |
| Publisher      | nvarchar | 1024   |       | Publisher                         | Microsoft Windows |
| TrustedOwner   | bit      |        |       | 1 if a trusted owner, 0 otherwise | 1                 |

## A.4 - ExportProcesses

| Column_name      | Type             | Length | Index | Description                               | Example                              |
|------------------|------------------|--------|-------|---|--------------------------------------|
| ProcessID        | bigint           |        | 4     | Ascending Identity                        | 1                                    |
| ProcessGUID      | uniqueidentifier |        | 2     | UUID of the process                       | 98C99D96-6DFA-4C95-9A87-C8665C166286 |
| EventNumber      | int              |        |       | Event Number. See List of Events section. | 153                                  |
| TimeGenerated    | datetime         |        |       | Event generation date/time                | 2017-02-20 13:11:11.217              |
| TimeReceived     | datetime         |        |       | Event received at ER date/time            | 2017-02-20 13:16:28.047              |
| PID              | int              |        |       | Process ID                                | 8723                                 |
| ParentPID        | int              |        |       | Parent Process ID                         | 142916                               |
| CommandLine      | nvarchar         | 1024   |       | Command Line                              | "C:\cygwin64\bin\sh.exe"             |
| FileName         | nvarchar         | 255    |       | File Name                                 | c:\cygwin64\bin\sh.exe               |
| ProcessStartTime | datetime         |        | 1     | Date/Time Process Started                 | 2017-02-20 13:11:11.217              |
| Reason           | nvarchar         | 1024   |       | Reason entered by user                    | <None>                               |
| ClientIPV4       | nvarchar         | 15     |       | Client IP Address                         | 10.0.9.58                            |
| ClientName       | nvarchar         | 1024   |       | Client Name                               | L-CNU410DJJ7                         |

| Column_name            | Type             | Length | Index | Description  | Example                              |
|------------------------|------------------|--------|-------|--|--------------------------------------|
| UACTriggered           | bit              |        |       | 1 if UAC shown   | 0                                    |
| ParentProcessUniqueID  | uniqueidentifier |        |       | Parent process UUID                                      | C404C7F5-3A93-4C0E-81BC-9902D220C21E |
| COMCLSID               | uniqueidentifier |        |       | COM CLSID  | NULL                                 |
| COMAppID               | uniqueidentifier |        |       | COM Application ID                                       | NULL                                 |
| COMDisplayName         | nvarchar         | 1024   |       | COM Display Name   | <None>                               |
| ApplicationType        | nvarchar         | 4      |       | Application Type   | svc                                  |
| TokenGUID              | uniqueidentifier |        |       | UUID of token in policy                                  | F30A3824-27AF-4D69-9125-C78E44764AC1 |
| Executed               | bit              |        |       | 1 if executed, 0 otherwise                               | 1                                    |
| Elevated               | bit              |        |       | 1 if elevated, 0 otherwise                               | 1                                    |
| Blocked                | bit              |        |       | 1 if blocked, 0 otherwise                                | 0                                    |
| Passive                | bit              |        |       | 1 if passive, 0 otherwise                                | 0                                    |
| Cancelled              | bit              |        |       | 1 if cancelled, 0 otherwise                              | 0                                    |
| DropAdmin              | bit              |        |       | 1 if admin rights dropped, 0 otherwise                   | 0                                    |
| EnforceUsersDefault    | bit              |        |       | 1 if user default permissions were enforced, 0 otherwise | 0                                    |
| Custom                 | bit              |        |       | 1 if custom token, 0 otherwise                           | 0                                    |
| SourceURL              | nvarchar         | 2048   |       | Source URL   | <None>                               |
| AuthorizationChallenge | nvarchar         | 9      |       | Challenge Response authorization code                    | <None>                               |
| WindowsStoreAppName    | nvarchar         | 200    |       | Windows Store application name (appx app type only)      | <None>                               |

| Column_name                  | Type             | Length | Index | Description  | Example         |
|------------------------------|------------------|--------|-------|--|-----------------|
| WindowsStoreAppPublisher     | nvarchar         | 200    |       | Windows Store application publisher (appx app type only) | <None>          |
| WindowsStoreAppVersion       | nvarchar         | 200    |       | Window Store application version (appx app type only)    | <None>          |
| DeviceType                   | nvarchar         | 40     |       | Device Type  | Fixed Disk      |
| ServiceName                  | nvarchar         | 1024   |       | Service name (svc events only)                           | <None>          |
| ServiceDisplayName           | nvarchar         | 1024   |       | Service Display Name (svc app type only)                 | <None>          |
| PowerShellCommand            | nvarchar         | 1024   |       | PowerShell Command (ps1/rpsc/rpss app types only)        | <None>          |
| ApplicationPolicyDescription | nvarchar         | 1024   |       | Policy Description                                       | <None>          |
| SandboxGUID                  | uniqueidentifier |        |       | Sandbox UUID (sandbox events only)                       | NULL            |
| SandboxName                  | nvarchar         | 1024   |       | Sandbox Name (sandbox events only)                       | NULL            |
| BrowseSourceURL              | nvarchar         | 2048   |       | Sandbox browse source (sandbox events only)              | <None>          |
| BrowseDestinationURL         | nvarchar         | 2048   |       | Sandbox destination source (sandbox events only)         | <None>          |
| Classification               | nvarchar         | 200    |       | Sandbox classification (sandbox events only)             | Private (Local) |
| IEZoneTag                    | nvarchar         | 200    |       | IE Zone Tag  | <None>          |
| OriginSandbox                | nvarchar         | 40     |       | Origin Sandbox   | <None>          |
| OriginIEZone                 | nvarchar         | 40     |       | Origin IE Zone   | <None>          |
| TargetSandbox                | nvarchar         | 40     |       | Target Sandbox   | <None>          |
| TargetIEZone                 | nvarchar         | 40     |       | Target IE Zone   | <None>          |

| Column_name            | Type             | Length | Index | Description   | Example   |
|------------------------|------------------|--------|-------|---|---|
| AuthRequestURL         | nvarchar         | 1024   |       | Authorization request URL (osx challenge/response only) | <None>  |
| PlatformVersion        | nvarchar         | 10     |       | Platform Version  | <None>  |
| ControlAuthorization   | bit              |        |       | 1 is Defendpoint authorized this macOS application      | 0   |
| ApplicationHash        | nvarchar         | 40     |       | SHA1 of the application                                 | C22FF10511ECCEA1824A8DE64B678619C21B4BEE        |
| ProductCode            | nvarchar         | 1024   |       | Product Code  | <None>  |
| UpgradeCode            | nvarchar         | 1024   |       | Upgrade Code  | <None>  |
| FileVersion            | nvarchar         | 1024   |       | File Version  | <None>  |
| MD5                    | nvarchar         | 32     |       | MD5 hash of the app                                     | 6E641CAE42A2A7C89442AF99613FE6D6                |
| TokenAssignmentGUID    | uniqueidentifier |        |       | UUID of the token assignment in the policy              | E7654321-BBBB-5AD2-B954-1234DDC7A89D            |
| TokenAssignmentIsShell | bit              |        |       | Token assignment is for shell                           | 1   |
| UserSID                | nvarchar         | 200    |       | User SID  | S-1-21-123456789-123456789-16357176381125883508 |
| UserName               | nvarchar         | 1024   |       | User Name   | EGUser18  |
| UserDomainSID          | nvarchar         | 200    |       | User Domain SID   | S-1-21-123456789-123456789-1635717638           |
| UserDomainName         | nvarchar         | 1024   |       | User Domain   | EGDomain  |
| UserDomainNameNETBIOS  | nvarchar         | 15     |       | User Domain NETBIOS                                     | EGDOMAIN  |
| ChassisType            | nvarchar         | 40     |       | Chassis Type  | Laptop  |
| HostSID                | nvarchar         | 200    |       | Host SID  | S-1-21-123456789-123456789-1635717638775838649  |
| HostName               | nvarchar         | 1024   | 3*    | Host Name   | EGHostWin18                                     |
| HostNameNETBIOS        | nvarchar         | 15     | 3*    | Host NETBIOS  | EGHOSTWIN18                                     |



| Column_name                 | Type     | Length | Index | Description                     | Example  |
|-----------------------------|----------|--------|-------|---------------------------------|--|
| OS                          | nvarchar |        |       | OS Version                      | 10.0   |
| OSProductType               | int      |        |       | OS Product Type                 |  |
| HostDomainSID               | nvarchar | 200    |       | Host Domain SID                 | S-1-21-123456789-123456789-1635717638                          |
| HostDomainName              | nvarchar | 1024   |       | Host Domain                     | EGDomain   |
| HostDomain NameNETBIOS      | nvarchar | 15     |       | Host Domain NETBIOS             | EGDOMAIN   |
| AuthUserSID                 | nvarchar | 200    |       | Authorizing User SID            | <None>   |
| AuthUserName                | nvarchar | 1024   |       | Authorizing User                | <None>   |
| AuthUserDomainSID           | nvarchar | 200    |       | Authorizing User Domain SID     | <None>   |
| AuthUserDomainName          | nvarchar | 1024   |       | Authorizing User Domain         | <None>   |
| AuthUserDomain NameNETBIOS  | nvarchar | 15     |       | Authorizing User Domain NETBIOS | <None>   |
| FileOwnerUserSID            | nvarchar | 200    |       | File Owner SID                  | S-1-5-80-956008885-3418522649-1831038044-1853292631-2271478464 |
| FileOwnerUserName           | nvarchar | 1024   |       | File Owner                      | NT SERVICE\TrustedInstaller                                    |
| FileOwnerDomainSID          | nvarchar | 200    |       | File Owner Domain SID           | S-1-5-80   |
| FileOwnerDomainName         | nvarchar | 1024   |       | File Owner Domain               | NT SERVICE   |
| FileOwnerDomain NameNETBIOS | nvarchar | 15     |       | File Owner Domain NETBIOS       | <None>   |
| ApplicationURI              | nvarchar | 1024   |       | URI of the macOS Application    | com.apple.preference.datetime                                  |
| ApplicationDescription      | nvarchar | 2048   |       | Application Description         | c:\cygwin64\bin\sh.exe   |
| FirstDiscovered             | datetime |        |       | Time application first seen     | 2017-02-07 09:14:39.413  |
| FirstExecuted               | datetime |        |       | Time application first executed | 2017-02-07 09:07:00.000  |
| PlatformType                | nvarchar | 10     |       | Platform Type                   | Windows  |

| Column_name            | Type             | Length | Index | Description                                 | Example   |
|------------------------|------------------|--------|-------|---|---|
| ProductName            | nvarchar         | 1024   |       | Product Name                                | ADelRCP Dynamic Link Library  |
| ProductVersion         | nvarchar         | 1024   |       | Product Version                             | 15.10.20056.167417  |
| Publisher              | nvarchar         | 1024   |       | Publisher                                   | Adobe Systems, Incorporated   |
| TrustedOwner           | bit              |        |       | 1 if a trusted owner, 0 otherwise           | 0   |
| MessageGUID            | uniqueidentifier |        |       | UUID of the message in the policy           | 00000000-0000-0000-0000-000000000000                                      |
| MessageName            | nvarchar         | 1024   |       | Name of the message in the policy           | Block Message   |
| MessageType            | nvarchar         | 40     |       | Message Type                                | Prompt  |
| AppGroupGUID           | uniqueidentifier |        |       | UUID of the Application Group in the Policy | 47E4A204-FC06-428B-8E73-1E36E3A65430                                      |
| AppGroupName           | nvarchar         | 1024   |       | Application Group Name in the Policy        | Test Policy.test  |
| PolicyID               | bigint           |        |       | Internal ID of the Policy                   | 2   |
| PolicyGUID             | uniqueidentifier |        |       | UUID of the Policy                          | E7654321-AAAA-5AD2-B954-12342918D604                                      |
| PolicyName             | nvarchar         | 1024   |       | Policy Name                                 | EventGen Test Policy  |
| WorkstyleName          | nvarchar         | 1024   |       | Workstyle Name                              | EventGen Test Workstyle   |
| ContentFileName        | nvarchar         | 255    |       | Content File Name                           | c:\users\user.wp-epo-win7-64\downloads\con29 selectable feestable (1).pdf |
| ContentFileDescription | nvarchar         | 1024   |       | Content File Description                    | <None>  |
| ContentFileVersion     | nvarchar         | 1024   |       | Content File Version                        | <None>  |
| ContentOwnerSID        | nvarchar         | 200    |       | Content Owner SID                           | S-1-21-123456789-123456789-1635717638-1072059836                          |
| ContentOwnerName       | nvarchar         | 1024   |       | Content Owner                               | EGUser1   |
| ContentOwnerDomainSID  | nvarchar         | 200    |       | Content Owner Domain SID                    | S-1-5-21-2217285736-120021366-3854014904                                  |

| Column_name                   | Type     | Length | Index | Description                        | Example                      |
|-------------------------------|----------|--------|-------|------------------------------------|------------------------------|
| ContentOwnerDomainName        | nvarchar | 1024   |       | Content Owner Domain               | AVECTOTEST58\AVECTOTEST58.QA |
| ContentOwnerDomainNameNetBIOS | nvarchar | 15     |       | Content Owner Domain NETBIOS       | AVECTOTEST58                 |
| TrustedApplicationName        | nvarchar | 1024   |       | Name of the trusted application    | Microsoft Word               |
| TrustedApplicationVersion     | nvarchar | 1024   |       | Version of the trusted application | 11.1715.14393.0              |
| ParentProcessFileName         | nvarchar | 1024   |       | Parent process file name           | Google Chrome                |