IBM Endpoint Manager for Software Use Analysis
Version 9.1 (includes update 9.0.1, 9.0.1.1 and 9.0.1.2)

Tutorials Guide

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This edition applies to IBM Endpoint Manager for Software Use Analysis 9.0.1.2 (product number 5725-F57) and to all subsequent releases and modifications until otherwise indicated in new editions.

Tutorials

The tutorials are available to help you understand how to use the product. Tutorials consist of modules that focus on helping you accomplish broad goals, such as managing software catalog. Modules consist of tasks that tell you, step-by-step, how to configure a specific setting.

Tutorial: Simplified catalog management

This tutorial teaches you how to manage your custom catalog in Software Use Analysis. You will learn how to download and update the software catalog, create and edit custom publishers, products, and simple software signatures that are used to detect the software in your infrastructure.

Learning objectives

In this tutorial, you learn to do the following tasks:
- Download the latest software catalog from IBM® Endpoint Manager server
- Update the software catalog that you downloaded
- Import software scan data from IBM Endpoint Manager server
- Create a catalog entry
- Edit a catalog entry
- Delete a catalog entry

Time required

60 minutes

Lessons in this tutorial

The tutorial contains the following lessons:
1. Lesson 1: Downloading a new software catalog.
2. Lesson 2: Updating software catalog.
3. Lesson 3: Importing software scan data.
4. "Lesson 4: Creating software signatures" on page 3.

Lesson 1: Downloading a new IBM software catalog

In this lesson, you learn how to download the latest software catalog through the IBM Endpoint Manager server.

The **Software Catalog Update** task downloads a ZIP file that contains a software catalog in an XML format and two CSV files with charge unit data. Charge unit data consists of information about charge unit definitions, their relations with the products, and additional parameters and part numbers that are used for software licensing purposes.
1. Start the IBM Endpoint Manager console.

2. On the navigation bar, click **Sites** > **External Sites** > **IBM Endpoint Manager for Software Use Analysis v9** > **Fixlets and Tasks**.
3. In the upper-right pane, click **Software Catalog Update**, and then click **Take Action**.
4. Choose which files you want to download:
   - The software catalog, charge unit data, and the part numbers file compressed into a single file
   - Only the software catalog
   - Charge unit data and part numbers compressed into a single file
5. Click the name of the computer on which you want to download the software catalog, and click **OK**.

Results

The software catalog is downloaded to the Software Use Analysis installation directory, by default: `/opt/IBM/SUA/sua_catalog`.

Lesson checkpoint
You learned how to download the software catalog from the IBM Endpoint Manager server.

Now, you must update the catalog in Software Use Analysis. Proceed to the next lesson to learn how to do it.

Lesson 2: Updating the software catalog

In this lesson, you learn how to update the software catalog and charge unit data by uploading it to Software Use Analysis. You should update the software catalog on a regular basis and check for updates every month to keep your software inventory up-to-date.

You must have the Manage Uploads permission to perform this task.
1. Download the catalog from the IBM Endpoint Manager console.
2. Log in to Software Use Analysis.
3. In the navigation bar, click **Management** > **Catalog Upload**.
4. Click **Browse** and select the appropriate compressed file.
   - If you downloaded a compressed file that contains the software catalog, charge unit data, and the part numbers file, search for the `IBMSoftwareCatalog_canonical_2.0_form_date`.zip file.
   - If you downloaded a compressed file that contains only the software catalog in the XML format, search for the `IBMSoftwareCatalog_canonical_2.0_form_date`.zip file.
   - If you downloaded a compressed file that contains two CSV files with charge unit data and part numbers, search for the `ChargeUnits_date_dataversion_version`.zip file.

   The default location of the file is `/opt/IBM/SUA/sua_catalog`.
5. To upload the catalog, click **Upload**.

Results

The software catalog file is listed in the table. The status is **Pending** until you import the scan data to process and update new data.

Lesson checkpoint

You learned how to update the software catalog in Software Use Analysis.

Before you can use it, you must import software scan data to process the changes and to make sure that all data and settings are up to date. Proceed to the next lesson to learn how to import software scan data.

Lesson 3: Importing software scan data

In this lesson, you learn how to import software scan data. The inventory results are stored on the Endpoint Manager server. To import software scan data, the software catalog and other settings that changed since the last update, you must extract the data from Endpoint Manager server and load it into the Software Use Analysis.

You must have the Manage Imports permission to perform this task.

1. Log in to Software Use Analysis.
2. In the navigation bar, click **Management** > **Data Imports**.
3. To import software scan data, the software catalog and other settings that changed since the last update, click **Import Now**.
4. To schedule regular imports, select the **Enabled** check box, specify the number of daily imports and their hours, and click **Save**.

Import Settings

☑ Enabled

Imports per day   3   (times specified in UTC +01:00)

09:00AM

01:30PM

05:00PM

Save   Import Now

Lesson checkpoint

You learned how to import software scan data. Remember to schedule a regular import so that all your data is always up to date.

You already know how to download the software catalog, update it in Software Use Analysis, and import software scan data. Now, you can learn how to customize your catalog by creating new catalog entries, editing the existing ones, or deleting those that you no longer need. Proceed to the next lesson to learn how to create catalog entries.

Lesson 4: Creating software signatures

In this lesson, you learn how to create signatures for identifying products that you expect to discover but are not reported or are missing from the software catalog.

To create a software signature, identify a file or package that is specific for the product and can be used for discovery purposes. If you create a file-based signature, it is used for both discovery and usage monitoring unlike a

package-based signature that is used for discovery only. To avoid false-positive discovery, it is best to create a signature that is based on both a file and package data.

1. To avoid unnecessary work, verify that the product is not in the software catalog. In the catalog search, type `Live Project Premium Viewer`, and click **Search**.

   Tip: If searching for the full product name does not return any results, try using different key words. For example, search for `Live Project Viewer` or `Live Project`.

2. Optional: If Live Project Premium Viewer was installed recently, initiate the software scan to ensure that the data from the computers on which the product is installed is up-to-date and accurate.

   a. Log in to the Software Use Analysis console.

   b. In the navigation tree, click **Sites** > **External Sites** > **IBM Endpoint Manager for Software Use Analysis** > **Fixlets and Tasks**.

   c. In the top pane, click **Initiate Software Scan**, and then click **Take Action**.

   d. Open the **Applicable Computers** pane and select a computer or computers on which Live Project Premium Viewer is installed. Then, click **Take Action**.
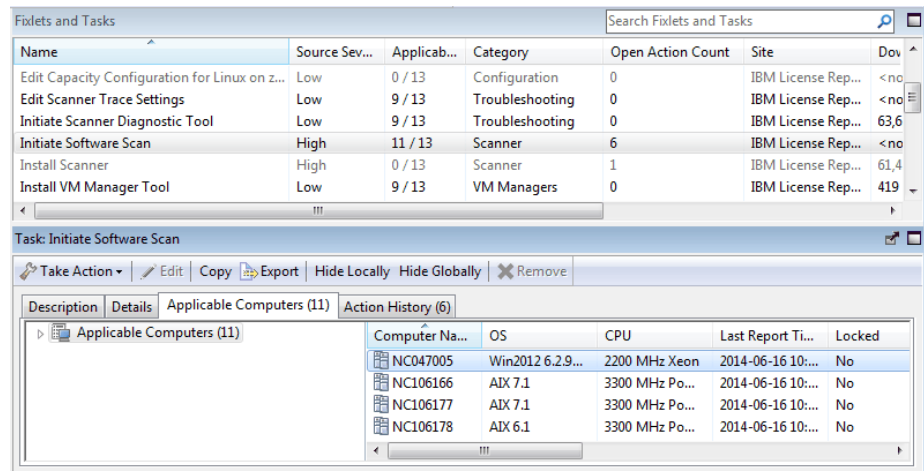
   e. When the software scan finishes, upload its results. Click **Upload Software Scan Results**, and then click **Take Action**.

   f. Open the **Applicable Computers** pane and select a computer or computers on which Live Project Premium Viewer is installed. Then, click **Take Action**.
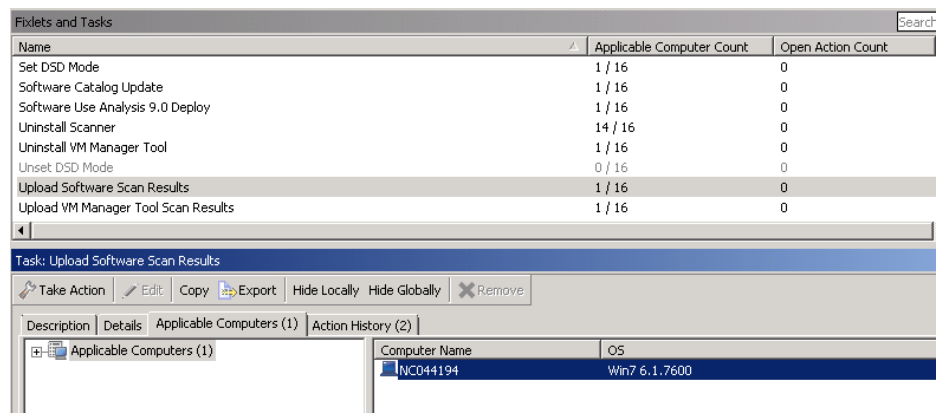
g. In Software Use Analysis, run an import to retrieve the latest scan data from Endpoint Manager. In the top navigation bar, click **Management** > **Data Imports**, and then click **Import Now**. Wait for the import to finish.

3. To find information about files that were discovered in your infrastructure, click **Reports** > **Scanned File Data**.

4. To narrow down the result, click **Configure View** and specify filtering parameters. For example, narrow down the results to entries in which the computer name is the name of the computer on which Live Project Premium Viewer is installed and the installation path contains the words `Live` or `Project`. Then, click **Submit**.

5. To create a signature, click the arrow sign next to the file name and then click **Create Signature**.

6. In the Create Catalog Entry pane, specify the publisher name, product name, and release number of the product. Then, click **Submit**.

Note: The file size and version are pre-filled by default. However, if they do not fulfill certain requirements, they might lead to false-positive discovery. Specify the file version if it is in sync with the version of the product or is changed with every release. Otherwise, specify only the file size.

You created a file-based signature that allows for discovering Live Project Premium Viewer and measuring its usage.

7. Optional: To increase the accuracy of the signature and avoid false-positive discovery, you can specify a package that must also be present on the computer for the product to be discovered.

   a. To view package data, click **Reports** > **Package Data**.

   b. To narrow down the result, click **Configure View** and specify filtering parameters. For example, narrow down the results to entries for which the vendor contains the word `KaDonk` and the package name contains the word `Live`. Then, click **Submit**.

   c. Write down the information about the package name, version, and vendor.

   d. To add this information to the signature that you created in step 6, click **Management** > **Catalog Customizations**, and search for the signature.

   e. In the Edit Signature pane, select **The following installation package is found** and provide the package name, version and vendor. Then, click **Save**.

   Tip: In the release field, use a wildcard (*) to cover the whole release, including fix packs and mod-releases.

8. Wait for the scheduled import to refresh the data. When the import finishes, verify whether Live Project Premium Viewer is discovered.

   a. To view information about the installed software, click **Reports** > **Software Installatios**.

   b. To narrow down the results, click **Configure View** and specify filtering parameters. For example, narrow down the results to entries in which the software name contains the words `Live Project`. Then, click **Submit**.

Information about the discovered instances and usage data is displayed.

Lesson checkpoint

You learned how to create a signature that discovers software when a specific file and package are present on the computer.

Tutorial: Bulk software classification using external tools

This tutorial teaches you how to rebundle products using the REST API and a cURL command line tool.

Learning objectives

In this tutorial you learn to do the following tasks:

- Reassign software instances.
- Exclude software instances.

Time required

120 minutes. If you explore other concepts that are related to this tutorial, it might take longer to complete.

The order of lessons

This tutorial contains two lessons. Complete them in order.

Lessons in this tutorial

1. Lesson 1: Reassigning large quantities of software instances.
2. Lesson 2: Excluding software instances from usage calculations.

Lesson 1: Reassigning large quantities of software instances

This lesson shows you how to reassign large quantities of software instances with the REST API and a cURL command line tool. You can use the information in this lesson to implement an automatic external tool for large scale rebundling.

You must have root operating system privileges.

After software scan data is imported from the IBM Endpoint server, software instances are automatically associated with products based on automatic bundling rules. If some instances are assigned to the wrong product, they must be reassigned correctly.

In this lesson, some instances of Tivoli® Storage FlashCopy® Manager are assigned to the wrong product. The Tivoli Storage FlashCopy Manager product is only installed on computers with a host name that begins with nc04, and only on Linux computers. You reassign all other instances of Tivoli Storage FlashCopy Manager to a release of IBM Tivoli Storage Manager.

Important:
- Some of the commands in this lesson are long, and for the purposes of presentation, some line breaks were introduced. Treat each line break as a space.
- You must add token ID at the end of each cURL command. To obtain the token,
  1. In the Software Use Analysis user interface, click **Management** > **Users**.
  2. Click the user name.
  3. In the lower part of the page, click **Show token**.
1. Log on to your computer and start the command line interface.
2. Retrieve a list of all products that are discovered in your environment. Run the following command:

   ```
   curl -v -X GET http://server_url:server_port/api/sam/swinventory/products?token=token_ID
   ```
3. Review the list to obtain the product ID for IBM Tivoli Storage FlashCopy Manager.

   ```
   {
     "id": "16790",
     "level": "product",
     "isConfirmed": "false",
     "productReleaseComponent": "IBM Tivoli Storage FlashCopy Manager",
     "children": "true",
     "nmbOfAllRows": "44",
     "confidence": "11",
     "type": "root"
   }
   ```
4. Retrieve all releases for the product. Use the product ID you obtained in the previous step. Run the following command:

   ```
   curl -v -X GET http://server_url:server_port/api/sam/swinventory/product/16790/
   releases?token=token_ID
   ```
5. Review the list to obtain the release IDs for IBM Tivoli Storage FlashCopy Manager.

   ```
   {
     "label": "name",
     "identifier": "id",
     "numRows": "1",
     "items": [{
     "id": "985",
     "level": "release",
     "isConfirmed": "false",
     "numberOfAllInstances": "5",
     "productReleaseComponent": "IBM Tivoli Storage FlashCopy Manager 3.1",
       "children": "true",
       "nmbOfAllRows": "1",
       "confidence": "11"
   }
   ```
6. Retrieve a list of all instances for the releases. Use the release IDs you obtained in the previous step. Run the following command:

   ```
   curl -v -X GET http://server_url:server_port/api/sam/swinventory/release/985/
   instances?token=token_ID
   ```
7. Review the list to obtain the product inventory IDs for instances of IBM Tivoli Storage FlashCopy Manager that meet your criteria.

Instances that are not installed on a computer with a host name that begins with nc04, or that are not installed on a Linux computer.

Note: You might need to filter the list by using an external tool.

```
{
  "isCharged": "true",
  "operatingSystem": "AIX 6.1",
  "isConfirmed": "false",
  "currentServerId": "IBM 8233 06A851P",
  "updateTime": "1381322771321",
  "children": "false",
  "hostname": "NC107073",
  "confidence": "11",
  "productInventoryId": "134",
  "id": "134",
  "level": "instance",
  "bundleRules": "the relation in the software catalog, the stand-alone pr
oduct discovery",
  "isAgentDeleted": "false",
  "processorType": "IBM(R) POWER7 (750, 755, 775 servers) Multi-core All E
xisting",
  "productReleaseComponent": "IBM Tivoli Storage Manager Client 6.3",
  "pvuPerCore": "100",
  "installationPaths": "/IBM Software/TSM",
  "nmbOfAllRows": "5",
  "isSimple": "false"
},
{
  "isCharged": "true",
  "operatingSystem": "Win2008R2 6.1.7601",
  "isConfirmed": "false",
  "currentServerId": "TLM_VM_42362841-6b4e-ea26-9755-07b28dc0fd41",
  "updateTime": "1381322771321",
  "children": "false",
  "hostname": "VMW0009128109094",
  "confidence": "11",
  "productInventoryId": "137",
  "id": "137",
  "level": "instance",
  "bundleRules": "the relation in the software catalog, the stand-alone pr
oduct discovery",
  "isAgentDeleted": "false",
  "processorType": "Other Other One core All Existing",
  "productReleaseComponent": "IBM Tivoli Storage Manager Client 6.3",
  "pvuPerCore": "100",
  "installationPaths": "C:\\IBM Software\\TSM",
  "nmbOfAllRows": "5",
  "isSimple": "false"
}
```

8. Retrieve a list of the releases where instances can be reassigned to. Use an instance ID you obtained in the previous step. Run the following command:

   ```
   curl -v -X GET http://server_url:server_port/api/sam/swinventory/
   targetBundlesOfInstances?productInventoryId=134?token=token_ID
   ```

9. Review the list to obtain the IBM Tivoli Storage Manager release ID you want to reassign the instances to.

   ```
   {
     "id": "33424",
     "appliedRules":
     "the infrastructure co-location, the relation in the software catalog",
     "releaseId": "33424",
     "isSelected": "false",
     "branchType": "0",
     "confidenceLevel":3,
   ```

```
        "isShared": "false",
        "productName": "IBM Tivoli Storage Manager 6.3",
        "productInventoryId": "134},
}
```

10. Reassign the releases by running the following command:

```
curl -v -X POST http://server_url:server_port/api/sam/swinventory/reassign -d
"productInventoryId=inventory_IDs&productId=release_ID&updateTime=timestamp"?token=token_ID
```

Where:

- `inventory_IDs` Are the instances to reassign
- `release_ID` Is the product release to reassign to
- `timestamp` Is the update time that is expressed in milliseconds. The timestamp must be equal to or greater than the timestamps retrieved as a property of the instances to reassign, in step.6 on page 8

For example:

```
curl -v -X POST http://server_url:server_port/api/sam/swinventory/reassign -d
"productInventoryId=134,137&productId=33424&updateTime=9949237658579"
```

An HTTP response 204 is received. The selected instances are reassigned to the new release.

Lesson 2: Excluding software instances from usage calculations

This lesson shows you how to exclude products from license usage calculations with the REST API and a cURL command line tool. You can use the information in this lesson to implement an automatic external tool for large scale rebundling.

You must have root operating system privileges.

In this lesson, a customer uses resource value unit (RVU) subcapacity licensing for some Endpoint Manager endpoints. All computers are subscribed to the IBM Endpoint Manager for Software Use Analysis site in the Endpoint Manager console, and software scans of the infrastructure are completed. The subscribed computers are 80% desktop computers and 20% servers. Before an RVU report is generated, all desktop computers must be excluded from license usage calculations.

Important: Some of the commands in this lesson are long, and for the purposes of presentation, some line breaks were introduced. Treat each line break as a space.

1. Start the command line interface.

2. To retrieve a list of all products that are discovered in your environment, run the following command:

```
curl -v -X GET http://server_url:server_port/api/sam/swinventory/products
```

3. Review the list to obtain the product IDs for IBM Endpoint Manager applications.

There might be many IBM Endpoint Manager applications. Search for all products that begin with "IBM Endpoint Manager for...".

```
{
  "id": "21555",
  "level": "product",
  "isConfirmed": "false",
  "productReleaseComponent": "IBM Tivoli Endpoint Manager for Lifecycle Management",
  "children": "true",
  "nmbOfAllRows": "45",
  "confidence": "23",
  "type": "root"}
```

4. Retrieve lists of all releases for each of the IBM Endpoint Manager products, and retrieve lists of all instances. The following commands are used for retrieving lists of releases and lists of instances.

```
curl -v -X GET http://server_url:server_port/api/sam/swinventory/product/product_ID
/releases
```

```
curl -v -X GET http://server_url:server_port/api/sam/swinventory/release/release_ID
/instances
```

5. Filter the lists of instances in an external tool, to obtain a list of all IBM Endpoint Manager product instances that are installed on desktop computers.

   You can use an external tool such as a spreadsheet to filter the lists. You can filter on a number of criteria. A desktop can be defined as a computer that does not contain the word server in the operating system name. The license type is not Windows server, and the computer model is not VMware.

6. Using the inventory IDs from your filtered list, exclude all instances of IBM Endpoint Manager products that are installed on desktop computers. To exclude instances, run the following command:

```
curl -v -X POST http://server_url:server_port/api/sam/swinventory/exclude -d
"productInventoryId=inventory_IDs&reason=no_licensing&updateTime=timestamp"
```

   Where:
   - *inventory_IDs* are the instances to reassign
   - *timestamp* is the update time that is expressed in milliseconds. The timestamp must be equal to or greater than the timestamps retrieved as a property of the instances to reassign, in step.4

   All instances can be entered separated by commas, for example:

```
curl -v -X POST http://server_url:server_port/api/sam/swinventory/exclude -d
"productInventoryId=134,137&reason=no_licensing&updateTime=9949237658579"
```

   An HTTP response 204 is received. The selected instances are excluded.

7. Open the All IBM Metrics report, and click **Recalculate**, to update the RVU values for IBM Endpoint Manager.

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