Dynamic VDP for Adobe Illustrator 20

User Guide

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ESKO

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2. Dynamic VDP Overview

Dynamic VDP plugin is a tool to create variable documents (e.g. labels) where each label can be different. Dynamic VDP combines static content (that is identical on all labels) with variable texts, barcodes and images. The values for these variable objects are specified in a database. The whole workflow has three main steps:

1. Design the variable document
2. Expand (i.e. generate the individual labels)
3. Step and Repeat the labels, and RIP

Designing a variable document is done using the Dynamic VDP plugin.

Expansion can be done directly in Dynamic VDP plugin or on a server. When special Illustrator text features are used (such as text on a path, text in a complex path or text with a shadow), expansion can only be done in Illustrator. Expansion on a server however is much faster and it can handle bigger jobs: it is e.g. not recommended to expand significantly more than 10000 labels in Illustrator, while a server can handle databases of any size.

Step and repeating and RIPing is always done on a server.

Typical workflow

- Design a **static label** containing all elements, using normal (static) text, barcodes or images.
- Convert the static design to a **variable** one. Open the database, and **link** objects with the corresponding database fields.
- **Preview** the design (label) for several database records, and make the necessary adjustments (font size, exact position,...)
- Optional: define **Database Rules** or **Object Rules**. Preflight and check for errors.
- **Expand** directly in Adobe Illustrator or export a template to the server and expand on the server

Processing the result of the Expansion

The result of expanding is a PDF/vt file (or multiple PDF/vt files when expansion is done on the server).

PDF/vt is a ISO standard for storing variable documents. It is a special optimized version of multipage PDF file where the static content is stored only once and reused on all pages. It can be handled like any other multipage PDF files, but Esko server tools such as Step and Repeat and RIP, are optimized to handle it better than normal multipage PDF files.

Important: Dynamic VDP for Adobe Illustrator is not available when working on a PDF+ file. For more information on PDF+, we refer to the **Ink Manager** chapter of the **Esko Data Exchange** documentation: *https://www.esko.com/en/support/product?id=Esko%20Data%20Exchange%20for%20Adobe%20Illustrator*

3. How to convert a static design to variable job

This chapter will explain how to convert a label design into variable one.

The first thing you need is a **label design** itself.

The design should be ready for print production, including correct overprint settings, inks, sufficient bleed area and trapping. All barcodes should be created by the DeskPack Dynamic Barcodes plug-in.

The second thing you need is a correct **database file** which contains all the data for variable objects. The most common format for database exchange is CSV file format, eg. created in Microsoft Excel.

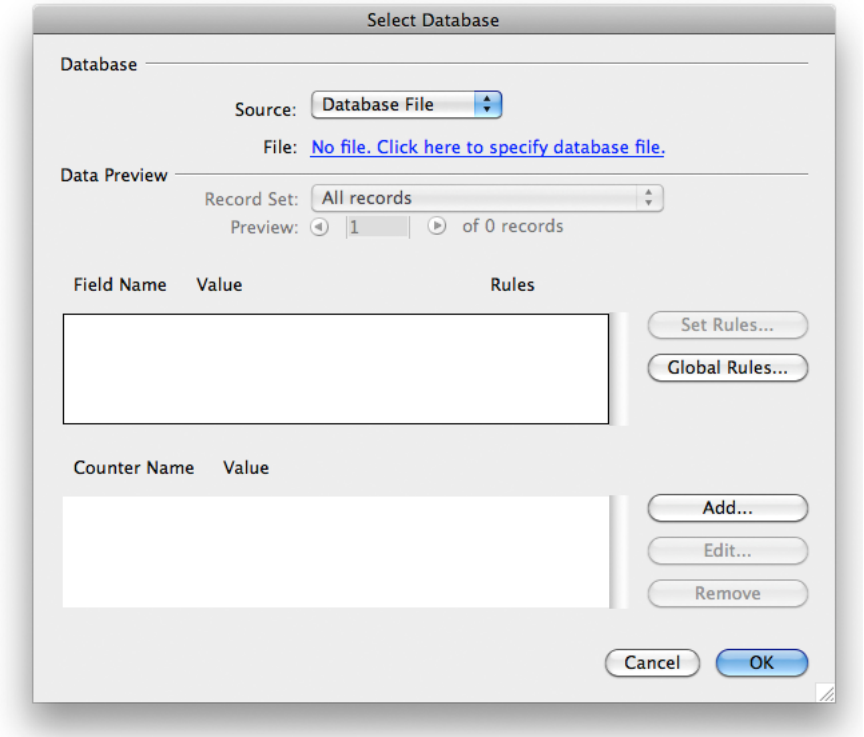
The result will be a multipage PDF/VT file which can be viewed by a PDF viewer or sent to a server for further processing. It is highly recommended to use Adobe Acrobat to check the file as other viewers might not handle the PDF/VT file correctly.

3.1. Tutorial: Converting a static design to a variable job

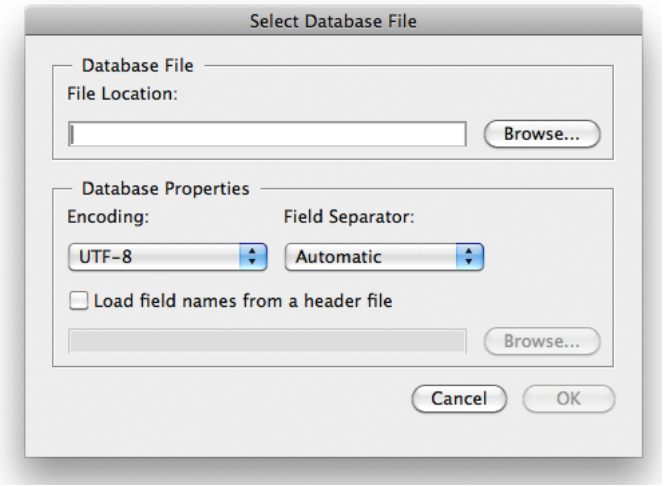
In this tutorial, we will convert a static design to a variable job. The files needed can be found in the Samples Files folder

On Mac the "Sample Files" folder can be found in the installation package (inside the .dmg file) or DeskPack installation disk, on Windows please see `[Installation Folder]\bg_data_DynamicVDP_v010\Sample Files`. By default the Installation Folder is `C:\Esko`

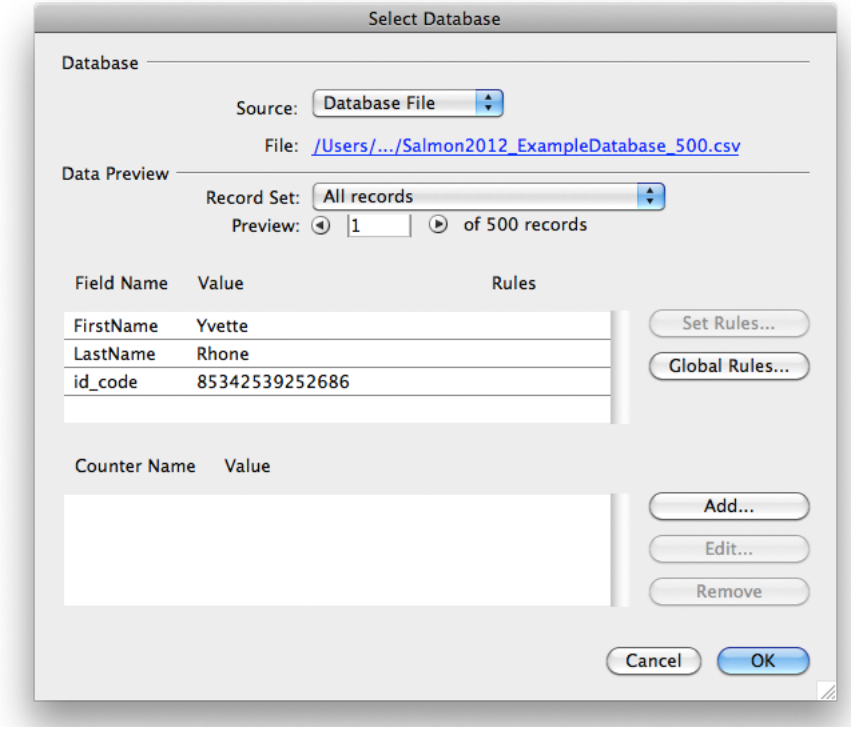
1. Open `Salmon2012.ai` from the Samples folder
2. Select **Window** > **Esko** > **Dynamic VDP** to open the **Dynamic VDP** palette.
3. Click **Select a database** in the Dynamic VDP palette
   The **Select Database** palette allows you to define the source of the database. It can either be a database file or a sequence of numbers called "Counter". See *The Dynamic VDP Database* on page 35



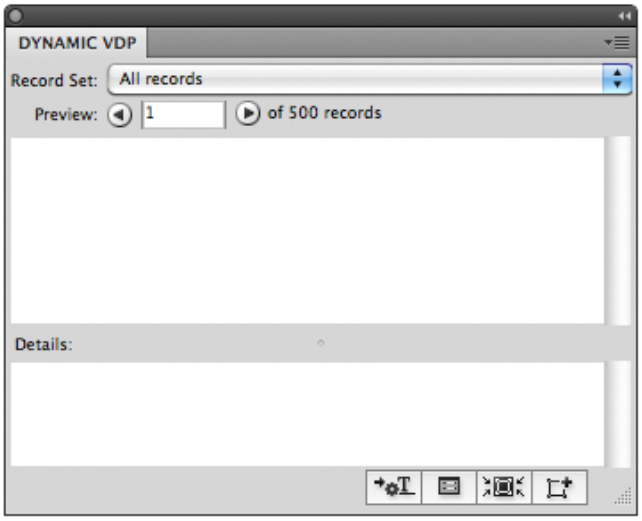
4. Click **No file. Click here to specify database file**
   The **Select database file** will open, in which you can select the database file, database encoding and field separator. The default values should cover the majority of cases.



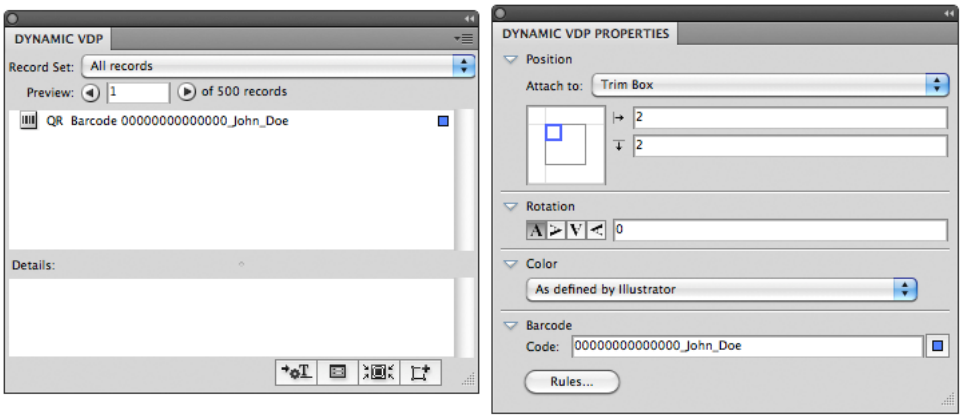
5. Click **Browse** to select `Salmon2012_ExampleDatabase_500.csv` from the Samples folder
   After selecting a CSV file, field names are now listed with their first records in the **Select Database** palette. Using the **Preview** controls, you can inspect the database. The **Rules** allow to define the database checking features.



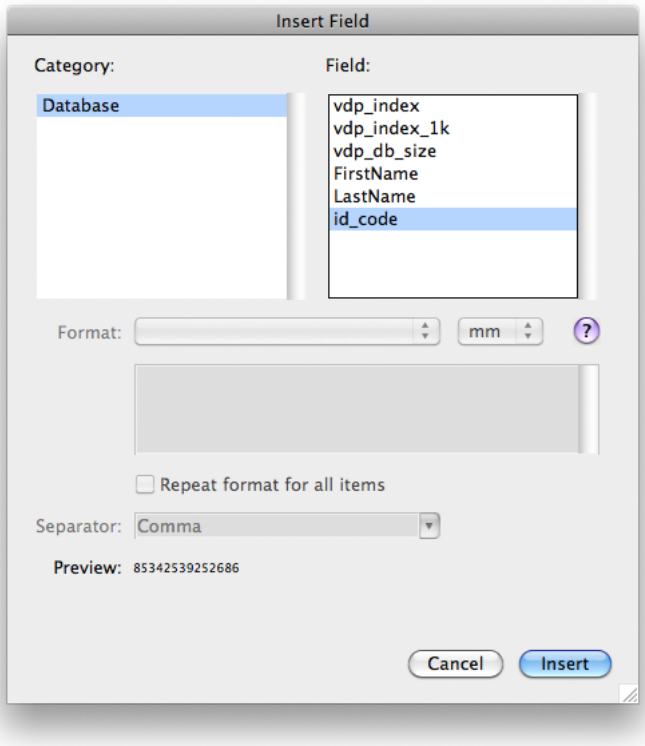
6. Click **OK**.
   The **Dynamic VDP** palette is now enabled. The **Record Set** drop-down list can be used in case database checking features are involved. **Preview** controls are useful in case some variable objects are correctly defined.



7. Select the QR bar code in the top left corner (created by the Dynamic Barcodes plug-in), and click the **Convert to VDP object** button in the **VDP Objects** palette
   The **Dynamic VDP** palette will show this first variable item, and the **Dynamic VDP Properties** shows several parameters of the selected object. See *Dynamic VDP Properties* on page 40

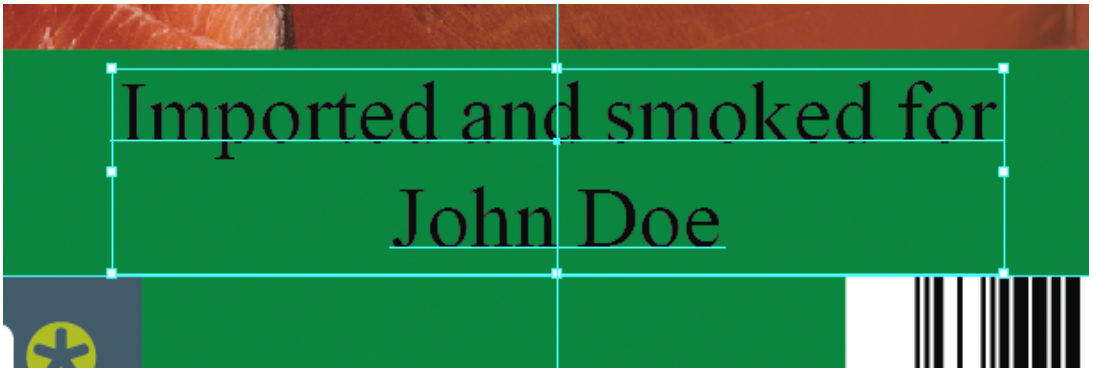


8. In the **Dynamic VDP Properties**, in the **Code** field, select all leading zero's and click the **Dynamic Field** button
9. In the **Insert Field** dialog, select the "id_code" field, and click **Insert**



The zeros in the Dynamic VDP Properties are replace by [id_code] which represents the variable inserted from the database

10. Repeat the two previous steps to replace "John" and "Doe" by the database items "FirstName" and "LastName"
11. Now it is time to create some variable text. Select the text object "Imported and smoked for John Doe".



12. Click the **Convert to Universal Text** button to make the object variable.
The line of text will now appear in the Dynamic VDP plugin, and its properties are shown in the Dynamic VDP Properties.

13. Select the text "John" in the Dynamic VDP Properties palette, and click **Insert/Modify**
14. In the **Insert Field** dialog, select "Database" and "FirstName", and click **Insert**. Repeat the same to replace "Doe" by database item "LastName".

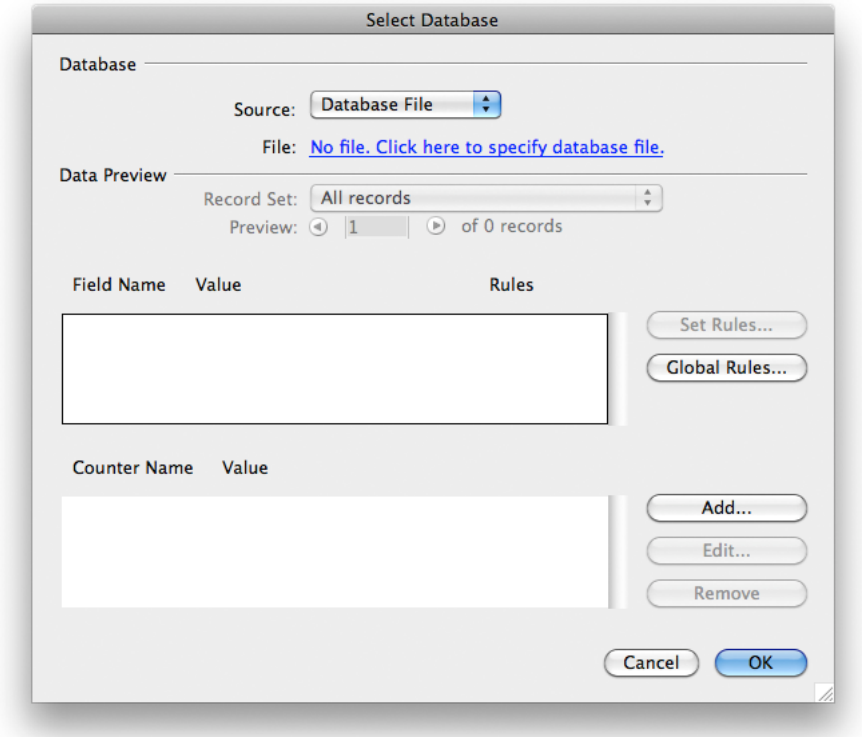
    Both the QR barcode and text are now variable. You can check this by browsing through different records, using the arrow buttons in the **Dynamic VDP** palette. You can see the QR barcode and the text will change according to the selected record.
15. Choose **Start Expansion** from the contextual menu of the Dynamic VDP palette to create a PDF/VT document. Define name and location, and click **OK**

    The generated PDF/VT file can be viewed in Adobe Acrobat. It will contain one page for every record in the Database, using the corresponding variables in the QR barcode and text line.

    In Adobe Illustrator, the **Dynamic VDP log** will show all warnings and errors.

4. The Dynamic VDP Database

To make a job variable, a source of variable information is needed. This is set in the **Select Database** dialog. Click **Select a database** in the Dynamic VDP palette (only if no Database is set yet), or choose **Select Database** in the fly-out menu of the Dynamic VDP palette.



Database

In Dynamic VDP you can either use a **Database File** or a **Simple Database**.

A Database file is used in case the job should contain complex information such as names, serial numbers or links to images.

See *A Database file* on page 36 for more info on the Database file.

When using a **Simple Database**, you only use Simple Counters, and don't need a Database file. This is suited for jobs that only require a simple sequence of numbers.

You can define how many records need to be generated in the **Number of records** field.

Data Preview

The **Record Set** offers functionality to limit the set of records used. This is also available in the **Dynamic VDP** palette. See *Record Sets* on page 65

The **Preview** allows to select what record will be used for preview, both in the Dynamic VDP palettes as in the Adobe Illustrator file. You can use the arrows to navigate through the records. You can easily

jump to the first or last record by clicking an arrow button while holding the Control key. This is also available in the **Dynamic VDP** palette.

Database Fields

If a Database File is selected, this section will show the available Field Names, and the corresponding value for the record selected in **Data Preview**

You can apply **Rules** and **Global Rules**. See *Database Rules* on page 58

Counters

You can click the **Add** button to add a new Counter, click **Edit...** to modify the selected Counter, or click **Remove** to delete it.

If you use a Database File, you can add Database Driven Counters and Simple Counters. When using a Simple Database, you can only use Simple Counters

See *Counters* on page 36 for more info on Counters.

4.1. A Database file

Database files must be saved in CSV file format. This format is supported by many database engines and office tools like Microsoft Excel.

An example of the CSV format is provided below:

```
id_code,name
4859323,Libor Šindlar
8529512,Michal Polanský
7418529,Milan Arnošt
9874561,Milan Brunclík
```

Values in a CSV file are separated by a delimiter. This can be a space, a tab, a comma or a semicolon.

The first line of a CSV file by default defines the database field names. Field names are case sensitive, so you can have both a field "Name" and "name".

Note: Only uppercase and lowercase ASCII letters, digits and underscores can be used in the field names.

You can also use a database split into a header file and a database file, but only if

- the header file contains only a single line with database field names
- the amount of field names corresponds to the amount of columns used in a database file
- the Header and database file use the same delimiter and text encoding

4.2. Counters

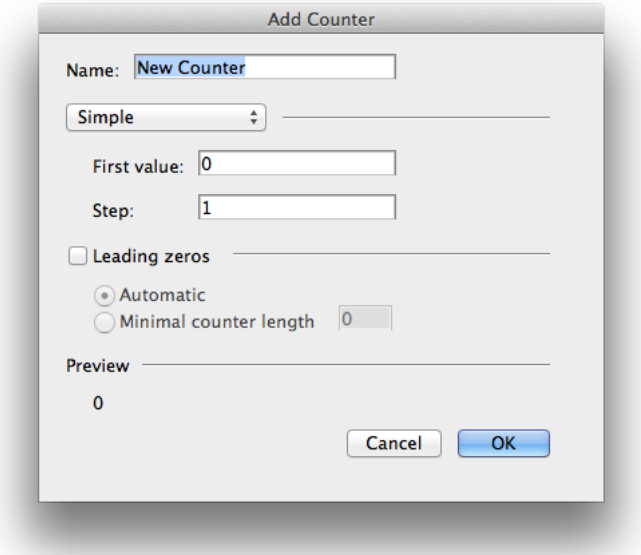
Counters allow to add a sequence of numbers to the job.

- A **Simple Counter** is a simple sequence of numbers, without the need for a database file. See *Simple Counters* on page 37

- When using a Database file, you can create a **Database Driven** counter, which uses database records as input for the counter. See *Database Driven Counters* on page 37

4.2.1. Simple Counters

A **Simple** counter will generated a sequence of numbers based on the first value, step and eading zeros.



The **First Value** can be any numeric value, and is used as first value in the sequence.

The **Step** defines the number added to the previous value. Eg. a step of 5 will give a sequence such as 0, 5, 10, 15, ...

Note: A negative step is not allowed

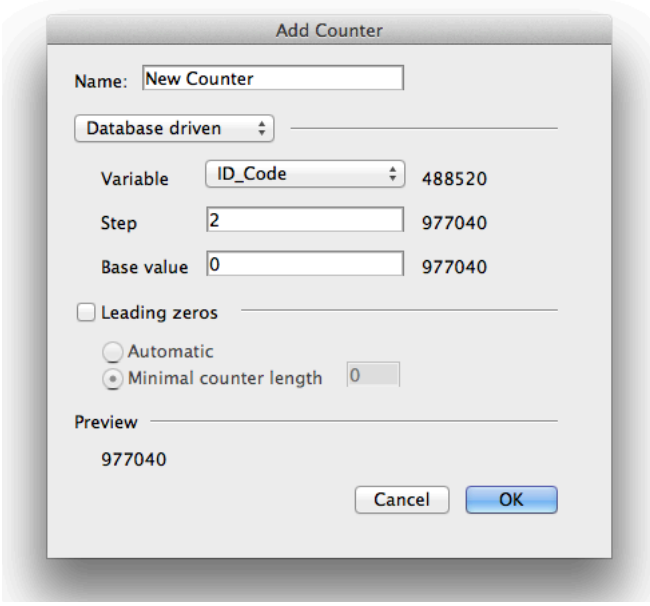
If **Leading zeros** is enabled, zeros will be added to the numbers in the sequence

- When set to **Automatic**, leading zeros are added so that every number in the sequence has the same amount of digits as the highest number. For example a sequence going up to 200, will result in 001, 002, 003, ..., 010, 011, ... , 199, 200.

- When set to **Minimum counter length**, leading zeros will be added so that every number in the sequence has at least the amount of digits defined here. For example the same sequence, with a minimum counter length of 4 will result in 0001, 0002, 0003, ..., 0010, 0011, ... , 0199, 0200. In this case, numbers above 9.999 would not get any leading zero.

4.2.2. Database Driven Counters

Using Database driven Counters allows to take a numerical value from a database and perform simple mathematical operations or add leading zeros.



1. Select the **Variable** from the Database file you want to use. Obviously, it only makes sense to select a numeric variable.
2. Set the **Step**. The value of the Variable will be multiplied by the step.
3. Set the **Base Value**. The Base Value will be added to the result of the previous calculation.
4. Define the **Leading zeros**. Only **Minimum counter length** is available for Database driven Counters: leading zeros will be added so that every number in the sequence has at least the amount of digits defined here.

Example:

- **Step** is set to 3
- **Base value** is set to 1500
- **Leading zeros** is set to a Minimum counter length 5

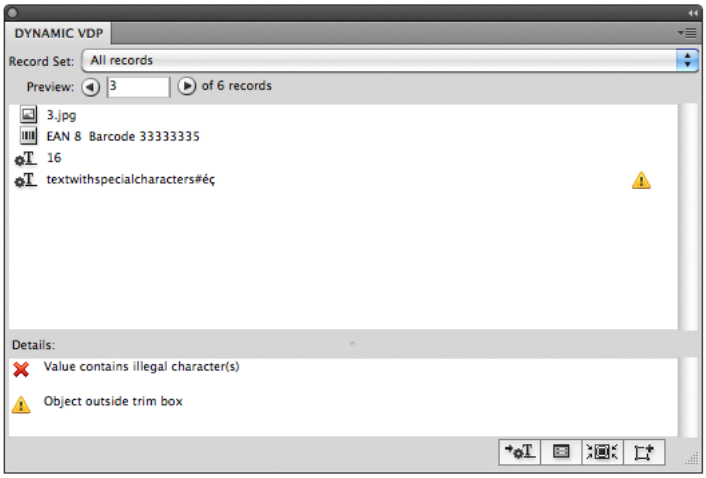
If the selected Variable has a value "12", the counter value will be "01536"

5. The Dynamic VDP palette: Dynamic Objects

The Dynamic VDP palette can be opened by choosing **Window** > **Esko** > **Dynamic VDP** > **Dynamic VDP**. The Dynamic VDP palette lists all variable elements and allows to browse through a database.

If no database is selected, the palette is disabled. You can click **Select a database** or choose **Select Database** in the fly-out menu to open the **Select Database** palette. See *The Dynamic VDP Database* on page 35.

After a database is selected and some objects are created, the palette will show all Dynamic VDP objects .



The **Record Set** offers functionality to limit the set of records used. This is also available in the **Select Database** palette. See *Record Sets* on page 65

The **Preview** allows to select what record will be used for preview, both in the Dynamic VDP palettes as in the Adobe Illustrator file. You can use the arrows to navigate through the records. You can easily jump to the first or last record by clicking an arrow button while holding the Control key. Preview is also available in the **Select Database** palette.

The palette gives an overview of all Dynamic objects. The icon indicates the type of Dynamic VDP object, while the name of the object is constructed from its type and actual text content. A blue square on the right side indicates if the object is selected in the Adobe Illustrator file. A single click will select a Dynamic Object in the list, double-clicking will select the object in the Adobe Illustrator job.

The **Details** section shows information about the Dynamic VDP job, about the currently selected Dynamic VDP object and about the currently previewed record.

The **Convert to Universal Text** button will convert the selected text to Universal Text. See *Dynamic Text* on page 45.

The **VDP Properties** button opens the **Dynamic VDP Properties** palette. Properties of Dynamic VDP Object selected in the document will be shown immediately. See *Dynamic VDP Properties* on page 40

The **Select** button selects the highlighted Dynamic VDP object in the Adobe Illustrator job.

The **Convert to VDP Object** button will transform selected object in to Dynamic VDP Object or Named Object. See

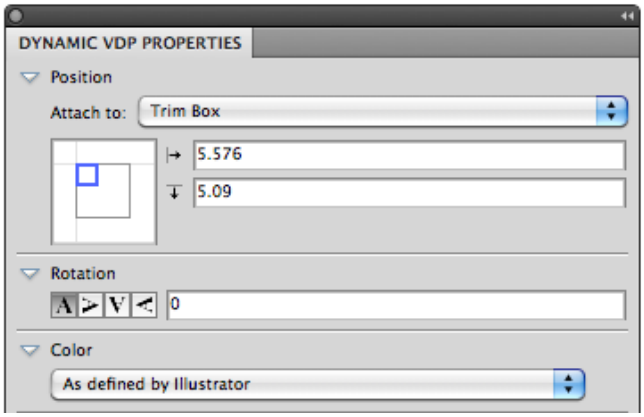
- *Dynamic Text* on page 45
- *Dynamic Barcodes* on page 47
- *Dynamic Images* on page 49

Named Objects can be used to position Dynamic VDP Objects. See *Position* on page 40

5.1. Dynamic VDP Properties

The Dynamic VDP Properties shows the properties for the currently selected Dynamic VDP object.

There are some common properties for every Dynamic VDP object:



- *Position* on page 40
- *Rotation* on page 41
- *Color* on page 42

There are also properties depending on the type of Dynamic VDP object that is currently selected. See

- *Text Properties* on page 46
- *Barcode properties* on page 48
- *Image Properties* on page 49

At the bottom of the dialog, you can define Object Rules. See *Object Rules* on page 60

5.1.1. Position

The position of a Dynamic VDP object is based on 3 settings:

Attach to

The position of the Dynamic VDP object can be based on

- the Trim Box
- the Media Box
- another Dynamic VDP object
- Named Art

Named Dynamic Art is any art in your Illustrator document, that you gave a name in the Layers palette, and converted to a Dynamic Object: browse to the object you want to name in the Layers palette, double click the default name (eg. <path>) and enter a name. Next, click the **Convert to Dynamic VDP Object** button.

Positioning

The way the Dynamic VDP object is attached, can be chosen by clicking and dragging the blue square (representing the Dynamic VDP object) to the desired position on the grey square (representing the **Attach To** reference). Each square has 9 reference points (top left center and right, middle left center and right, and bottom left center and right), so you have 81 different ways of positioning the Dynamic VDP object.

In the example underneath, the top center of the (bounding box of the) Dynamic VDP object will be placed on the left bottom corner of the (bounding box) of the reference defined in the Attach to field.

Note: If you create a Dynamic VDP object from an existing object, the Positioning settings (the blue rectangle) will be automatically set, using the smallest offset possible while keeping the object at the same location.

Offset

In the offset fields, you can move the Dynamic VDP object based on the defined position. The direction of the offset is down/left, as shown by the arrows.

Note: You can also manually move Dynamic VDP objects. In that case, the offset will automatically adjust to the new location. The other settings (Attach To and Positioning) will NOT change.

5.1.2. Rotation

The value for rotation can be defined either by using the buttons or by typing custom values in to the text field. Negative values are supported.

You can also manually rotate Dynamic VDP objects. In that case, the rotation value will automatically adjust.

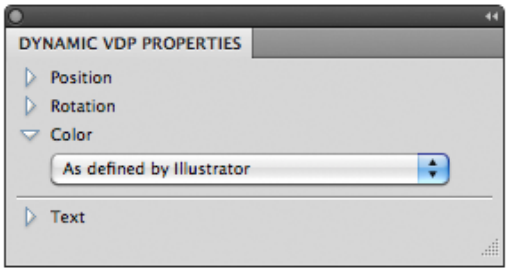
Note: Since rotation changes the bounding box of the selected Dynamic VDP object, the offset values (which are based on the bounding box) in the **Position** will be updated.

5.1.3. Color

As defined by Illustrator

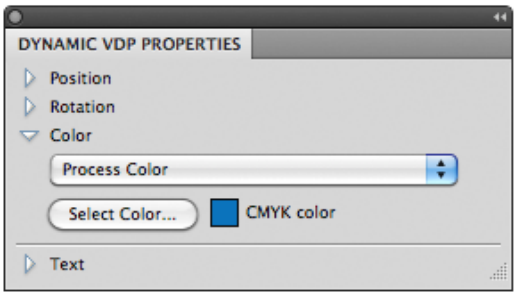
In most cases, Dynamic VDP object use the color settings **As defined by Illustrator**.

Each change performed by the Adobe Illustrator tools is automatically reflected. You can also apply specific formatting on a selected part of a text string. However, formatting applied on a first character of a variable string will be applied on the rest of the string.

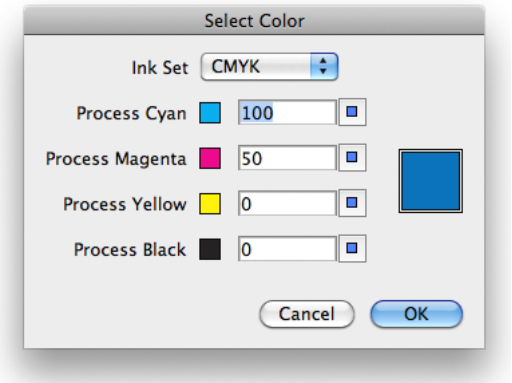


Process Color

By choosing **Process Color** you can define the color of the Dynamic VDP object. The selected color will be applied on the complete Dynamic VDP object. You can define the color in a CMYK, CMYKOV or CMYKOVG ink set.



1. Set **Color** to **Process Color**
2. Click the **Select Color** button



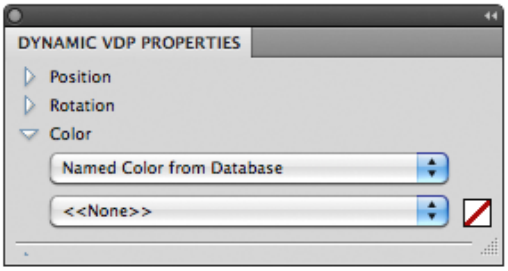
3. Select the **Ink Set** you want to use: CMYK, CMYKOV or CMYKOVG
4. Define the color by setting the ink percentages. You can enter constant percentages, or define the ink percentage using variables from the database by clicking the blue square button next to ink percentage value. Obviously, the selected database fields should only contain numbers between 0 and 100.
5. Click **OK**

The resulting color will be shown next to the **Select Color** button, along with the ink set used.

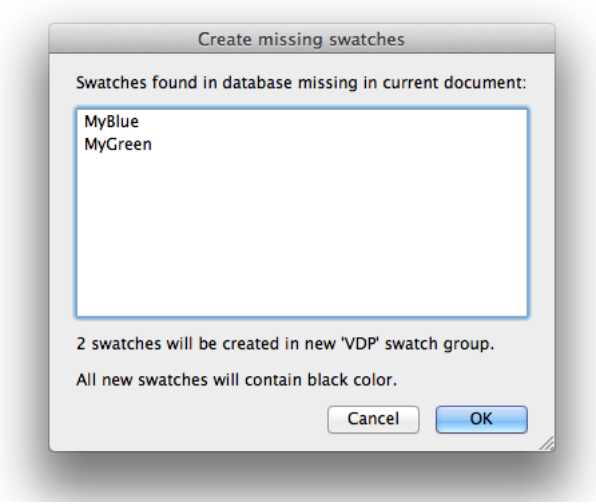
Named Color from Database

Using **Named Color from Database** you can change the color of a Dynamic VDP object by using the entries of the database file to select the correct Swatch defined in the Adobe Illustrator document.

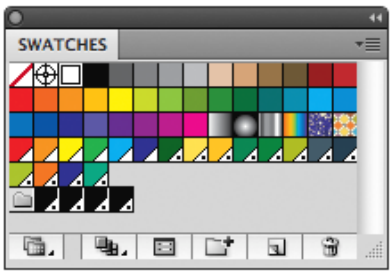
1. Set **Color** to **Named color from Database**



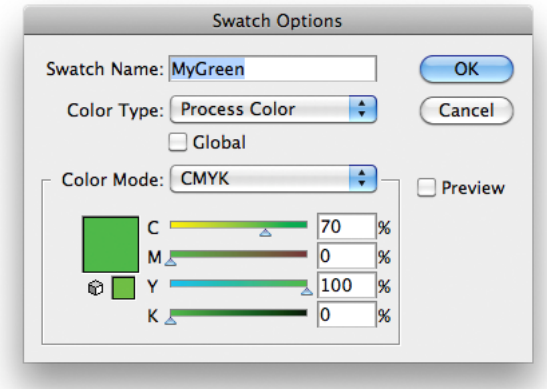
2. Choose the **Database Field** you want to use in the dropdown menu
3. Choose **Check Colors from Database** from the fly-out menu of the **Dynamic VDP** palette. A dialog will open, informing you about the number of swatches found in the Database that don't exist yet.



4. Click **Yes**. A new group "VDP" is added to the Swatches palette



5. For each unique record, a new swatch is created inside the "VDP" group, using a black color. Double-click them to open the **Swatch Options** dialog and adjust the settings.



Dynamic VDP is now set to color the Dynamic VDP object using the database entries

Tip: Do not forgot to apply the **Check Colors from Database** function when the database file is changed.

5.2. Dynamic Text

The most common way to make a job variable is to change some text or number on every label/page. Dynamic Text can be a combination of static and variable strings inside a text object.

Note: Dynamic VDP was made to fit the needs of the label market. No advanced direct mail features are provided.

Adobe Illustrator offers 3 types of text objects :

- Point Text
- Area Text
- Text on Path

These text objects can be converted to two types of variable texts.

Adobe Illustrator Text

- All the features provided by the Adobe Illustrator text engine can be applied on this type of text.
- Adobe Illustrator effects like warping or drop shadow are available for variable text strings.
- Text object must be expanded by Adobe Illustrator.
- Expansion on the DFE is not supported.

Note: The Adobe Illustrator document is automatically saved during expansion if Adobe Illustrator text is used

Universal Text

- This type of text offers all the mandatory text formatting features. Advanced features like Tracking or Kerning are not supported
- You can define font, size and color of a text string. Rotation is supported as well.
- The text objects can be expanded by Adobe Illustrator, at a higher performance than for Adobe Illustrator Text.
- Expansion on the DFE is supported
- Text on Path is not supported for Universal Text
- Text inside a complex path (e.g. star) is also not supported for Universal Text. Rectangular shapes are supported only.

5.2.1. Creating a VDP text object

1. Create the appropriate text objects, using Adobe Illustrator's text tools, and select it.
2. Make the text Dynamic, by converting it to a VDP Object, or to Universal Text
   - Converting to Universal Text will increase performance, but exclude some graphic features (such as a drop shadow effect). To do so, click the **Convert to Universal Text** button.

- When converting to VDP Object (Adobe Illustrator Text), you will have lower performance than with Universal Text, but all graphic features are supported. To do so, click the **Convert to VDP Object** button.

Note: It is possible to convert Adobe Illustrator text to Universal Text, but not the other way around.

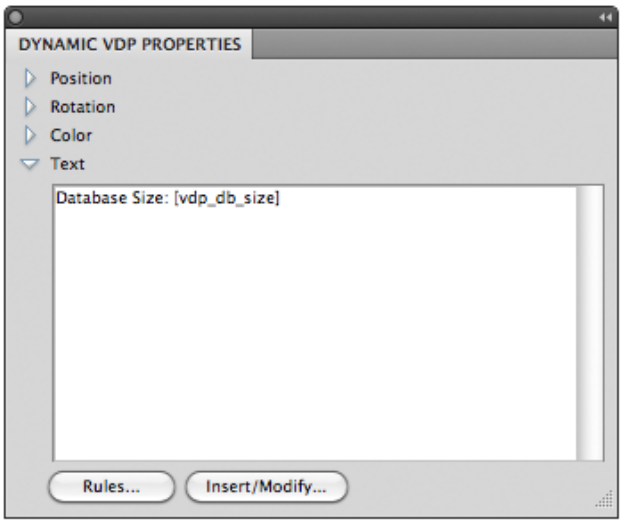
3. Use the **Dynamic VDP Properties** to modify the properties of the newly created Dynamic VDP text object.

5.2.2. Text Properties

Text formatting of a Dynamic VDP Text object can be done using the default Adobe Illustrator tools, but text content can be changed in the **Dynamic VDP Properties** only.

Position, rotation and color properties are default Dynamic VDP Properties. See *Dynamic VDP Properties* on page 40

The content of the Dynamic VDP text object is visualized in the **Text** field. It is the only place where content changes can be made. Variables are visualized in square brackets and can be inserted or modified only by the **Insert/Modify** button.



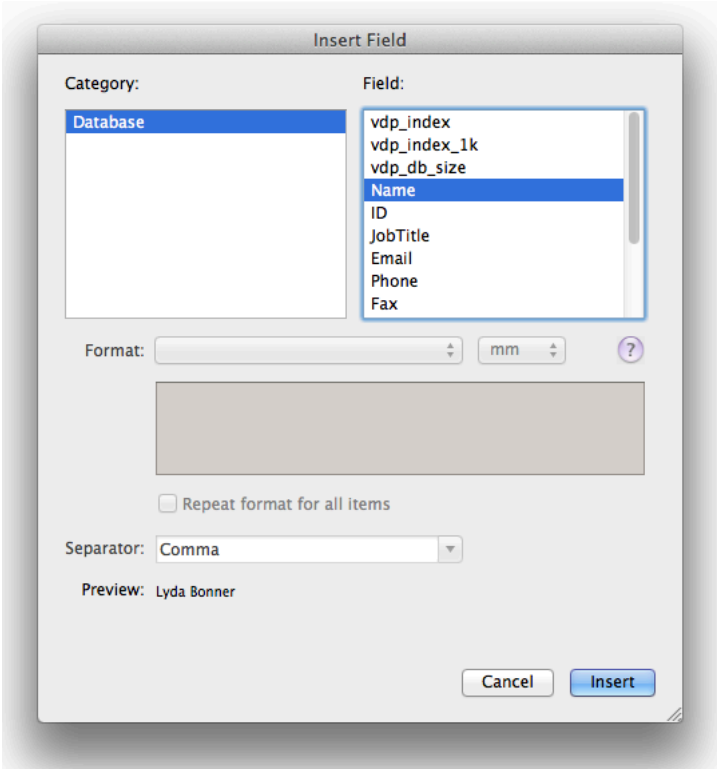
Use the **Rules...** button to define rules for the Dynamic VDP object. See *Object Rules* on page 60

Use the **Insert/Modify...** button to insert a new Variable or (in case one single variable is selected when clicking the button) to edit an exisiting one. For more information on defining Variable Fields, see *Fields* on page 46

5.2.3. Fields

Some input text boxes provide support for so called **Fields**. Fields are acting as placeholders for variable strings which will be inserted from the selected database.

Insert Field dialog can be opened either by clicking the **Insert / Modify** button or by clicking .



The dialog provides access to database fields, counters and predefined values.

The predefined values are:

- vdp_index: the number of the current record
- vdp_index_1k: the number of the current record divided by 1 000
- vdp_db_size: the total number of records in the database

5.3. Dynamic Barcodes

Variable information encoded in a barcode is another popular way to make a job variable.

The classic 1D barcodes provide a simple way to transfer included information to a computer, using a special barcode reader.

Modern 2D barcodes are optimized to contain a lot of information on a small area. Smartphones equipped with a camera and appropriate software can read this information and act accordingly.

Dynamic VDP provides support for a wide range of 1D and 2D barcodes, about 50 in total. The vast majority of barcodes created by the Dynamic Barcodes plug-in is supported by Dynamic VDP. Only the PZN and PZN8 barcodes are not supported.

To create a VDP Barcode, select a barcode created by the Dynamic Barcode plugin, and click the **Convert to VDP Object** button.

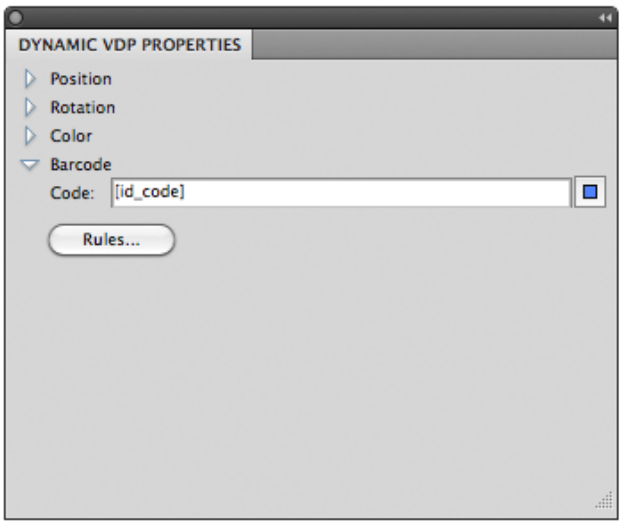
Note: It is not possible to change the type of a barcode once it is converted to Dynamic VDP.

5.3.1. Barcode properties

Formatting of a Dynamic VDP barcode can be done using the default Adobe Illustrator tools. Additional parameters like symbol size, bar width reduction or error correction can be modified in the Dynamic Barcodes panel, but the content of the code can be changed in the **Dynamic VDP Properties** only.

Position, rotation and color properties are default Dynamic VDP Properties. See *Dynamic VDP Properties* on page 40

The code of the Dynamic VDP barcode object is visualized in the **Code** field. It is the only place where the code can be changed. Variables are visualized in square brackets and can be inserted or modified only by the **Insert/Modify** button .



Use the **Rules...** button to define rules for the Dynamic VDP object. See *Object Rules* on page 60

Use the **Insert/Modify...** button to insert a new Variable or (in case one single variable is selected when clicking the button) to edit an exisiting one. For more information on defining Variable Fields, see *Fields* on page 46

Remarks on barcodes

- Rotating a barcode can reduce its readability. Try to limit the rotation of barcodes to 0, 90, 180 or 270 degrees.
- For a good readability, you should pay attention when defining the colors for a barcode: a high contrast between the background and the color used in barcode cells is recommended.
- Some of the barcodes can accept binary and decimal input. Dynamic VDP offers only one option. Check the dialog for the code in order to insert correct form of input string.
- Althoug some GS1 barcodes in the Dynamic Barcode plugin can accept a composite component, this feature is not supported by Dynamic VDP.
- Data records for GS1 barcodes with Application Identifiers can be provided in two formats:
  - 10A1234567A[F1]01123456789012311720123 1.

- (10)A1234567A(01)123456789012311720123 1. If this format is used, the brackets in the data must be escaped by doubling it. For example, the RAW data 10A1234567(A) must be provided as (10)A1234567((A)) to avoid misinterpretation.

More information about the GS1 Application Identifiers can be found in the Dynamic Barcodes documentation: *https://www.esko.com/en/support/product?id=Dynamic%20Barcodes%20for%20Adobe%20Illustrator*

5.4. Dynamic Images

Using Dynamic VDP you can set up variable images. Dynamic VDP contains a set of features that allows you to place images with a variable size and aspect ratio into a design with certain dimensions and possibly a different aspect ratio.

A Variable image can also be used place output of a 3rd party application, for example a special barcode symbol saved either as raster or vector based image.

5.4.1. Creating a new VDP Image object

1. If you need to place a new image, choose **File** > **Place** and make sure the **Link** option is enabled
2. If you want to use an already placed image, check if the image is **Linked**.

   You can check if an image is linked (instead of embedded):

   - In the **Links** palette, an embedded image has an icon next to its name
   - In the **Layers** palette, the name of an embedded image will by default be `<Image>` while for linked images, this will be `<Linked File>`.

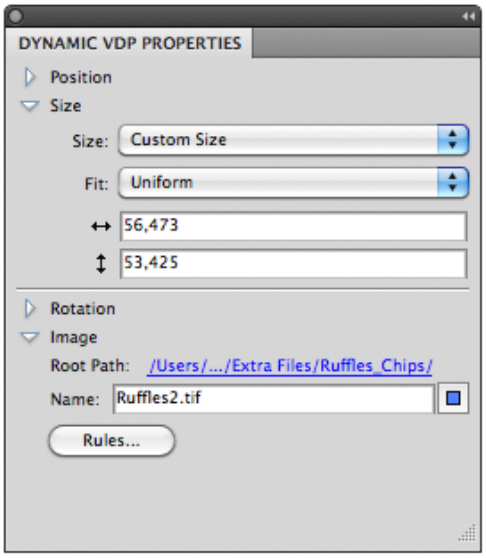
   In case the image is embedded:

   a) Select the image, and open the **Link** palette
   b) Choose **Relink...** from the fly-out menu of the palette.
   c) Select the image to be used, enable the **Link** checkbox, and click **Place**
3. In the **Dynamic VDP** palette, click the **Convert to VDP Object** button
4. Use the **Dynamic VDP Properties** to modify the properties of the newly created Dynamic VDP image object.

5.4.2. Image Properties

Some of the properties can be modified using Adobe Illustrator tools and some of them by the VDP Objects Properties only.

Position and rotation are default Dynamic VDP Properties. See *Dynamic VDP Properties* on page 40



Use the **Size** dropdown to define the **target area**, the rectangle in or on which the dynamic Images will be placed during expansion. See *Size* on page 50

Note: You can use the Adobe Illustrator tools to interactively change the position or size of the target area. Changing the size will be reflected in the settings.

Use the **Fit** settings to define how the dynamic images are fitted in or on the target area. See *Fit* on page 51

Define the **Images** to be used: the root path and file name. See *Image* on page 54

Use the **Rules...** button to define rules for the Dynamic VDP object. See *Object Rules* on page 60

Size

The **Size** drop-down list provides different options to define the size of the images.

Custom Size

Custom Size is the default option for newly created Dynamic Images. The **Vertical** and **Horizontal** settings define the absolute dimension for the target area, and images are fit onto the target area, using the **Fit** settings. See *Fit* on page 51.

When converting an image to a Dynamic VDP object, the size of the original image is used.

Working with **Custom Size** (when using uniform scaling) will always give a more or less predictable size of the images. The scaling used will depend on the size of the images.

Note: In case the Dynamic VDP Object is selected, the target area is shown as a green rectangle. However, if the currently selected image fits the target area in both directions, the green rectangle will be hidden by the borders of the image.

Custom Scale

When using **Custom Scale**, you define a fixed scaling. The size of the images will depend on the size of the input images.

Setting the scaling to 100% vertical and horizontal, will place every input image at its original size. By entering a different value for horizontal and vertical scaling, you can apply non-uniform scaling.

In this case, the **Size** settings are not used.

Fit to Object

When using **Fit to Object**, the selected object is used as Target area, and the input images are fit on that target area, using the **Fit** settings. See *Fit* on page 51

The **Object** can be the Trim Box, Media Box or another Dynamic Object (Dynamic Text, Dynamic Barcodes, Dynamic Images or Named Dynamic Objects). You can not use the Dynamic Object itself.

Named Dynamic Art is any art in your Illustrator document, that you gave a name in the Layers palette, and converted to a Dynamic Object: browse to the object you want to name in the Layers palette, double click the default name (eg. <path>) and enter a name. Next, click the **Convert to Dynamic VDP Object** button.

Shrink to Fit

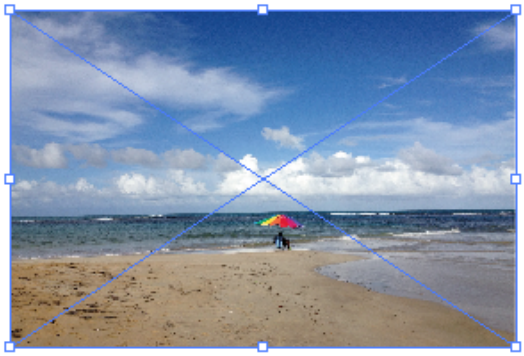
Shrink to Fit works the same as **Fit to Object** but will only downscale the images, it will not enlarge them..

Fit

The **Fit** setting offers four way to fit the image to the target area. In the example images underneath, an image with aspect ratio 4:3 will be placed in a target area with aspect ratio 2:3.

- **Uniform** is the default option. The image will be scaled as big as possible to fit the target area, while maintaining the aspect ratio.

- **Non-Uniform**: the width and height of the image will fit the target area. The image aspect ratio is not preserved, so the image will be distorted.

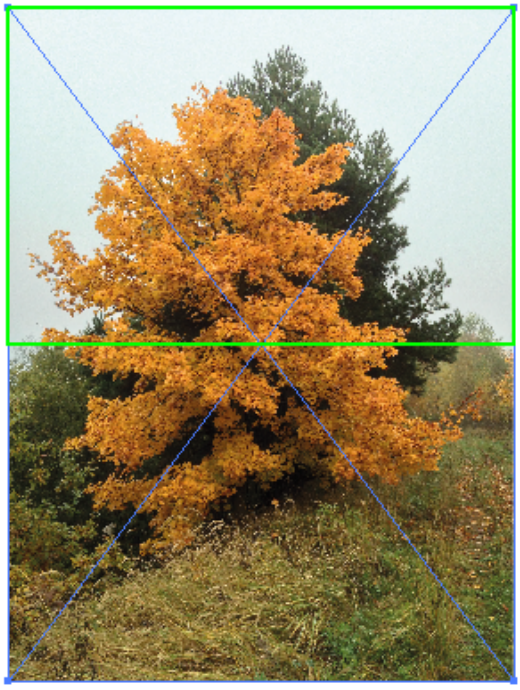


- **Fit Width**: The width of the image will fit the width of the target area. The image aspect ratio is preserved, and the height of the image may exceed the target area.

- **Fit Height**: The height of the image will fit the height of the target area. The image aspect ratio is preserved, and the width of the image may exceed the target area.

Note:

Keep in mind that, when using "Fit Width" or "Fit Height", the image can be higher resp. wider than the target area. In some cases (e.g. when placing a portrait image to a landscape area, see the example underneath), the image might exceed the target area a lot.



Positioning

The **Positioning** diagram defines the position of the Dynamic VDP object inside the document. See *Position* on page 40. The Positioning diagram combines the alignment (eg top right) of the Dynamic VDP Object, on anchor points (e.g. bottom left corner) on the trim box (or other reference object). The selected alignment is also used for positioning the Dynamic Image inside its area (but for this, the "anchor point" is disregarded):

- **Fit Width**: the vertical alignment of the Dynamic VDP object is used: top, center or bottom.
- **Fit Height**: the horizontal alignment of the Dynamic VDP object is used: left, center or right.
- **Uniform**: either vertical or horizontal, depending on the scaling.

Example: Using **Fit Height**: the Dynamic VDP object is set to align the bottom center of the object, on the top left of the Trim box. The image will be aligned centered on the area

Image

In the **Image** settings, you define where and how to find the image files.

The path to the image is divided in two parts: the **Root Path**, which is the static part of the file path, and the **Name**, defining the name (including variables) of the image and its suffix.

By default the Root Path will show the path to the original linked image, and the Name will show the original image name and suffix.

You can change the Root Path by clicking the path, and browsing to the Root Path folder.

Use the **Insert/Modify...** button to insert a new Variable or (in case one single variable is selected when clicking the button) to edit an exisiting one. For more information on defining Variable Fields, see *Fields* on page 46

Using these **Fields** you can set up a variable image name, or even define in what (variable) subfolder an image is. When defining a subfolder, use a backslash (\) when running on Windows, and a forward slash (/) when running on Mac.

Example: if the **Name** is set to [model]/[color].png, and if a record has value "ModelA" for model, and "Blue" for color, the image "Blue.png" will be taken from the subfolder "ModelA" inside the defined root folder.

5.4.3. Different file types for Dynamic Images

The **type** of a Dynamic Image is set when creation it, based on the original image. During expansion, all variable images should be the same type as the Dynamic Image.

It can be either

- multichannel raster, for example a CMYK JPG file
- single channel raster, for example a grayscale or bitmap TIFF. You can use the Dynamic VDP **Color** properties to color a grayscale or bitmap image. See *Color* on page 42
- PDF

Raster images

For raster images, these file formats are supported:

- TIFF
- JPEG
- PSD
- PNG

PDF

Vector based images must be provided as PDF files up to version 1.7 (Normalized PDF or Adobe PDF).

Color space is not limited to CMYK only, as Grey, Bitmap, RGB or LAB are supported as well.

It is possible to use a multipage PDF. The **Page** input field allows to select the page to be used. By applying a Variable field in this input field (see *Fields* on page 46), you can apply different pages during expansion. Keep in mind that Expansion will fail if the requested page does not exist.

Note: Adobe Illustrator will always display the first page of the PDF. Only after Expansion, the correct page is shown.

6. Checking and expanding a VDP file

To produce a variable job out of Adobe Illustrator, you have to **Expand** the job. By doing so, a PDF/VT file is created when expansion finishes without any error. See *Expand* on page 56

Preflight allows to check if the Variable job can be expanded, but no output is generated. It can warn you in advance whether there are some issues in the job. See *Preflight* on page 57.

The possible issues and how severe they are is defined in the **Database Rules** and **Object Rules**. See *Rules* on page 57.

When dealing with a complex design and / or a big database, so where expanding can be very time consuming, it might be recommended to Preflight first: Preflight runs through the complete database and collects information about all issues found, while Expansion is canceled when a first error is encountered.

If for example you have a big database, with two records (e.g. record 1000 and record 2000) that cause an error, Expansion will error and stop after record 1000. Then you would have to fix this first error, and restart expansion. When the second error is reached, expansion will stop again after expanding 2000 records, so you have to fix the second error, and restart the expansion all over again. When Preflighting, you will get an overview of all errors in one go, without having to restart Expansion after fixing every error.

After checking or expanding, you can limit the set of records used, to get quicker access to records that require attention. See *Record Sets* on page 65

Note: You can use **Check Database...** to do a quick check of the database. It does NOT expand any Dynamic VDP objects, so a successful Database check does not guarantee successful expanding. For that, you need to do a **Preflight**.

6.1. Expand

Expansion will create a PDF/VT file. This file contains all the fonts and images, and can be easily send for further processing.

1. Open a valid Dynamic VDP file in Adobe Illustrator. You might want to add Database Rules or Object Rules to check during expansion. See *Rules* on page 57
2. Select **Start Expansion...** in the fly-out menu of the **Dynamic VDP** palette
3. Select the output folder and name for the PDF/VT file, and click **Save**.

   The suffix `-vdp.pdf` is automatically added to the file name.

   During the output a progress bar is shown. You also get an indication of the total number of records, the record currently expanding, and the amount of errors and warnings.

   Note: The progress bar might give unreliable results when expaning Adobe Illustrator text, or when running Dynamic VDP in Adobe Illustrator CS5.

> **Note:** The Adobe Illustrator document is automatically saved during expansion if Adobe Illustrator text is used

If no errors were encountered during Expansion, the resulting PDF/VT file can be found in the selected output folder

> **Note:** Do not use the "Preview" application on Mac to inspect PDF/VT file. To avoid problems with visualizing variable text you should use Adobe Acrobat.

It is also possible to expand a job on a server. This workflow has some limitations (AI text is not supported) but can be significantly faster. See *Expanding on a server* on page 65

6.2. Preflight

Preflight allows a fast overview of all issues related to the job. No PDF/VT is generated, but list of all found issues is provided.

1. Open a valid Dynamic VDP file in Adobe Illustrator. You might want to add Database Rules or Object Rules to check during preflight. See *Rules* on page 57
2. Select **Start Preflight...** in the fly-out menu of the **Dynamic VDP** palette

   During the output a progress bar is shown. You also get an indication of the total number of records, the record currently expanding, and the amount of errors and warnings.
3. You will get a message indicating if errors were found during the preflight. Click **OK**

   The **Dynamic VDP Log** palette will open, summarizing the found issues. See *The Dynamic VDP Log* on page 62
4. Double-click any of the issues to open the properties of the corresponding rule, to check the error.

6.3. Rules

As the output of a dynamic VDP job often contains many thousand labels, it is not feasible to inspect them manually. Problems in database such as missing entries, invalid entries, duplicates, ..., or problems of VDP objects such as text too long, missing check digit for bar codes would not be noticed.

Rules were introduced to automatically check (and in some cases fix) errors in the database entries.

Database rules are optional, and check individual values or complete records from the database. Database rules do not take into account where the fields are used, since e.g. the customer name could be used both in a text or in a bar code. Using Database rules you can check if a value is empty, the number of characters, what characters are used, duplicity, etc.

Object rules are set for individual VDP objects.

Different VDP objects can have different rules, for example a VDP Image can have a rule to check if the image file can be loaded, while VDP text can have a rule related to the used fonts. As the content of VDP text or barcode usually contains one or more database fields, the string related rules (empty value, number of characters, allowed characters,..) are also available there. Note that for Object rules the complete input string, consisting of several static and variable parts, is taken into account .

Some of the Object rules, such as checking for empty values, are optional. Other Object rules are always active: the application always needs to know what to do in case of a missing image or using non-existing glyphs in a font.

Rules are checked during expansion and during preflight, and any issues will be reported. If the severity of a rule is set to "error", expansion will be stopped when the first violation of the rule is encountered, while preflighting will continue and report all errors.

6.3.1. Database Rules

By applying Database Rules, you can discover possible issues which may appear during processing.

The Database file might contain entries that can cause problems to the design or contain invalid values, such as entries that are too long, or duplicate records. Specifying some boundaries or allowed values for database fields can help to identify possible problems.

You can set **Global Rules**, applied across all fields in the Database, or **Field Rules**, which are only applied on the selected field.

Actions for a Database Rule

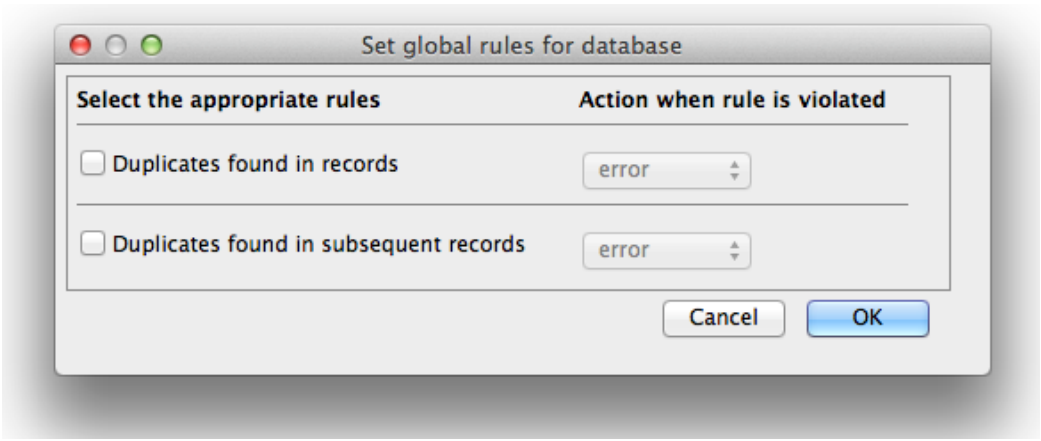
For every Rule you set, you can define what to do when the rule is violated:

- **Error**: the error is logged, and processing of the job is canceled
- **Warning**: a warning is issued, but processing will continue
- **Replace**: the original value is replaced by the defined replacement value, and processing will continue without any warning.
- **Warning and Replace**: the original value is replaced by the defined replacement value, a warning is issued, and processing will continue.

Note: The available actions depend on the selected rule

Global Rules

Global Rules are applied across all fields in the Database. You can set a Global Rule by clicking the **Global Rules...** button in the **Select Database** dialog.



Duplicates found in records checks whether all records are unique. Two records are unique if all their fields are identical. If at least single field is different the records are also different.

Duplicates found in subsequent records checks whether subsequent records are unique. Two records are unique if all their fields are identical. If at least single field is different the records are also different.

Field Rules

Field Rules are applied on a specific field in the Database. You can set a Field Rule by selecting a field, and clicking the **Set Rules...** button in the **Select Database** dialog.

The **Current result** column will show the result of the individual rule(s) for the currently selected record. At the bottom of the dialog, the **Current value** is shown, along with the overal result (error, warning) for all defined rules.

There are two groups of Field rules: **Size** and **Content**

Size

- Select **Empty value** to check whether this field has any empty values. If you select **Ignore whitespace characters**, spaces and other typographic symbols will be treated as empty values. By choosing "Replace" or "Warning and Replace", you can set to replace the empty value by what you enter in the **by** field.
- To check for values that may be too short, select **Minimum length is**, and enter a number of characters. Values shorter than this will fail the check.
- To check for values that may be too long, select **Maximum length is**, and enter a number of characters. Values longer than this will fail the check.

Content

- Select **Duplicates found in values** to check if the selected field has the same value in two different records in the database.
- Select **Duplicates found in subsequent values** to check if the selected field has the same value in two subsequent database records.
- You can check whether the field's values match a certain **regular expression**. You can use this for example for barcode values, serial numbers, or phone numbers.
  - An example could be to use this regular expression: `\+\d[\s\d]*` to check phone numbers. This means the value must start with a plus sign and a digit, followed by only digits or spaces.
- Use the **Value can contain only** list to limit the types of characters that are allowed in the field's values .
  - Latin characters (a-z and A-Z), either only Uppercase, only Lowercase or both ("Any")
  - Digits
  - Special symbols (for example + ! > $ &).
  - Non latin characters (Ã¼ Ä›)

Checking a Database

Once some rules are defined, you can check the current Database file.

The Database file is checked automatically when running a **Preflight** or **Expansion** (including when the expansion is done on a server, since the rules are included in the VDT template. See *Expanding on a server* on page 65). The result of the check is shown in the **DynamicVDP Log**. See *Checking and expanding a VDP file* on page 56 for more info on Preflight and Expansion.

However, by choosing **Check Database...** from the fly-out menu of the **Dynamic VDP** palette, you can manually check the Database.

Note: Check Database... only does a quick check of the database. It does NOT expand any Dynamic VDP objects, so a successful Database check does not guarantee successful expanding. For that, you need to do a **Preflight**. See *Preflight* on page 57

Note: The **Check Database...** option is not available if no Database file is selected yet, or if a **Simple Database** is used.

The result of the database check is first reported by a message. In case some issues were detected the **DynamicVDP Log** palette is opened.

6.3.2. Object Rules

Using **Object Rules** you can check the content or placement of specific Dynamic VDP objects.

To apply a Rule on an object, select the Dynamic VDP object, and click the **Rules** button in the **Dynamic VDP Properties** palette.

Unlike database field rules, Object rules are not limited to a single database field, and they can check a combination of several variables and static text strings.

As object rules are linked to concrete Dynamic VDP object, they can be more specific and check validity like "is number 123456 a valid entry for EAN 13 barcode?" or "is john.jpg a valid image?"

The available rules depend on the selected Dynamic VDP object.

Note: Object rules are included in a VDT template, and will be examined during expansion on a server. Expansion might be cancelled based on the selected action in the rule.

The **Current result** column will show the result of the individual rule(s) for the currently selected object. At the bottom of the dialog, the **Current value** is shown, along with the overal result (error, warning) for all defined rules.

For every Rule, the same actions as for a Database Rule are available. See *Actions for a Database Rule* on page 58

Actions for an Object Rule

For every Rule you set, you can define what to do when the rule is violated:

- **Error**: the error is logged, and processing of the job is canceled
- **Warning**: a warning is issued, but processing will continue
- **Skip**: the specific Object is not generated, and processing will continue without any warning.
- **Warning and Skip**: the specific Object is not generated, a warning is issued, and processing will continue.

- **Replace**: the original value is replaced by the defined replacement value, and processing will continue without any warning.
- **Warning and Replace**: the original value is replaced by the defined replacement value, a warning is issued, and processing will continue.

Note: The available actions depend on the selected rule

Text Rules

Note: Some of the available rules are the same as the Database Rules. However, the Object Rules check the complete input, which can be the combination of one or more variables and static parts.

Size

- **Empty value**, **Minimum length** and **Maximum length** are the same as the Database Field Rules. See *Size* on page 59
- Select **Object outside Trim Box** to check if the object is placed inside the trim box area.
- The **Safe Margin** allows to define the threshold from the Trim Box.
  - a positive value means a "safe margin" is kept on the inside of the Trim Box
  - a negative value allows objects that are slightly outside of the Trim Box
  - The Safe Margin uses the unit set in the Adobe Illustrator Document Settings
- **Text Overset** is only available for Area Text and Text on Path, and not for Point text. It checks if the contained text can be fitted in to the given area or path.
- **Text fitting** is only available for Universal Area Text. Two aspects can be checked:
  - **Text fits into single line** allows to check for unwanted line breaks, e.g. in an address, required to stay on 3 lines.
  - **Text fits into text box** is useful for bigger texts with long paragraphs. It will check if the last line of the text is still within the text box.

  Text fitting rules can provide an error or a warning. By clicking the **Fit text size ...** you can also set an automatic fix. There are two options:
  - If **Scale text horizontally** is selected, the text will be condensed, without going below the defined Minimum value for horizontal scale. The advantage of this method is that the font maintains the same height, and the position of the individual lines is not changed. Small horizontal scaling is also less visible for reader. This option is recommended in combination with **Text fits into single line**. Notice that if the text was already condensed, it will not be condensed below the specified threshold.
  - **Change font size.** is applied after scaling (when both are active). You can specify the Minimum font size. This option is recommended in combination with **Text fits into text box**. If different parts of the text uses different fonts and font sizes, all used fonts are scalled down by the same factor.

  If you select **Notify when text size is changed**, you get an indication how many times and for what records the font size was adjusted.
- Using **When fitting the text is not possible** you can decide what to do if the text is too big, even after scaling and changing the font size: either generate a warning (and continue), or generate an error (and stop expansion).

Content

All available rules are the same as the Database Field Rules. See *Size* on page 59

Fonts

Note: The **Fonts** rules cannot be disabled.

- The **All fonts are available** rule checks whether all fonts used in the selected text objects are available.
- The **All Characters are available** rule check whether all characters used in given text objects are available in the font used.

Barcode Rules

- Select **Code is available** to check whether this field has any empty values. If you select **Ignore whitespace characters**, spaces and other typographic symbols will be treated as empty values. By choosing "Replace" or "Warning and Replace", you can set to replace the empty value by what you enter in the **by** field.
- The **Check digit is specified** rule checks whether the barcode input contains a valid check digit. Obviously, this is only available for barcodes that require a checkdigit (e.g. EAN13). If the check digit is not defined and the rule is not active, the check digit is computed and added silently. If the rule is active, it can be set to "warning" or "error": "error" will stop the expansion, while "warning" will compute the check digit and generate a warning

  Note: If the check digit is specified but it is wrong, this will always result in an error (and expanding will stop).
- Select **Object outside Trim Box** to check if the object is placed inside the trim box area.
- The **Safe Margin** allows to define the threshold from the Trim Box.
  - a positive value means a "safe margin" is kept on the inside of the Trim Box
  - a negative value allows objects that are slightly outside of the Trim Box
  - The Safe Margin uses the unit set in the Adobe Illustrator Document Settings

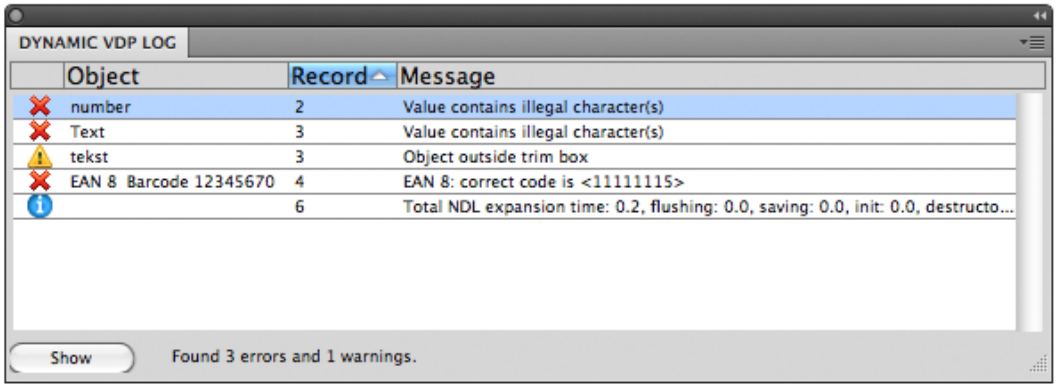
Image Rules

- The **Image Is Available** rule checks if the referenced image exists on the specified path
- The **Image Type is Supported** rule checks whether the referenced image can be imported and applied
- Select **Object outside Trim Box** to check if the object is placed inside the trim box area.
- The **Safe Margin** allows to define the threshold from the Trim Box.
  - a positive value means a "safe margin" is kept on the inside of the Trim Box
  - a negative value allows objects that are slightly outside of the Trim Box
  - The Safe Margin uses the unit set in the Adobe Illustrator Document Settings

6.4. The Dynamic VDP Log

The Dynamic VDP Log palette lists issues generated by the Dynamic VDP plug-in.

It can open automatically after Expansion or Preflight, or can be opened by choosing **Window** > **Esko** > **Dynamic VDP** > **Dynamic VDP Log**.



The table shows:

- an icon showing the severity of the issue
- the name of the Dynamic VDP object
- the number of the record where the issue was detected.
- the message indicating the actual issue

You can select an entry in the palette and click **Show** or double-click the entry to preview the issue.

Note: Rule settings are opened when showing or double-clicking database issues.

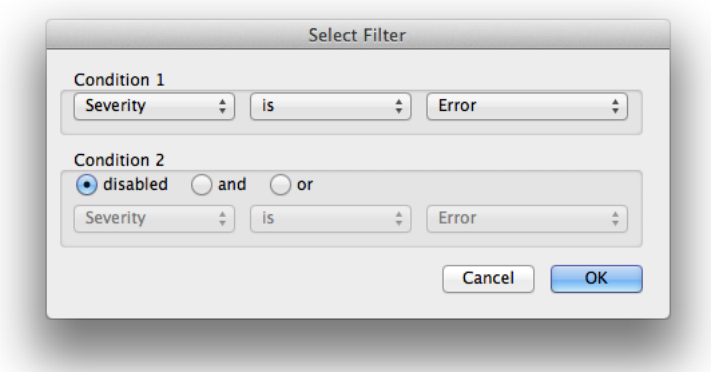
From the fly-out menu of the Dynamic VDP Log palette, you can

- apply a **Filter** on the log entries. See *Filter* on page 63
- select **Remove Filter** to remove the currently applied filter
- **Clear Issues**: all issues listed in the palette are removed
- **Save Report**: an HTML report containing all currently listed issues is saved. This can be used e.g. to submit to the database provider, requesting to solve all listed issues.

6.4.1. Filter

1. In the Dynamic VDP Log palette, choose **Filter ...** from the fly-out menu.

   The **Select Filter** dialog will open



2. Set the first condition for log entries to be shown

Options	Description
Severity	show the log entries of which the **Severity** is or is not • Error • Warning • Database Issue • Database Error • Database Warning • Object Issue • Object Error • Object Warning
Object Name	show the log entries of which the **Object Name** does or does not contain the string entered
Record	shows the log entries of which the **Record** does or does not contain the string entered
Message	shows the log entries of which the **Message** does or does not contain the string entered

3. By default, Condition 2 is set to **Disabled**. If you want to filter based on a combination of two conditions, you can set the relation for Condition 2. This defines whether log entries should be shown if they match both conditions (**and**) or any of the conditions (**or**).
   a) Select **and** if log entries should be shown if they match both conditions
   b) Select **or** if log entries should be shown if they match (at least) one of the conditions
   c) Set up Condition 2 the same way you set up Condition 1
4. Click **OK** to apply the filter

You can see a filter is applied as the bottom line in the Dynamic VDP Log dialog will no longer show the total number of errors and warnings found, but also the amount of errors and warnings shown from the total amount, e.g. "Filtered 771 of 771 errors and 0 of 898 warnings".

By choosing **Filter ...** from the fly-out menu again, you can modify the filter.

By choosing **Remove Filter** from the fly-out menu, you can remove the curently applied filter.

6.5. Record Sets

By default, the Dynamic VDP uses all records from the selected database file or simple databsae. However, using the **Record Set** functionality, you can limit Dynamic VDP to only use a restricted set of records. This can be used to get quick access to records which might require attention.

The **Record Set** dropdown is available in the **Select Database** palette, and in the **Dynamic VDP** palette.

By default, this is set to **All Records**.

After a **Database Check**, you can limit the set to **Records with database problems**. See for more information on database check

After a **Preflight** or **Expand**, you can limit the set to

- **Records with database problems**, since preflighting and expansion always includes a database check
- **Records with preflight errors and warnings**
- **Records with preflight warnings**
- **Records with preflight errors**

See *Checking and expanding a VDP file* on page 56 for more information on Expansion and Preflight.

After using the function, you can also limit the set to **Suspicious Records**.

The **Create Suspicious Record Set** function, available from the fly-out menu of the **Dynamic VDP** palette, creates a set of records that might require attention. It will contain:

- the longest string for every column
- the shortest string for every column
- the longest value among all columns
- the shortest value among all columns
- the longest record
- the shortest record

6.6. Expanding on a server

The Dynamic VDP plug-in can export a **Variable Data Template** to be sent to and processed by a server

The template is generated by the Dynamic VDP plug-in. It allows to expand a job on a server which provides faster processing thru parallel expansion.

The Variable Data Template contains all the graphical elements. The Database file and variable images (if any) are not included.

6.6.1. Exporting a Variable Data Template

To export a **Variable Data Template**:

1. Use Adobe Illustrator and the Dynamic VDP plug-in to create a Variable Data job
2. Define **Rules** and their severity. Rules are checked on the server, when the Database file and the Variable Data job are combined. See *Rules* on page 57 for more info on Rules.
3. Choose **Export Template...** in the fly-out menu of the **Dynamic VDP** palette.
4. Select the output folder, and click **OK**

A Variable Data Template file (.VDT) will be generated.

Note: It is not possible to import a Variable Data Template back into Illustrator. It is highly recommended to keep the native Adobe Illustrator files for future modifications in the templates.

6.6.2. Creating a VDP job from a Variable Data Template

To create a VDP job from a Variable Data Template file:

1. Start the DFE Client
2. Choose **File** > **New Print Job...**
3. Click **Browse...**, select the VDT file, and click **OK**
4. Define the Step and Repeat parameers in the automatically opened dialog, and close the dialog to create the Print Job
5. Open the **Print Job Properties**
6. In the **Files** tab, define the database

   Note: A Simple Database must be defined in this dialog as well
7. Set the path to the variable images (if applicable)

   Note: The folder containing the images should be located in the `prepress` share of the DFE
8. In the **Step & Repeat** tab, modify the variable data filling if needed.

The job is now ready to be processed.

7. Tips and limitations

7.1. Illustrator File Compatibility

Illustrator files containing Dynamic VDP settings are backward compatible, so you can open files generated by older versions while preserving Dynamic VDP settings and editability of variable objects.

However, when you are trying to open a file generated by newer version of Adobe Illustrator, you get a message stating you can import the file, but some data loss might occur. If you continue the import, all variable objects will be converted to static objects, and all properties will be lost

Saving files to be compatible with older versions of Illustrator

In Adobe Illustrator you can save the file in legacy file formats, by setting the **Version** while doing a **Save as** to Adobe Illustrator format. Files saved using this procedure will handle dynamic objects properly.

Note: Although this procedure will preserve Dynamic VDP objects, other Illustrator version specific objects still might be modified or lost.

7.2. PowerLayout Client Import Assistant

To convert multiple XML files to Adobe Illustrator files and SRT templates:

1. Start Adobe Illustrator with the Dynamic VDP plug-in installed.
2. Make sure that no document is opened.
3. Open the **PowerLayout Standalone** palette.
4. Go to its contextual menu and choose **PowerLayout Client Import Assistant**.
5. Follow the on-screen information to convert multiple XML files to AI files and SRT templates.

   Note: Do not work with more than 100 XML files at once in order to avoid having Illustrator crash.

Note:

- PowerLayout Client Import Assistant should work with batches of up to 100 XML files.
- PowerLayout Client Import Assistant progress is not reported properly: Illustrator can go to a "not responding" state while the conversion is still running. In this case, it is recommended to check the output folder, where new AI or SRT files should appear.

7.3. Known limitations

Expansion: Maximum number of records

The biggest issue for expansion is the memory used by Adobe Illustrator. Since memory usage is influenced by variable elements (barcodes requires more memory than universal text) and complexity of fixed part of the job, it is not really possible to define a fixed maximum number of records that can be expanded from the Illustrator.

When using Adobe Illustrator Dynamic Text (see *Dynamic Text* on page 45) is limited to 10.000 records.

A Job using Universal Text can go further, up to 50 000. The actual limit depends on the used file.

It is highly recommended to expand jobs with images or high volume or records using a 64-bit version of Adobe Illustrator and sufficient amount of RAM (e.g. 8 GB or more).

Text formatting

Adobe Illustrator text is generated by the Adobe Illustrator text engine, while universal text is created by Esko text engine.

Although those two text engine behaves almost identical in basic features (e.g. font face, size, color), some differences may occur in advanced text features like line spacing, tracking, kerning, etc.

The preview shown in Adobe Illustrator uses the correct text engine, so it reflects the behavior of expansion. Every unwanted behavior will be immediately visible to user. In some cases a warning message is issued.

Note: When a text object is being edited by the Text Editing tool of Adobe Illustrator, the text is shown in "Edit View". When in Edit View, the text will be rendered by the Adobe Illustrator text engine. This means that when starting or ending editing Universal Text, small differences might occur.

Resizing and rotating Dynamic VDP objects

In some cases, you can resize Dynamic VDP objects using Adobe Illustrator tools. However, in some cases (e.g. resizing area text by dragging), Adobe Illustrator behaves differently when working with native Adobe Illustrator objects or with Dynamic VDP objects.

To avoid this, it is recommended to change dimensions and rotation of Dynamic VDP objects using its properties panel.

Clipping masks

Adobe Illustrator allows to define clipping masks on objects. However, Expansion will ignore clipping masks on Dynamic VDP objects.

7.4. Performance tips

- **Text** : it is highly recommended to use Universal Text instead of Illustrator Text. Processing of Universal Text is much faster when expanding using Illustrator or server.

- **Document Structure**: If possible, put all variable objects on a separate, top-most layer. Although the Expand function can process job where static objects are placed on top of variable ones, this will cost some time.
- **Transparency**: Any kind of transparency, opacity or PostScript overprint applied to a variable object will slow down Ripping. If possible, it is recommended to keep variable objects opaque (which is the default settings in Adobe Illustrator)
- **Barcodes**: Some barcodes, e.g. QR barcodes, allow to set a "correction level". This improves the readability when the barcode is damaged, but it requires more time to compute and create such barcode.

  It is recommended to keep such settings on default values.