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About BarTender 2021

With BarTender[®] software by Seagull Scientific, organizations around the world can improve safety, security, efficiency and compliance by creating and automating the printing of labels, barcodes, RFID tags, plastic cards and more. Thousands of companies in manufacturing, chemicals, health care, food and beverage, aerospace, pharmaceuticals, supply chain/logistics and other industries trust BarTender with the labeling and marking processes that keep their businesses running.

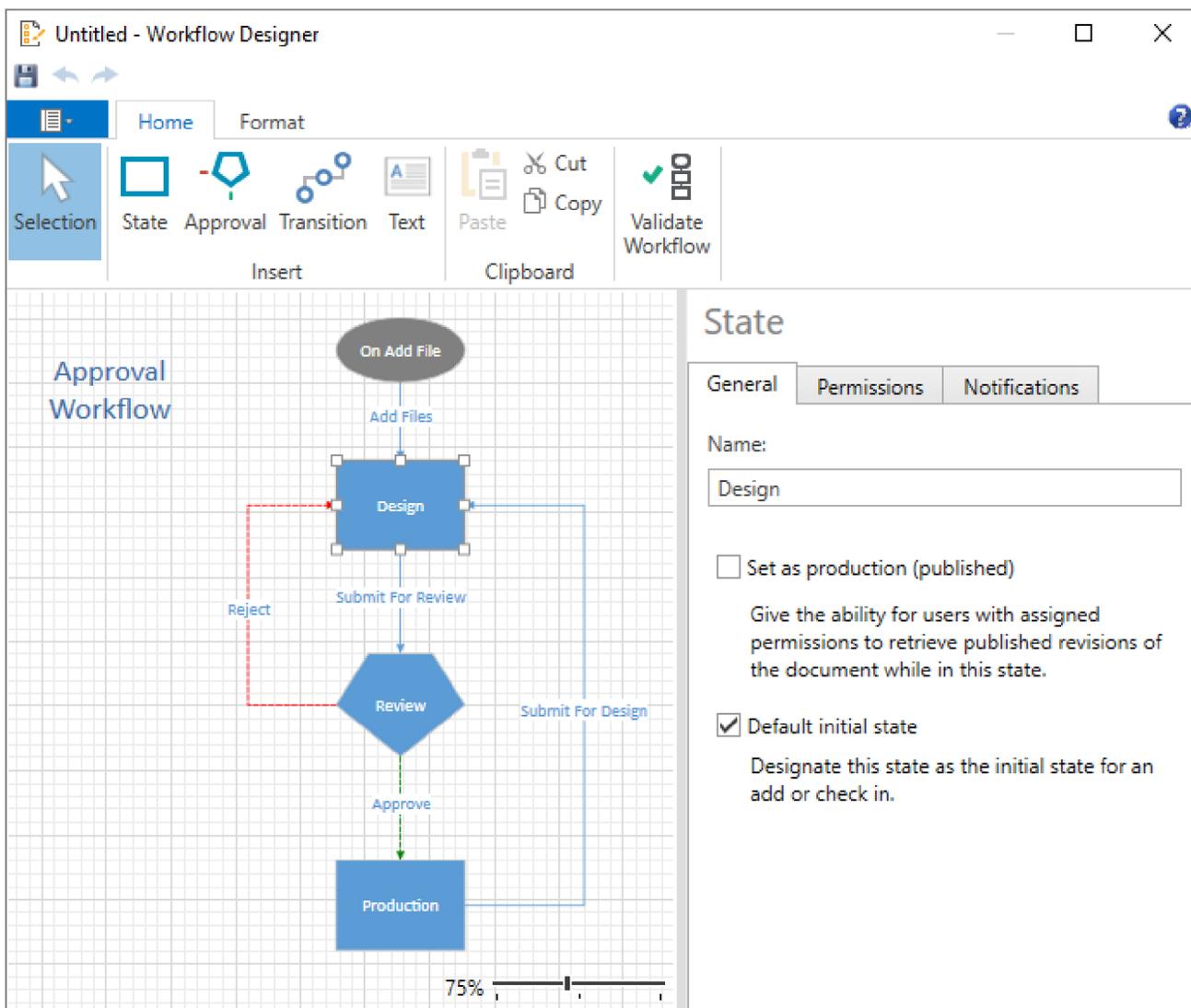
With the release of BarTender 2021, Seagull Scientific continues to enhance your design and printing experience and provide easier ways to manage and administer your print operations. This document describes the most significant features that were added to or improved in BarTender 2021.

Improvements in the BarTender suite were made in response to customer feedback and requests and can be found in many areas of the software.

New and improved features

Librarian Workflow Designer

By using the new Workflow Designer, which is accessed from the new Librarian Setup page in Administration Console, you can create comprehensive labeling life cycle workflow processes for the BarTender documents and files that you save to Librarian. The drag-and-drop graphical user interface makes it easy to create workflows that specify the states that a document can be in, such as “Design,” “Review,” or “Production” (as represented on the design canvas by state objects) and that specify how a document moves from one state to another (as represented by transition objects). You can name these states and transitions anything that you want.



The screenshot displays the BarTender Librarian Workflow Designer interface. The main canvas shows an "Approval Workflow" diagram with the following components:

- On Add File** (Start state, oval)
- Add Files** (Transition, arrow)
- Design** (State, rectangle)
- Submit For Review** (Transition, arrow)
- Review** (State, hexagon)
- Approve** (Transition, arrow)
- Production** (State, rectangle)
- Submit For Design** (Transition, arrow)
- Reject** (Transition, red dashed arrow)

The right-hand panel shows the configuration for the selected **Design** state:

- General** tab is active.
- Name:** Design
- Set as production (published)
- Default initial state

When you create a workflow that assigns states and transitions to files, you can do the following:

- Create representations of the life cycle for all of your files.
- Track the status of files from start to finish.
- Send notifications to particular users and groups when a file changes state or goes through a transition.
- Limit the users whom you want to have access to the file at each stage in its life cycle (for example, you might want to specify that only members of your design team can edit the file while it is in the Design state).
- Create branches at decision points. For example, when you include an approval state object in the workflow for a Review state, a reviewer can either approve the file and move it to the Production state or reject the file and automatically send it back to the Design state together with an email notification to the designers that informs them that the file was rejected.



For more information about Librarian workflows, including a detailed tutorial describing how to create workflows, refer to the *Understanding Librarian Workflows* document at the following website:

www.SeagullScientific.com/media/2081/understanding_librarian_workflows.pdf

Assigning permissions to workflow objects

You can specify and manage user access to each stage of a file's life cycle by adding user and group permissions for each state and transition object. You do this by using the **Permissions** tab in the properties pane on the right side of the Workflow Designer, as follows:

- For state and approval state objects, you can specify the users to whom you want to allow or deny permissions to move the file into and out of the selected state.
- For transition objects, you can specify the users to whom you want to allow or deny permissions to run the transition to move the file to the next state.

Approval State

General
Permissions
Notifications

Group or user names:

 John Smith (DESKTOP-S1C0GTT\John Smith)

Add...
Remove

Permissions	Allow	Deny
Can change to this state	<input checked="" type="radio"/>	<input type="radio"/>
Can change from this state	<input checked="" type="radio"/>	<input type="radio"/>

Transition

General
Permissions
Notifications

Group or user names:

 Jane Doe (DESKTOP-S1C0GTT\Jane Doe)

Add...
Remove

Permissions	Allow	Deny
Can run this transition	<input checked="" type="radio"/>	<input type="radio"/>

Configuring email notifications for workflow objects

You can configure email notifications for each state and transition object by using the **Notifications** tab in the properties pane on the right side of the Workflow Designer. The state, approval state and transition objects each have their own criteria for when the email notification is sent, as shown.

State

General	Permissions	Notifications
<input type="checkbox"/> Send enter state notification Send an email to recipients when entering this state. Setup...		

Approval State

General	Permissions	Notifications
<input checked="" type="checkbox"/> Send approval notification Send an email to approval members requesting approval or reject action. Setup...		

Transition

General	Permissions	Notifications
<input type="checkbox"/> Send notification Send an email to notify recipients when this transition completes. Setup...		

In each case, when you select the option to send an email notification, you can then click **Setup** to open a **Notification** dialog that you can use to design the email message that you want to be sent. Many variables are available for you to use to compose an email message. For example, the following email notification design uses variables to send an email notification that lists one or more files that need to be reviewed by the recipients.

Approval Notification ✕

Email Server: Configure...

To:

From:

Subject:

File Home Insert

Clipboard Font Paragraph Styles Editing

The following file(s) are waiting for your review and approval. Please review and approve for production.

Comment:
 %Comment%

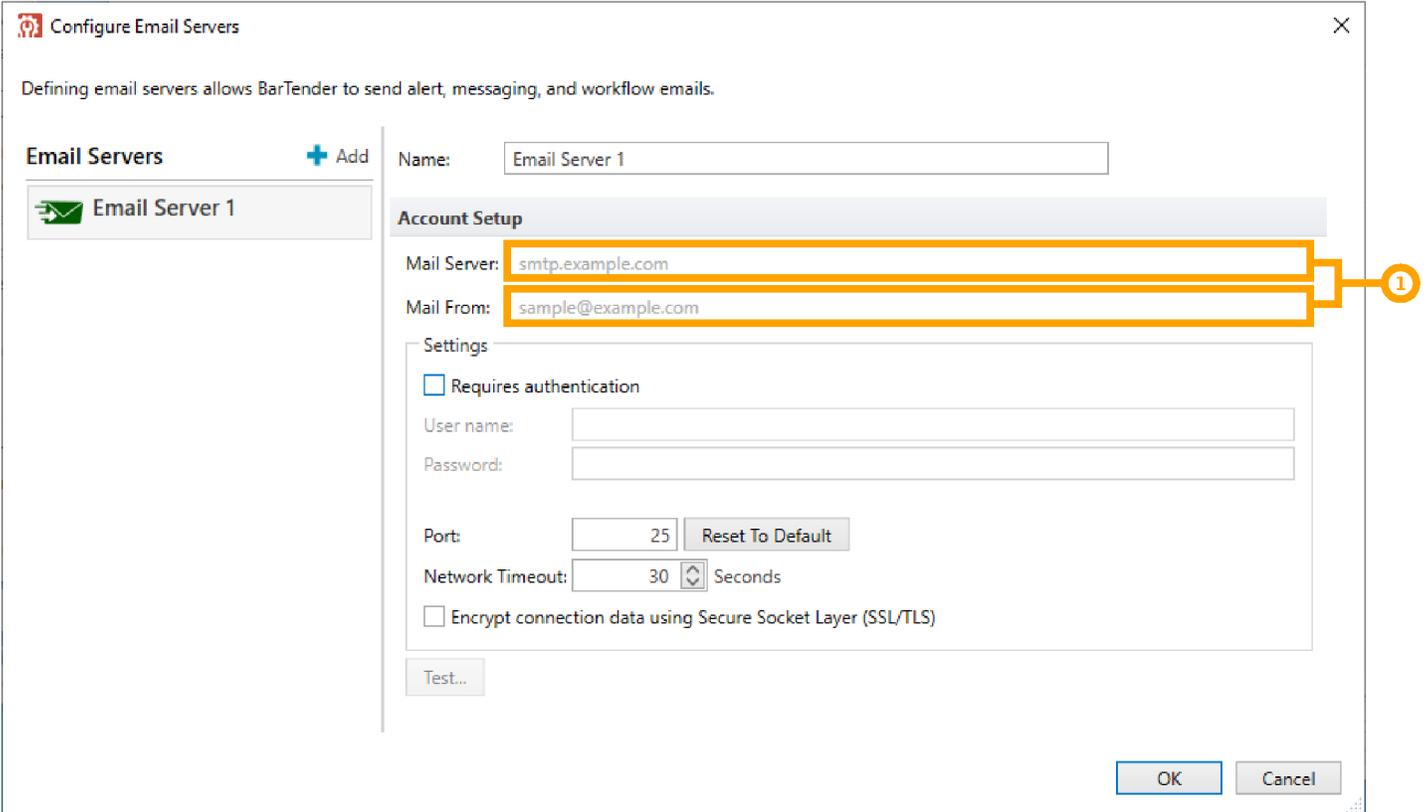
%BeginFileRow%
 %FileName% %WorkflowApprovalPortalButton%

%EndFileRow%

Test...

OK Cancel Help

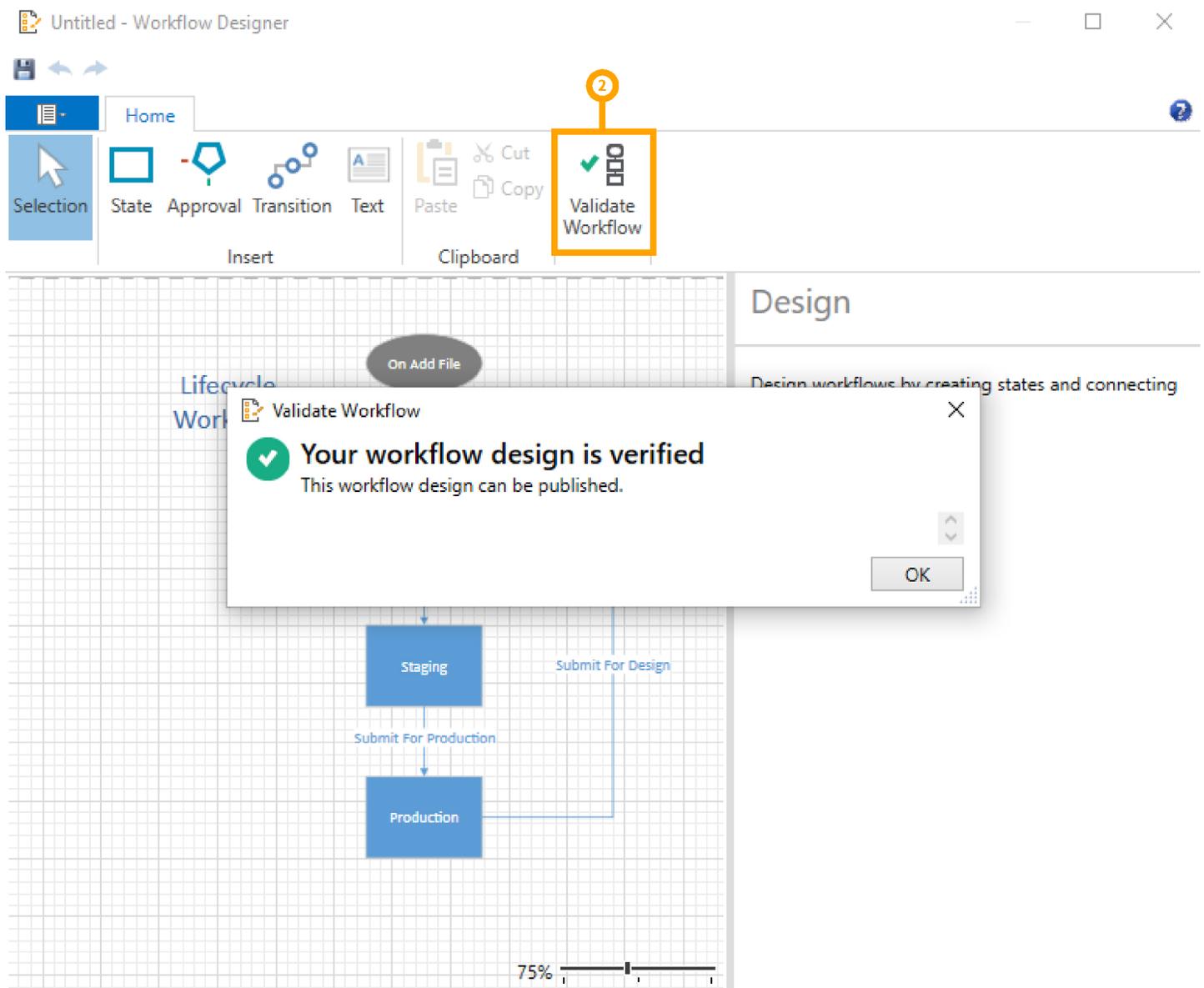
You can also use the **Notification** dialog to access the **Configure Email Servers**¹ dialog so that you can configure or select the email server that you want to use for the notification. To do this, click **Configure** in the **Notification** dialog.



BarTender 2021 also provides a new **Email Servers** page in Administration Console as a central location where you can configure and manage your email servers without needing to open a Librarian workflow. The options on the **Email Servers** page are the same as those in the **Configure Email Servers** dialog. After you configure an email server on the **Email Servers** page, it is available to select in the **Configure Email Servers** dialog when you create email notifications for your workflow.

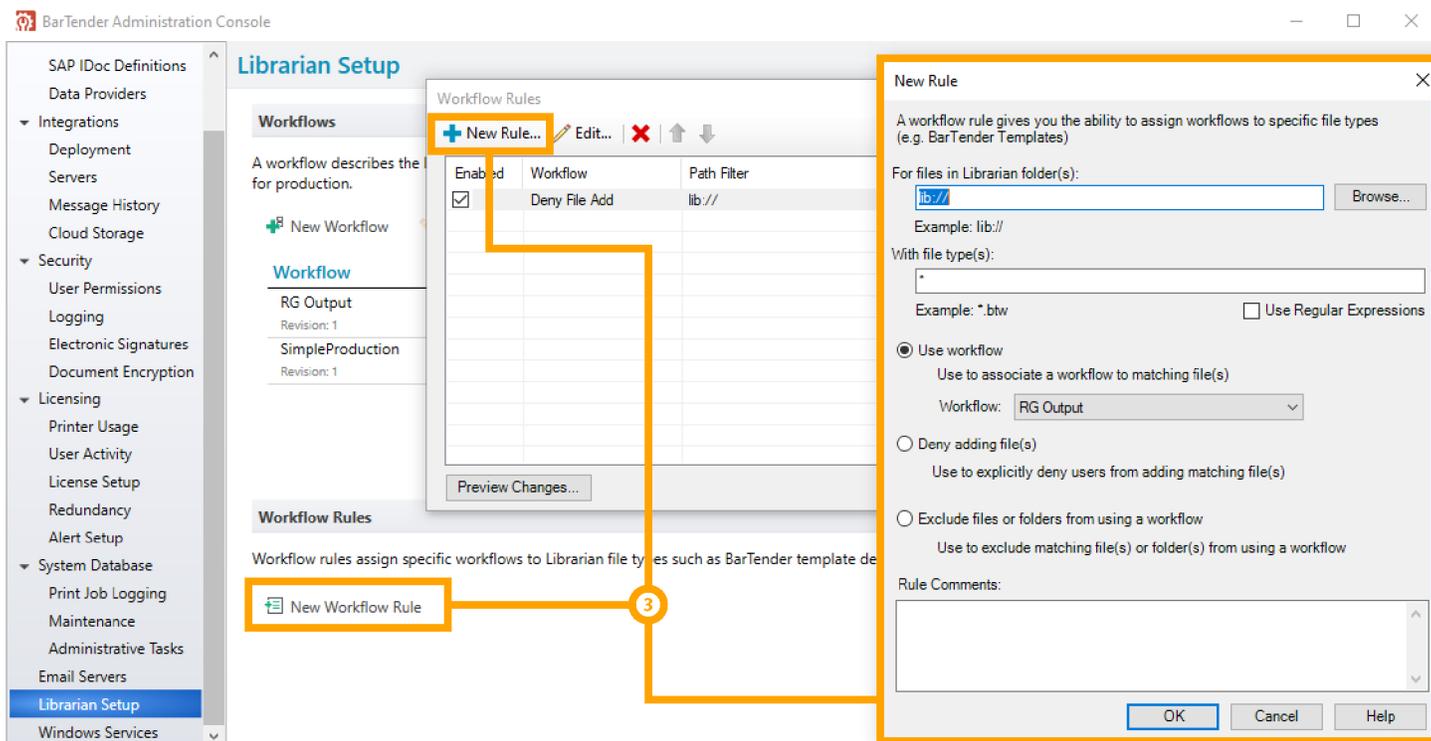
Validating the workflow

The Workflow Designer includes workflow validation. You can click **Validate Workflow**² at any time as you create the workflow to identify workflow design requirements that are missing, such as an assignee for an Approval State object or a transition to or from a state object. Workflow validation also occurs automatically when you close the Workflow Designer. Although you can save the workflow and exit the Workflow Designer while the workflow is in an error state, you will not be able to publish the workflow until you update it to a valid state.



Configuring workflow rules

After you validate and save your workflow, you must specify the folders, files and/or file types that you want to apply the workflow to or that you want to exclude from the workflow. You do this by creating workflow rules in the **New Rule³** dialog.



The screenshot shows the BarTender Administration Console interface. On the left is a navigation tree with 'Librarian Setup' selected. The main area is titled 'Librarian Setup' and contains a 'Workflow Rules' table. A 'New Rule...' button is highlighted with an orange box. A 'New Workflow Rule' button in the bottom left is also highlighted with an orange box and a circled '3'. An orange line connects these two buttons to the 'New Rule' dialog box on the right.

Workflow Rules

Enabled	Workflow	Path Filter
<input checked="" type="checkbox"/>	Deny File Add	lib://

New Rule

A workflow rule gives you the ability to assign workflows to specific file types (e.g. BarTender Templates)

For files in Librarian folder(s):

Example: lib://

With file type(s):

Example: *.btw Use Regular Expressions

Use workflow
Use to associate a workflow to matching file(s)
Workflow:

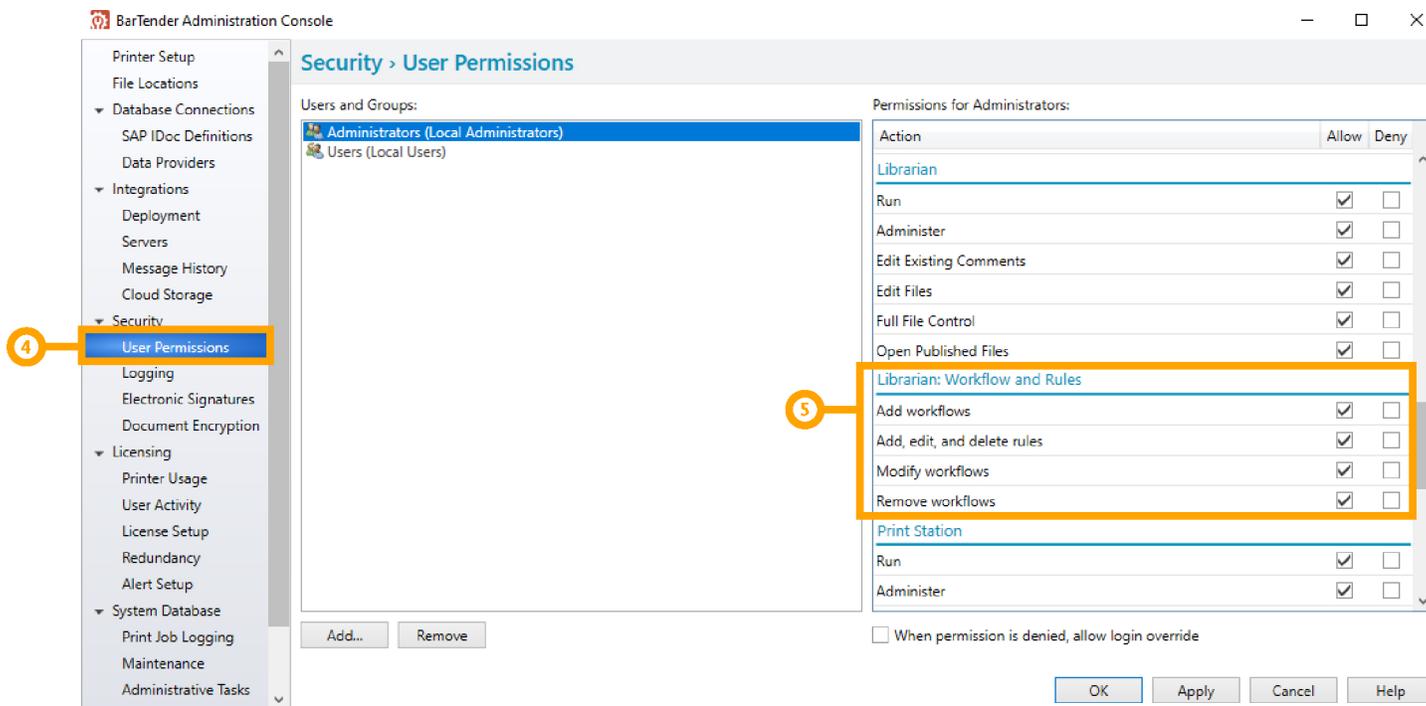
Deny adding file(s)
Use to explicitly deny users from adding matching file(s)

Exclude files or folders from using a workflow
Use to exclude matching file(s) or folder(s) from using a workflow

Rule Comments:

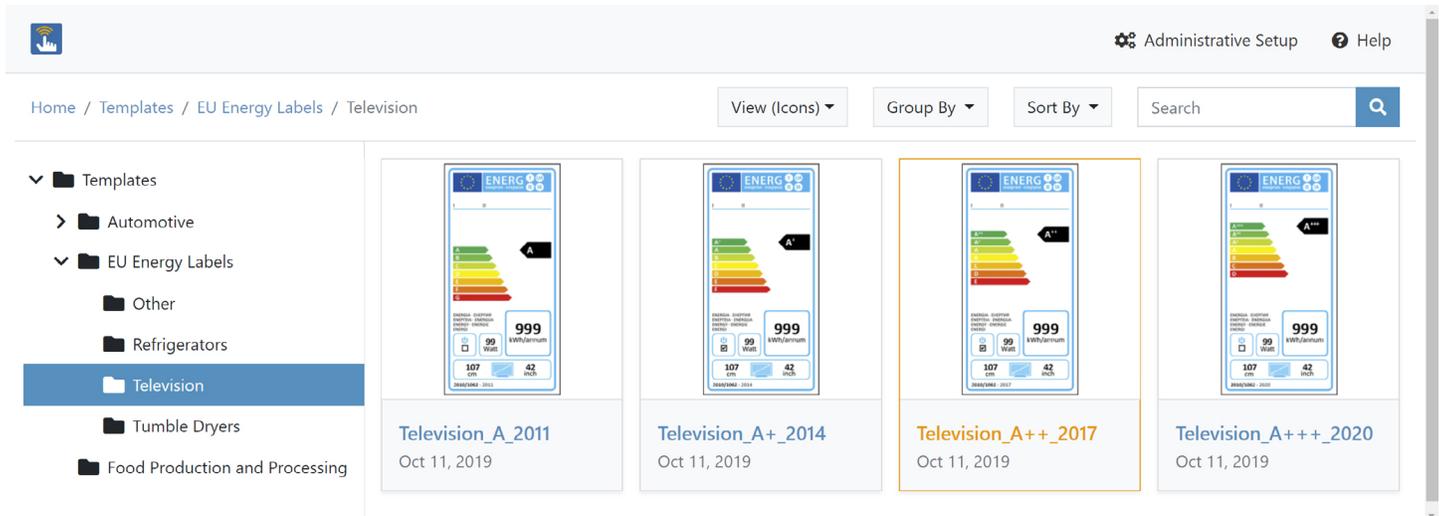
Assigning Workflow Designer security in Administration Console

To support Workflow Designer security, the **User Permissions** page⁴ page in Administration Console has new permissions that you can specify for users and groups for the tasks that are associated with the Workflow Designer. By using these permissions, you can allow or deny users or groups permissions to add, modify and remove workflows and workflow rules⁵.



You can also use the **Logging** page in Administration Console to log permissions checks for these same Workflow Designer actions and use the **Electronic Signatures** page to specify that individual actions require an electronic signature (user name and password) before the action is allowed.

Print Portal redesign



Print Portal is redesigned to have a modern user interface, improved performance and streamlined functionality.

Print operators can use any web browser to securely connect their PC/laptop or smartphone (over HTTPS) to a website that is hosted by the Print Portal web server. They can then use Print Portal to find and open the documents that they need, select a printer to send the print job to and enter data into the data entry form as applicable at print time. Client computers do not have to have BarTender installed.

Driverless printing

The web server/client model enables driverless printing, in which print jobs are streamed directly to the printer without a need to install a printer driver on the server. Additionally, you can configure the network so that print operators can send print jobs to any printer in the network, whether local or remote.

Streaming improvements

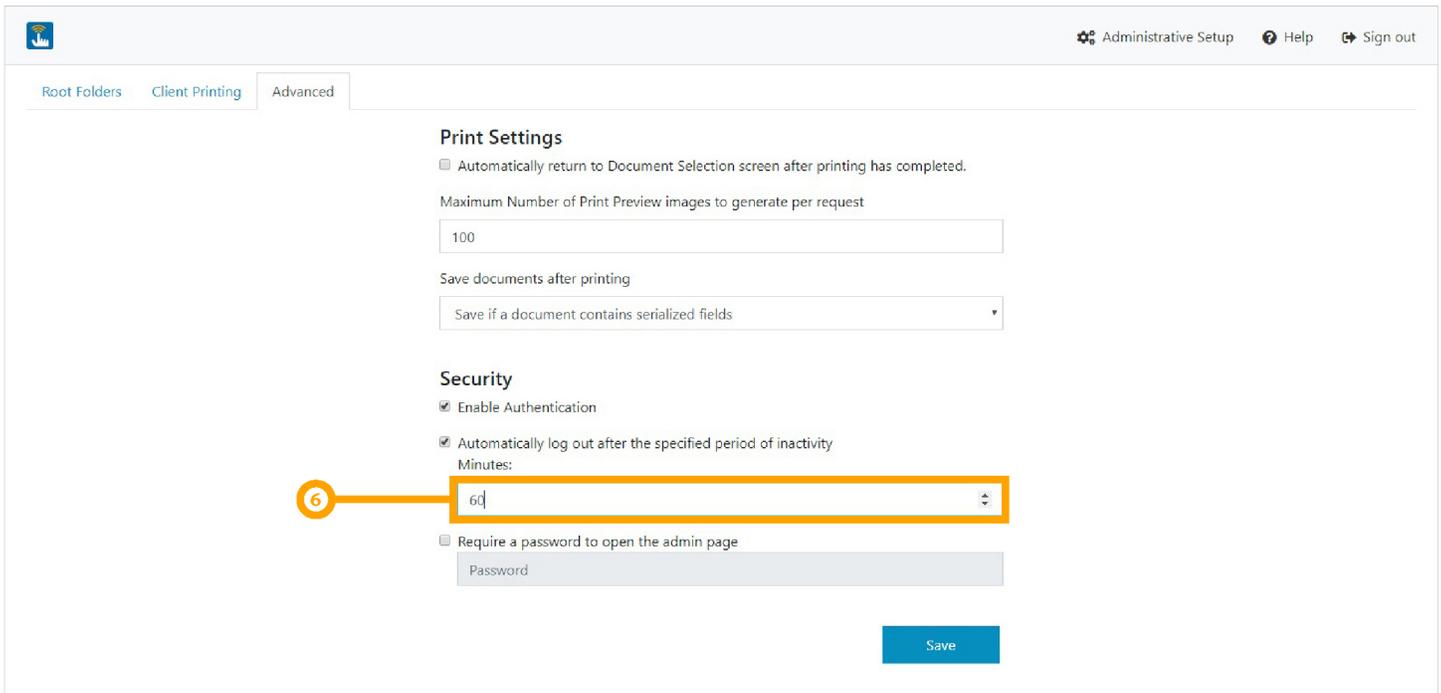
Print Portal now includes intelligent streaming to reduce print delays for large print jobs that are not optimized as a single batch in printer code. Print jobs that do not have optimizations enabled are split into smaller batches of 10 labels so that the first batch can be sent to the print queue to begin printing while the next batch is generating.

Security and authentication

Administrators can now enable authentication and single sign-on (SSO) by using Microsoft Internet Information Services (IIS) and Active Directory Federation Services (AD FS) for Windows authentication.

Internet printing now fully supports Secure Sockets Layer (SSL) encryption.

Administrators can also now specify that users must re-submit authentication credentials after a specified time-out period elapses and enable password-protection for the **Administrative Settings** page.⁶



The screenshot shows the BarTender Administrative Setup interface. The top navigation bar includes 'Administrative Setup', 'Help', and 'Sign out'. The main content area has tabs for 'Root Folders', 'Client Printing', and 'Advanced'. The 'Advanced' tab is selected, showing the 'Print Settings' and 'Security' sections.

Print Settings

- Automatically return to Document Selection screen after printing has completed.
- Maximum Number of Print Preview images to generate per request: 100
- Save documents after printing: Save if a document contains serialized fields

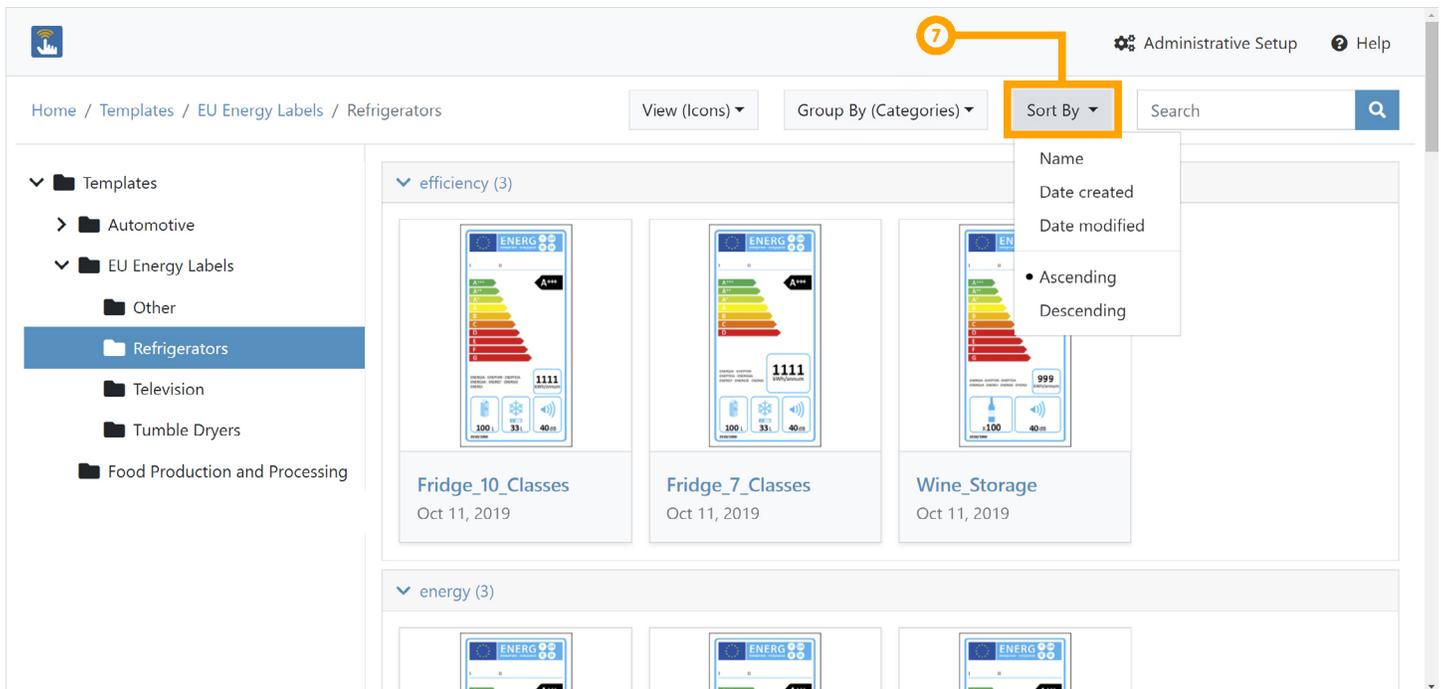
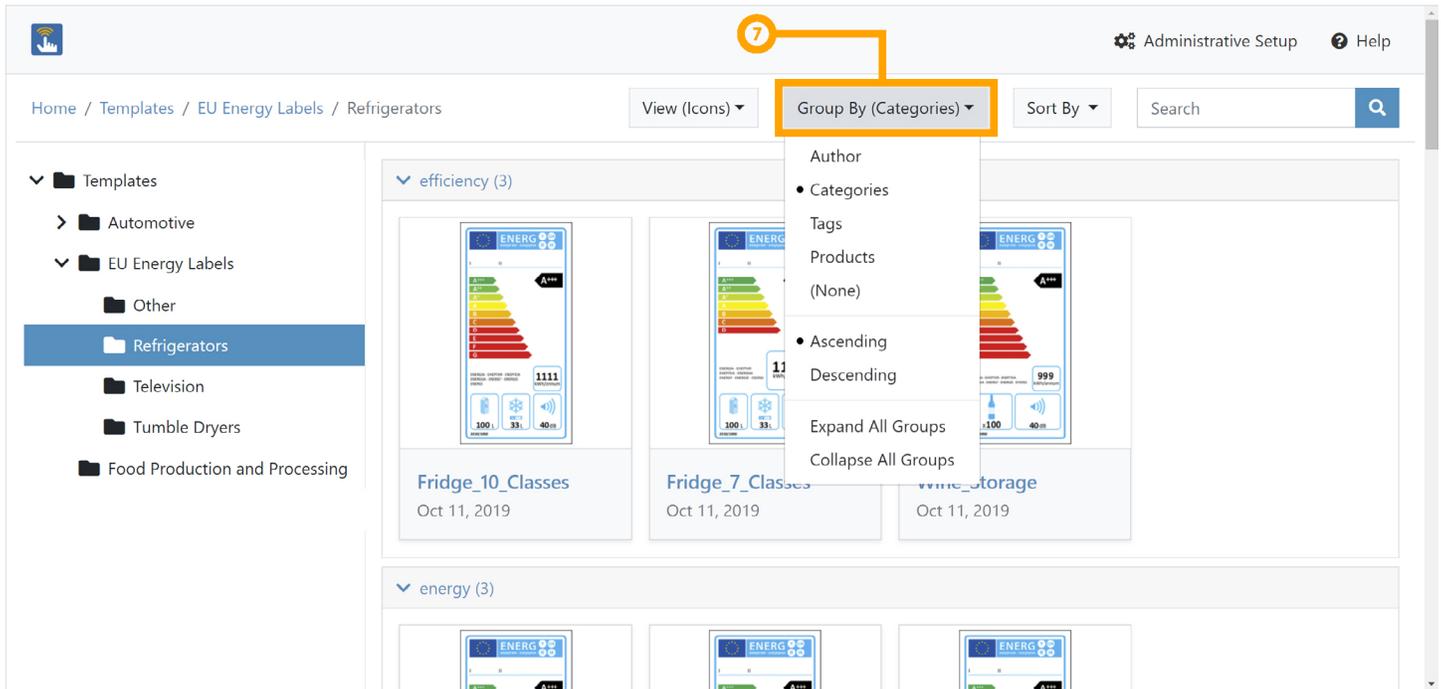
Security

- Enable Authentication
- Automatically log out after the specified period of inactivity
Minutes: 60
- Require a password to open the admin page
Password: _____

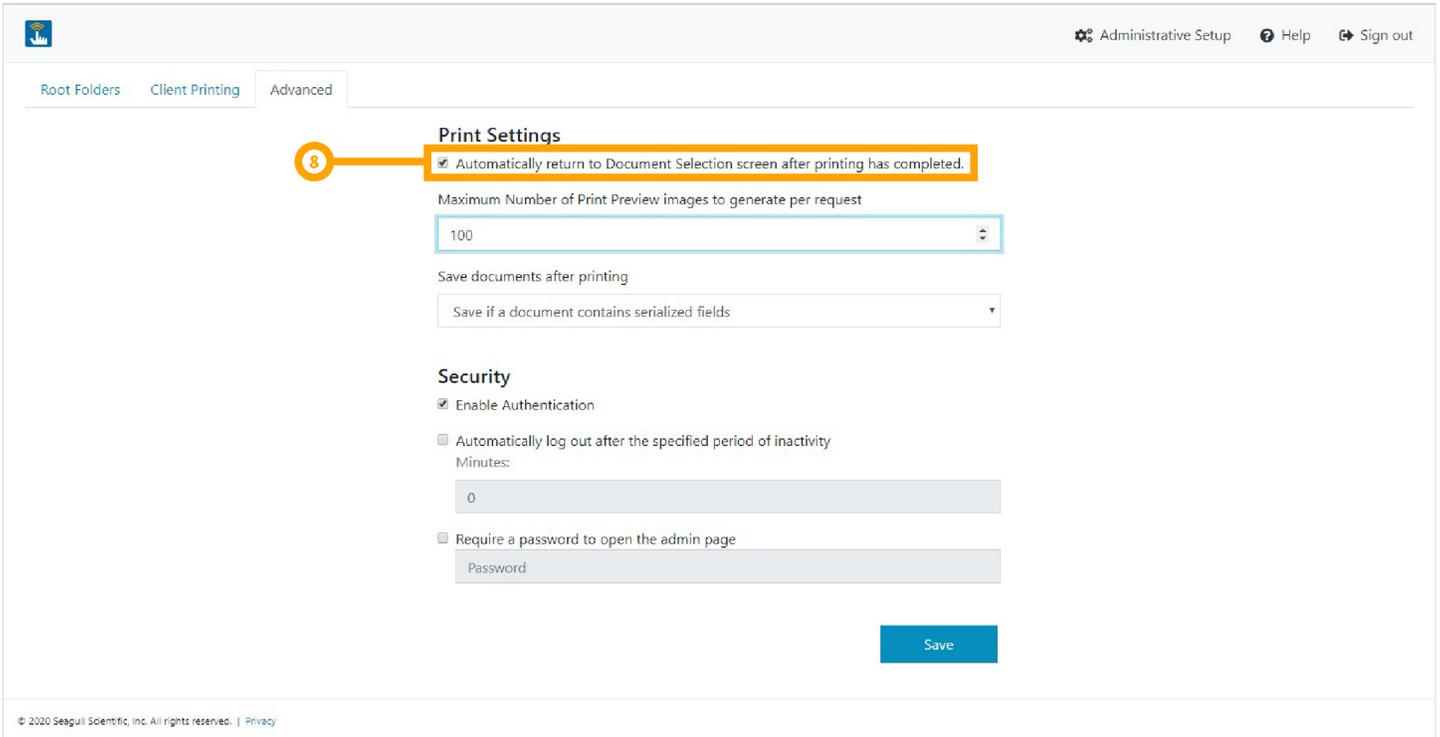
Save

Usability improvements

Grouping and sorting options are added to make it easier to organize your folders and documents and to find the document that you need. You can group by author, categories, tags, or products and sort by name, date created, or date modified.⁷



Administrators can also configure a new option that determines whether the print operator is returned to the document selection page after a print job runs.⁸ In some cases, the print operator needs the document to stay open after the print job runs, such as when a label must be printed again with different data or to a different printer. This new option makes this scenario possible.



Administrative Setup Help Sign out

Root Folders Client Printing Advanced

Print Settings

- Automatically return to Document Selection screen after printing has completed.

Maximum Number of Print Preview images to generate per request

100

Save documents after printing

Save if a document contains serialized fields

Security

- Enable Authentication
- Automatically log out after the specified period of inactivity

Minutes:

0

- Require a password to open the admin page

Password

Save

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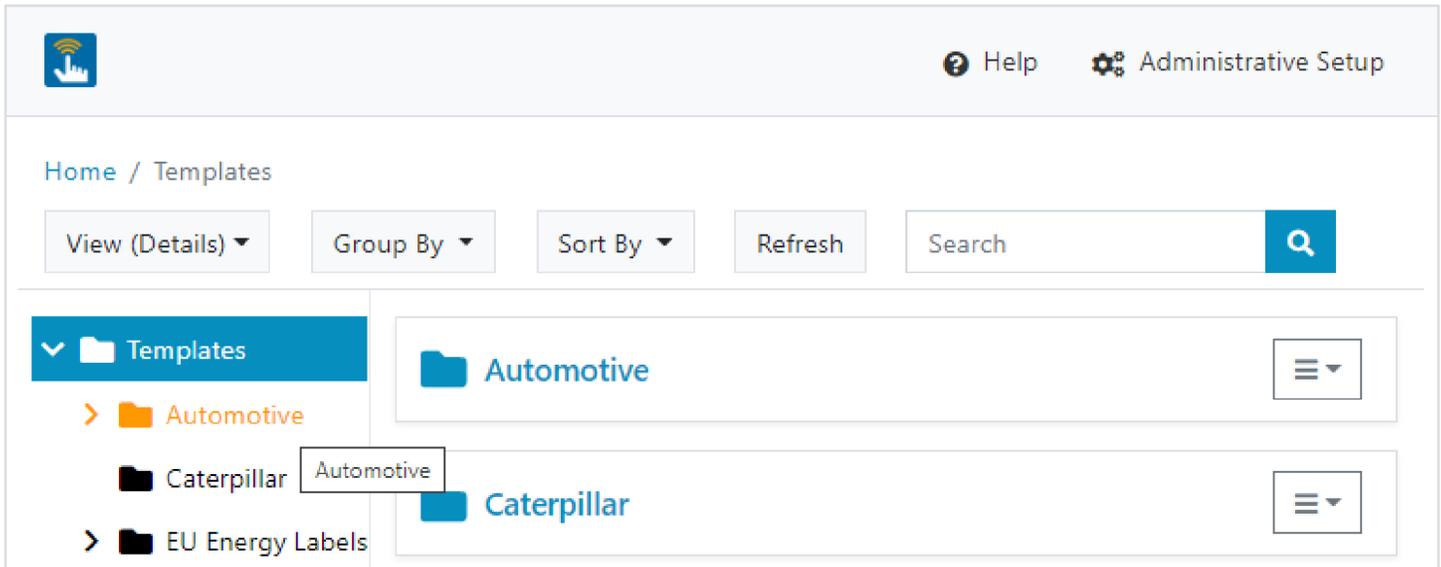
Support is added in Print Portal for the **Repeat data entry until cancelled** print option in the **Print** dialog in BarTender Designer. This option specifies that when a print job is complete, a new print job is automatically run. This means that you need not manually restart a print job when you run multiple consecutive print jobs that use the same BarTender document.

Support is also added for form-level actions that are configured in BarTender. These actions help you to manage forms and print jobs and to communicate information to print operators at print time. For example, you can configure actions to reset or clear form data, continue or cancel a print job, display a message and more.

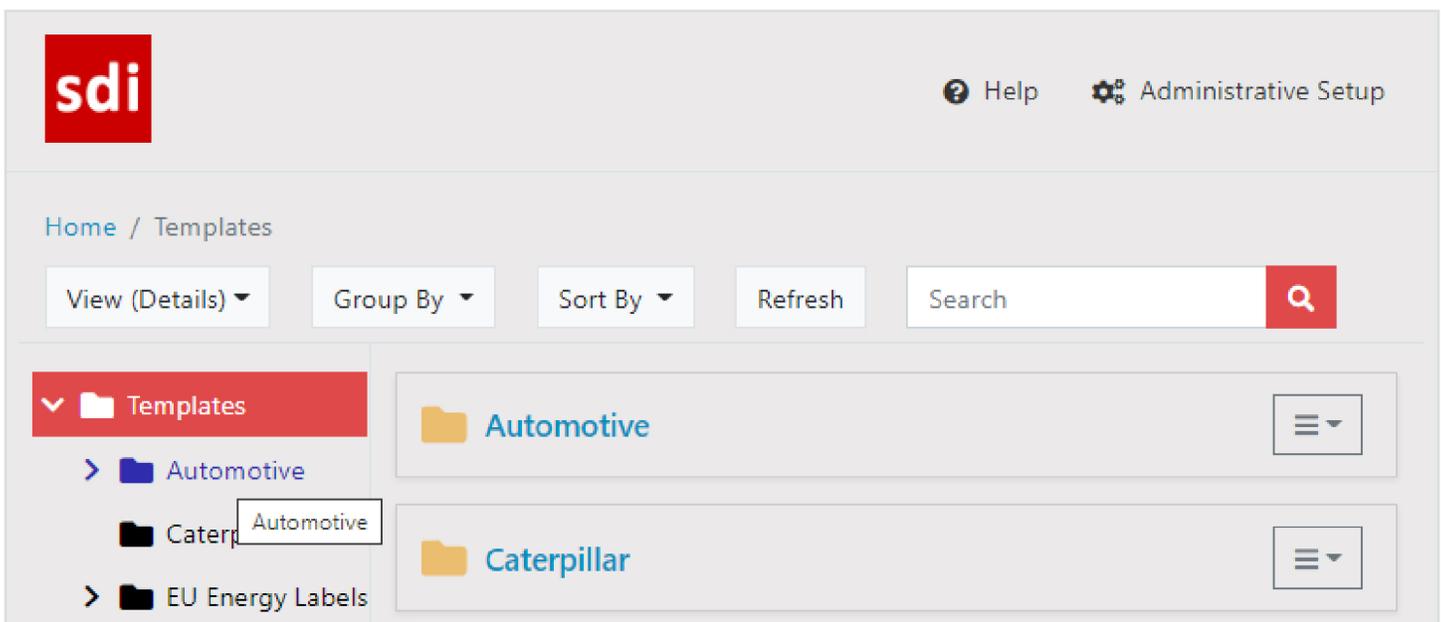
Custom corporate branding

Print Portal now supports replacing the default Print Portal branding with your company's branding. By using the new **Branding** property page on the Print Portal **Administrative Setup** page, you can replace the Print Portal icon with your company logo (or other image) and change the colors of items in the user interface to your company's branded colors.

The following image shows the BarTender Print Portal default branding.



The following image shows an example of custom branding.



Print Portal integration with Librarian

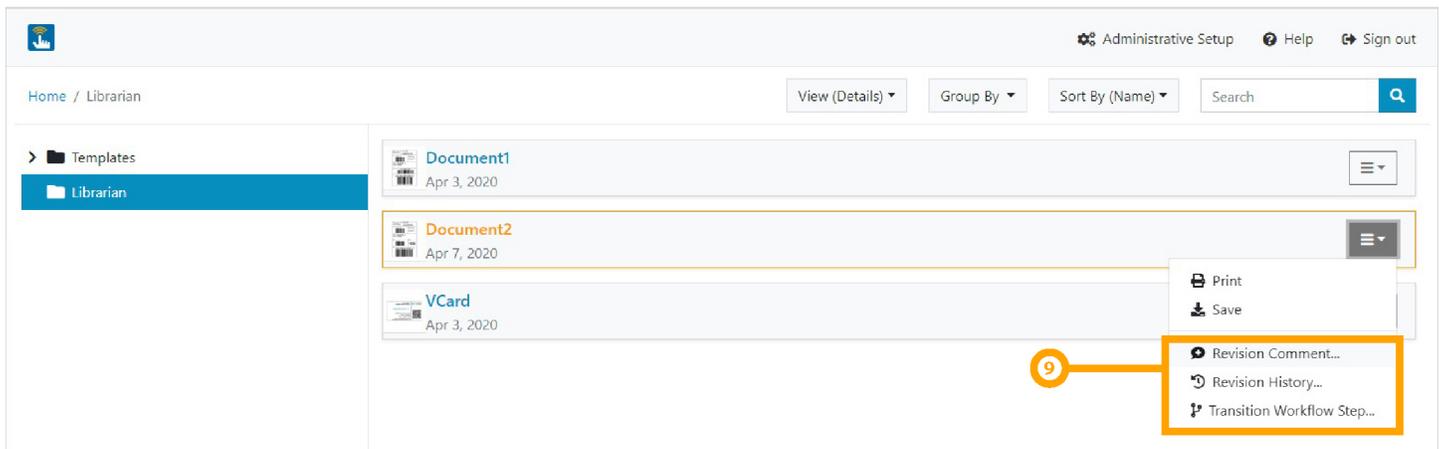
Librarian is the BarTender suite companion application that provides a content management system for your BarTender documents. When you use Librarian, you create a secure central repository of label templates and documents along with a revision history for your documents that tracks all the changes to the document design and all the user comments that accompany each revision. You can also use Librarian to create workflows so that you can easily manage a document's status as it moves from first draft to final published state.

Performance

Librarian performance is significantly improved in BarTender 2021 due to database improvements that greatly increased the speed of read operations.

Support for Revision History and Workflow States

A document's Librarian revision history and any workflow states are exposed in Print Portal, so users can compare document revisions, add revision comments and transition the document's workflow state.⁹ Any changes that are made in Print Portal (such as adding a comment or changing a workflow state) are automatically updated in Librarian and vice versa. To perform these Librarian functions on the client requires only the web browser, which reduces or eliminates the need to install a full version of BarTender.



Advanced support for Librarian workflows

Print Portal integration with Librarian also includes advanced support for Librarian workflows by facilitating online document review and approval processes that are integrated with email notifications. After you install Print Portal, you can add Print Portal to the Librarian workflows configuration on the **Librarian Setup** page in Administration Console by specifying the Print Portal URL, as follows.

Other Options

Use Print Portal to integrate workflow processes such as |

Print Portal URL:

Subsequently, you can add email notifications to your workflows to send email messages to your specified users and groups that include a **Review and Approve** button. When your reviewers click this button, the BarTender document opens in Print Portal, where they can view the document and then reject or approve it.

Document1.btw

Revision 1

State: Review

Select the workflow step to apply to this request:

- Reject
- Approve

Add a comment (required)

This design is approved.

Print Submit

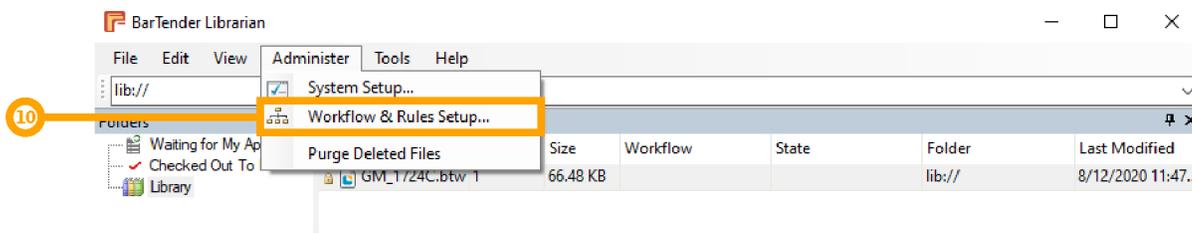
When your reviewers select **Reject** or **Approve** and then click **Submit**, the workflow that is applied to the document moves the document to the state that you configured in the workflow for the Reject or Approve transition.

Updating from previous BarTender workflows

If you are upgrading to BarTender 2021 from a previous BarTender version, new options are available that support the new workflow model that is supported by the Workflow Designer.

Accessing Workflow Design Setup

The workflow design functionality is moved from the Librarian application to Administration Console. When you click **Workflow & Rules Setup**¹⁰ on the Librarian **Administer** menu, Administration Console opens to the **Librarian Setup** page, where you can create and manage your workflows.



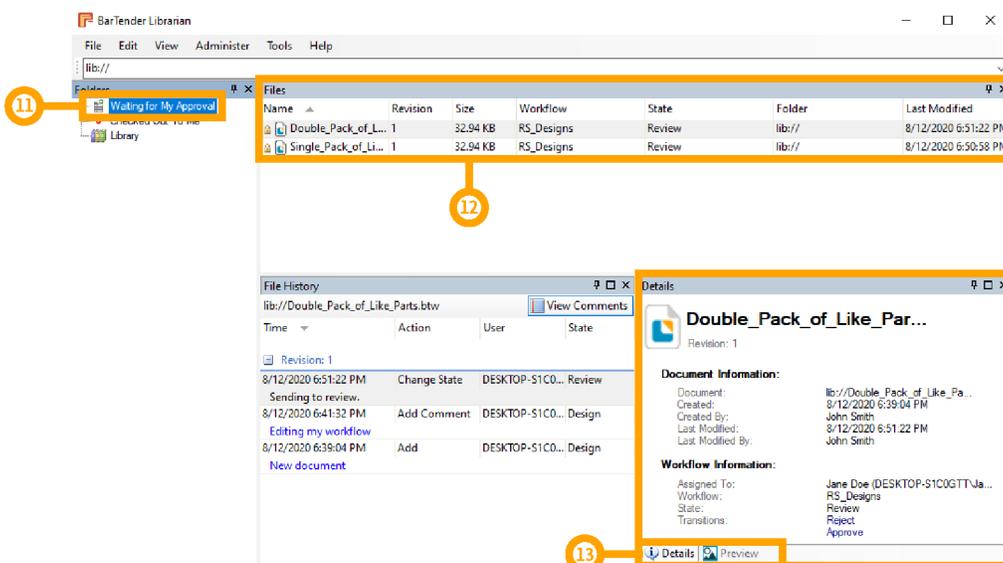
Support for File States and Transitions

BarTender 2021 Preview 2 adds two new nodes to the **Folders** pane:

- **Waiting for My Approval**¹¹ Displays in the **Files** pane the files that are currently designated in a workflow as needing the user's review.
- **Checked Out to Me**: Displays in the **Files**¹² pane the files that are currently checked out to the user.

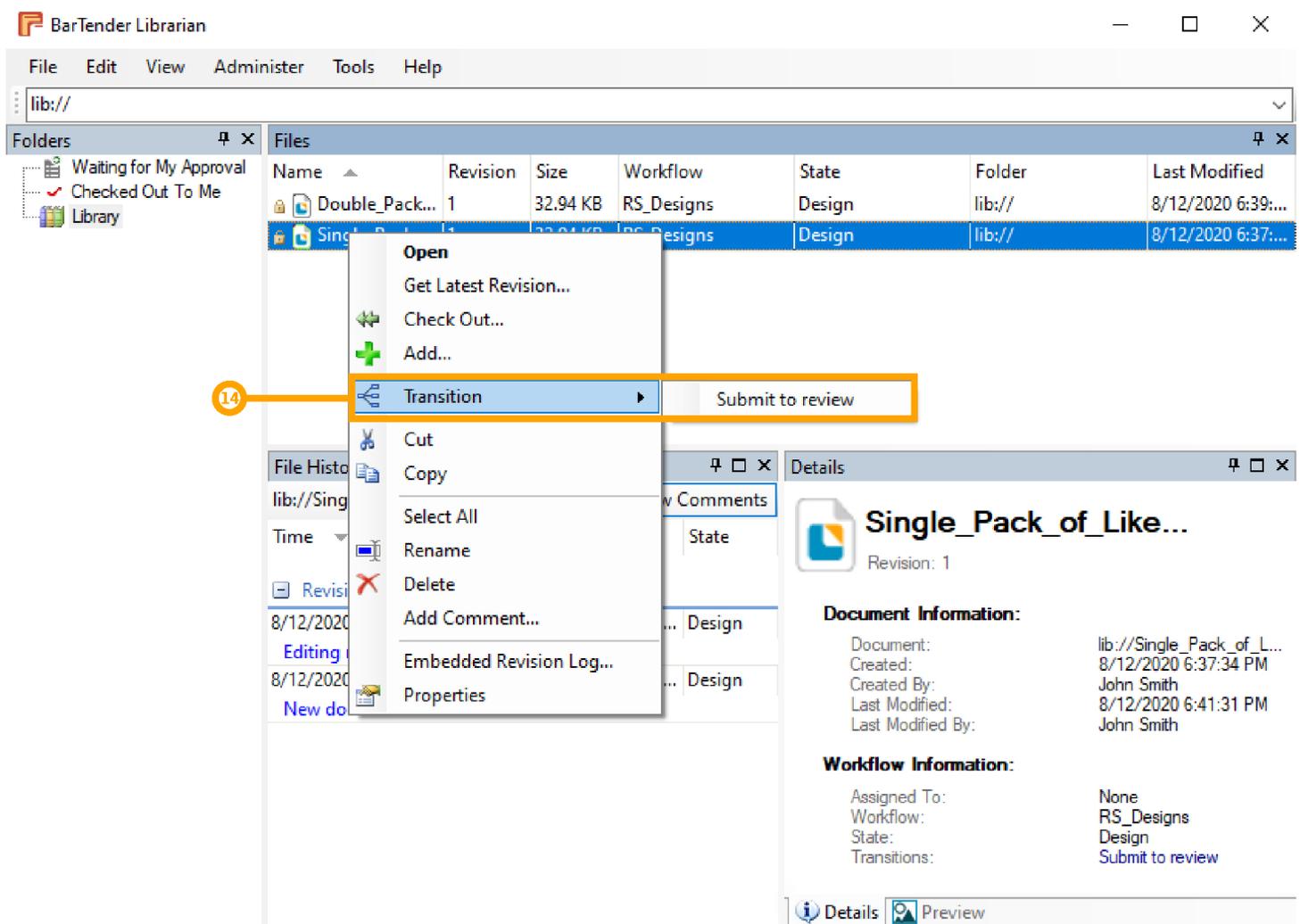
The following new panes are also added to the Librarian user interface:

- **Details**¹³ Displays information about the version of the document that is selected in the **File History** pane.
- **Preview**¹³ Displays a preview image of the version of the document that is selected in the **File History** pane.



Another new feature is the ability to move a file from one state to another in its workflow. You can do this from several locations in the Librarian user interface, as follows:

- Select a file in the **File** pane, point to **Transition** on the **File** menu and then click the next step in the workflow.
- Right-click a file in the **Files** pane, point to **Transition**¹⁴ and then click the next step in the workflow.
- Right-click a file revision in the **File History** pane, point to **Transition** and then click the next step in the workflow.
- In the **Details** pane, locate the **Transitions** option under **Workflow Information** and then click the link for the next step in the workflow.

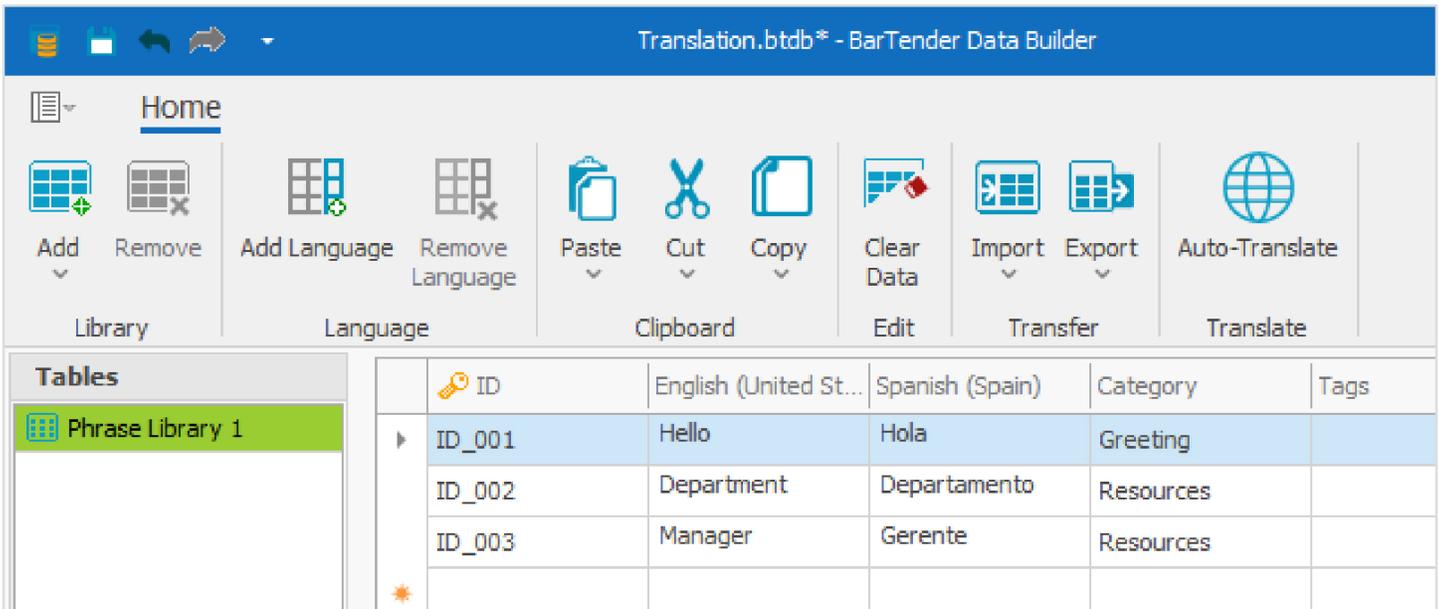


Support for legacy workflows

If you are upgrading to BarTender 2021 from a previous BarTender version and you have existing workflows, the BarTender upgrade process retains those workflows. After the upgrade process is completed, you can open the Librarian Setup page in Administration Console, select the existing workflow that you want and then open it for modification by using the Workflow Designer.

Phrase libraries

You can now use Data Builder functionality to create one or more phrase libraries, which are specialized data tables that contain frequently used content that you can add to your template at print time. Phrase libraries can also be translated so that you can print a template design that uses different languages and/or select a language to print the design in at print time. You can also use the import and export features to share libraries between documents. Phrase libraries are stored in Data Builder database (*.btdb) files.



The screenshot shows the BarTender Data Builder interface. The title bar reads "Translation.btdb* - BarTender Data Builder". The Home ribbon contains the following groups of buttons:

- Library:** Add, Remove
- Language:** Add Language, Remove Language
- Clipboard:** Paste, Cut, Copy
- Edit:** Clear Data
- Transfer:** Import, Export
- Translate:** Auto-Translate

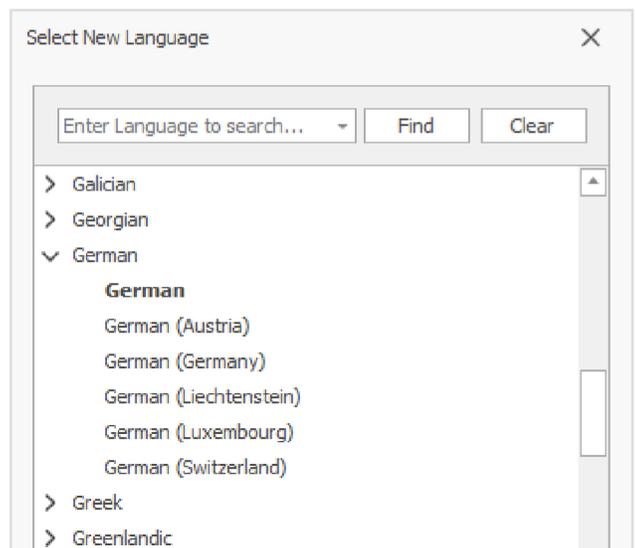
Below the ribbon is a table with the following data:

Tables	ID	English (United St...	Spanish (Spain)	Category	Tags
Phrase Library 1	ID_001	Hello	Hola	Greeting	
	ID_002	Department	Departamento	Resources	
	ID_003	Manager	Gerente	Resources	

Creating a phrase library

To use Data Builder to create a phrase library, click **Create Phrase Library** in the Start window when you first open Data Builder. A default phrase library is displayed that includes an ID column, a default language column and optional **Category**, **Tags** and **Comments** columns. Add the text that you want to store in the library by entering it in the table cells or by importing it from an external file.

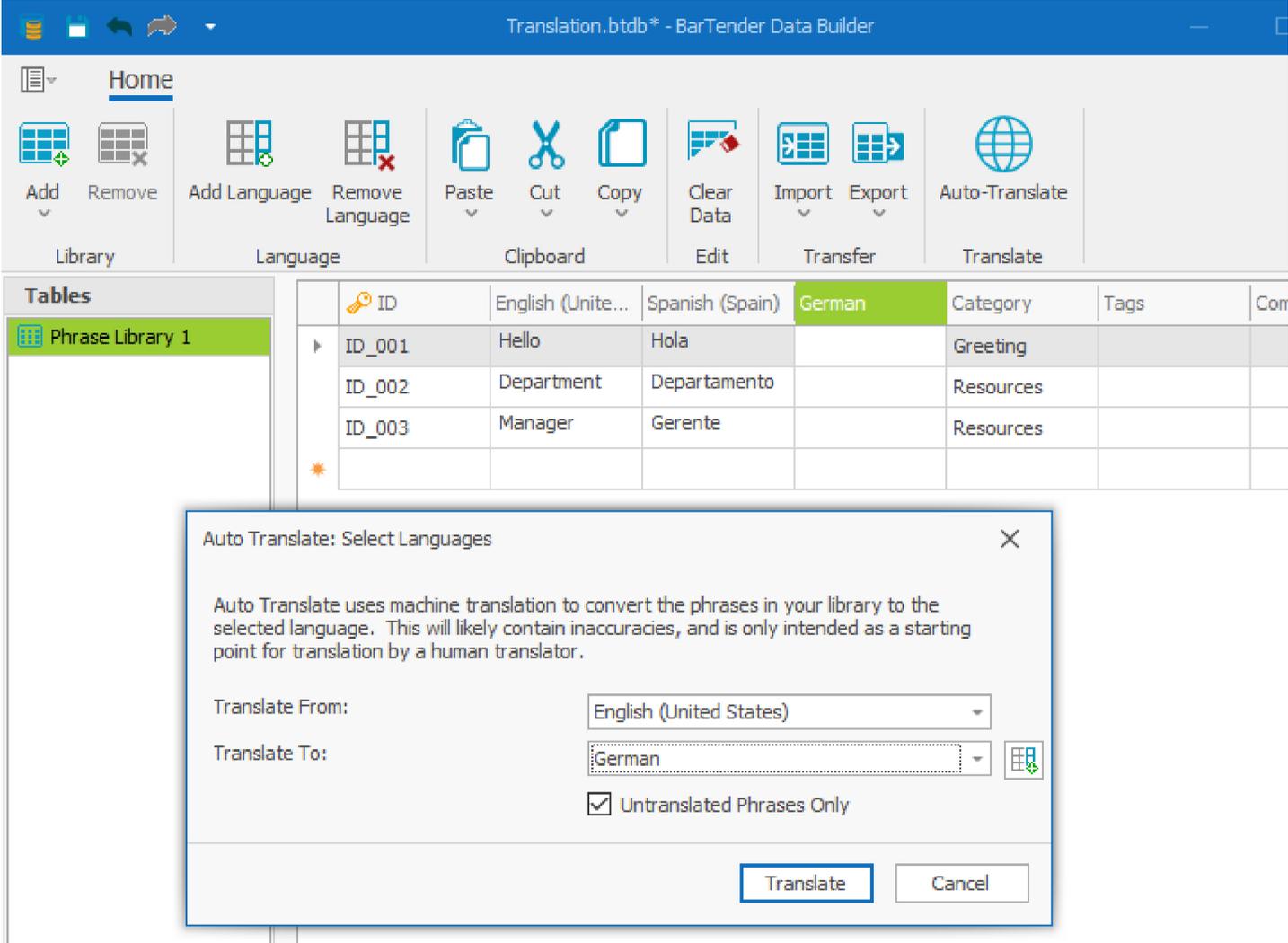
After you create a phrase library, you can click **Add Language** to easily add any language that you want to translate your phrases to.



The "Select New Language" dialog box is shown. It has a search bar with the text "Enter Language to search..." and buttons for "Find" and "Clear". The list of languages includes:

- > Galician
- > Georgian
- > German
 - German**
 - German (Austria)
 - German (Germany)
 - German (Liechtenstein)
 - German (Luxembourg)
 - German (Switzerland)
- > Greek
- > Greenlandic

After you add the new language, you can manually enter the translated phrases. If the new language supports machine translation, you can use the **Auto-Translate** feature to automatically translate the phrases as a starting point for a human translator.



The screenshot shows the BarTender Data Builder application window titled "Translation.btdb* - BarTender Data Builder". The interface includes a ribbon with tabs for Library, Language, Clipboard, Edit, Transfer, and Translate. The "Auto-Translate" button is highlighted in the Translate tab. Below the ribbon is a table with columns for ID, English (United States), Spanish (Spain), German, Category, Tags, and Comments. The table contains three rows of data:

ID	English (United States)	Spanish (Spain)	German	Category	Tags	Comments
ID_001	Hello	Hola		Greeting		
ID_002	Department	Departamento		Resources		
ID_003	Manager	Gerente		Resources		

An "Auto Translate: Select Languages" dialog box is open in the foreground. It contains the following text and controls:

Auto Translate uses machine translation to convert the phrases in your library to the selected language. This will likely contain inaccuracies, and is only intended as a starting point for translation by a human translator.

Translate From: English (United States)

Translate To: German

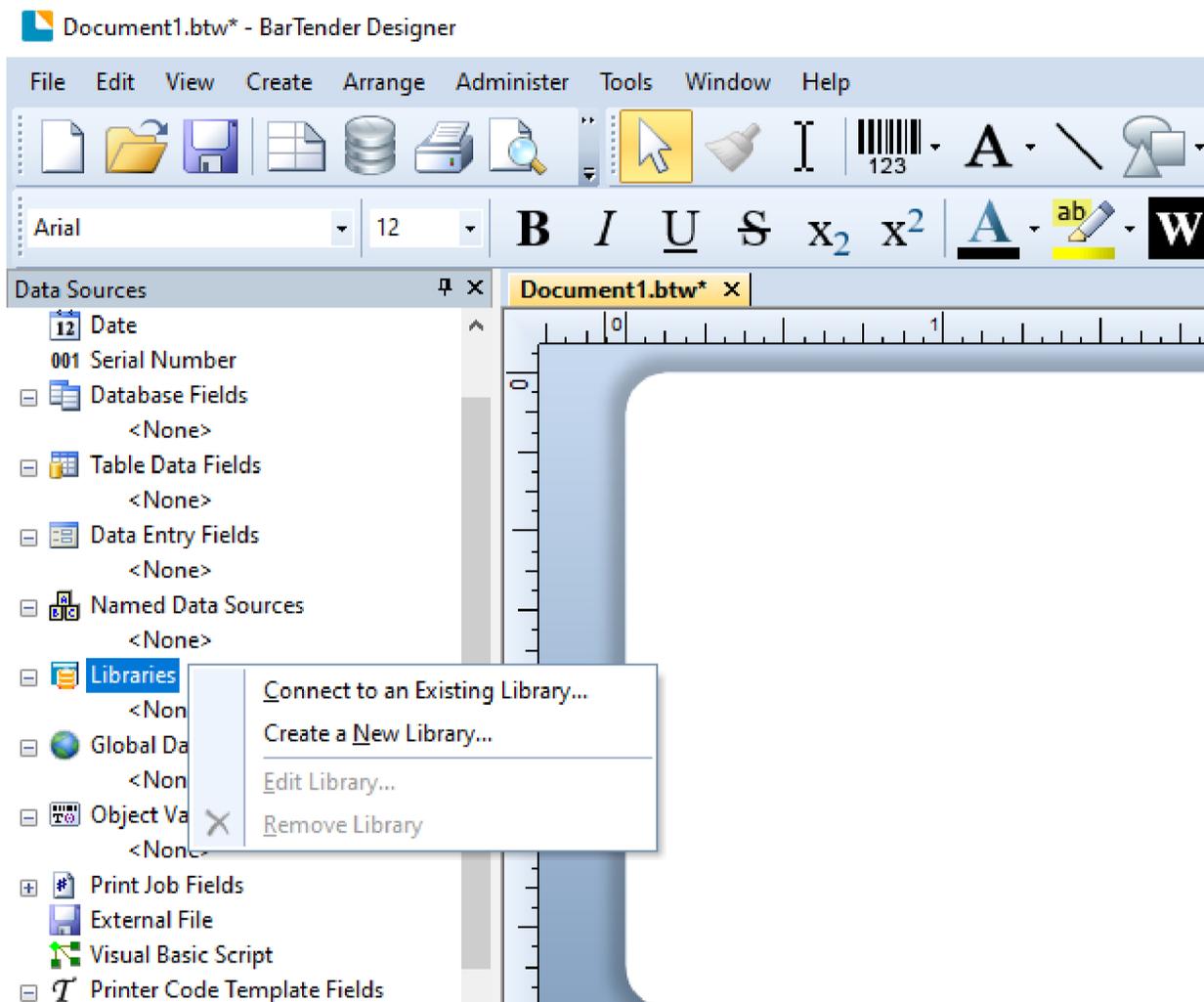
Untranslated Phrases Only

Buttons: Translate, Cancel

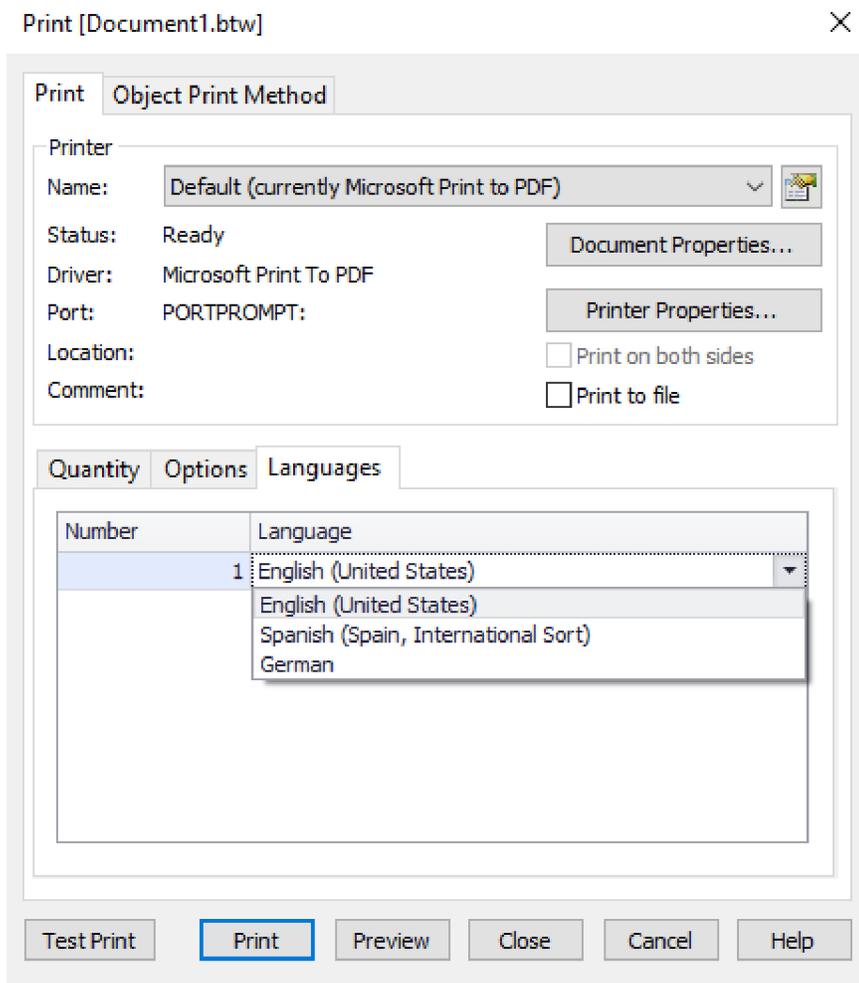
You can also import and export the phrase library to CSV or TMX format, which makes it possible to edit the phrase library outside of the Data Builder application and even send it to a translation service for professional translation.

Adding a library data source to a document

After you save a phrase library, you can connect it to your document so that you can use it as a data source. To do this, right-click the Libraries data source in the Toolbox, click **Connect to an Existing Library** to open the **Connect to a Library** dialog and then browse to and select your saved library.



After you add the phrase library, it is listed in the Libraries node in the Toolbox. To add a phrase from the library to the template, drag the library to the location on your document that you want. When you do this, the **Select a Phrase** dialog opens so that you can select the specific phrase that you want to add. When translations are available for the phrase, you can specify the language that you want to use at print time by selecting the language on the **Print** dialog (as shown), or by using a data entry control to specify the language.



Expanded API support for Librarian workflows and Print Portal automation

The Librarian API in the BarTender .NET SDK has been expanded to support the new workflows solution. In addition, a new Print Portal public REST API is now available to support Print Portal automation.

Librarian API updates

Library Class: This is an existing class.

- New property and methods:
 - **CheckedOutFiles** property
 - **GetWorkflow** method (String)
 - **GetWorkflow** method (LibrarianFile)
 - **GetWorkflow** method (LibrarianRevision)
- Deprecated property:
 - **Workflow:** We recommend that you update your code to call a new GetWorkflow method.

LibrarianFile Class: This is an existing class.

- New methods:
 - **TransitionWorkflow** method (String, String)
 - **TransitionWorkflow** method (WorkflowTransition, String)
- Deprecated method:
 - **ChangeWorkflowState:** We recommend that you update your code to call a new **TransitionWorkflow** method.

LibrarianRevision Class: This is an existing class.

- New properties and methods:
 - **AvailableWorkflowTransitions** property
 - **RevisionWorkflowState** property
 - **TransitionWorkflow** method (String, String)
 - **TransitionWorkflow** method (WorkflowTransition, String)
- Deprecated method:
 - **ChangeWorkflowState:** We recommend that you update your code to call a new **TransitionWorkflow** method.

LibrarianWorkflow Class: This is an existing class.

- New properties:
 - **DenyAll** property
 - **Name** property
 - **RevisionNumber** property

LibrarianWorkflow Class: This is a new class.

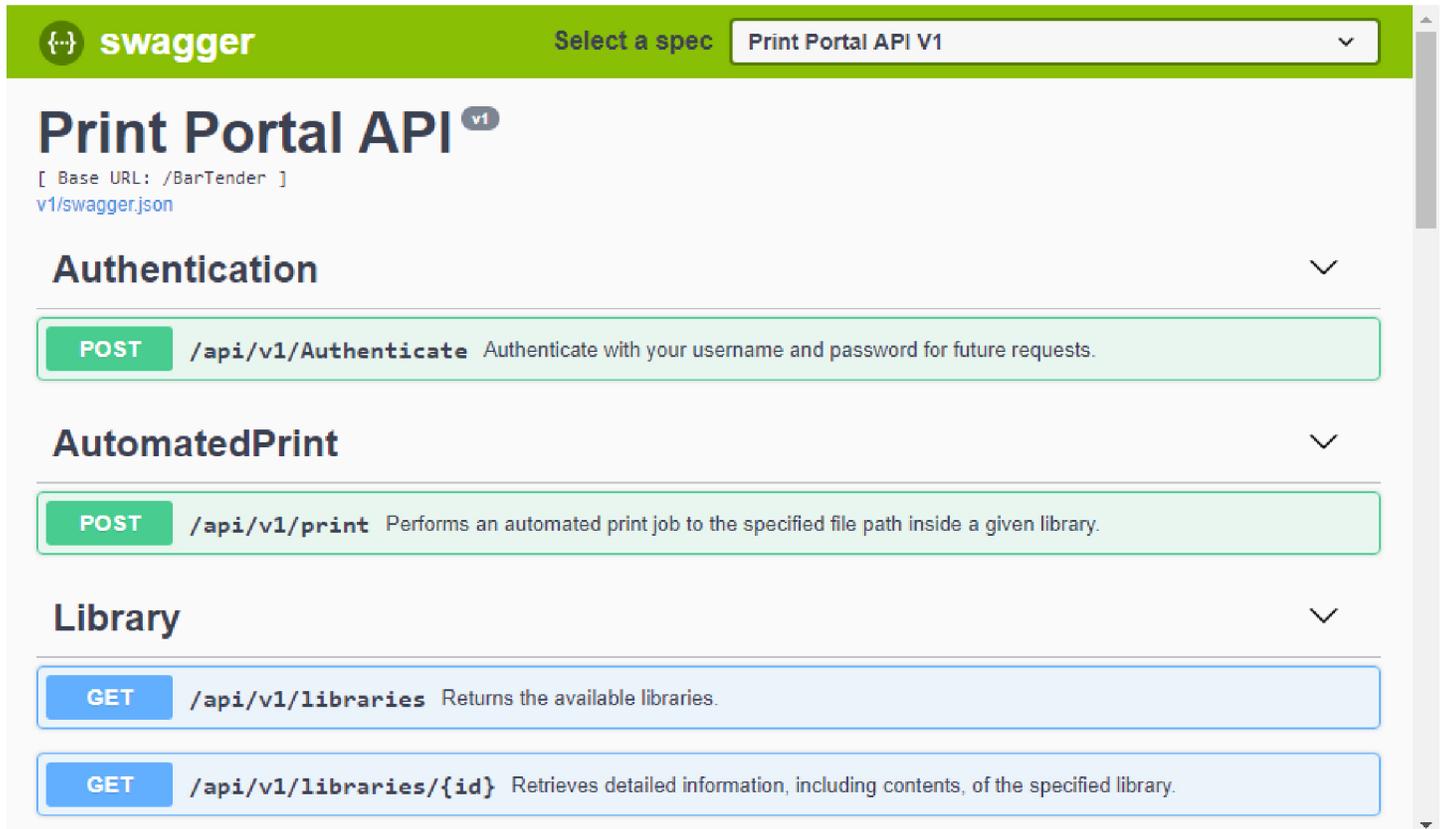
ApproveTransition Class: This is a new class.

RejectTransition Class: This is a new class.

WorkflowTransitionCollection Class: This is a new class.

Print Portal public REST API

The Print Portal public REST API is available for your Print Portal automation needs. After you install Print Portal, you can access the API reference and examples by using the Print Portal Swagger user interface. Swagger is a set of open-source tools built around the OpenAPI Specification that can help you design, build, document and consume REST APIs.



swagger Select a spec **Print Portal API V1**

Print Portal API ^{v1}

[Base URL: /BarTender]
[v1/swagger.json](#)

Authentication

- POST** `/api/v1/Authenticate` Authenticate with your username and password for future requests.

AutomatedPrint

- POST** `/api/v1/print` Performs an automated print job to the specified file path inside a given library.

Library

- GET** `/api/v1/libraries` Returns the available libraries.
- GET** `/api/v1/libraries/{id}` Retrieves detailed information, including contents, of the specified library.

Improved business continuity and disaster recovery support

BarTender 2021 supports new licensing server redundancy configurations and automatic restart functionality to ensure uninterrupted print production.

Licensing server redundancy

BarTender 2021 includes a licensing server redundancy solution that provides automatic failover to keep your print production environment running seamlessly in the event that one licensing server fails.

You can configure redundancy by setting up licensing servers in a backup relationship that uses two servers or in a triad relationship that uses three. Then, if the BarTender client cannot reach the main or primary server for any reason, the client automatically connects instead to the other servers in the relationship.

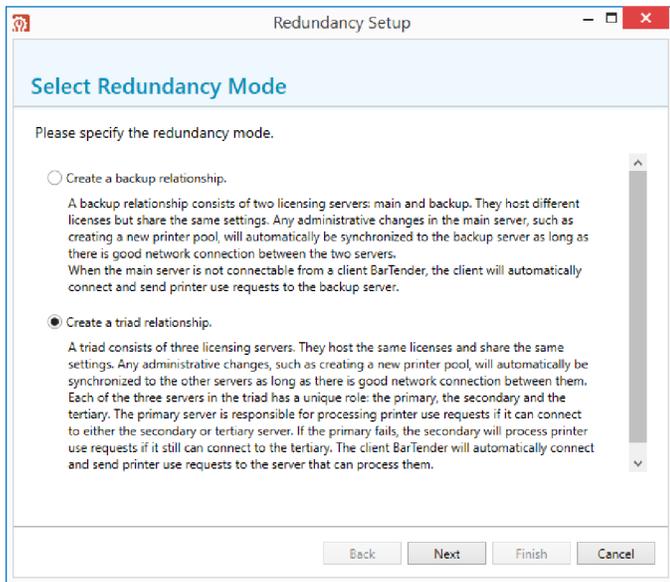
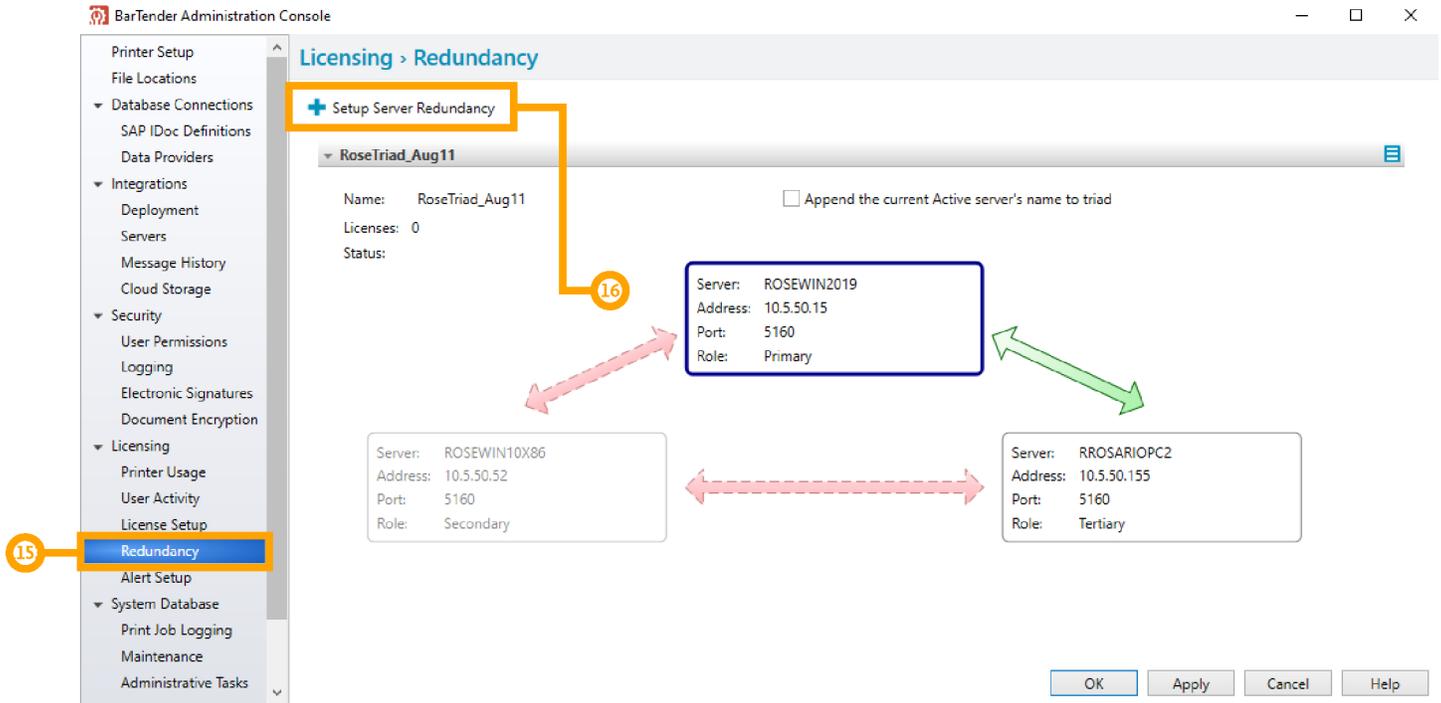
- **Backup relationship:** In a backup relationship, you configure a main licensing server and a backup licensing server. These servers host different licenses but share the same settings. The data is periodically synchronized between the main server and its backup server so that the backup server can take over the responsibility of the main server when needed.
- **Triad relationship:** In a triad relationship, you configure three licensing servers to act as primary, secondary and tertiary servers. These servers host the same licenses and share the same settings, so they behave like a single server.



For more information about the backup and triad redundancy relationships, refer to the *License Server Redundancy* document at the following website:

www.SeagullScientific.com/media/2093/license_server_redundancy.pdf

You manage server redundancy on the **Redundancy¹⁵** page in Administration Console.



Click **Setup Server Redundancy¹⁶** to open the **Redundancy Setup** wizard, which you can use to configure either a backup or triad relationship.

Automated restart of monitored databases

Improvements are made in the performance of Database integrations in Integration Builder. The Database integration will now restart itself automatically in instances when the integration stops after the monitored database becomes temporarily unavailable due to database maintenance or a lapse in network connectivity. This eliminates the need for you to manually restart the integration after this happens.

Expanded database options

BarTender 2021 provides several new database option improvements.

New database types

- Microsoft Excel Online
- JavaScript Object Notation (JSON)
- Google Sheets
- Intuit QuickBooks Online¹⁷

You can connect to these new types by using the Database Setup wizard.

 Database Setup Wizard



Select Database Type

This wizard enables you to connect to a variety of relational database systems and data file types.

Select the type of database:

	MariaDB Supports MariaDB 5.5 and later.
	PostgreSQL Supports PostgreSQL 9.0 and later.
	QuickBooks Online Supports QuickBooks Online.
	SAP IDoc File Supports SAP Intermediate Document (IDoc) files.
	OLE DB Connection Connects to any database type with an installed OLE DB driver.
	ODBC Connection Connects to any database type with an installed ODBC driver.

< Back

Next >

Finish

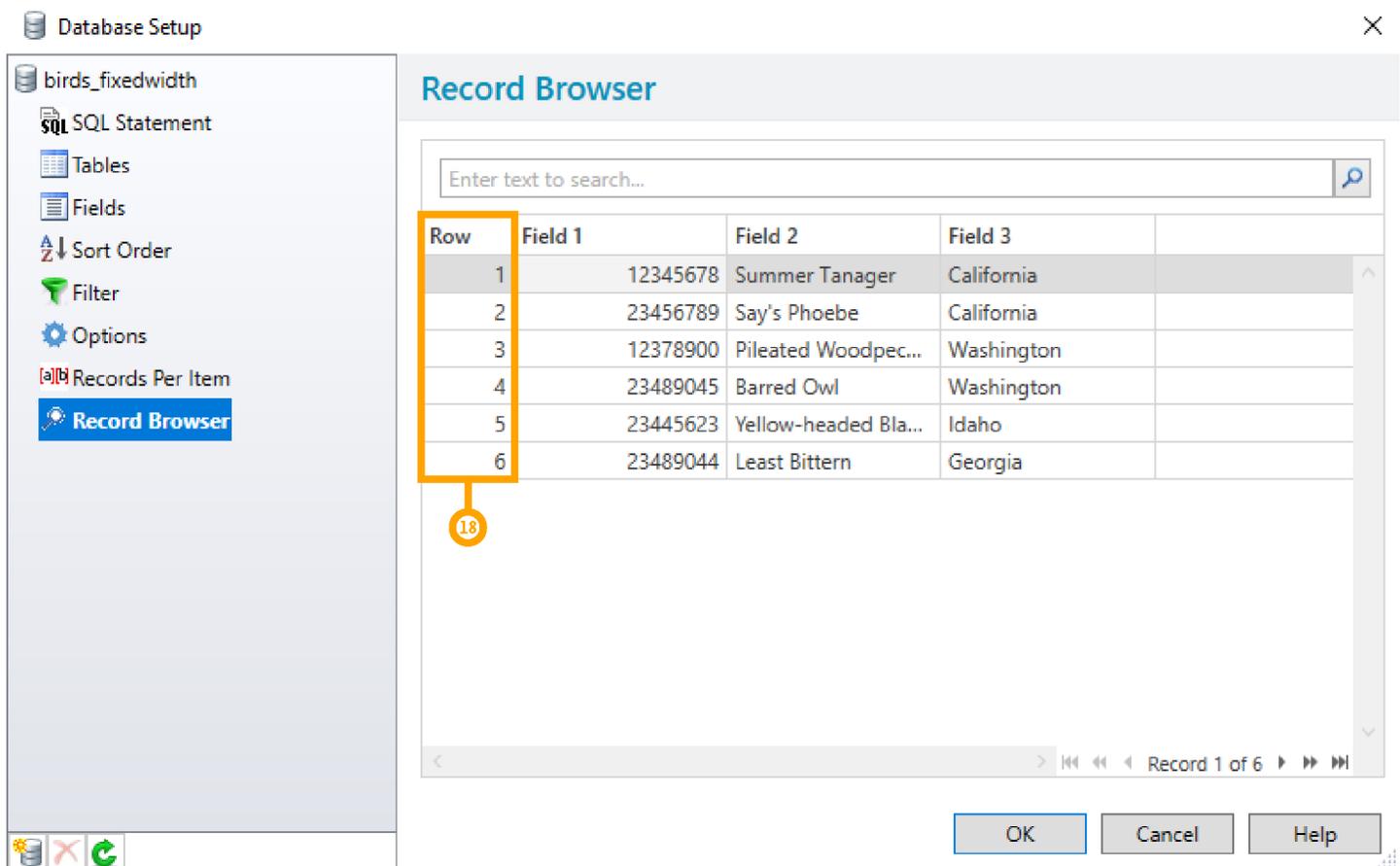
Cancel

Embedded sample data for text and XML database connections

Support is added for embedded sample data in text and XML database connections. This means that when you use the Database Connection Setup wizard to connect to a text or XML database, you can now embed sample database data directly into the wizard. No external sample data file is required when you do this.

Other improvements

In the **Database Setup** dialog, a **Row¹⁸** column is added to the record browser that appears on the **Record Browser** property page. This column specifies row numbers for the data, similar to the numbering that is available in the record picker control for data entry forms.



The BarTender **/d** command-line parameter is expanded to support not only text files but also XML, JSON, SAP IDoc and Excel database connections. The **/dd** parameter is also modified to automatically delete all files that were specified by a **/d** parameter when BarTender is finished with them.

Barcode updates

BarTender 2021 includes the following updates for barcodes.

Support for GS1 Version 20 specification

The GS1 Application Identifiers (AIs) are updated to the GS1 version 20 specification, updating AI 00, AI 242, AI 250, AI 330, AI 335, AI 336, AI 340, AI 362, AI 363, AI 367, AI 368, AI 369, AI 400, AI 421, AI 427, AI 7001, AI 7002, AI 7030, AI 7039, AI 8003, AI 8005, AI 800, AI 8009, AI 8200, AI 90-99.

Expanded Data Matrix sizing options

The Data Matrix symbol now supports the extended rectangular Data Matrix (DMRE) symbology specification.

BarTender Designer improvements

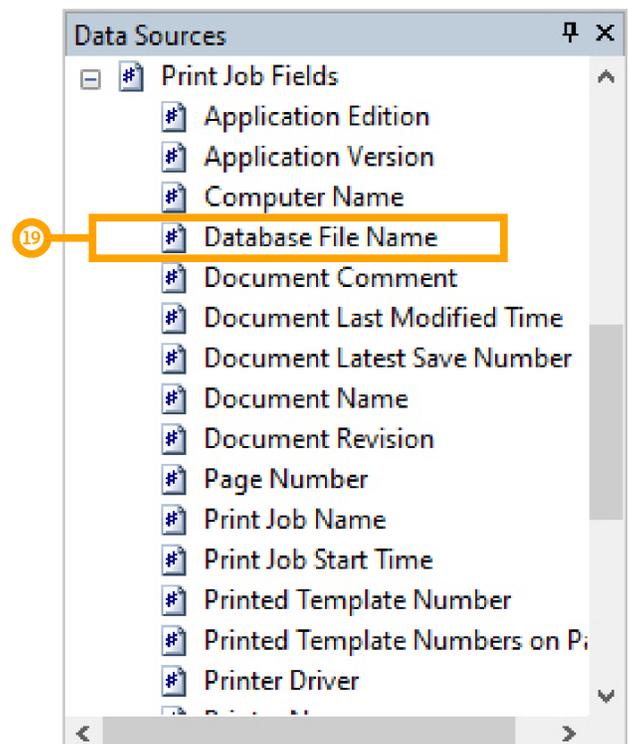
Additional improvements are made to BarTender Designer, including the following.

New data source options

With the following additions, BarTender 2021 expands its wide range of data sources that you can use to add content to your template objects.

Print Job Field: Database File Name

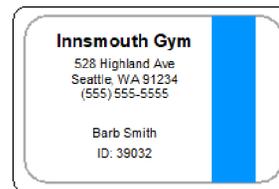
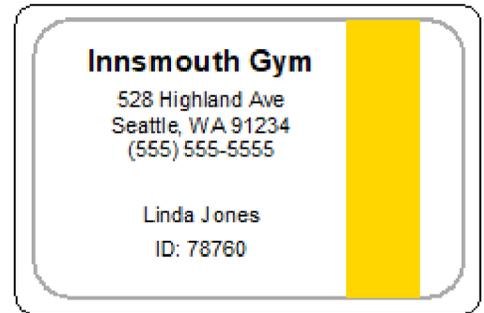
A new Print Job Field data source type is added for “Database File Name.”¹⁹ Now, the name of the database file that the BarTender document is connected to can be displayed as a print job field for a text object on a template.



Color

Data-sourced color is now supported for all template objects, for any property of the object that supports color. You can use this new data source any time you want to change the color of an object dynamically. For example, your company might create gym membership cards that are color coded based on membership type.

If the member information, including the membership color, is stored in a connected database, you can configure the color stripe to dynamically change to the correct color for each member. To do this, you configure the border and fill colors of the rectangular box to use the color that is set by the appropriate “color” database field in the connected database. Then, when you print the document, the color that is printed matches the membership type of the club member.



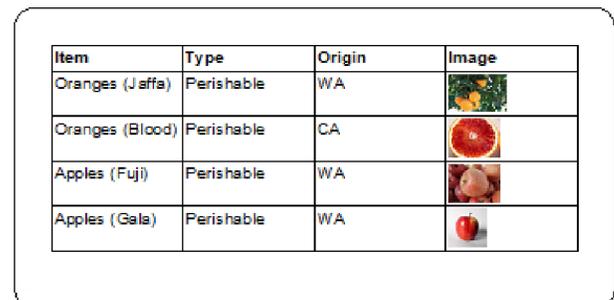
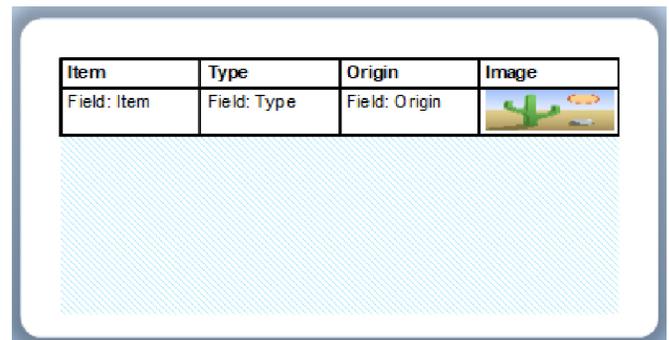
Libraries

Use the new Libraries data source to read data from a phrase library, which is a specialized data table that is contained in a Data Builder database. It includes frequently used text that can be translated, so that you can print a template design in different languages.

For more information, refer to the [Phrase Libraries](#) chapter of this technical document.

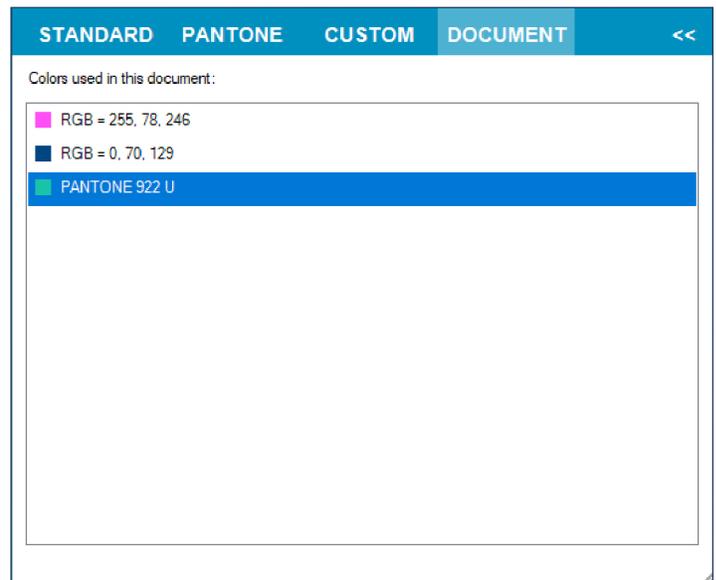
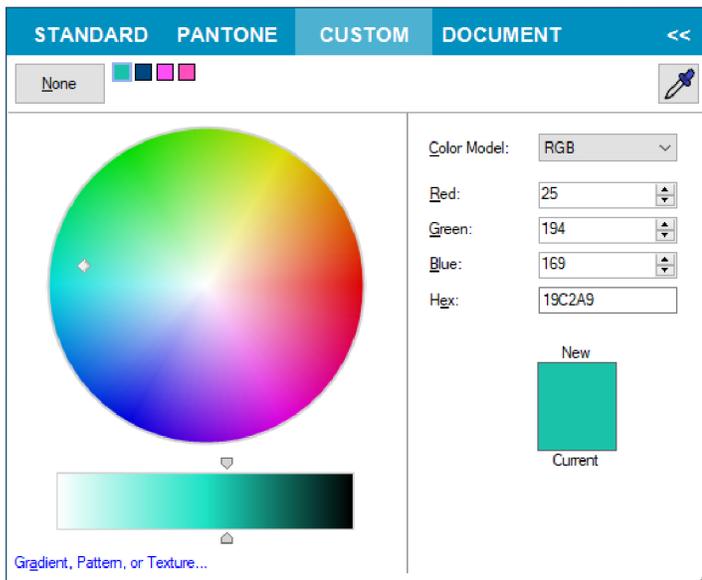
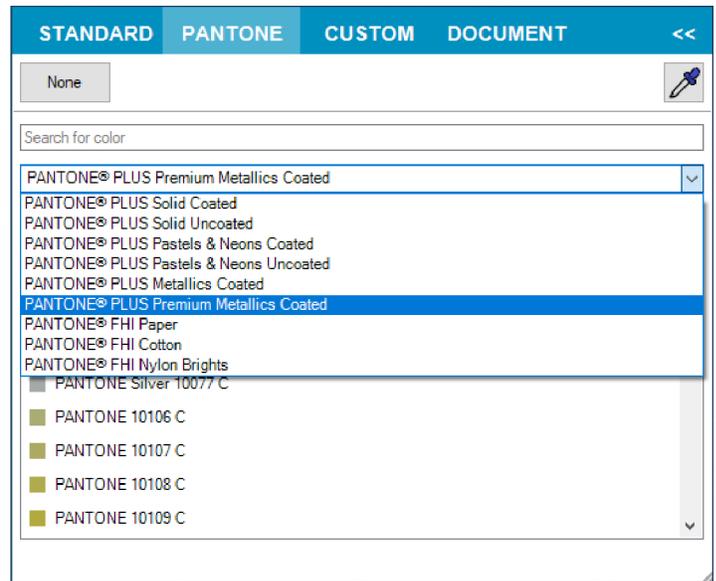
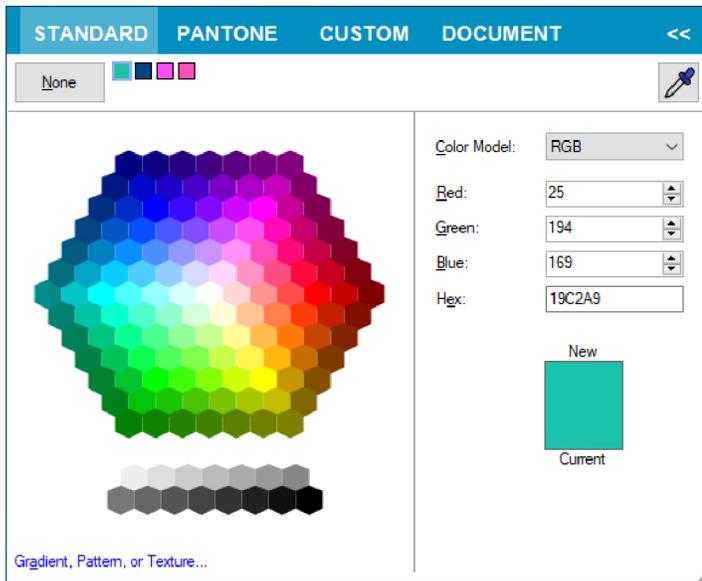
Image support in dynamic embedded tables

The object in each cell of a dynamic table object can be static or can reference one or more field values. Now, even data-sourced pictures can be based on the field values in the table data records, as shown in the following template design and print preview of the document.



New color picker and support for PANTONE® colors

BarTender 2021 introduces a new interface for color selection in BarTender Designer. The Color Picker makes it easy to design and reuse colors throughout your BarTender documents and includes support for PANTONE® colors, inputting HEX values, selecting recently used and current colors used. You can also use the new eyedropper feature to pick the color that you want from an existing color that is displayed in BarTender Designer.



Automation support for dynamic embedded table objects

You can now use automation to dynamically change the record set for a table object database by using BTXML and the Integration Platform. The following changes to BTXML and the Integration Platform support this new feature.

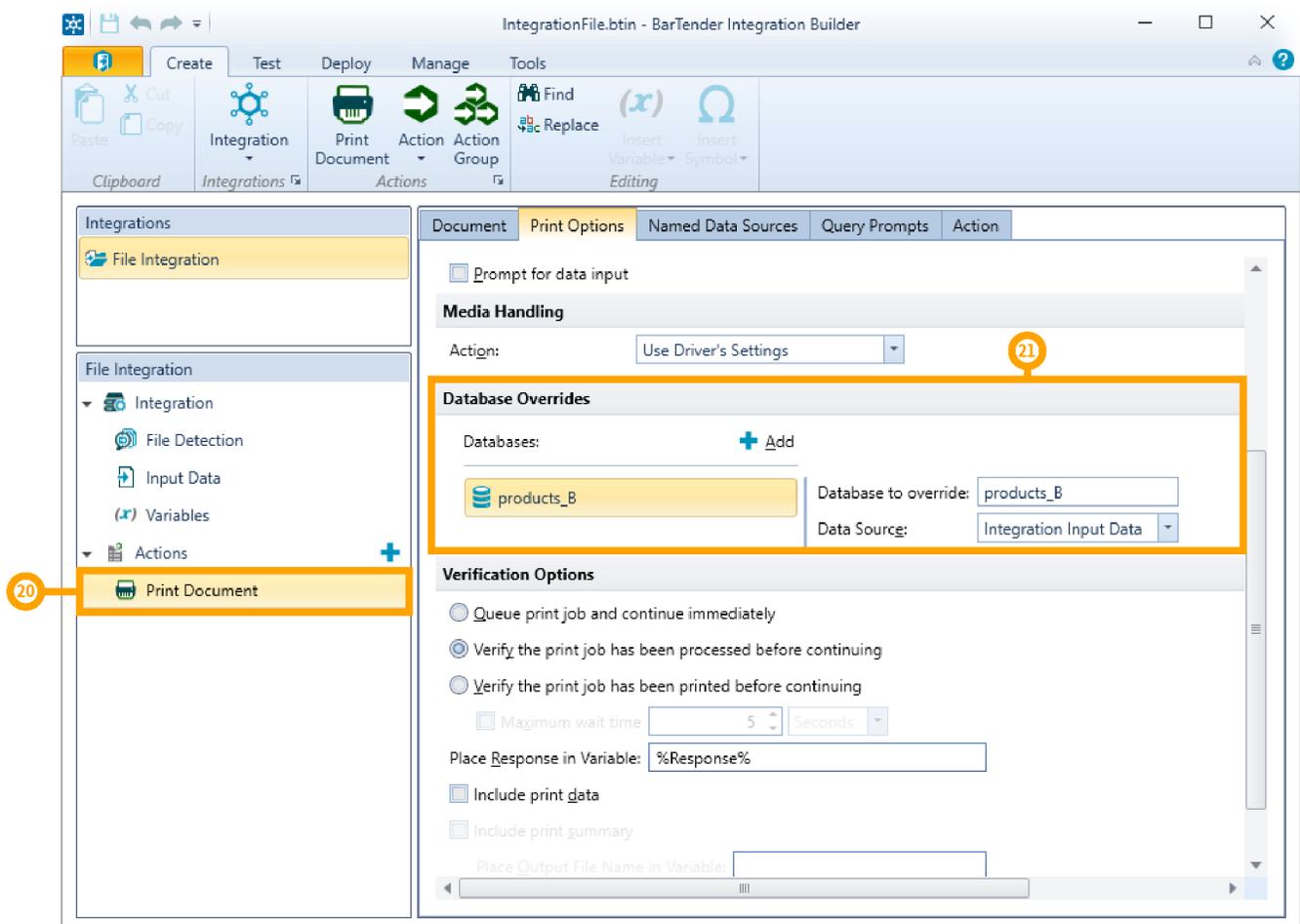
BTXML changes

To change the data source of a database-bound table object, you must use the Name attribute of the <RecordSet> element to specify the name of the database connection. The Name attribute is not optional for table object database connections, unlike document-level database connections.

Table object database changes are temporary and are reverted after the print job runs.

Integration Platform changes

The **Print Document**²⁰ which you can configure in BarTender Designer, Integration Builder and Process Builder, is updated. In the **Database Overrides**²¹ section on the **Print Options** tab, you can now specify the name of the database that you want to override.



Data Entry Form improvements

With the following additions, BarTender 2021 continues to add options for configuring your data entry forms and controls:

“Remember search” and “Remember filter” options

Several data entry controls (record picker, list box, dropdown record picker and dropdown list box) now have **Remember search** and/or **Remember filter** options.²²

Default selection in the record selector

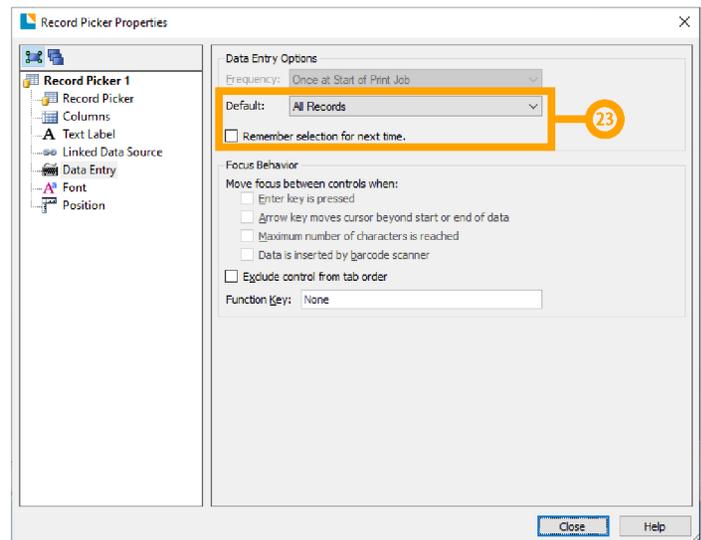
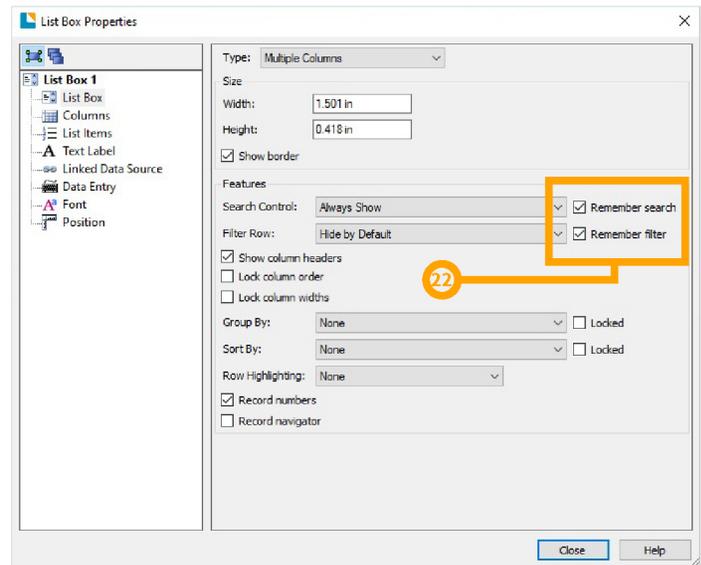
A new option for the record picker and dropdown record picker controls is added so that you can specify a default selection²³ for the BarTender **Select Records** dialog. Available options include **First Record**, **Last Record**, **All Records**, **No Records** and **Select at print time** for a default setting. The record picker control has an additional option for **Remember selection for next time**. When you select this option, the control will automatically select the records that were selected for the previous print job when the document is printed again.

“Show Borders” option

For data entry controls that support borders (such as the text input box, list box, date picker and so on), a new **Show Border** option is added, which you can use to show or hide the borders of the control. One use for this option might be a scenario in which a data entry form control is configured to prompt the print operator to input data for every database record, where you might want to provide an indication of which database record is the currently selected one. To do this, you can link a text input box control to the database field that you want to monitor and configure the control to be read-only. You can use the new **Show Border** option to remove the borders of the text input box to make it more readable at print time.

Default “Back” button on data entry forms

A default **Back** button is automatically added to all data entry forms that follow the first form when you have configured two or more forms for your document. Print operators can use this new button to page backwards through multiple forms if they need to change the entered data for a control rather than having to start over.



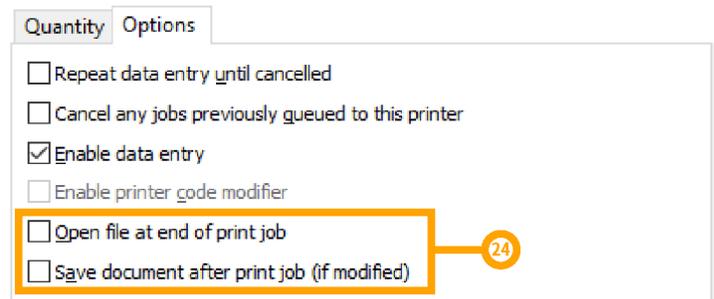
Printer-related improvements

BarTender 2021 introduces several new options and features for printing your documents.

Print dialog options

The following changes were made to the Print dialog in BarTender Designer:

- Save document after print job:** This new option specifies that when a document has been modified (such as by using serialization), a copy of the document is saved after the print job runs to a location that you specify. (A common modification is when a data source changes due to serialization, but there can also be changes to position or other object properties, such as when you use VBScript.)
- Open file at end of print job:**²⁴ This option was renamed from “Show printer code at end of print job.” It is now automatically selected when you print to a file, such as a PDF.



Support for printer shape cutting

Cut Path is a new option that you can select on the property page for shape, box, line and picture objects. This option specifies that label printers that have a built-in cutting plotter will cut around the selected object.

Other Improvements

Predefined stocks are added for Toshiba TEC printers. These stocks are exposed on the **Predefined Stocks** mini-tab on the **Stock** tab in the **Page Setup** dialog.

For continuous inkjet (CIJ) printers, BarTender is updated so that users can now change the width of a predefined raster size to accommodate CIJ printing.

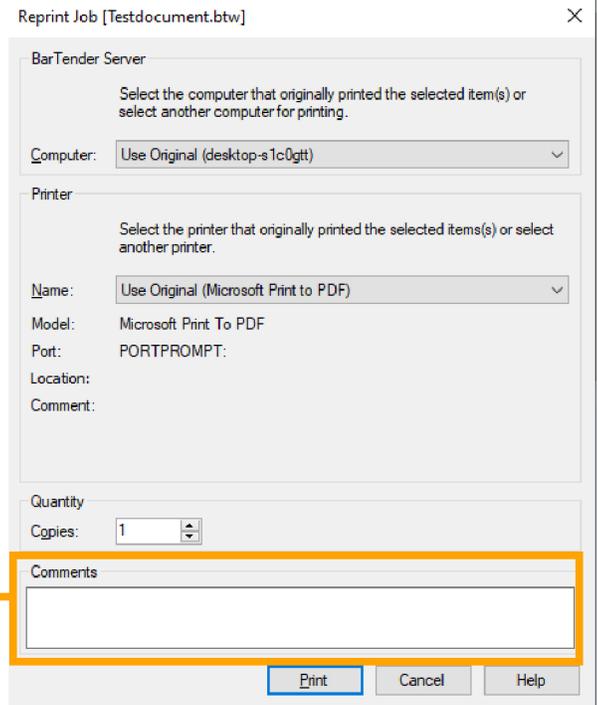
Some printers can print the abbreviated day of the week (such as “Fri” for “Friday”) by using the printer clock. Support is added in BarTender for this date format.

Some printers can print a one-digit year by using the printer clock. Support is added in BarTender for this date format.

New comment property for reprinting

A new comment property²⁵ makes it possible for users to add a comment when they reprint documents by using Reprint Console and History Explorer.

You can even require that users enter a comment by clicking to select the **Require a comment when reprinting jobs**²⁶ check box on the **Print Job Logging** page in Administration Console.



System Database > Print Job Logging

Log print job information

Reprint

Include data required to reprint jobs

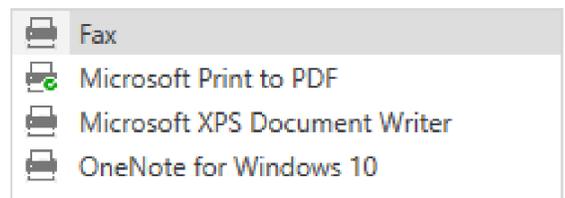
Require a comment when reprinting jobs

Option to turn off printer redirection

An option is added on the **Printer Setup** page in Administration Console that you can use to turn off printer redirection. There are several scenarios in which you might want a print job to fail rather than be redirected to a different printer (for example, when a printer name is misspelled or when you want to know that a printer has gone into an error state). This new option supports these scenarios by allowing such print jobs to fail.

Printer Setup

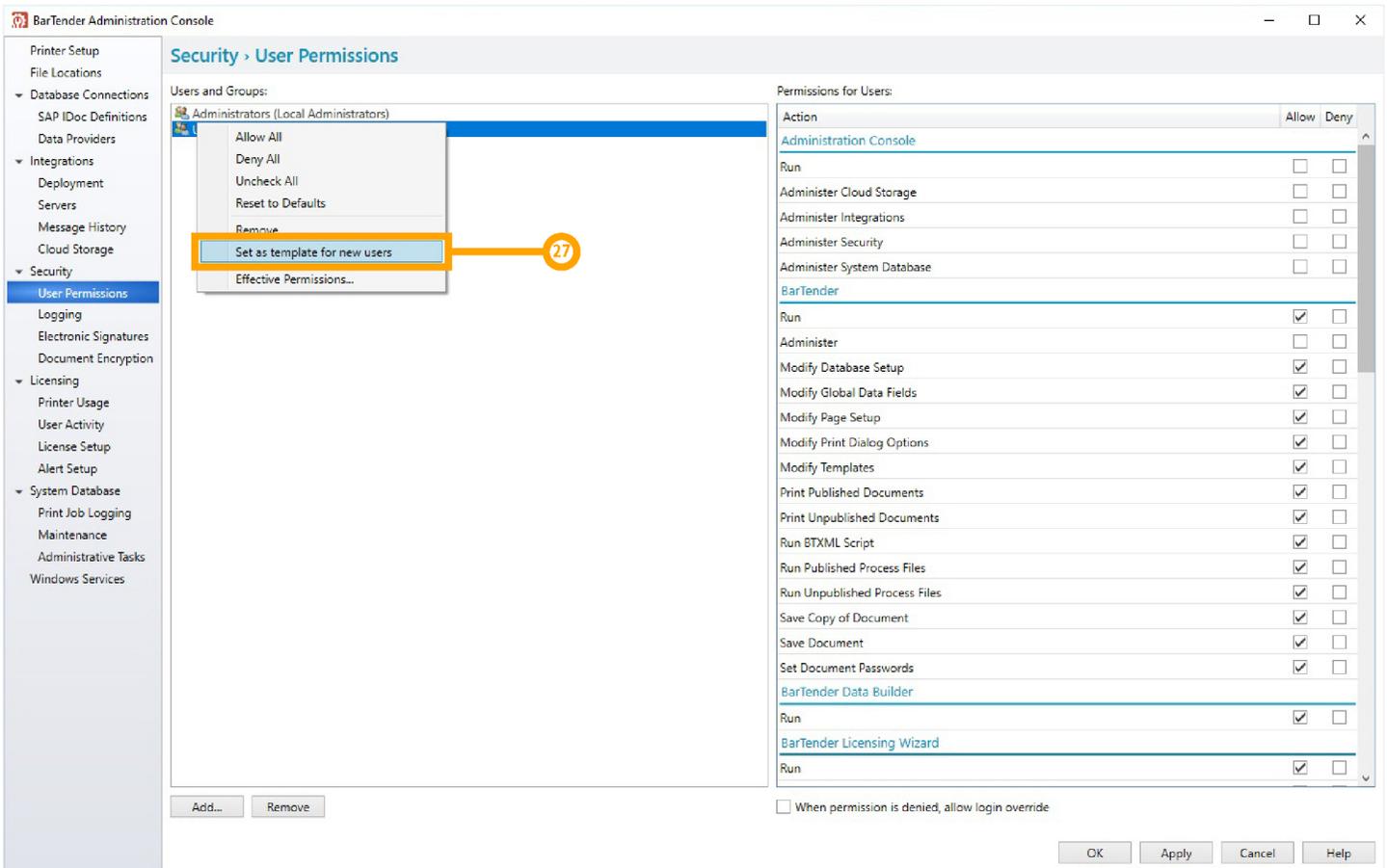
Use printer redirection and failover settings



Security improvements

Template for user permissions

A new **Set as template for new users**²⁷ feature makes it possible to specify that every new user or group that you add is automatically assigned the same permissions as a particular existing user or group. This feature can save time when you need to add multiple users or groups that are to have the same permissions. This new feature is located on the **User Permissions** page under the **Security** node in Administration Console. To access it, right-click the user or group that you want to use as a template.



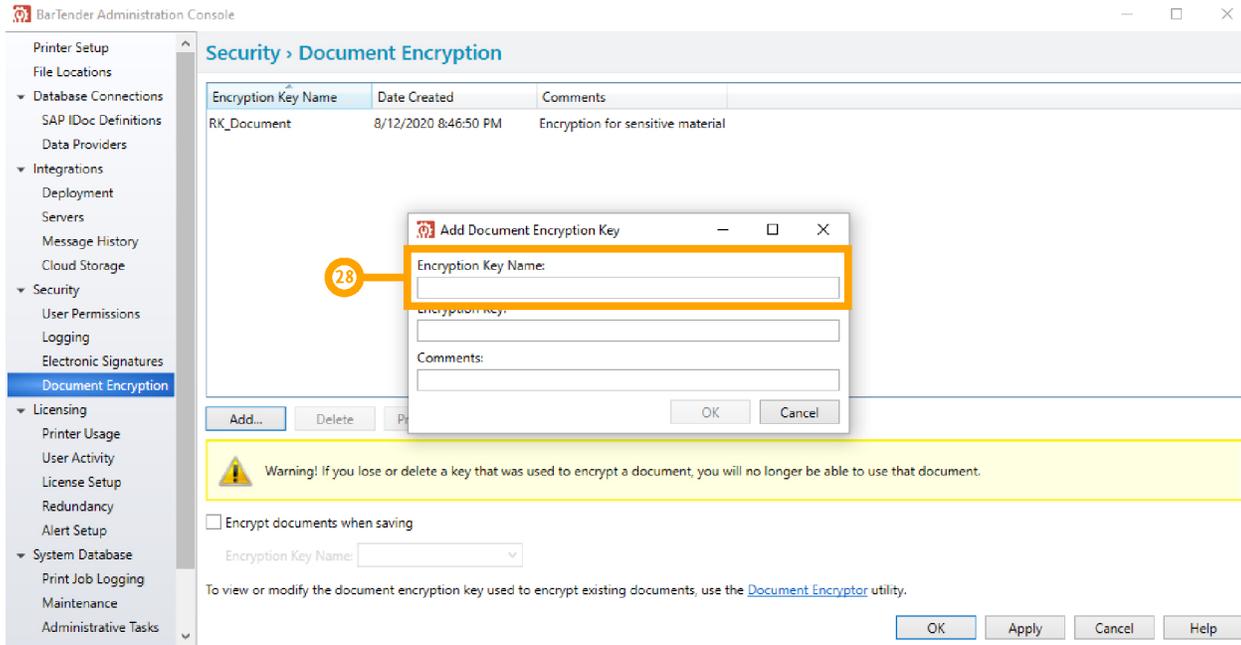
The screenshot shows the BarTender Administration Console interface. The left sidebar contains a navigation tree with 'Security' expanded to 'User Permissions'. The main area is titled 'Security > User Permissions' and shows a list of 'Users and Groups' with 'Administrators (Local Administrators)' selected. A context menu is open over this group, with the option 'Set as template for new users' highlighted in orange and a callout bubble containing the number '27'. The right pane, 'Permissions for Users', displays a table of permissions for the selected user/group.

Action	Allow	Deny
Administration Console		
Run	<input type="checkbox"/>	<input type="checkbox"/>
Administer Cloud Storage	<input type="checkbox"/>	<input type="checkbox"/>
Administer Integrations	<input type="checkbox"/>	<input type="checkbox"/>
Administer Security	<input type="checkbox"/>	<input type="checkbox"/>
Administer System Database	<input type="checkbox"/>	<input type="checkbox"/>
BarTender		
Run	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Administer	<input type="checkbox"/>	<input type="checkbox"/>
Modify Database Setup	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Modify Global Data Fields	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Modify Page Setup	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Modify Print Dialog Options	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Modify Templates	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Print Published Documents	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Print Unpublished Documents	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Run BTXML Script	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Run Published Process Files	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Run Unpublished Process Files	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Save Copy of Document	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Save Document	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Set Document Passwords	<input checked="" type="checkbox"/>	<input type="checkbox"/>
BarTender Data Builder		
Run	<input checked="" type="checkbox"/>	<input type="checkbox"/>
BarTender Licensing Wizard		
Run	<input checked="" type="checkbox"/>	<input type="checkbox"/>

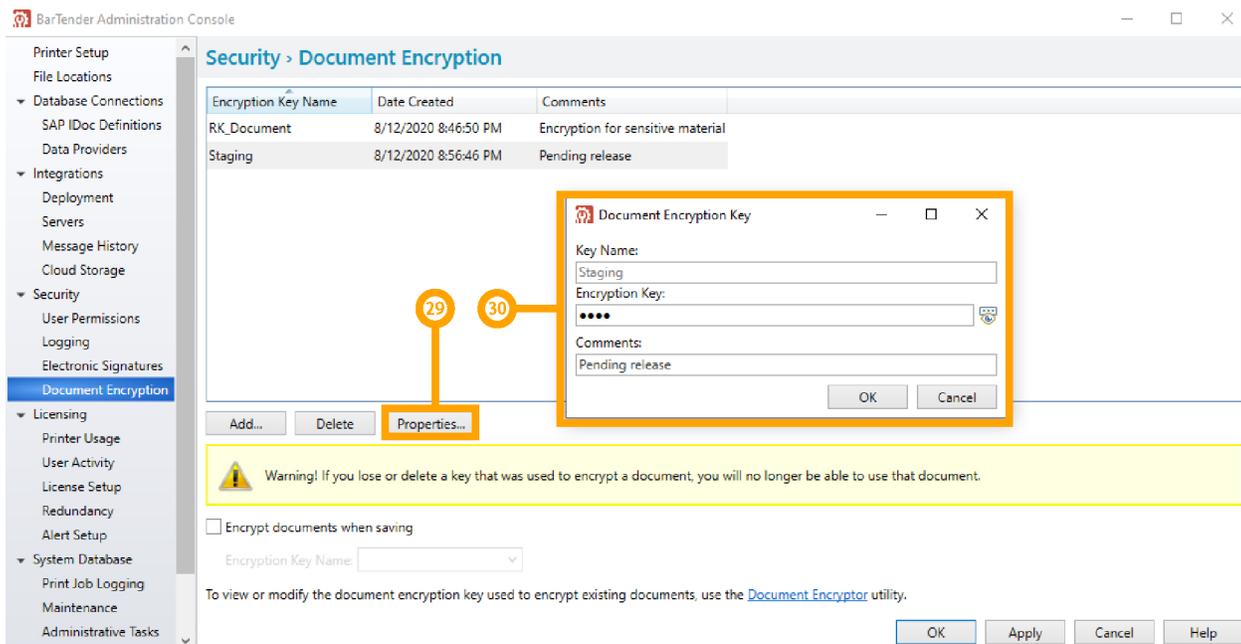
At the bottom of the console, there are buttons for 'Add...', 'Remove', 'OK', 'Apply', 'Cancel', and 'Help'. A checkbox labeled 'When permission is denied, allow login override' is also present.

Improved encryption key management

Improvements in encryption key management include the ability to name²⁸ your encryption keys, which improves security and helps you identify the key that you want when you have many keys.

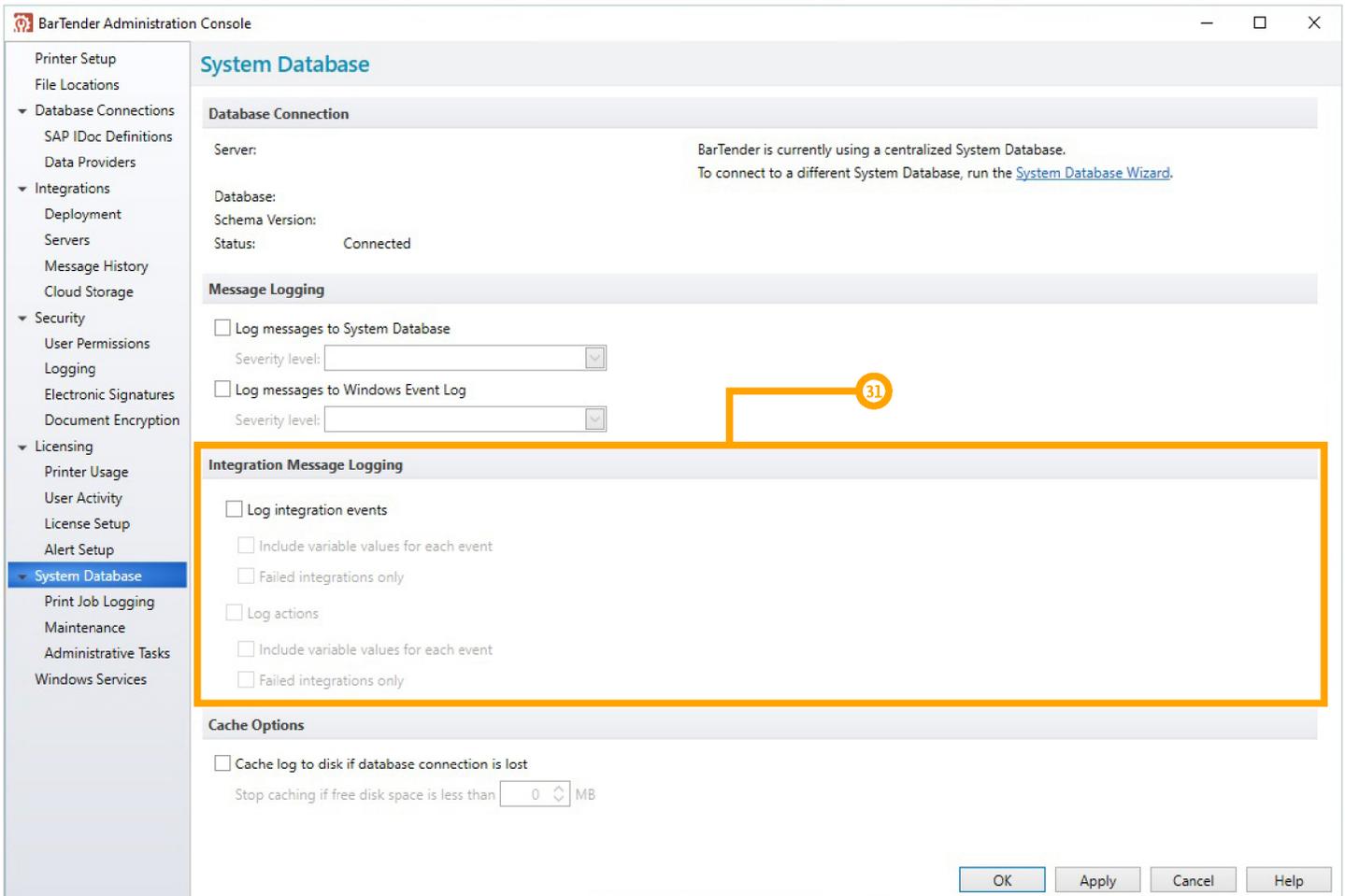


You can subsequently view the encryption key and view or edit the comments for a key. To do this, click the key that you want in the list and then click **Properties**²⁹ to open the **Document Encryption Key** dialog³⁰ for the selected key. Click and hold the icon to view the key.



Integration message logging

BarTender 2021 includes new integration message logging options so that administrators can choose whether to log integration events and actions.³¹ For large load configurations, these new options help you manage the size of the system database. These logging options are exposed on the **System Database** page in Administration Console.



BarTender Administration Console

System Database

Database Connection

Server: BarTender is currently using a centralized System Database.
To connect to a different System Database, run the [System Database Wizard](#).

Database:
Schema Version:
Status: Connected

Message Logging

Log messages to System Database
Severity level:

Log messages to Windows Event Log
Severity level:

Integration Message Logging

Log integration events

- Include variable values for each event
- Failed integrations only

Log actions

- Include variable values for each event
- Failed integrations only

Cache Options

Cache log to disk if database connection is lost
Stop caching if free disk space is less than MB

OK Apply Cancel Help

Action-related improvements

Improved While Loop action

The properties for the **While Loop** action are now better defined by using two properties tabs.

The **Action** tab is added and includes the conditions that determine when the **While Loop** action is started. These properties were previously located on the **While Loop** tab.

While Loop
Action

Action

Name:

Description:

Run Action:

- Always
- Never
- Conditionally, based on variable
- Conditionally, based on expression

User Account

- Inherit from parent action [NT AUTHORITY\SYSTEM]
- Specify user credentials

Error Handling and Diagnostics

- Ignore errors and continue running actions

The **While Loop** tab is updated to include only the conditions that determine how long the action will continue to loop and run the sub-actions that it contains.

While Loop
Action

Options

Run:

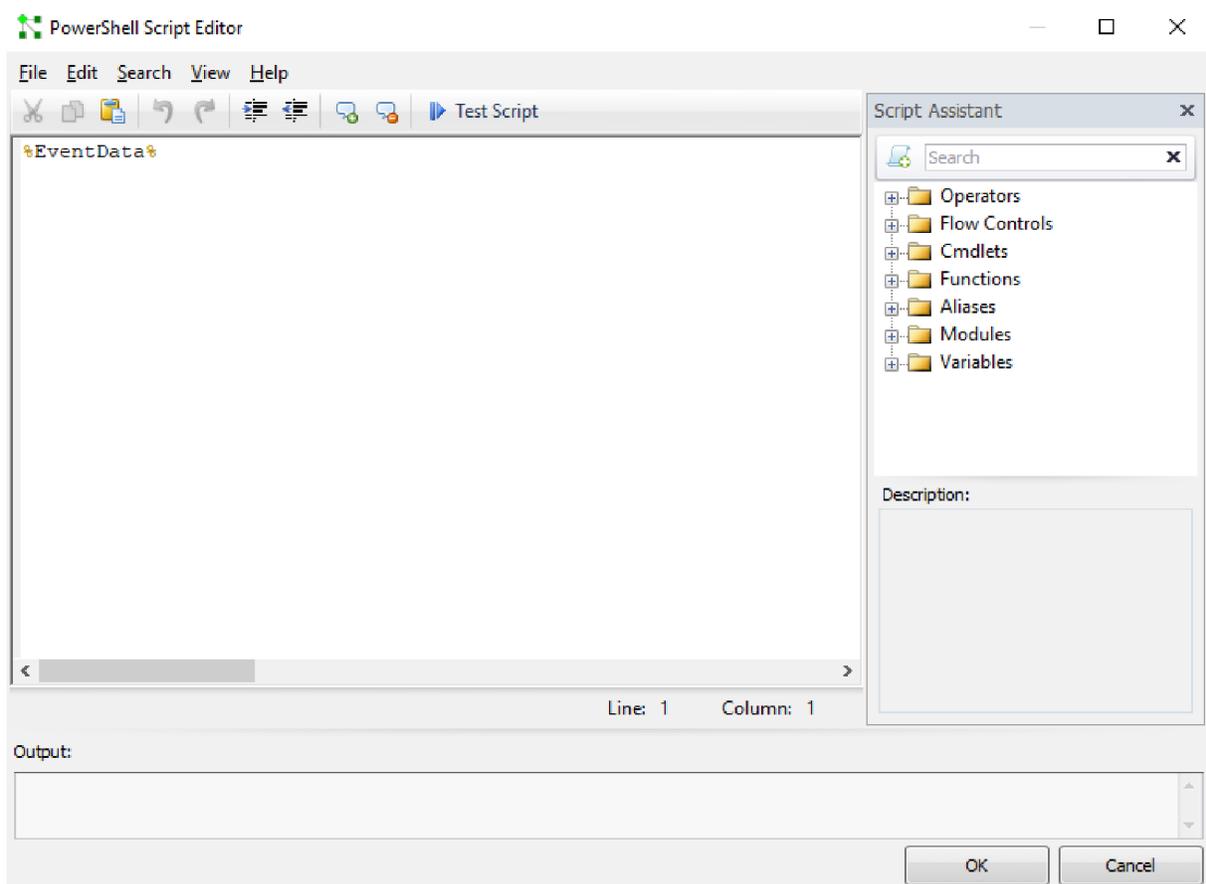
- While variable meets condition
- While expression meets condition
- Forever (unless Stop or Go To action is executed)

Print Batch action renamed to BarTender Process

The Print Batch action is renamed to “BarTender Process.” This action can now print multiple BarTender documents in a Process Builder process file (.btproc) or a legacy Batch Maker batch file (.btbat).

PowerShell Script Editor

A new PowerShell Script Editor is available from the Power Shell Command action. You can use this editor to create and edit Windows PowerShell commands when the action is configured to use embedded commands.



PowerShell is also added as a syntax highlighting option for the Visual Basic Script Editor. This new feature allows more of the script to be visible in the user interface.

Related documentation

Technical documents

- Administration Console
- BarTender Print Portal
- BarTender Librarian
- Understanding Librarian Workflows
- Using GS1 Application Identifiers
- License Server Redundancy

To view and download technical documents, visit www.seagullscientific.com/resources/white-papers/

Manuals

[Getting Started with BarTender](#)

BarTender help system

- [Administration Console](#)
- [Print Portal](#)
- [Librarian](#)
- [Table Object](#)

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