

## Technical Series: Repeating Placeholders in OnBase 17

With OnBase 17, Document Composition introduced Repeating Placeholders, an exciting new feature for working with repeating data. This first iteration of Repeating Placeholders allows you to create free flowing output using XML as your source data. This post will walk you through what Repeating Placeholders are and how to create them.

XML documents often represent data with a repeating pattern. For example, the XML used as a reference throughout this post describes books in a bookstore. The books contain information such as title, author, price, and genre. Before Repeating Placeholders, users were limited to working with XML Query Placeholders to output their data. If you wanted more than the first value return by the XPath, you had to select to output the data as a list or a table; however, these options severely limited your ability to format the data. Document Composition Administrators found ways to work around these limitations, but these solutions were extremely difficult to administer and time consuming to create. Repeating Placeholders solve this problem by allowing users the ability to output repeating data in a free flowing and highly customizable manner. For example, with only one Repeating Placeholder you can configure your template to output the title and author of every book in the store with some static text in between, e.g. “[Title] written by [Author].”

The following example will provide more context for how you can leverage Repeating Placeholders in your templates.

Create a Repeating XML Query Placeholder:

- 1) Select to create a new Repeating XML Query Placeholder from the Template Builder Ribbon

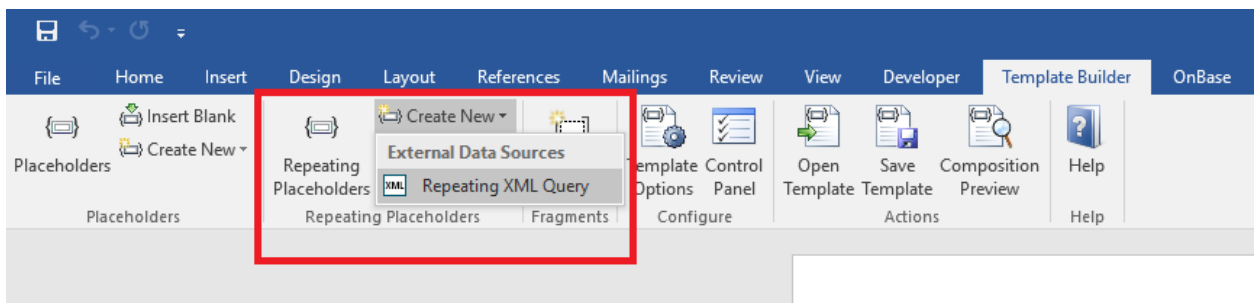


Figure 1 - Repeating XML Query Placeholder drop-down

- 2) When the wizard appears, specify the XPaths of the Repeating Placeholders you wish to create. This first panel is very similar to the first wizard panel for creating XML Query Placeholders. Please see [Technical Series: Repeating Placeholders in OnBase 17](#) for more information on how to interact with this panel. Based on the sample XML, here are some examples of XPaths you might use for your Repeating Placeholders:

**Repeat over all of the books in the bookstore:**

/bookstore/book

**Repeat over all of the authors for books in the bookstore:**

`/bookstore/book/author`

For more information on XPaths and XPath functions with Repeating Placeholders, please see

[Technical Series: Leveraging XPath Functions in OnBase 17](#) blog post.

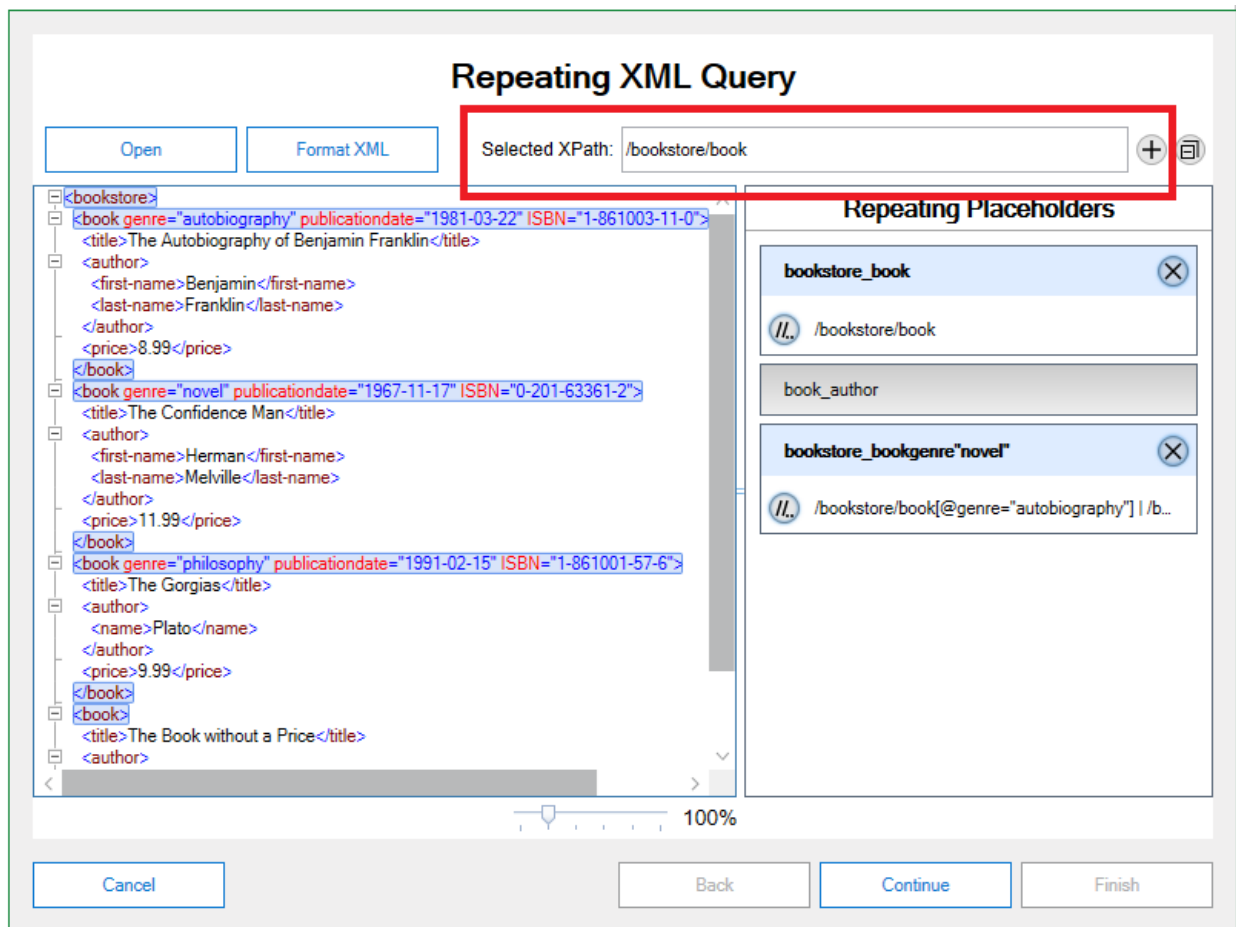


Figure 2 - Repeating XML Query User Interface

- 3) Once you are finished adding your Repeating Placeholders on the first panel, you can advance through the wizard to add and configure Nested Placeholders for your Repeating Placeholders. Nested Placeholders describe the data to display for each instance of your Repeating Placeholder. Although you are able to create Repeating Placeholders without any Nested Placeholders, inserting a Repeating Placeholder on a template without including any Nested Placeholders nullifies the main purpose of using a Repeating Placeholder. For more information about Nested Placeholders, please see [Technical Series: Nested Placeholders in OnBase 17](#)
- 4) After creating Repeating Placeholders, you can go to the Repeating Placeholder Management task pane by selecting the Repeating Placeholder button from the Template Builder ribbon.

From this task pane, you can hover over a Repeating Placeholder and select to insert it on the template, edit its XPath, delete it, or add more Nested Placeholders. Selecting to insert the Repeating Placeholder will place a new content control on the template. You can interact with this content control similar to how you interact with a Fragment content control, where you can use static text and your Nested Placeholders to define how your repeating data is displayed on the composed document.

For example, for the Repeating Placeholder with the XPath /bookstore/book, configure the Repeating Placeholder with text and Nested Placeholders like so to output the information for each book in the book store as shown below.



Figure 3 – Example of Repeating Placeholder with Nested Placeholders in Word

Title: The Autobiography of Benjamin Franklin

Author: BenjaminFranklin

Genre: autobiography

Price: \$8.99

Title: The Confidence Man

Author: HermanMelville

Genre: novel

Price: \$11.99

Title: The Gorgias

Author: Plato

Genre: philosophy

Price: \$9.99

*Figure 4 - Sample output from Figure 3*

Based on the structure of your XML it might also be possible to add a Repeating Placeholder within another Repeating Placeholder on your template. For example, books can have multiple authors. In the configuration above, the author Nested Placeholder was configured to output as a Single Value, so for books with multiple authors, only the first one will be displayed. To display all of the authors for a book, you could change the output style of your author Nested Placeholder to List or Table. However, this solution is not ideal because your Nested Placeholder is essentially an XML Query Placeholder with a specific scope, so you are back to being limited in how you can display this data. To have greater control over the output style of this data, you could use another Repeating Placeholder to repeat over all of the authors for each repeating instance of a book. The configuration of your template and the composed output would look something like this. Note that you now see all the authors of a book and that there is a space between the authors' first and last names:



Figure 5 - Example with updated Authors

Title: The Autobiography of Benjamin Franklin  
Author: Benjamin Franklin  
Author: Author Two  
Author: Author Three  
Author: Author Four  
Genre: autobiography  
Price: 8.99

Title: The Confidence Man  
Author: Herman Melville  
Genre: novel  
Price: 11.99

Figure 6 - Sample output with updates from Figure 5

When inserting Repeating Placeholders inside other Repeating Placeholders, please pay special attention to the order in which you place them on the template. The XPath of the inner Repeating Placeholder should represent nodes that are descendants of the nodes represented by the XPath of the outer Repeating Placeholder. If you configure your Repeating Placeholders in the reverse order, or if the XPaths of your Repeating Placeholders do not share an ancestor-descendant relationship at all, then no values will be composed for the inner Repeating Placeholder. We cannot determine any values for the inner Repeating Placeholder because its XPath is invalid in the restricted scope of the XML as defined by the outer Repeating Placeholder. If we encounter one of these invalid configurations during composition, a message should be displayed in Diagnostics Console.