



Template Builder User Guide

Version 1.3



Template Builder



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Contents

1	Introduction.....	5
1.1	Workflow	5
1.2	Related Documents.....	6
1.3	Feedback and Suggestions.....	6
2	Setup and Configuration	7
2.1	Opening Template Builder.....	7
2.2	Using Mist	7
2.3	Configuring Preview Server	7
2.4	Specifying a Graphic Hub Endpoint	8
2.5	Monitoring Graphic Hub Status	8
3	Creating Templates with Scene Import	9
3.1	Software Requirements	9
3.2	Opening a Template	9
3.3	Creating a New Template.....	10
4	Customizing Templates	15
4.1	Model	15
4.1.1	Field Tree	15
4.1.2	Multi-selection	16
4.1.3	Field Properties.....	16
4.2	Settings	21
4.2.1	Duration	22
4.2.2	Track.....	22
4.2.3	Title Generation.....	23
4.3	Data Entry.....	24
4.3.1	Manual	24
4.3.2	Choose From List.....	24
4.3.3	Using Sub-Choices	26
4.3.4	Enable Feed Browser/Parent Feed Browser	30
4.3.5	Atom Feed URL	30
4.3.6	Select from Atom Entry	30
4.4	The HTML Panel	32
4.4.1	Adding an HTML Panel.....	32
4.4.2	Browser Caching.....	34
4.4.3	Creating HTML templates.....	35

5	The Fill In Form.....	45
6	Previewing Content.....	47

1 Introduction

Template Builder is a web application for building customized templates using the scene import feature or using existing templates from [Viz Pilot's](#) Template Wizard.

This guide shows you how to customize templates.

i Info: A key feature is that you can add custom HTML panels to templates, giving full control over the template using custom scripting and logic.



1.1 Workflow

The basic workflow from graphics design to a working template is as follows:

- Scenes are made in Viz Artist. A template can contain multiple scenes categorized under different variants.
- Objects in the scene that you wish to make editable in the finished template are given the appropriate control plugins.
- Once the scenes above have been imported, templates are made in Template Wizard.
- The templates are saved in the Pilot system and are available to Template Builder.

- In Template Builder, a template can be opened, edited/customized, and previewed. It's also possible to create a new template using the scene import feature.
- The template is saved in the Pilot system and is made available to the newsroom and control room systems.
- The graphics template can be filled with content, including text, numbers, images, videos, websites and maps. The template is saved in the Viz Pilot system, creating a data element that is added to the newsroom story.
- The Viz Pilot operator monitors the newsroom playlist (rundown) and plays the graphics on-air at the correct time in the broadcast.

 **Note:** The changes made to a template in Template Builder will not be available in the template in Template Wizard.

1.2 Related Documents

The templates customized in Template Builder can be used by other Viz products such as Viz Pilot Edge, Viz Story and Viz Multiplay.

For more information about all Vizrt products, visit:

- www.vizrt.com
- [Vizrt Documentation Center](#)
- [Vizrt Training Center](#)
- [Vizrt Forum](#)

1.3 Feedback And Suggestions

We welcome your feedback and suggestions regarding Vizrt products and this documentation.

Please contact your local Vizrt customer support team at <http://www.vizrt.com>.

2 Setup And Configuration

This section covers the following topics:

- [Opening Template Builder](#)
- [Using Mist](#)
- [Configuring Preview Server](#)
- [Specifying a Graphic Hub Endpoint](#)
- [Monitoring Graphic Hub Status](#)

2.1 Opening Template Builder

Template Builder opens as a web application in your default browser.

The URL to access Template Builder, if hosted on the Pilot Data Server, is: **<http://pds-hostname:8177/app/templatebuilder/TemplateBuilder.html>**

2.2 Using Mist

It's recommended to install **Mist** and let that serve out all the products, for example in order to simplify resource sharing with Viz Pilot Edge and Viz Story or to provide HTTPS support.


The URL to access Template Builder if served out by Mist is: **<http://hostname/templatebuilder/>**

2.3 Configuring Preview Server

Preview Server manages one or more Viz Engines, providing frames for thumbnails and snapshots in an ongoing preview process.

Preview Server must be configured in the Pilot Data Server:

1. Access the Pilot Data Server Web Interface: **<http://pds-hostname:8177>**
2. Click the **Settings** link
3. Select the **preview_server_uri** setting, and add the URL for the machine on which you installed the Preview Server (ie. **<http://previewserver-hostname:21098>**)
4. Click **Save**

 **Note:** All applications with a connection to the database will now have access to Preview Server.

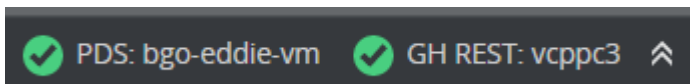
2.4 Specifying A Graphic Hub Endpoint

If you're using multiple Graphic Hubs, the one used to store your scenes must be configured in the Pilot Data Server:

1. Access the Pilot Data Server Web Interface: **http://pds-hostname:8177**
 2. Click the **Settings** link
 3. Select the **graphic_hub_url** setting, and add the URL for the machine on which your scenes are stored (ie. **http://gh-hostname:19398**)
 4. Click **Save**
-

2.5 Monitoring Graphic Hub Status

Since some users have multiple Graphic Hubs (GHs) for design, distribution, testing and production, **green icons** at the bottom of the interface show you which GH and which database you're currently connected to:



Note: GH REST status info is based on the `graphic_hub_url` parameter mentioned above - not Graphic Hub's search provider settings.

3 Creating Templates With Scene Import

Create templates using the scene import feature.

This section covers the following topics:

- [Software Requirements](#)
- [Opening a Template](#)
- [Creating a New Template](#)

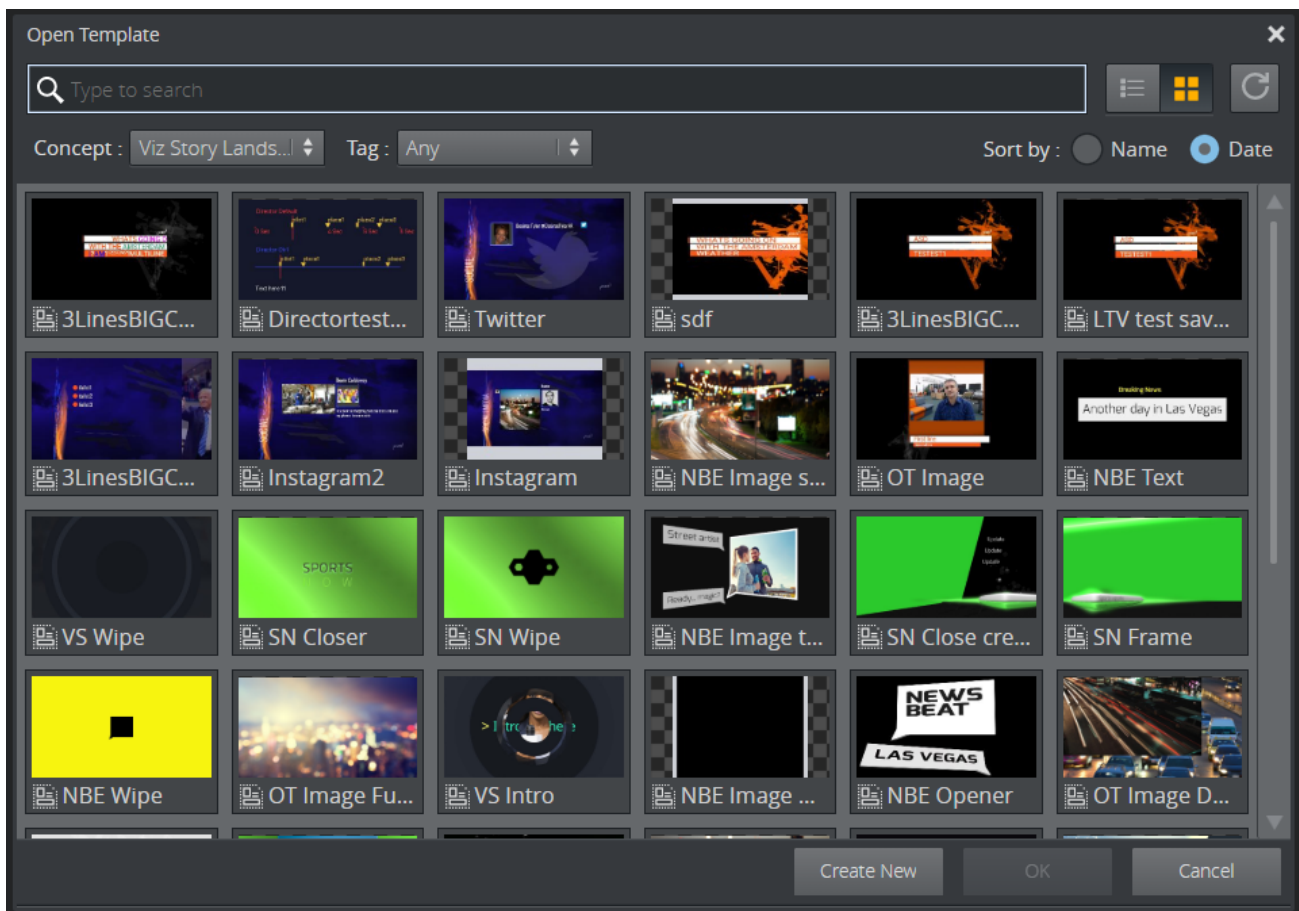
3.1 Software Requirements

In order to use scene import, you must have the following software versions installed:

- Graphic Hub 3.4.1 or above
- Pilot Data Server 8.5.0 or above
- Preview Server 4.4.0 or above
- Viz Artist 3.14.2 or above

3.2 Opening A Template

- Click **Open**, or **CTRL + O**, to open a dialog containing templates available within the Pilot system.
- In the **Open Template** dialog, use **Concepts** and **Tags** to filter templates. The search can also be narrowed down by searching for the template name in the **Type to filter...** field at the top of the dialog.
- Select a template and click **OK** or double-click it to open.



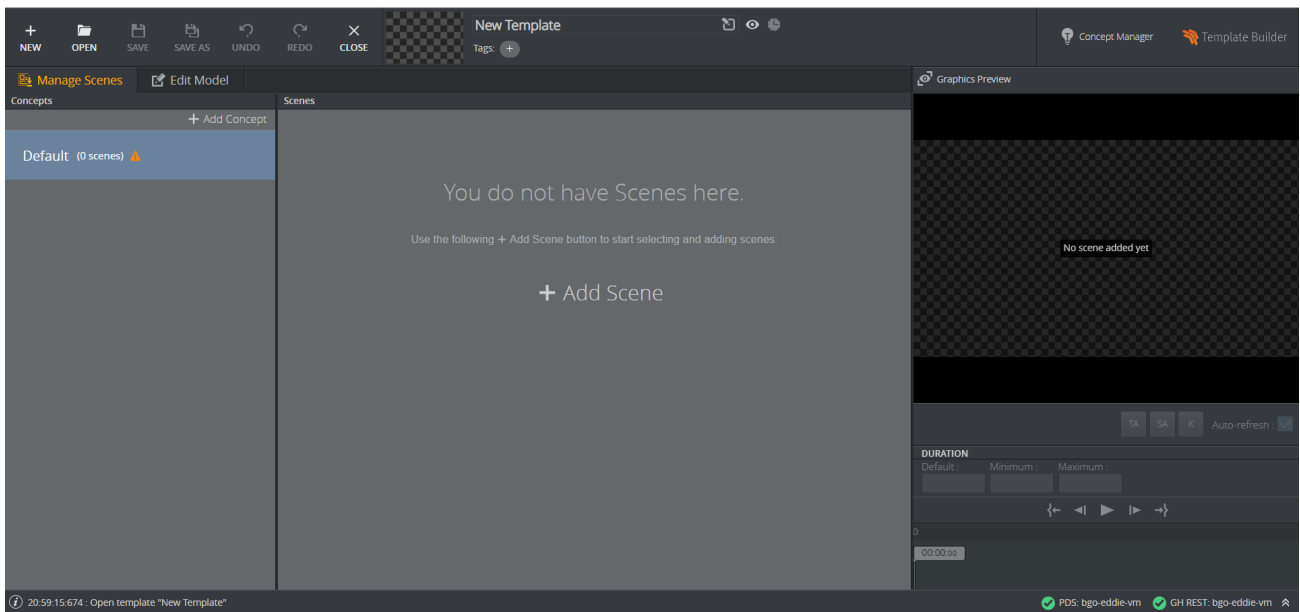
3.3 Creating A New Template

- Click **Create New** in the **Open Template** menu.

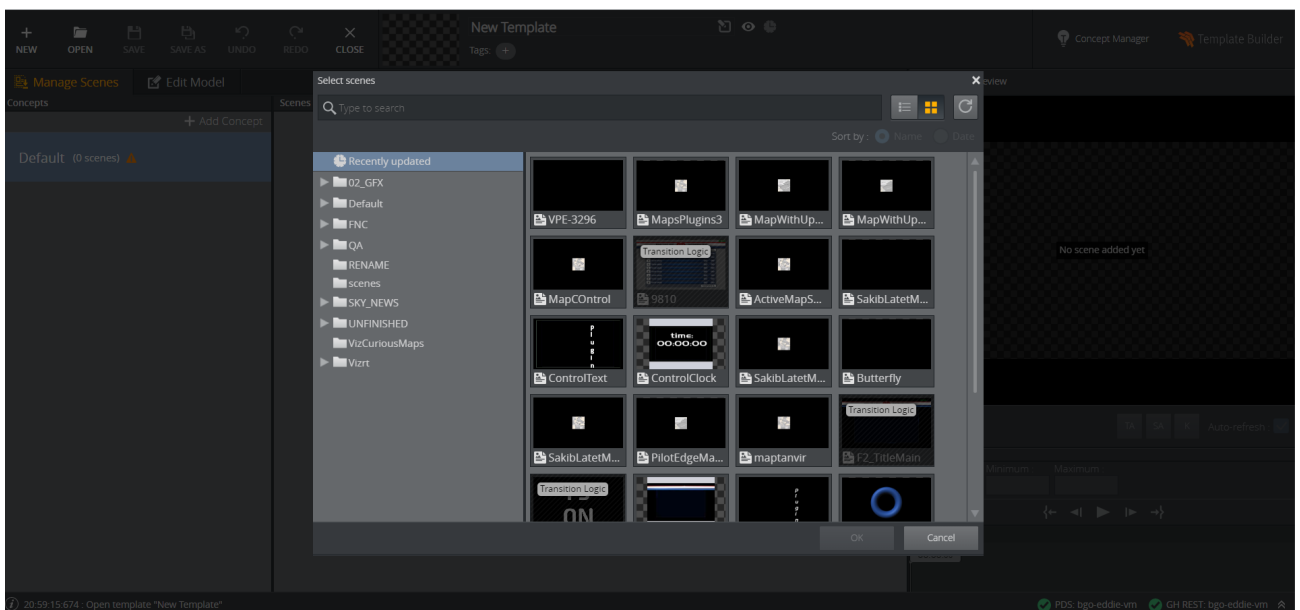
Note: If you don't see this option, make sure that the [required programs](#) are up-to-date.

You now need to add a scene to your new, empty template:

- Go to **Manage Scenes** at the top left of the interface.
- Select **+Add Scene**.

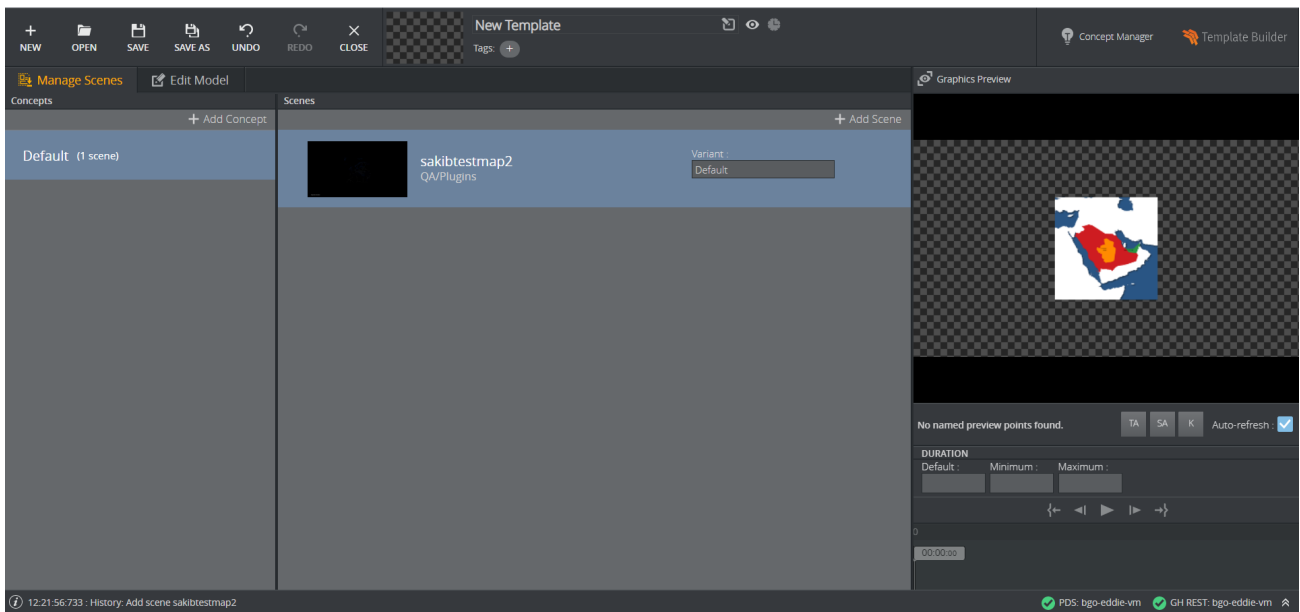


The **Select scenes** menu appears, containing all of the scenes stored in the Graphic Hub to which you are connected:

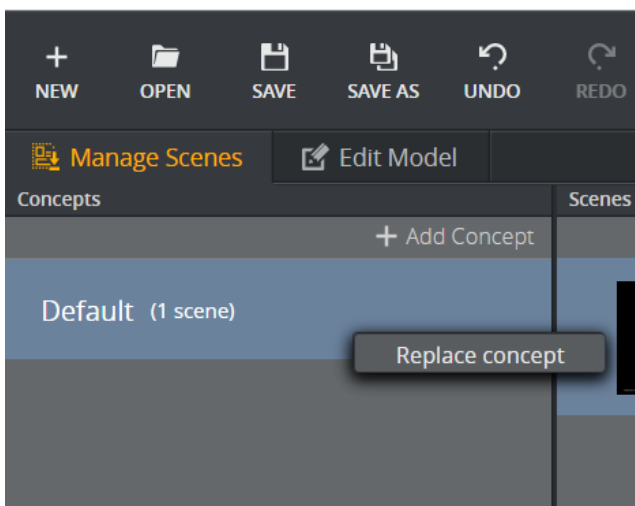


Note: The Graphic Hub containing your scenes is specified through the **graphic_hub_url** setting in Pilot Data Server.

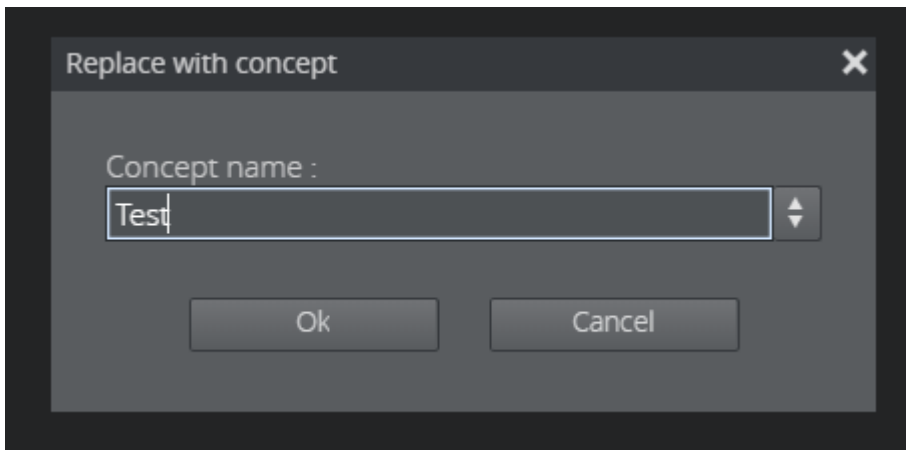
- Enter a search term or browse the folder structure. Once you have selected the correct scene or scenes, press **OK** to add them to the template:



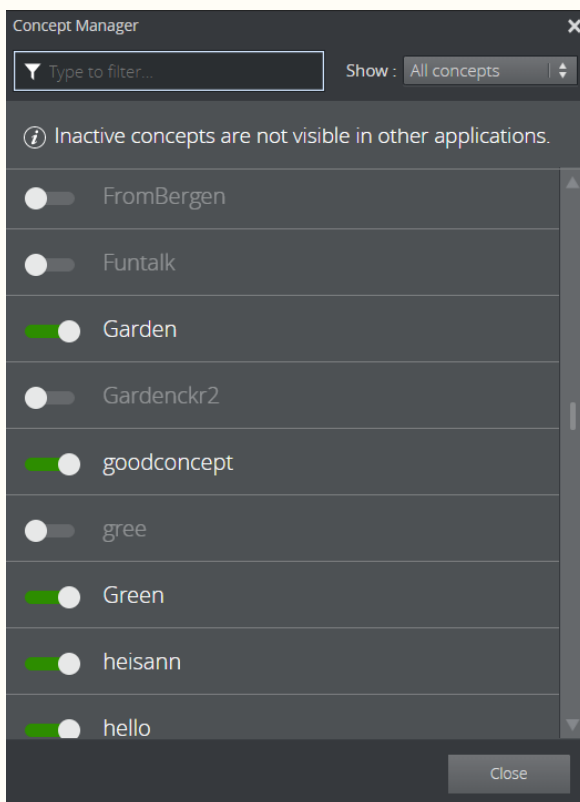
- If you want to rename a concept, right-click it and **Replace concept**:



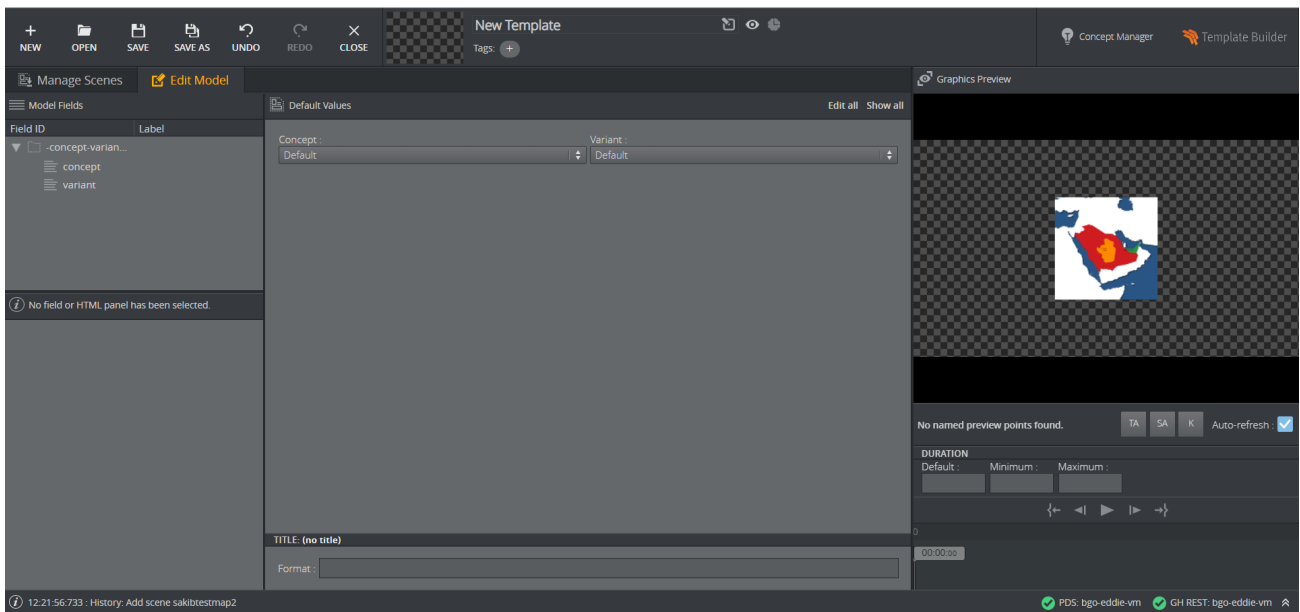
- Enter a **Concept name** and click **Ok**:



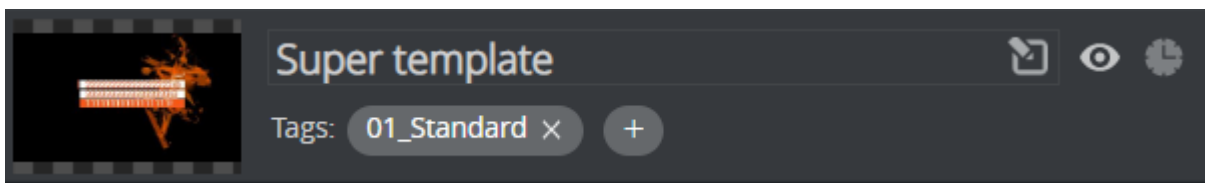
Note: New concepts are inactive by default, which means they won't be visible in other applications. Once the template has been saved, use the **Concept Manager** at the top right of the interface to activate them:



- Click the **Edit Model** tab to see a preview of the template:



The menu at the top center of the interface allows you to:



- Rename the template
- View and edit its **Tags**
- Hide it from other applications by clicking the **Eye icon**
- Decide whether Director should open it using Pilot Edge or Viz Pilot News (a legacy setting) by clicking the **Clock icon**:
 - **Clock lit** - Legacy template: opens in Delphi in Viz Pilot 8.6 or later
 - **Clock grayed out** - New template: opens in Pilot Edge 1.6 or later
- Finally, to save the template, simply click **SAVE** at the top left of the interface.

⚠ Note: The updated template will overwrite the existing template in Pilot Data Server.

4 Customizing Templates

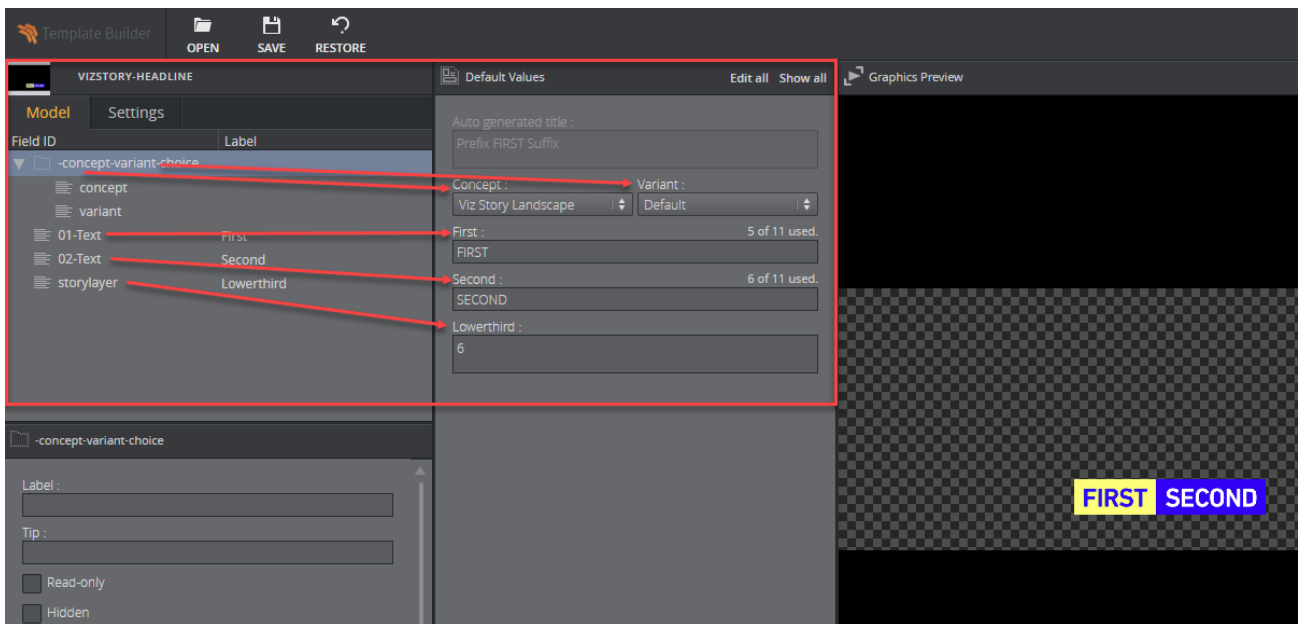
Customize templates in the **Template Builder** window at the left of the application:

- **Model**
 - **Field Tree**
 - **Multi-selection**
 - **Field Properties**
- **Settings**
 - **Duration**
 - **Track**
 - **Title Generation**

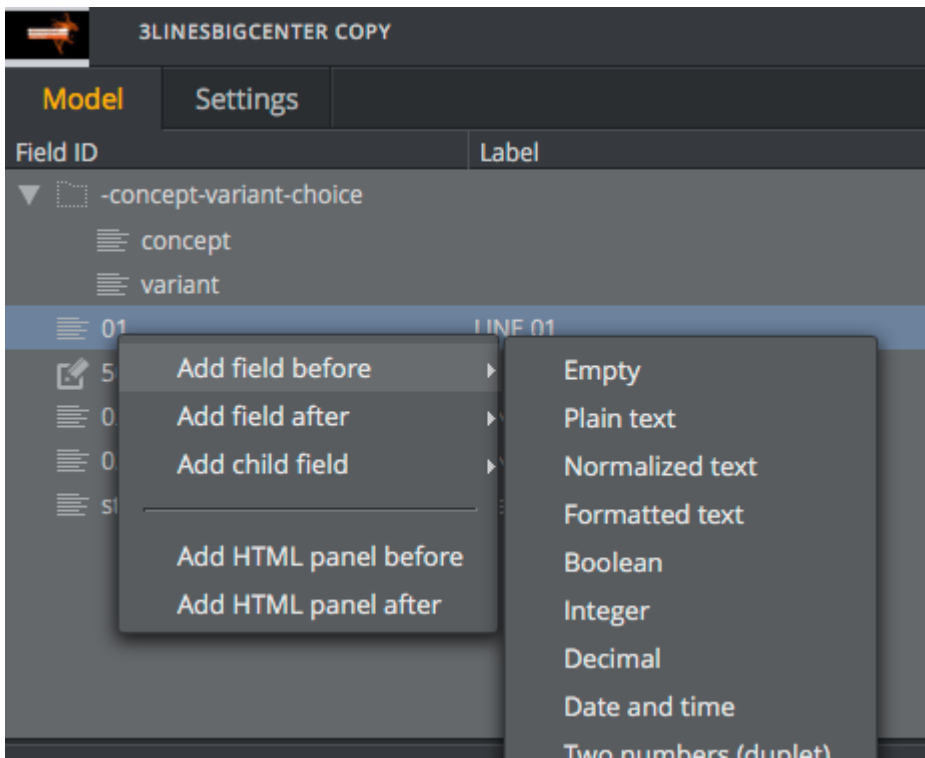
4.1 Model

4.1.1 Field Tree

The Field Tree contains the **Field ID** and **Label**, which are also shown in the Fill In Form, see the red arrows in the figure below. The icon beside each line in the tree indicates the **Type** of content in the field.



- Fields can be rearranged by drag-and-drop within the Field tree.
- Right-click a field to open a menu where additional fields and **HTML panels** can be added.
- The Fill In Form updates immediately when any changes are made.



Info: Only fields created in Template Builder can be deleted and given a new ID.

4.1.2 Multi-selection

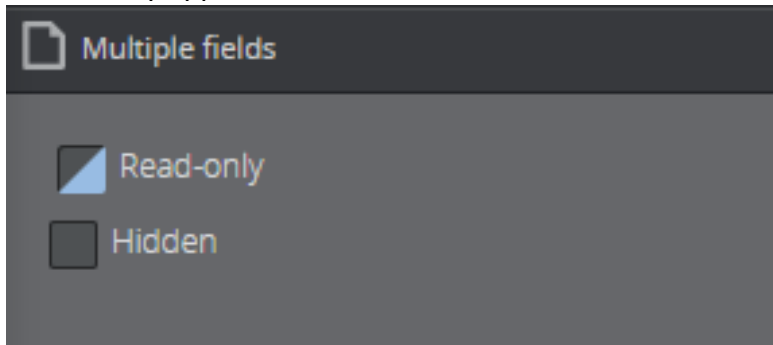
Multi-select fields in the Field Tree by pressing **CTRL + click**. Although it's not possible to move or rename multiple fields at the same time, multiple fields can be deleted and some of their properties can be changed in the **Field Properties** window.

4.1.3 Field Properties

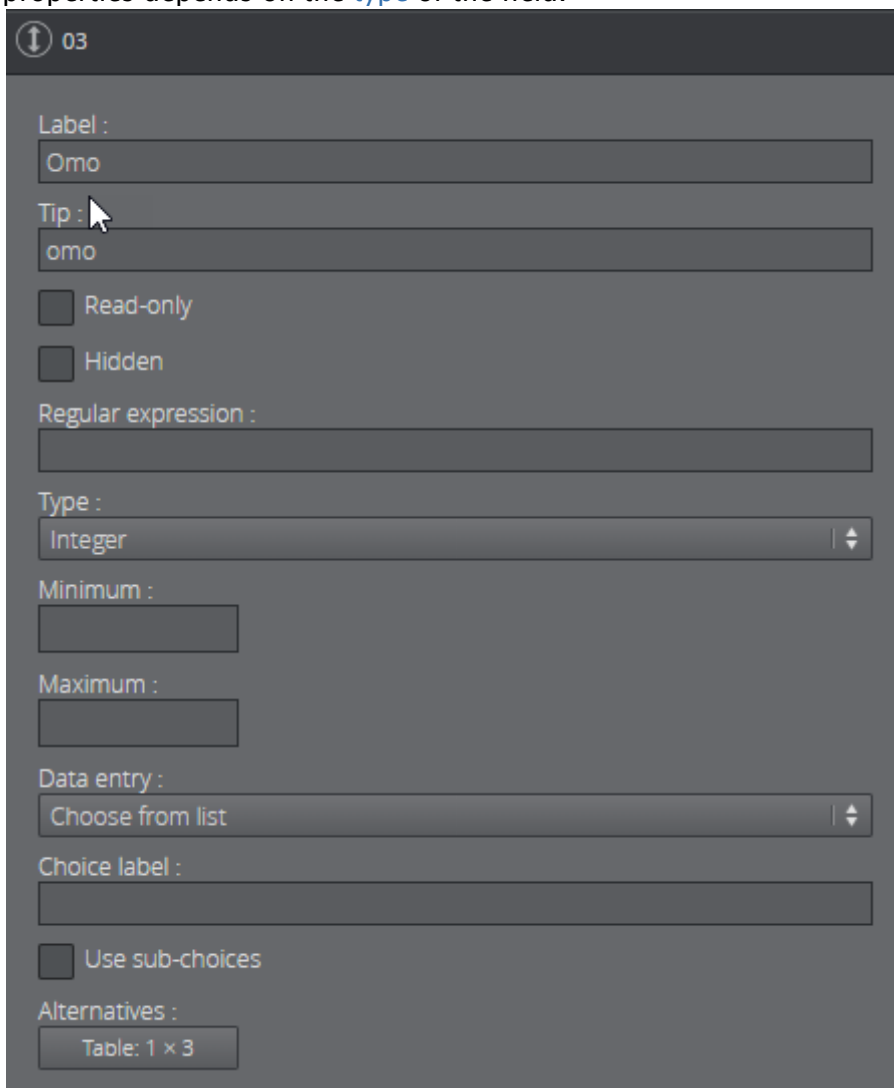
The **Field Properties** window is located below the **Field Tree** window. It displays the properties of a selected fields in the Field Tree.

- **Multi-selection:** If several fields are selected in the Field Tree, a subset of the field properties is displayed. If the selected fields have different field property values, the Field Properties window displays a multiple values state. Changes made in the Field Properties window are

immediately applied to all the selected fields.



- **Single-selection:** All properties for the selected field are displayed. Note that the set of properties depends on the **type** of the field.










- **Label:** Specifies the label of the field in the Fill-In Form.
- **Tip:** A tooltip text can be entered to provide more information about the field.
- **Read-only:** The field remains visible, but is grayed out in the Fill-In Form.
- **Hidden:** Hides the field in the Fill-In Form.











- **Regular expression:** Defines constraints of the value in the field.


Type


The type of content allowed in the field in the Fill-In Form is set using the drop-down list under **Type**. Different options are available depending on the type selected, as specified in the table below.

 **Info:** There are two main field type categories, scalar and list.

Type	Icon	Description
Empty		Makes the field unavailable. Typically used as a container for other fields.
Plain text		The field is a text field. Max length: Set the maximum number of characters allowed in the field.
Normalized text		Normalized text. Max length: Set the maximum number of characters allowed in the field.
Formatted text		A text that allows formatting. Max length: Set the maximum number of characters allowed in the field. Single-line: Specify that the rich-text editor should only allow one line of text.
Boolean		Creates a checkbox which has two states; true and false.
Integer		The field is an integer field. Minimum: Set the minimum value allowed in the field. Maximum: Set the maximum value allowed in the field.
Decimal		The field allows decimal numbers. Minimum: Set the minimum value allowed in the field. Maximum: Set the maximum value allowed in the field.

Type	Icon	Description
Date and time		Use the Date Chooser in the Fill-In Form to select date and time in this field.
Two numbers (duplet)		The field allows two numbers (decimal numbers are allowed). Minimum: Set the minimum value allowed for both numbers. Maximum: Set the maximum value allowed for both numbers.
Three numbers (triplet)		The field allows three numbers (decimal numbers are allowed). Minimum: Set the minimum value allowed for all three numbers. Maximum: Set the maximum value allowed for all three numbers.
Image		Makes the field available for an image. Image Constraints: Set constraints on the image. Minimum Size of the image (pixels): Specify the minimum allowed image dimensions in pixels. Both width and height must be at least this big. Aspect Ratio (width x height): Specify the aspect ratio of the image. Allowed Error (%): Specify the maximum stretch limit for both the width and height of the image. This is in relation to the defined aspect ratio.
Video		Makes the field available for a video.
Font		Makes the field available for a font.
Geometry		Makes the field available for a geometry.
Material		Makes the field available for a material.
Map		Makes the field available to present and edit a map.
Custom		Freely specify the media and XSD type.

Type	Icon	Description
List		<p>Lists may be modified by adding and removing columns in the Field Tree. To add columns to a list, right-click the columns node under the list field node in the Field Tree and select Add column. To remove a column, select the column field in the Field Tree and press the Delete button, or right-click it and select Delete field.</p> <p>List fields are fundamentally different from scalar fields. It's therefore not possible to change a list type to a scalar type and vice versa.</p> <p>Minimum number of rows: Defines the minimum allowed number of rows in the list.</p> <p>Maximum number of rows: Defines the maximum allowed number of rows in the list.</p>

 **Note:** Be aware of available control plugins in the template that have been exposed by the scene designer in Viz Artist.

Data Entry

There is a Data entry drop-down list available for all scalar field types that contains three options:

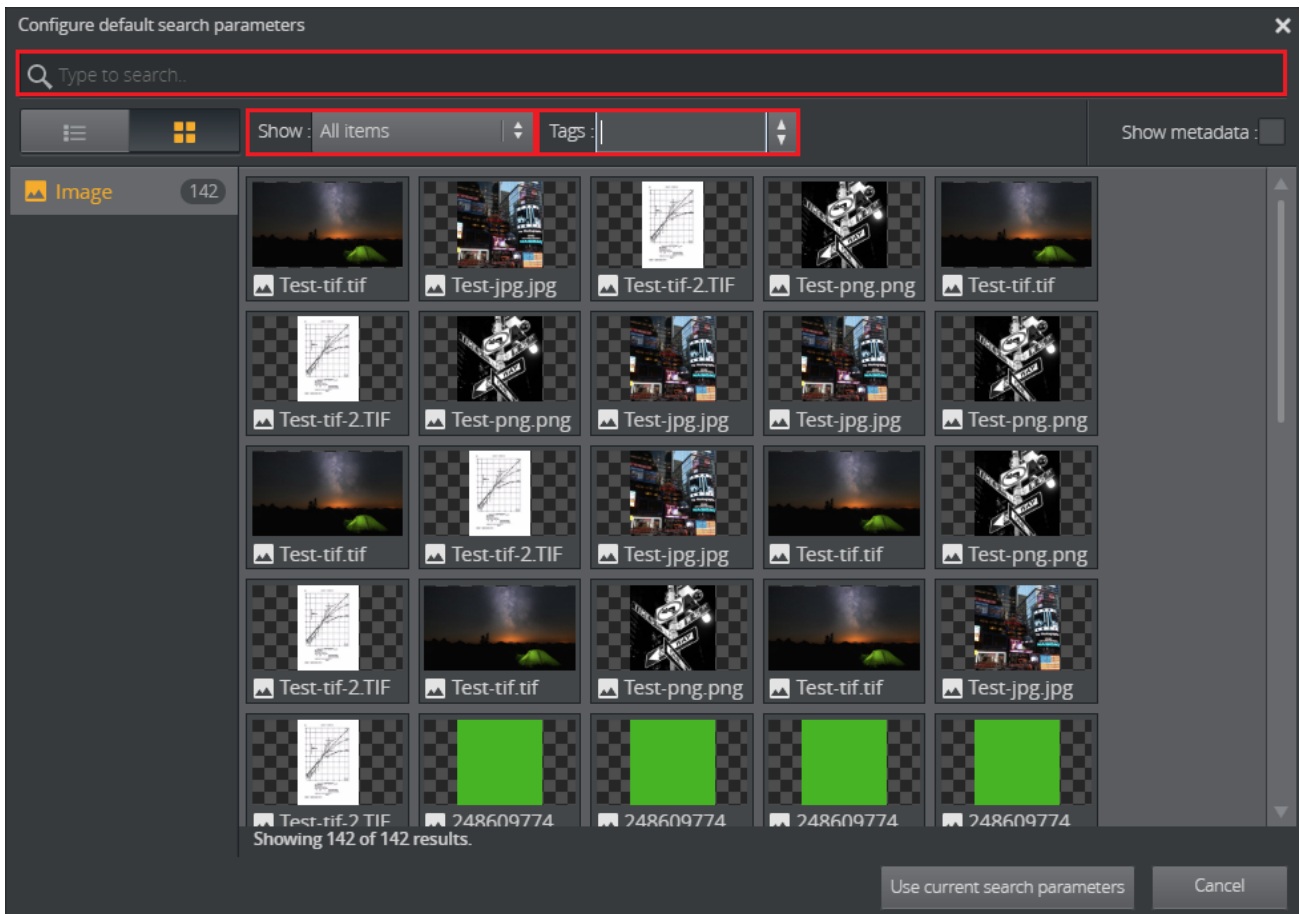
- **Manual:** Does not permit any additional settings for the field, see [Manual](#).
- **Choose from list:** Allows the template designer to present the right content in a drop-down list, see [Choose from list](#).
- **Enable feed browser:** Allows you to browse for an entry, see [Enable feed browser/Parent feed browser](#).

For more information, see [Data Entry](#).

Default Search Parameters

For the types **Image**, **Video**, **Font**, **Geometry**, and **Material**, it's possible to define default search parameters that will be used by the media search that is launched when you click on the field:

1. Click the **Set** button to open a media search window.
2. Enter text in the search field, selecting whether to show all items or to limit by time from the **Show** drop-down list, and/or selecting a tag from the **Tags** drop-down.
3. Save by clicking **Use current search parameters**.



4.2 Settings

The following template settings are available in the **Settings** tab:

- [Duration](#)
- [Track](#)
- [Title Generation](#)

Model	Settings
DURATION	
Default :	Minimum : Maximum :
<input type="text"/>	<input type="text"/> <input type="text"/>
TRACK	
Name :	Index :
<input type="text"/>	<input type="text"/>
TITLE GENERATION	
Format :	
<input type="text"/>	

4.2.1 Duration

Specify the duration of a graphic on a timeline using **Minimum** and **Maximum** values; if these are set to the same number the item will be assigned a fixed duration.

DURATION
Default : Minimum : Maximum :
<input type="text"/> <input type="text"/> <input type="text"/>

Note: A default value is used if you don't specify duration.

4.2.2 Track

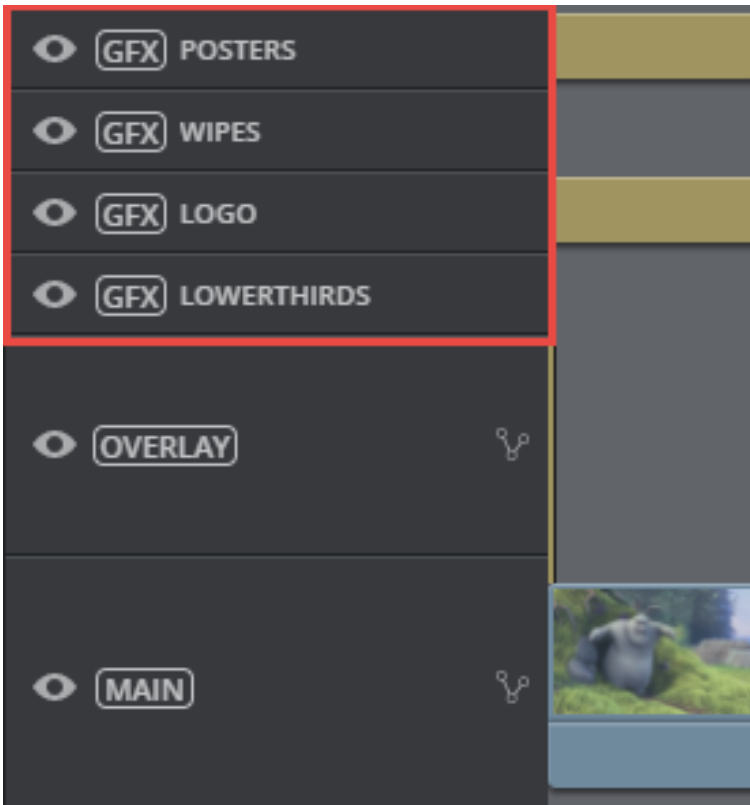
Setting a **Name** in the track settings allows graphics to be grouped in the timeline editor, see [Track settings displayed in the timeline editor](#). **Index** sets the position of the group in the timeline editor, where 0 is the lowest position.

Warning: All templates with the same track name must have the same index.

TRACK
Name : Index :
<input type="text"/> <input type="text"/>

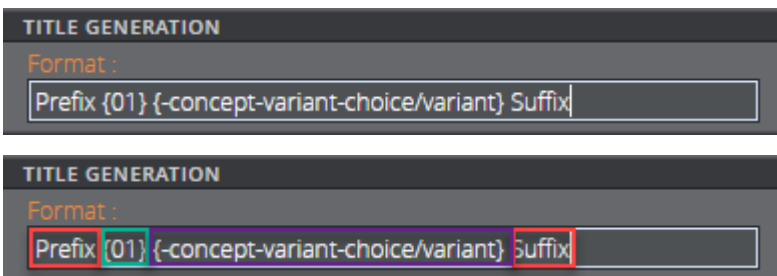
Track settings displayed in the timeline editor

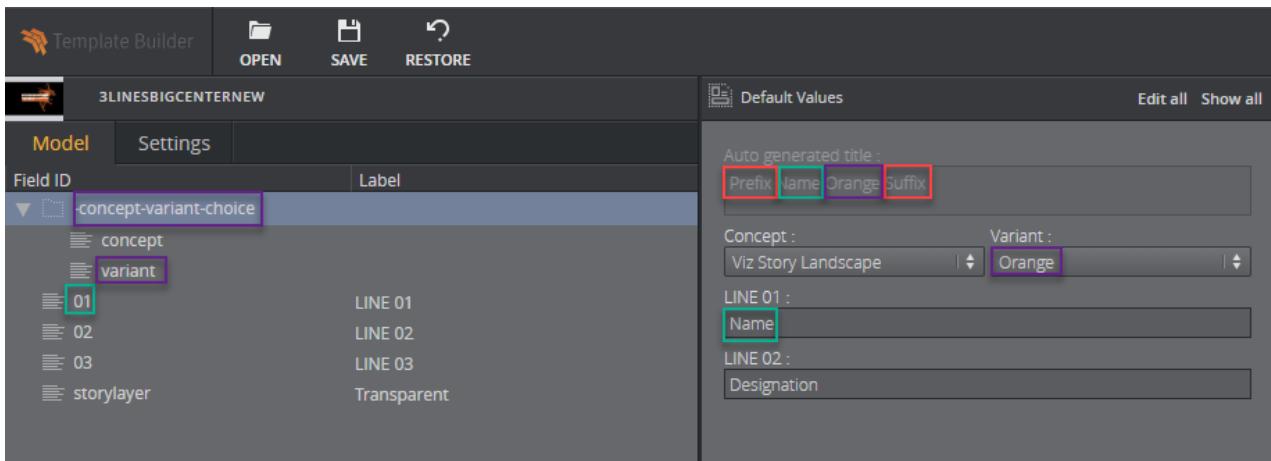
The red rectangle highlights the different tracks in the timeline editor. The position of these tracks is set using the [Track](#) setting.



4.2.3 Title Generation

The title generation setting provides auto-generation of the title. The title can be plain text or it can be a placeholder for one or several field values, or it can be a combination of these. The placeholder is the {Field ID}. An example using a combination of plain text, field name, and sub-field name is shown below:





A template title can be auto-generated by combining one or several of these options:

- **Normal text:** Plain text (red)
- **{Field ID}:** Substituted with the value of the field (green)
- **{Field ID/subfield ID}:** Substituted with the value of the subfield (purple)
- **{listfieldname/#index/cellname}:** Substituted with the value of the field in a row in a list. Note that the index is zero-based.

Warning: The auto-generated title's length is not shortened in Vizrt web clients. However, if the title is longer than 128 characters it will be reduced when dragging out the MOS XML file due to size constraints. This affects the element title in the newsroom system.

4.3 Data Entry

The Data Entry field property specifies how users should fill in field values:

- [Manual](#)
- [Choose From List](#)
- [Enable Feed Browser/Parent Feed Browser](#)

4.3.1 Manual

Selecting **Manual** in the Data entry drop-down list does not give access to any additional settings for the field.

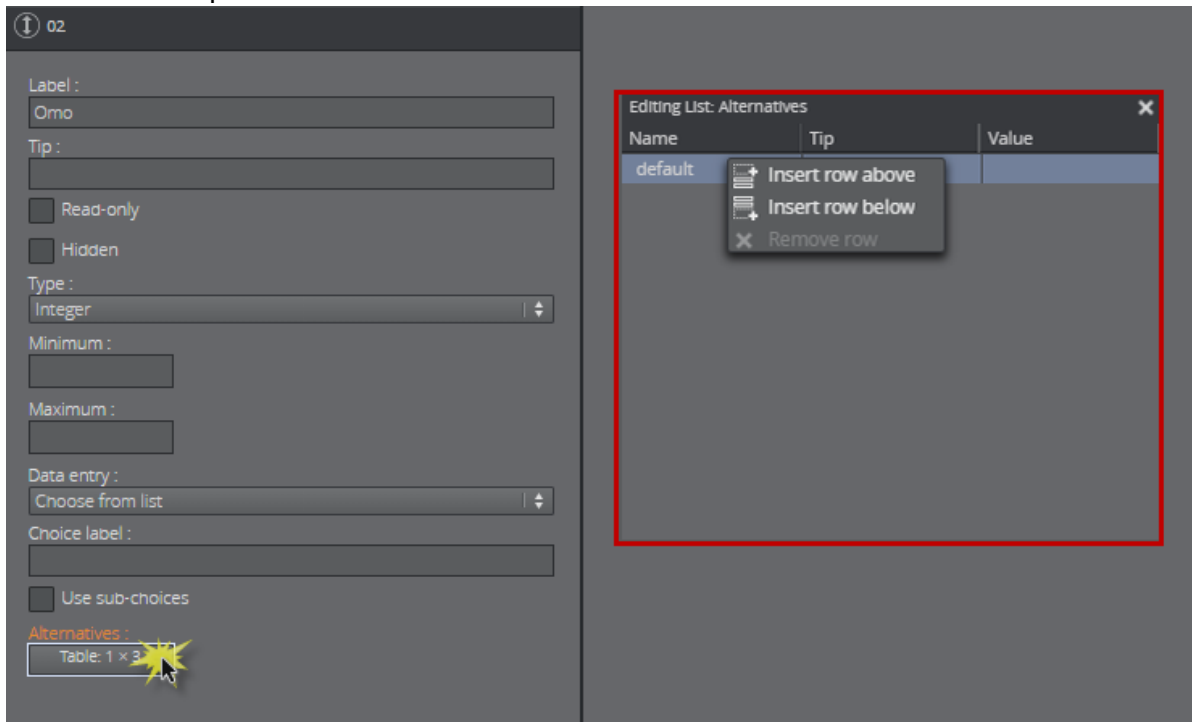
4.3.2 Choose From List

Selecting **Choose from list** lets you see the content in a drop-down list, which may in some cases make it easier and less error-prone to fill the template in with the right content.

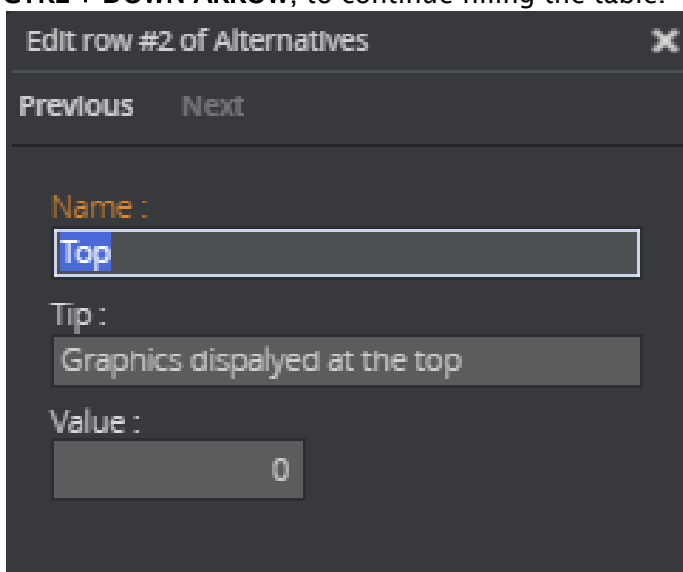
For example, when a Control Object moving (Omo) plugin is accessible in the template, scenes using Omo plugins are originally presented as integer values for the different elements in the Fill In Form. The **Choose from list** option can assign text to these values to make it easier to select the right element.

The example below contains a scene that can be displayed at the top, in the middle or at the bottom in the graphics. For the Omo plugin, these positions correspond to the values 0, 1 and 2 respectively. To assign text to these values:

- Mark the **Omo** Field ID in the Field Tree.
- Select **Choose from list** in the **Data entry** drop-down list.
- Click **Alternatives**. A new window appears. Right-click to insert or remove rows. Click a selected row or press F2 to do inline edits.



- Double-click the table or press Return to insert **Name**, **Tip**, and **Value**. Click **Next**, tab or **CTRL + DOWN ARROW**, to continue filling the table.



- The values now correspond to text in the table below. Exit the table completely.

Name	Tip	Value
Top	Graphics displayed at the top	0
Center	Graphics displayed at the center	1
Bottom	Graphics displayed at the bottom	2

- The **Omo** field in the Fill In Form now contains a drop-down list containing the alternatives created above as text, as opposed to an integer field where the user would have to remember which integer corresponds to which position.

Default Values Edit all Show all

Concept : Viz Story Landscape Variant : Grey

LINE 01 : Name

LINE 02 : Designation 11 of 33 used.

Omo : Top

- Top
- Center
- Bottom

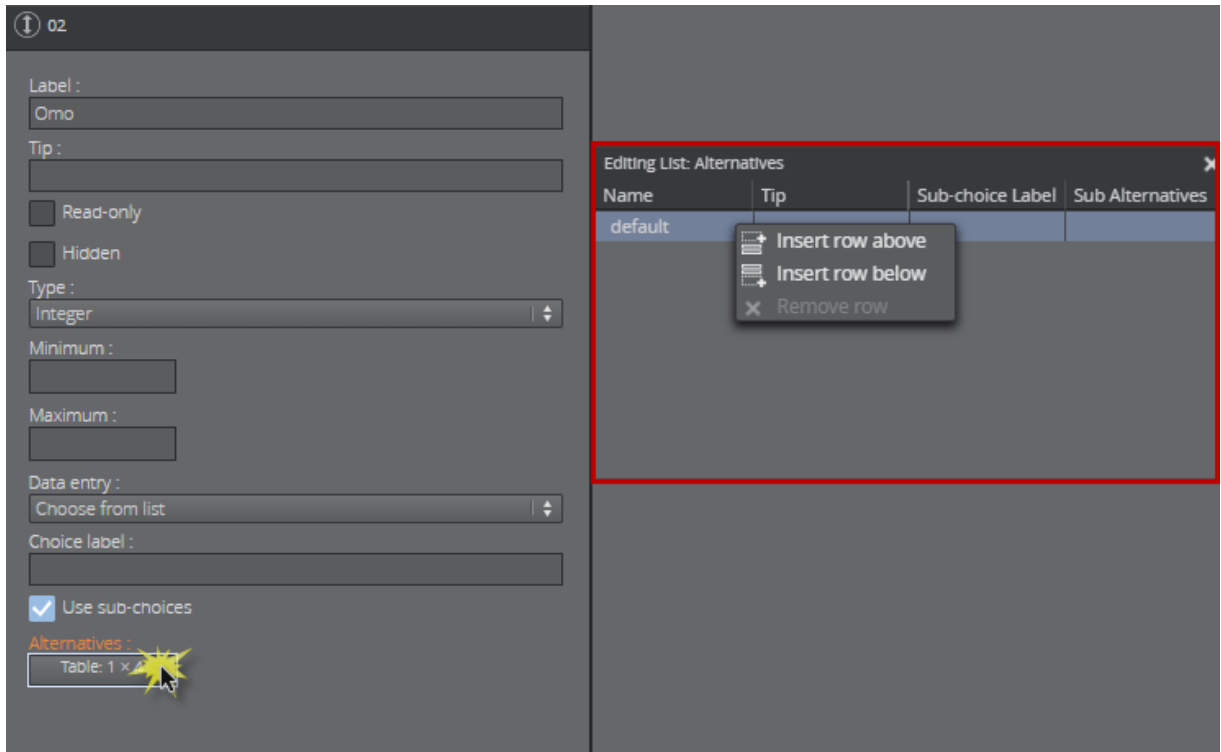
4.3.3 Using Sub-Choices

If you select the **Choose from list** option, a checkbox is made available called **Use sub-choices**, which lets you set multiple sub-choices for each choice.

For example, if the choices list different countries, sub-choices could list cities in each of the countries.

- Mark the desired Field ID in the Field Tree.

- Select **Choose from list** and tick the **Use sub-choices** check box.
- When clicking on the **Alternatives** button, a new window appears. Right-click to insert or remove rows:



- Double-click the table to insert **Name**, **Tip** and **Sub-choice Label**, in this example **Cities**:

Edit table row
✕

Previous
Next

China/Cities

Name :

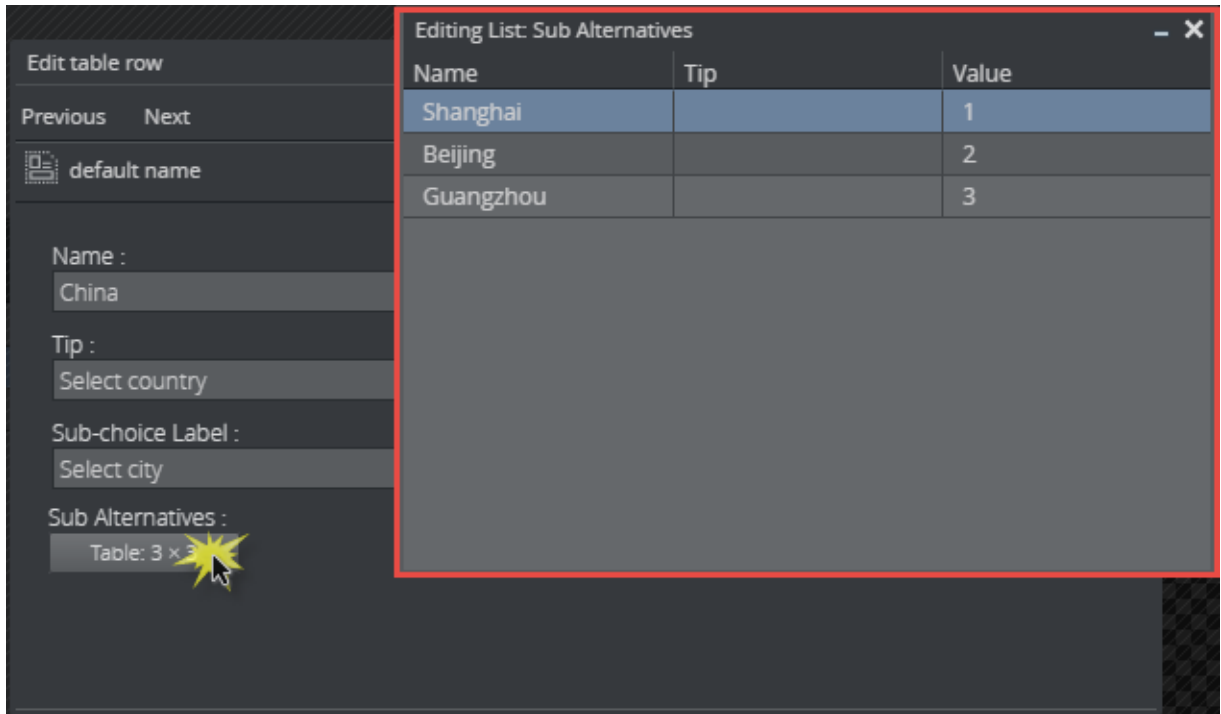
Tip :

Sub-choice Label :

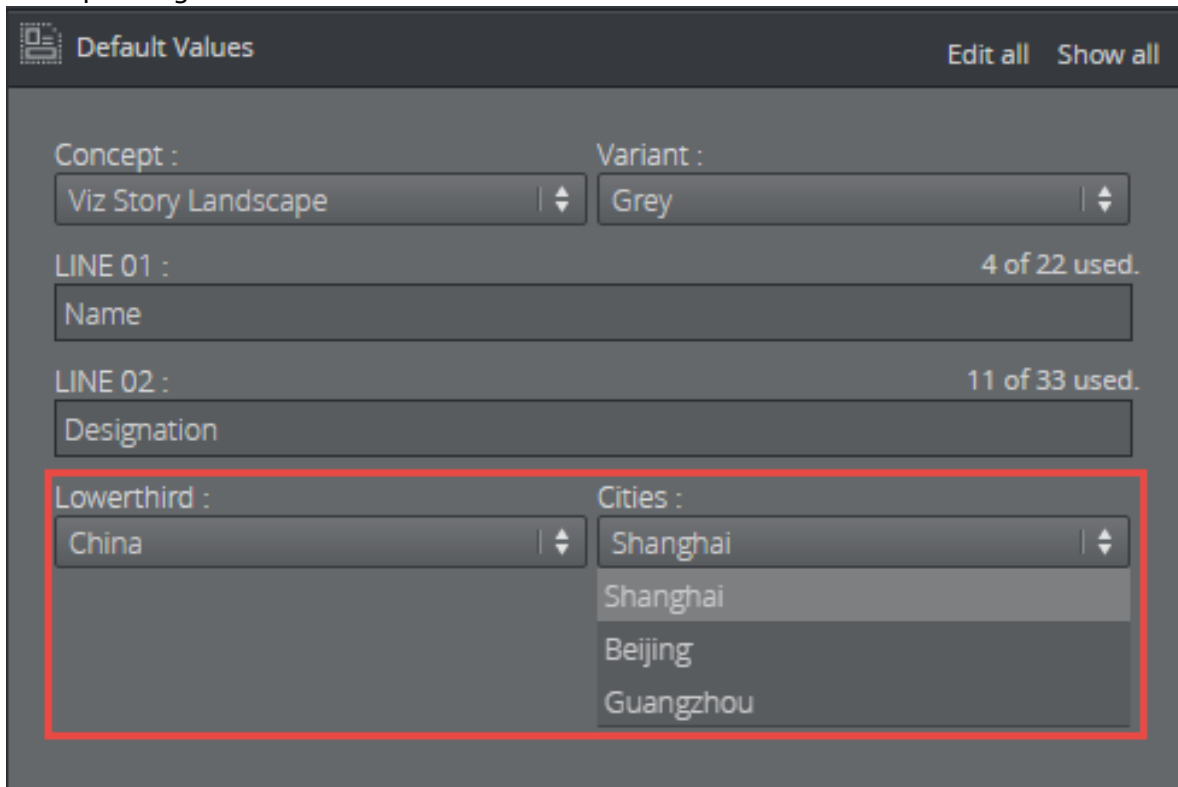
Sub Alternatives :

Table: 3 × 3

- Click the **Sub Alternatives** button to add the sub-alternatives.



- Exit the tables when complete.
- Instead of a text field in the Fill In Form, the field now contains two drop-down lists: the main choices, which in this case is a list of countries, and sub-choices, with corresponding cities.



4.3.4 Enable Feed Browser/Parent Feed Browser

This option specifies that the field should get its value from a property of an atom feed entry. If the field is a sub-field of another field that has enabled feed browser, the option is named *Parent feed browser*. Otherwise, it is named *Enable feed browser*.

- If the Enable feed browser option is selected, a **Browse** button appears next to the field in the fill-in form.
- Click **Browse** to open the **Feed Browser** dialog.
- In the Feed Browser, the atom entries of the feed are presented (with thumbnails, if available), and one of the entries can be selected.
- Information from the selected atom entry is used to fill in the feed browser enabling field and its subfields.

Note: In order to be able to fill in multiple fields from a single selection in the feed browser, fields must be subfields of the field that enables the feed browser.

4.3.5 Atom Feed URL

Note: This field property is available only for feed browser enabling fields (not for fields using *parent feed browser*).

Specify the atom feed for the field and a selection of its subfields:

The image shows a dark-themed form with three input fields. The first field is labeled 'Data entry :' and contains the text 'Enable feed browser'. The second field is labeled 'Atom Feed URL :' and is empty; it is highlighted with a red rectangular border. The third field is labeled 'Select from atom entry :' and is also empty. Each field has a small vertical arrow icon on its right side, indicating it is a dropdown menu.

4.3.6 Select from Atom Entry

Note: The options available for a given field depend on the type of the field (the atom namespace prefix represents the <http://www.w3.org/2005/Atom> namespace, and the media namespace represents the <http://search.yahoo.com/mrss/> namespace).

Data entry :

Enable feed browser

Atom Feed URL :

Select from atom entry :

<Not linked>

Content

Title

Link

Author name

Author e-mail

Author URI

Contributor name

Published


Updated

Thumbnail

Summary


- **<Not linked>**: not linked to the atom feed, and must be filled in manually.
- **Content**: linked to the content of the `atom:content` element in the atom entry.
- **Title**: linked to the content of the `atom:title` element in the atom entry.
- **Link**: linked to the `href` attribute of the `atom:link` element in the atom entry. Which link entry to pick depends on the *Link-rel in atom entry* property and the type of the field - the first link with a correct `rel` attribute and a type that matches the type of the field is chosen.
- **Entry**: linked to the atom entry itself.
- **Author name**: linked to the content of the `atom:name` element inside the relevant `atom:author` element. If the entry itself contains an `atom:author` element, that is used. Otherwise the `atom:author` element of the feed is used.
- **Author e-mail**: linked to the content of the `atom:email` element inside the relevant `atom:author` element. If the entry itself contains an `atom:author` element, that is used. Otherwise the `atom:author` element of the feed is used.
- **Author URI**: linked to the content of the `atom:uri` element inside the relevant `atom:author` element. If the entry itself contains an `atom:author` element, that is used. Otherwise the `atom:author` element of the feed is used.
- **Contributor name**: linked to the content of the `atom:name` element inside the `atom:contributor` element in the atom entry.
- **Published**: linked to the content of the `atom:published` element in the atom entry.
- **Updated**: linked to the content of the `atom:updated` element in the atom entry.
- **Thumbnail**: linked to the `url` attribute of the `media:thumbnail` element in the atom entry.

- **Summary:** linked to the content of the `atom:summary` element in the atom entry.
- **Link-rel in Atom Entry:** only available if **Link** is selected in the Select from atom entry property; it specifies the `rel` attribute of the link element in the atom entry.

 **Note:** A linked field may also be filled in manually if it's not hidden or read-only.

4.4 The HTML Panel

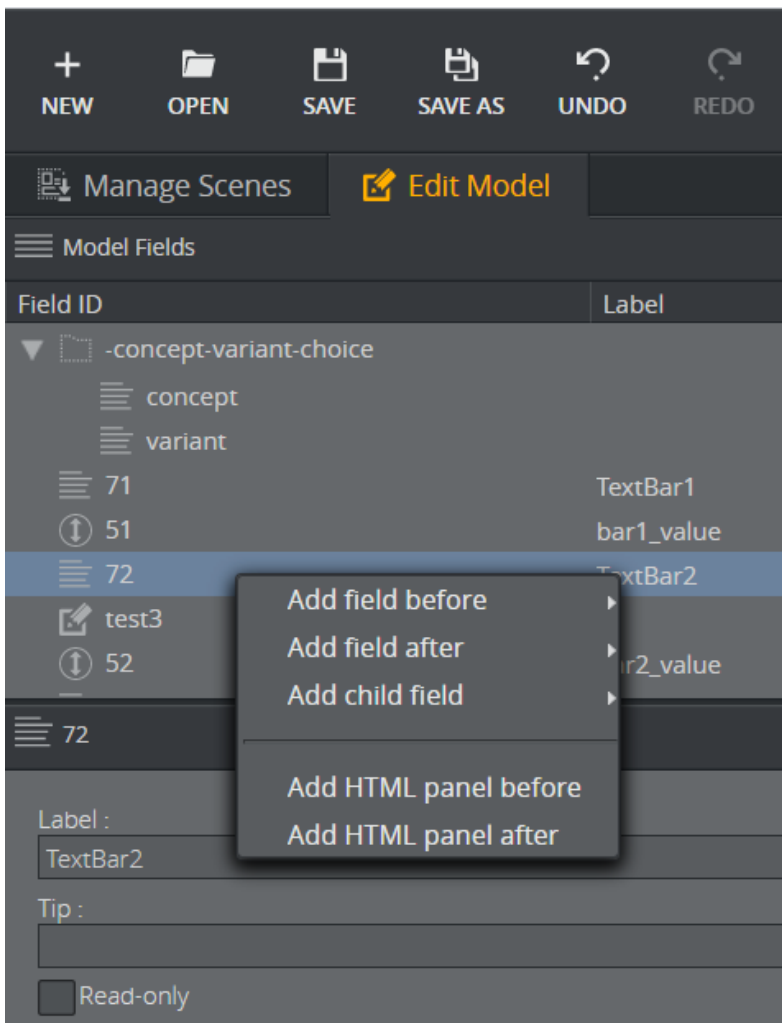
You can add an HTML panel to the template as part of the template customization workflow, giving you full control through custom scripting and logic when building the template.

 **Note:** The template can host a web page if you enter a web address in Template Builder. The aim is usually not to host a single web page, but rather to make a data integration HTML template.

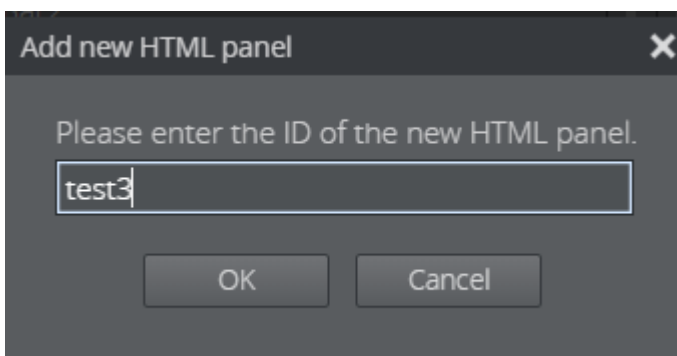
 **Note:** [Creating HTML templates](#) contains examples of how to use HTML templates.

4.4.1 Adding an HTML Panel

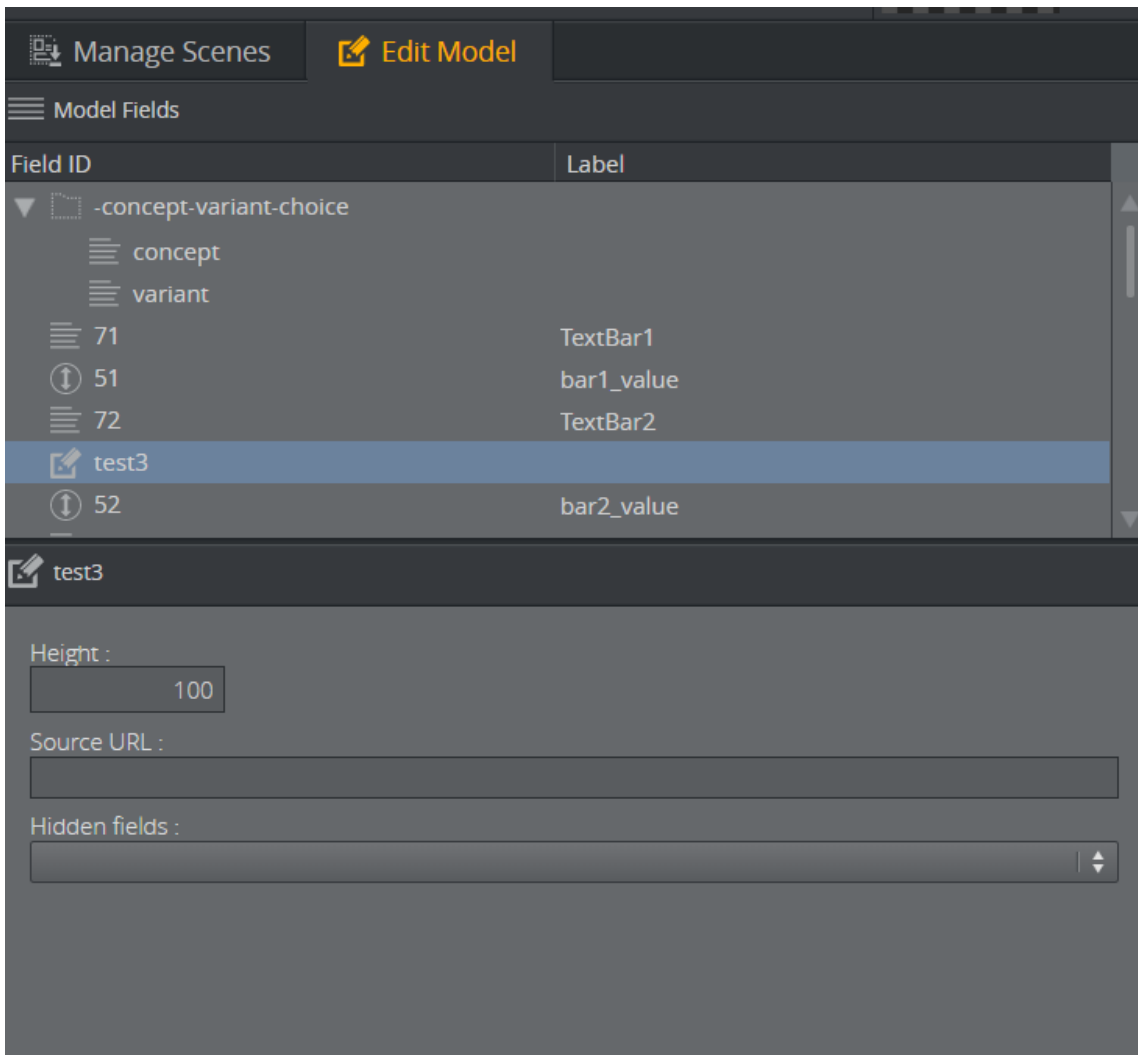
- Right-click the field ID list and select **Add HTML panel before/after:**



- Enter the ID of the of the new panel in the dialog that appears:



- Select the new **html-panel** field ID in the field tree to show its properties in the Field Properties window:



- Adjust the size of the HTML panel shown in the Fill In Form using the **Height** field.
- In **Source URL**, enter the web address.
- The **Hidden fields** drop-down list allows the user to hide available fields in the Fill In Form.

4.4.2 Browser Caching

You may experience browser caching behavior when trying to update and display changes in the custom HTML template in Template Builder; this is standard behavior. Template Builder does not control caching resources included in the HTML file itself. To prevent caching:

1. Ensure the URLs to the resources are unique upon reload.
2. Optionally configure the web server serving the resources to send Expiry headers set to 0.
3. Disable caching on the browser side.

Note: A detailed description of how caching works is unfortunately beyond the scope of this documentation.

4.4.3 Creating HTML templates

A few examples of how to create HTML templates are shown below:

- [Setting Up a Simple Custom HTML Template](#)
- [Connecting a Custom HTML Template to a Viz Pilot Template](#)
- [Connecting a Custom HTML Template to a Viz Pilot Template - Advanced](#)
- [Creating a List of Functions Where You Can Bind Fields](#)
- [Redesigning Concept/Variant Fields](#)
- [Controlling the Auto-generated Fill In Form from the HTML Template](#)

Note: To fully understand the workflow in these examples, some basic knowledge about web technology (javascript, HTML, CSS) is required. Although detailed description of the content in the files used will not be provided, API documentation bundled with the product describes the API to which a web developer creating custom HTML templates has access. This can be found at <http://<pilotsdataserverhost>:8177/app/templatebuilder/js/doc/PayloadHosting/index.html>.

Note: The following examples are a proof of concept and show only some of what can be done using the customized workflow; more advanced use allows full control of the template using custom scripting and logic.

- Use simple HTML `<input>` or `<textarea>` fields that contain an `id="field_<fieldid>"` that will automatically have a bi-directional connection.
- Take control of function mapping, and use JavaScript to do virtually whatever you wish.

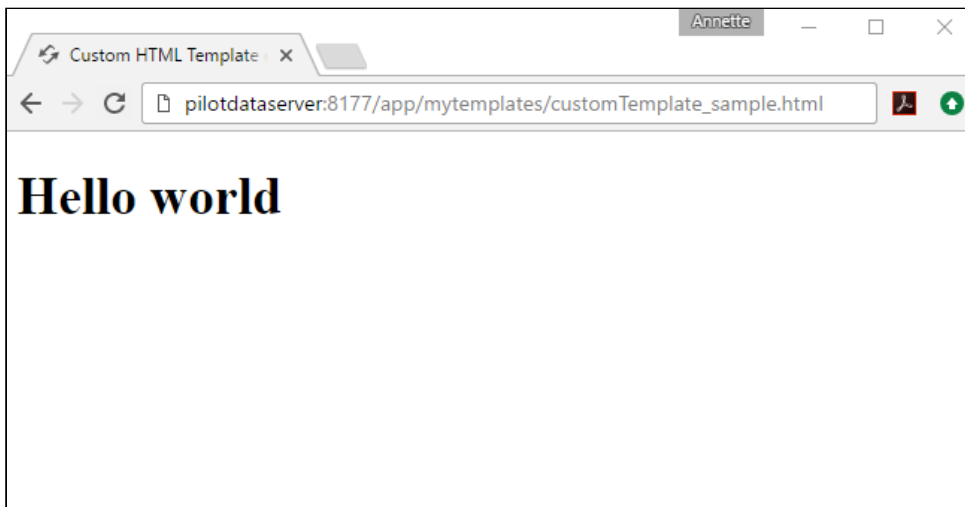
Setting Up a Simple Custom HTML Template

The example below uses a template that shows the message **Hello world** when opened in a browser.

The following tree files, including the HTML template, must be located in the same folder (C:\Program Files\Vizrt\Pilot Data Server\app\mytemplates\):

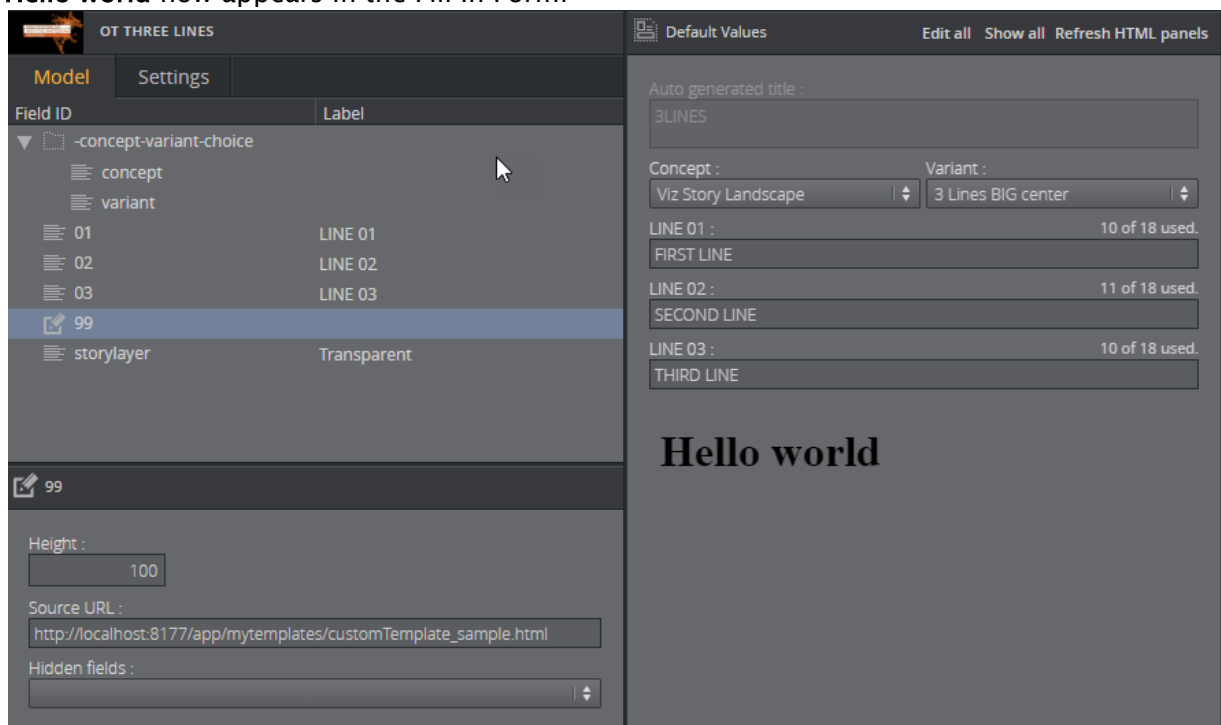
1. **customTemplate_sample.html:** The custom HTML template.
2. **customTemplate_sample.js:** The JavaScript part for the template.
3. **payloadhosting.js:** This connects everything.

The URL in the image below points to the location of the `.html` file mentioned above:



Viewing a Custom HTML Template in Template Builder

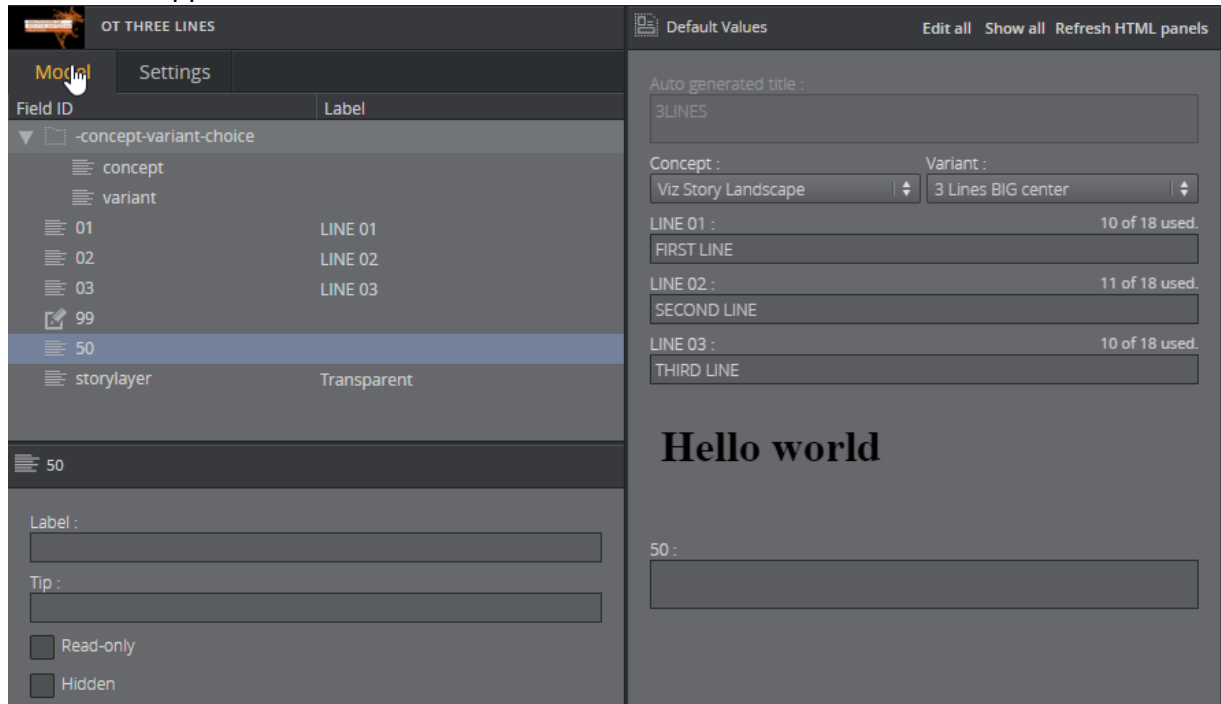
- Open a template and add an HTML panel as described [here](#).
- In the URL field, enter the URL of the custom HTML template. In this example, the URL from the picture above.
- **Hello world** now appears in the Fill In Form:



Connecting a Custom HTML Template to a Viz Pilot Template

Following the example above, we can establish a two-way communication, or *bind fields*, between the HTML template and the opened pilot template. This provides a simple way of setting up a binding field. Add a new field to the template:

- Right-click in the HTML panel field, choose **Add field before/after** and select **Plain text**.
- Give it the ID **50**.
- A new field appears:



The `<body>` block in the custom HTML template (*Template_sample.html*) that previously contained:

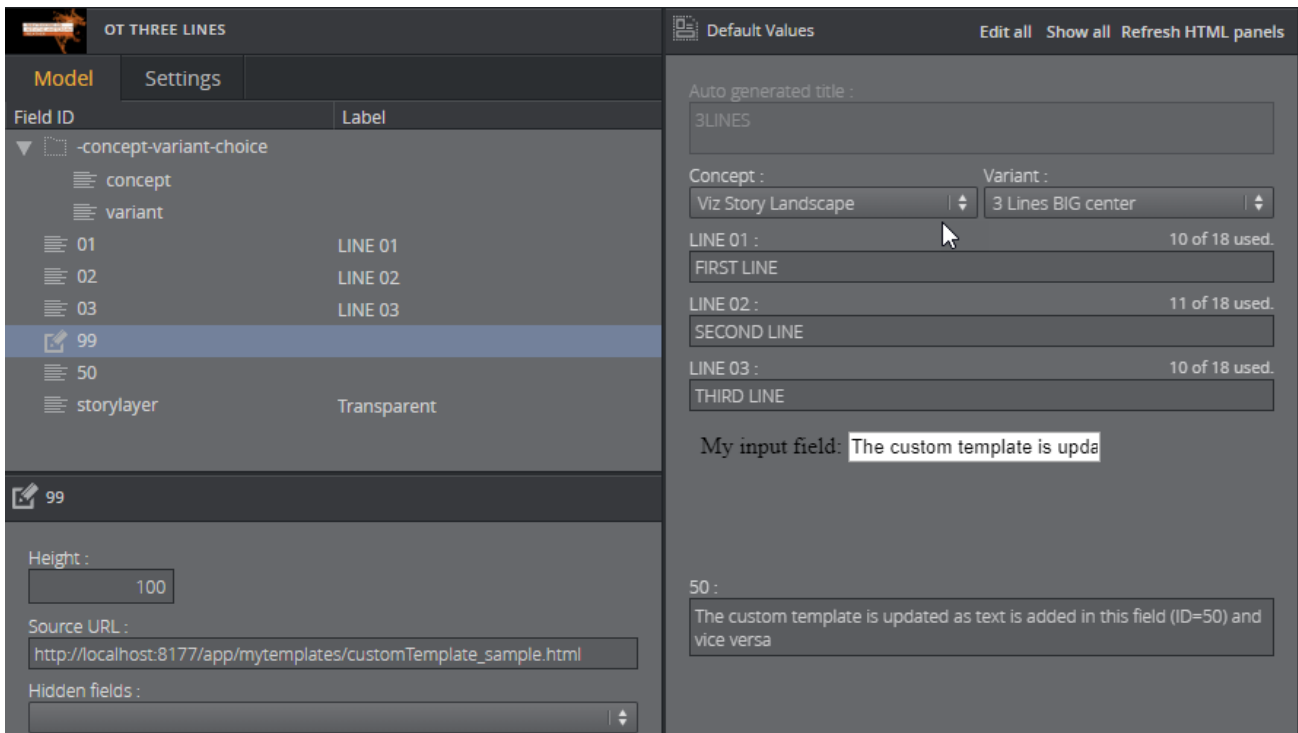
```
<body>
  <h1>Hello world</h1>
</body>
```

must then be replaced with:

```
<body onload="vizrt.payloadhosting.initialize()">
  <label for="field_50">My input field:</label>
  <input name="field_50" type="text" id="field_50">
</body>
```

Saving the HTML file and clicking **Refresh HTML panels** reloads the custom HTML template with the changes just made. A bi-directional connection between the custom template and pilot template has now been established. If you now type inside either the template or the field with ID 50, both fields are updated at the same time.

Note: This way of binding fields works for any HTML fields that have value support, typically `<input>` types and `<textarea>`.



The JavaScript file automatically seeks input elements in the HTML that match the ID of fields inside the template. Adding the `id="field_50"` to the `<input>` element inside the HTML template is all that is needed for the two-way communication to be set up since a field with ID 50 was added above. An unlimited number of these binding fields can be established in the exact same way, since they are mapped via ID.

Note: Updating the `<input>` elements programmatically still sends data back and forth, which is useful for automated data integration such as fetching live sports data.

Tip: Use the **Hidden fields** setting inside the HTML panel settings to prevent two editors for the same field being visible at the same time.

Connecting a Custom HTML Template to a Viz Pilot Template – Advanced

The following example will go more into detail than [the example above](#), and use a more scripting to give you 100% control over the template. The three files mentioned in the [Setup a simple custom HTML template](#) example are also used here.

Creating a List of Functions Where You Can Bind Fields

By adding the following above the `document.ready()` function in the `customTemplate_sample.js` file:

```
// Will be called when the field with id "50" changes
function on50Changed(value) {

}
```

and the following inside the document.ready() function:

```
var pl = vizrt.payloadhosting;
pl.initialize();
pl.setFieldValueCallbacks({ "50": on50Changed });
```

you set up a way for a custom JavaScript function to be called upon detecting a change. When field_50 receives a change from the host, the function will be called with its new value as a parameter.

Some changes will be made to the HTML file below to demonstrate that we can use custom HTML/JavaScript to do something with these values.

Inside the HTML file, the entire body is replaced with:

```
<body>
  <span id="myfield" class="sample red">My custom 50 field
</body>
```

To add some CSS to style the text, add the style tag after the closing </head> tag and before the <body> tag:

```
<style>
  .sample {
    padding:5px;
    color:white;
    border-radius:5px;
    text-shadow:0 1px 0 black;
    background:red;
  }
  .green {
    background:green;
  }
</style>
```

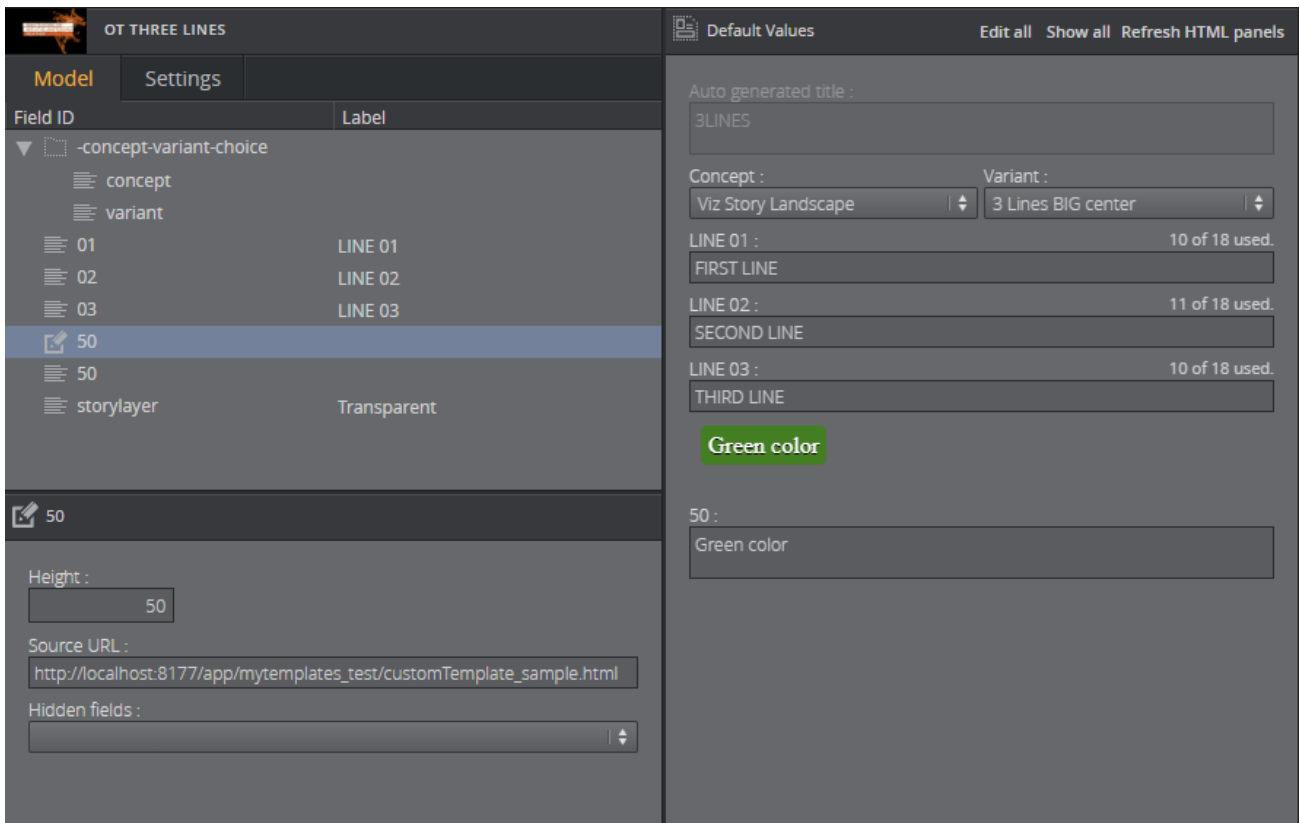
This provides the following output in Template Builder:

The screenshot shows the Template Builder interface. At the top, there are icons for 'Template Builder', 'OPEN', 'SAVE', and 'RESTORE'. Below this is a header for 'OT THREE LINES' with 'Default Values', 'Edit all', 'Show all', and 'Refresh HTML panels' options. The main area is divided into 'Model' and 'Settings' tabs. Under 'Model', there is a table with 'Field ID' and 'Label' columns. The table lists several fields, including '50' which is highlighted. Below the table, there is a detailed view for field '50' with fields for 'Height' (set to 100), 'Source URL' (http://localhost:8177/app/mytemplates_test/customTemplate), and 'Hidden fields'. On the right side, there is a 'Default Values' panel with 'Auto generated title' (3LINES), 'Concept' (Viz Story Landscape), and 'Variant' (3 Lines BIG center). Below these are three line inputs: 'LINE 01' (FIRST LINE, 10 of 18 used), 'LINE 02' (SECOND LINE, 11 of 18 used), and 'LINE 03' (THIRD LINE, 10 of 18 used). A red button labeled 'My custom 50 field' is visible at the bottom of the right panel.

Adding a bit more custom logic, we will make the background color green when there is a text value that is longer than five or shorter than 20 characters. The function is expanded by adding the following function:

```
function on50Changed(value) {
    var myField = $("#myfield");
    myField.text(value);
    if (value.length > 5 && value.length < 20) {
        myField.addClass("green");
    } else {
        myField.removeClass("green");
    }
}
```

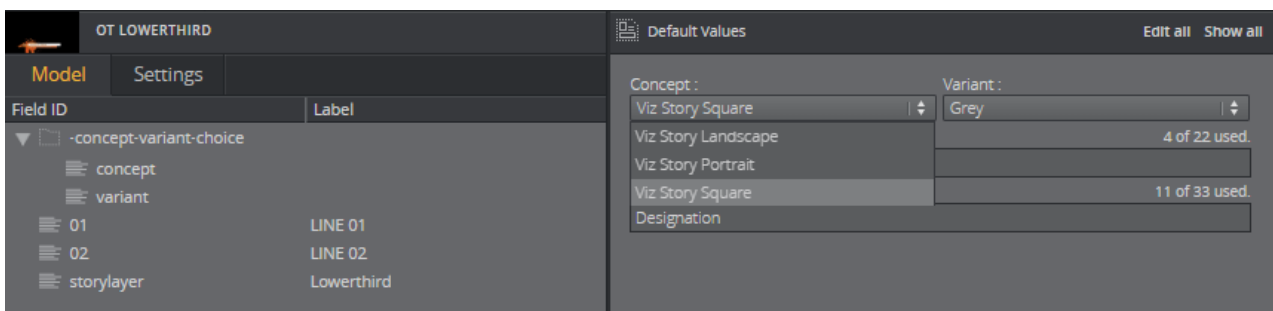
After refreshing the the HTML panel, the background color should change to green dynamically when typing.



Redesigning Concept/Variant Fields

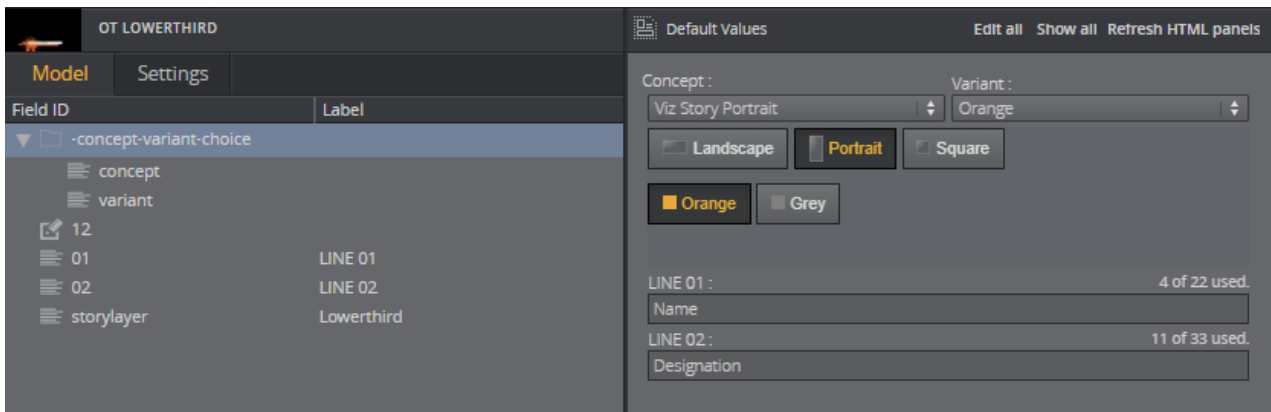
The following example shows how to present the concepts and variants in a template in a different way. A custom HTML template, JavaScript, and a bootstrap theme (for styling) are used to achieve this, but will not be shown in this example.

We have the following concepts, **Viz Story Landscape**, **Viz Story Portrait**, **Viz Story Square**, and variants, **Grey**, **Orange**, originally available as drop-down lists in the Fill In Form:

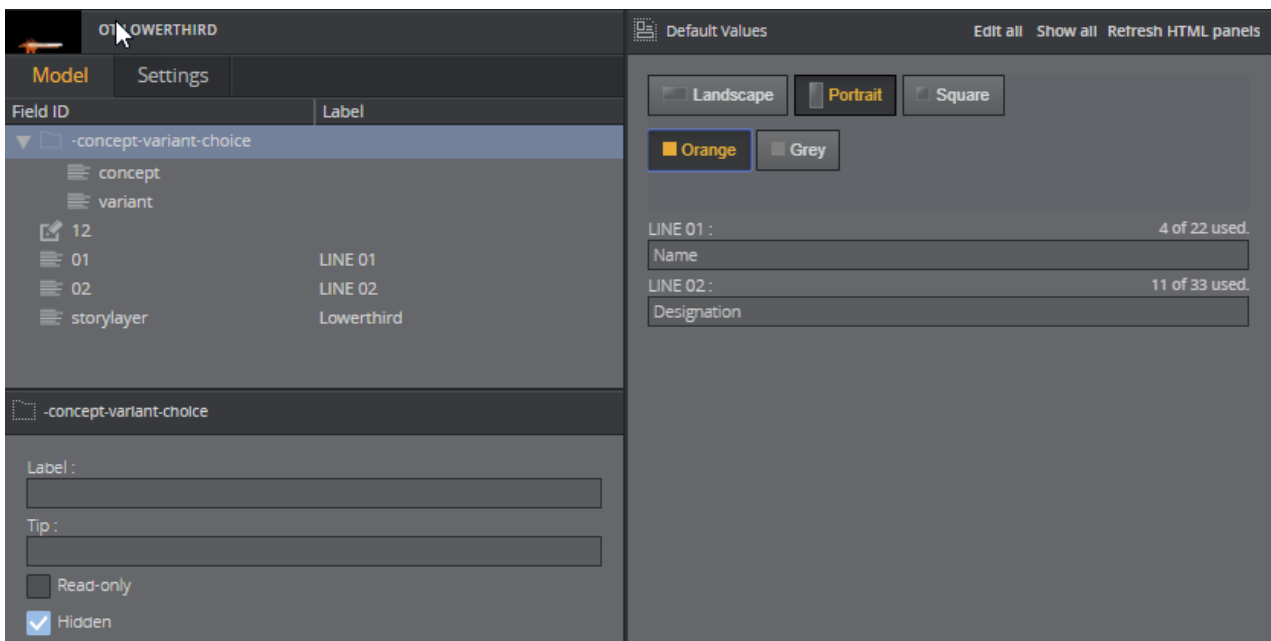


This field has more than one value since it has an ID, **-concept-variant-choice**, and two values beneath it, **concept** and **variant**. You can access a value using slash "/" to navigate in the list. For example, to access the concept use the ID, **-concept-variant-choice/concept**.

The concept and variant values are now presented as buttons. This example has a two-way binding support for both concept and variant - clicking on the new buttons updates the original drop-downs and vice versa:

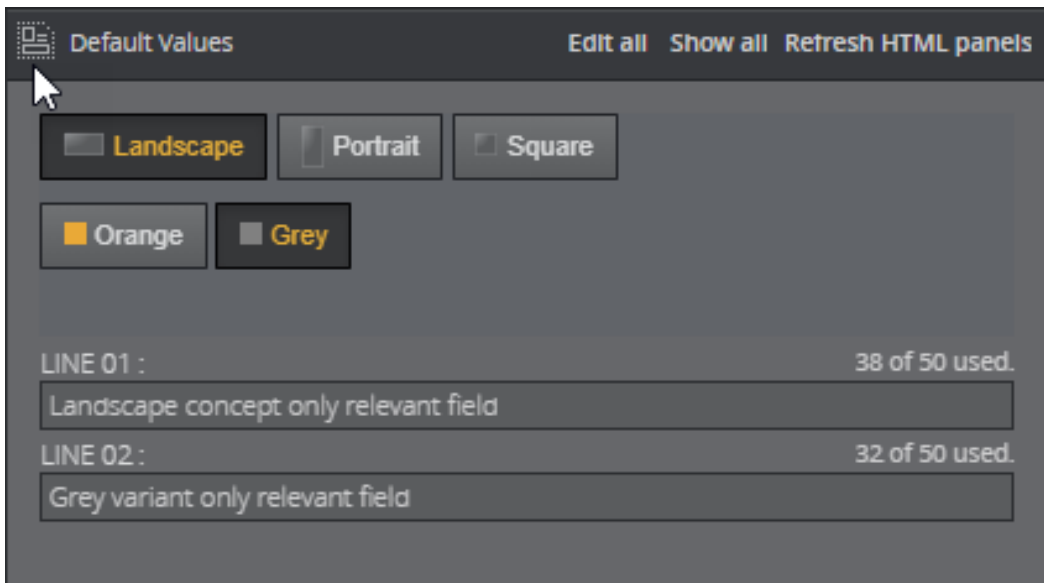


Since we have created a nicer way to select concept and variant, the drop-down lists are no longer needed and can be set as **Hidden** in the properties window:



Controlling the Auto-generated Fill In Form from the HTML Template

It's possible to dynamically set visibility and read-only attributes, letting you filter the auto-generated form based on the custom HTML template. In the following example, the **LINE 01** text field should only be visible when the **Landscape** concept is active:



In the JavaScript used in this example, there is a function called `onConceptChange(value)` which is called when the concept changes from the host. Adding the following code block inside the `onConceptChange` method block checks if the Viz Story Landscape concept is chosen. If it is, it displays the field with ID 01 in the Fill In Form:

```
if (value == "Viz Story Landscape") {
  vizrt.payloadhosting.setFieldVisibility("01", true);
} else {
  vizrt.payloadhosting.setFieldVisibility("01", false);
}
```


This only works if the value has been changed by the auto-generated concept/variant drop-down list. To make it work using the custom buttons, the same logic is also needed there. Replace the following code block:

```
$("#concept .btn").on("click", function() {
  pl.setFieldText("-concept-variant-choice/concept", $(this).data("concept"));
  clearActiveConcept();
  $(this).addClass("active");
});
```

with

```
$("#concept .btn").on("click", function() {  
  var conceptValue = $(this).data("concept");  
  vizrt.payloadhosting.setFieldVisibility("01", conceptValue == "Viz Story  
Landscape");  
  pl.setFieldText("-concept-variant-choice/concept", conceptValue);  
  clearActiveConcept();  
  $(this).addClass("active");  
});
```

If you now click on the Viz Story Square or Portrait concepts, the text field with ID 01 disappears, but is displayed if the Viz Story Landscape concept is selected.

 **Note:** This is a powerful feature that lets you customize available editing options based on certain conditions set in the template.

5 The Fill In Form

Default Values in the middle of the interface contains an auto-generated form for the graphics template (the Fill In Form).

- Add content in the editable fields.
- The type of content allowed in the fields is set in the **Edit Model** window.
- Fields can be restricted: for example, to only include text with a certain amount of characters, numbers within a specific range, or media placeholders for media assets, or be displayed as options in a drop-down list.

i **Info:** Content added will be shown in the [Preview Window](#) if the fields in the Fill In Form are exposed controls made by the template designer.

Default Values
Edit all Show all

Concept : | **Variant :**

TextBar1 :

bar1_value :

TextBar2 :

bar2_value :

TextBar3 :

bar3_value :

TextBar4 :

bar4_value :

TextBar5 :

bar5_value :

TITLE: sdsdsd

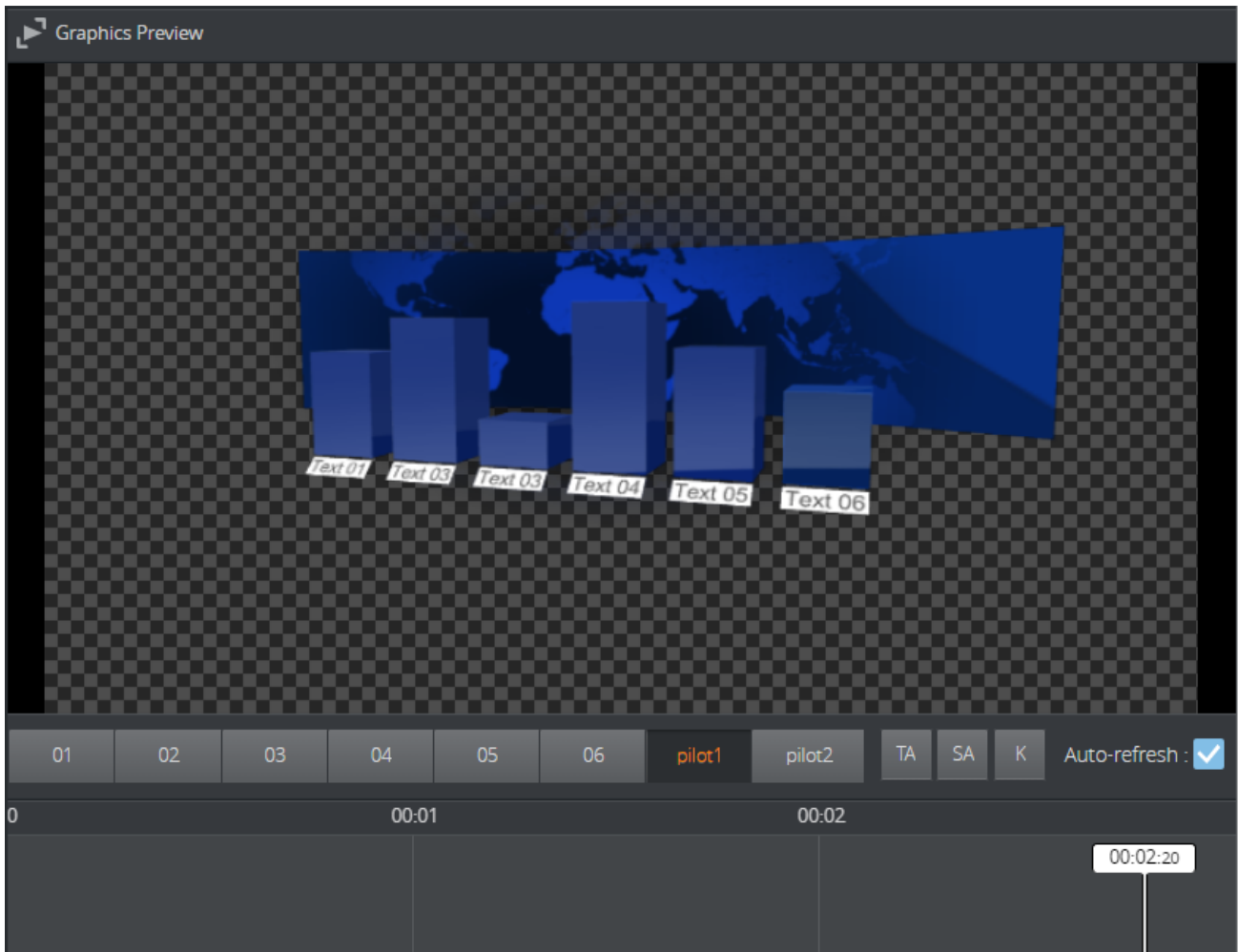
Format :

- **Edit all:** Allows editing default values of fields that are set to read-only.
- **Show all:** Displays all fields in the form, including those in hidden mode.

6 Previewing Content

The **Graphics Preview** window is located to the right of the interface. It displays snapshots of the final output in an ongoing preview process, and provides an indication of how the graphics look when played out in high resolution on a Viz Engine.

Note: Template Builder sends requests to Preview Server which manages the Viz Engines that provide the snapshots.



Adjust preview settings using the toolbar at the bottom of the Preview Window:

- **Preview points:** If the scene contains named preview points, such as stop points and/or tags in the Default director, these are displayed as buttons on the toolbar. If there is not enough space for the buttons, they appear in a drop-down list instead. Pressing the buttons or selecting an entry from the drop-down list shows a preview of the scene at the given preview point, and the playhead on the timeline jumps to where the preview point is set.
- **TA:** Show/hide the Title Area.
- **SA:** Show/hide the Safe Area.
- **K:** Show the key signal for the graphics.

- **Load:** Loads the animation of the graphics. Once loaded, this is indicated by a green line at the bottom of the timeline editor; media controls for controlling the graphics animation in the Preview Window appear.
- **Scrub** back and forth by clicking on the timeline or moving the playhead. If the scene does not have a director called Default, or the Default director does not have a duration, the timeline is disabled. [Setting the minimum duration](#) in Template Builder enables the timeline. Setting the default duration in Template Builder changes the duration of the timeline if it is enabled.
- **Auto-refresh** is enabled by default.

i **Info:** Clicking on a preview point to request a preview sends a snapshot request with a named position to Preview Server. Clicking on the timeline sends a snapshot request with an absolute position to Preview Server. For more information, see the Preview Server REST API documentation.