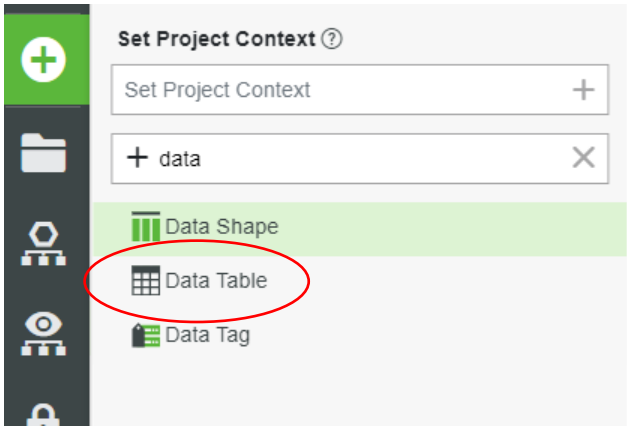
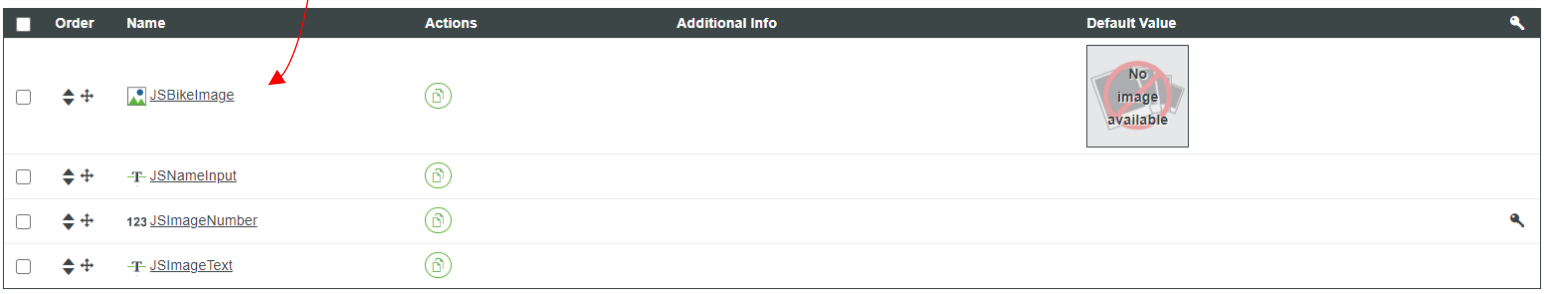
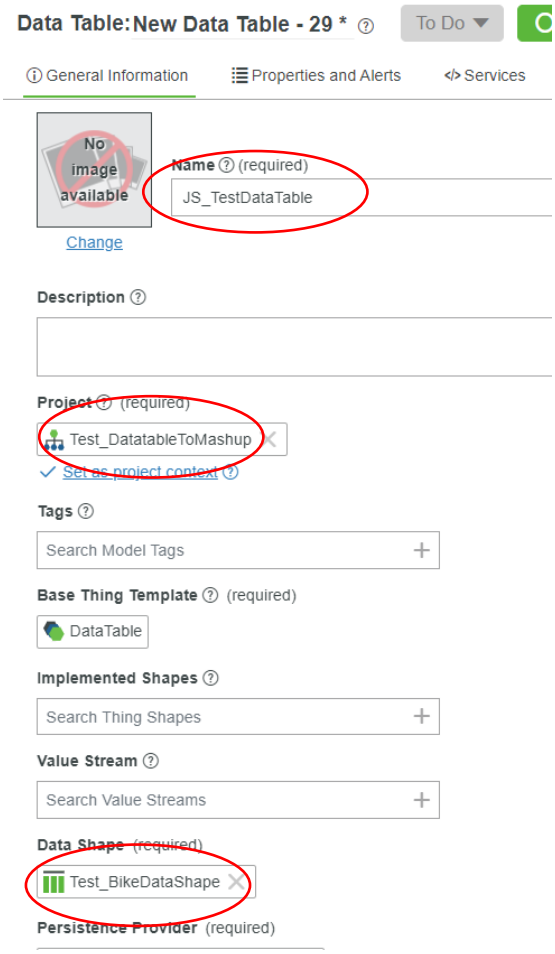
Displaying Vuforia Studio data in a Thingworx Mashup

1. Open Thingworx and create a new DataTable → DataTable



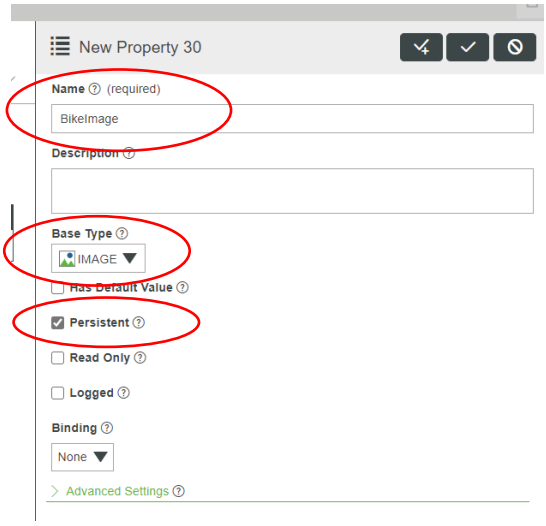
a. Name = FirstInitials_TestDataTable (ex. JS_TestDataTable)
b. Add a Project and a DataShape. (In this example I use a previously made project: Test_DatatableToMashup and DataShape: Test_BikeDataShape). You can create your own Project or use PTCDefaultProject. Your DataShape should have 4 field definitions:
   i. An Image (name it InitialsBikeImage: ex. JSBikeImate
   ii. A String named InitialsNameInput: ex. JSNameInput.
   iii. An Integer named InitialsImageNumber: ex. JSImageNumber
   iv. A String named InitialsImageText: ex. JSImageText

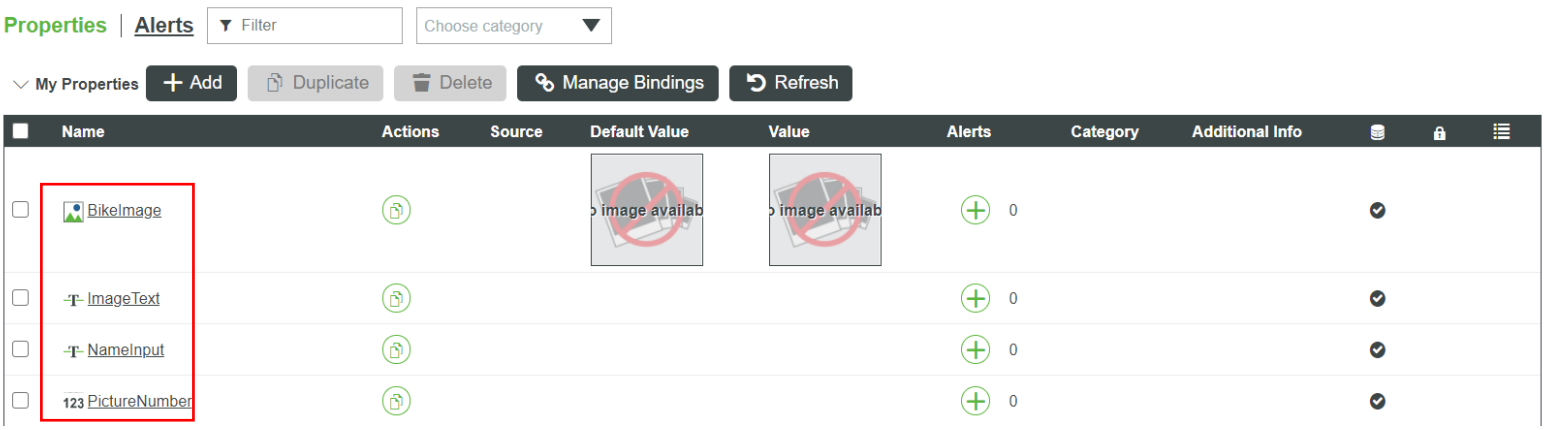




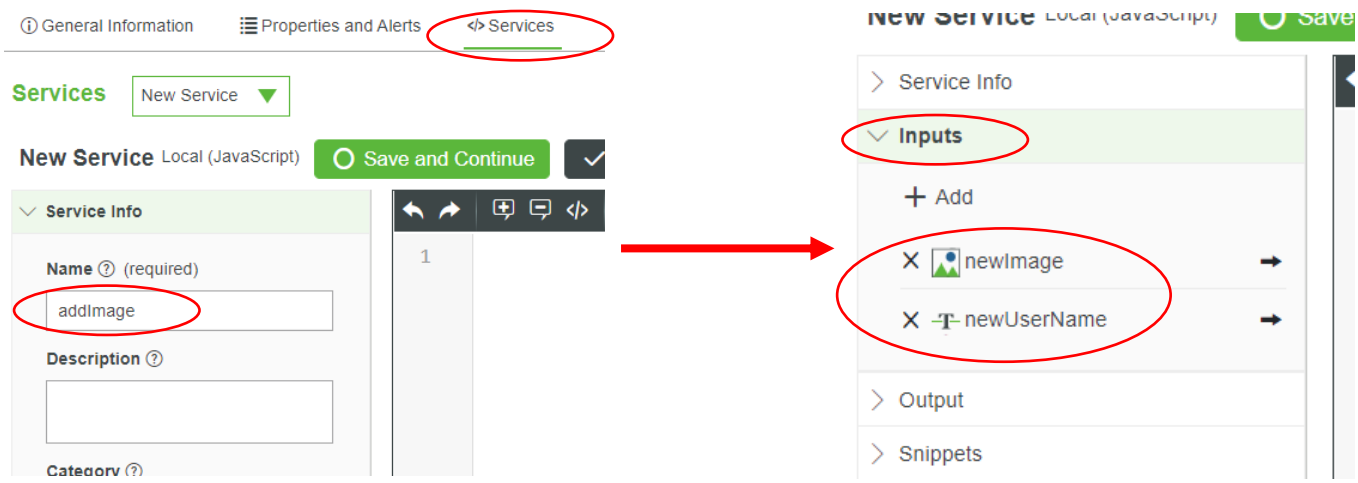
2. Go to Properties and Alerts, add 4 properties
   a. Name = BikeImage → BaseType = Image → check box Persistent
   b. Name = ImageText → BaseType = String →check box Persistent
   c. Name = NameInput → BaseType = String → check box Persistent

d. Name = PictureNumber → BaseType = integer → check box Persistent

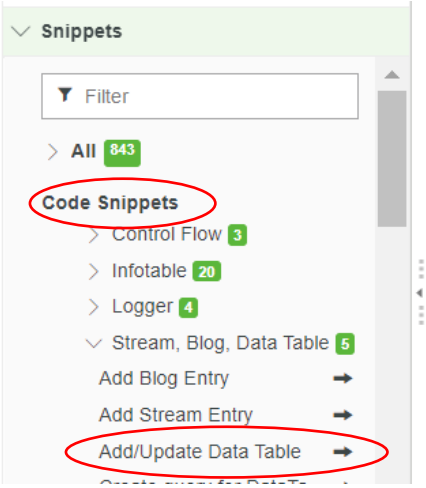




3. Go to Services, press ADD → Local JavaScript
   a. Name = AddImage
   b. Under the Inputs tab, click +Add
      i. Name = newImage → BaseType = Image
      ii. Name = newUserName → BaseType = String



c. Under Snippets tab, expand Stream, Blog, Data Table
   i. Click the arrow "→" next to "Add/Update Data Table"

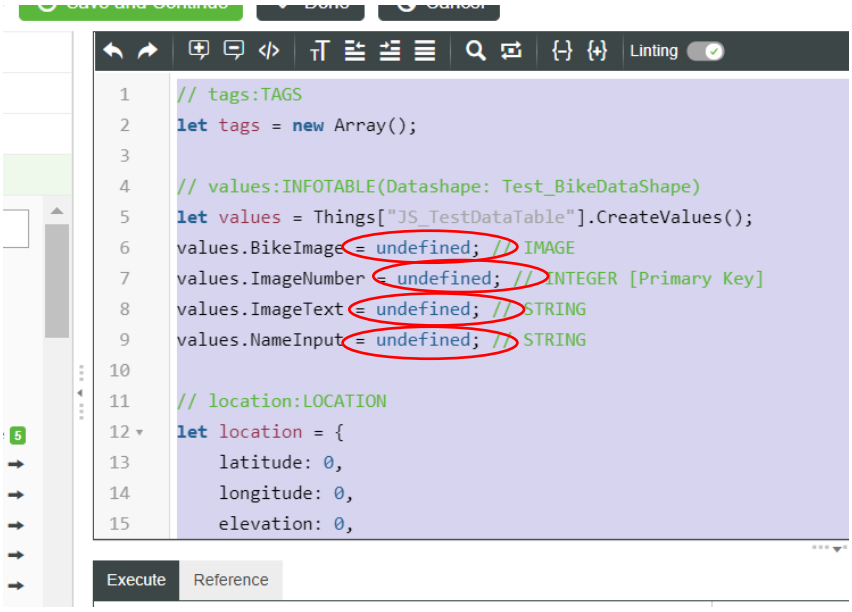


   ii. Pick the DataTable you just made. This will populate your text area.

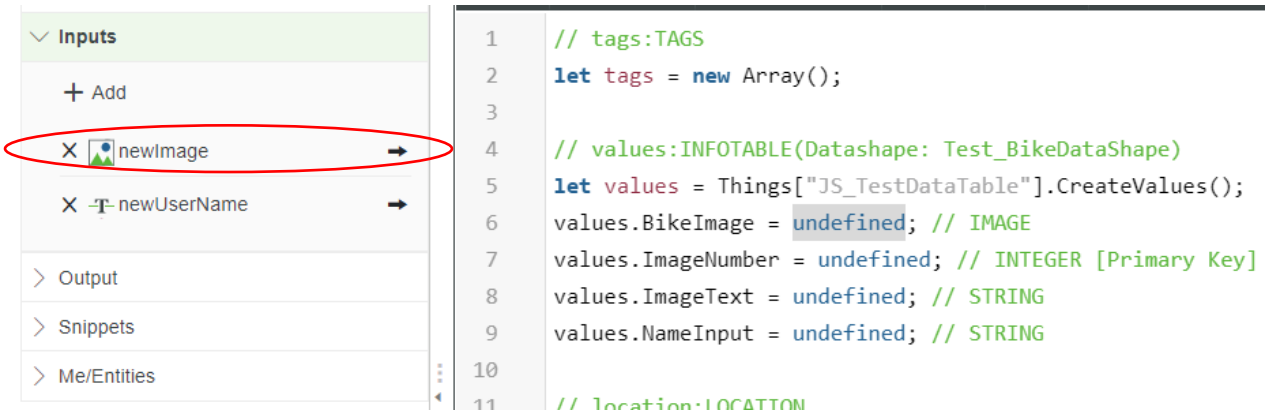
d. On lines 4-9 it should give you code similar to this:

```
// values:INFOTABLE(Datashape: Test_BikeDataShape)
let values = Things["JS_TestDataTable"].CreateValues();
values.BikeImage = undefined; // IMAGE
values.ImageNumber = undefined; // INTEGER [Primary Key]
values.ImageText = undefined; // STRING
```

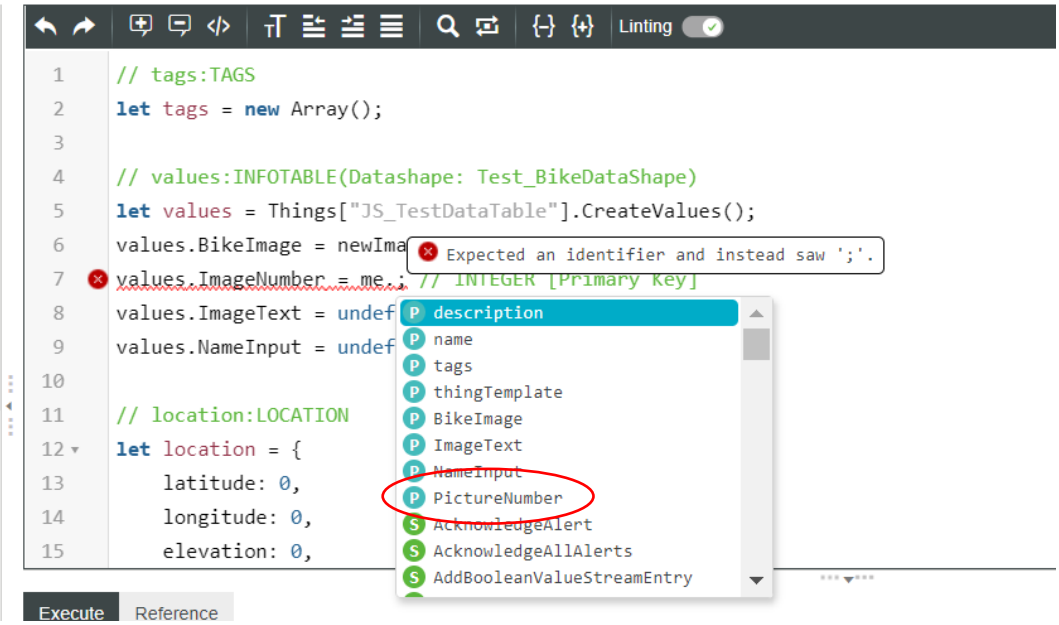
values.NameInput = undefined; // STRING



e. Repopulate all the "undefined" values:
   i. Double click on undefined on line 6. While "undefined" is highlighted, go over to the inputs on the left side of the screen and push the "→" next to newImage. This should repopulate "undefined" with "newImage"



ii. Double click on undefined on line 7. Type “me.” This should give you options of properties to pick. Choose “PictureNumber”. End the line with a “;”



iii. Double click on undefined on line 8. Repeat Line 6 and repopulate “undefined” with input “newImage”

iv. Double click on undefined on line 9. Using the newUserName input you made, replace “undefined on line 9. This should repopulate “undefined” with “newUserName”

v. Your code should now match this:

```
// values:INFOTABLE(Datashape:
Test_BikeDataShape)
let values =
Things["JS_TestDataTable"].CreateValues();
values.BikeImage = newImage; // IMAGE
values.ImageNumber = me.PictureNumber; //
INTEGER [Primary Key]
values.ImageText = newImage; // STRING
values.NameInput = newUserName; // STRING
```

```
3
4   // values:INFOTABLE(Datashape: Test_BikeDataShape)
5   let values = Things["JS_TestDataTable"].CreateValues();
6   values.BikeImage = newImage; // IMAGE
7   values.ImageNumber = me.PictureNumber; // INTEGER [Primary Key]
8   values.ImageText = newImage; // STRING
9   values.NameInput = newUserName; // STRING
10
```

f. Copy and paste this code after line 9

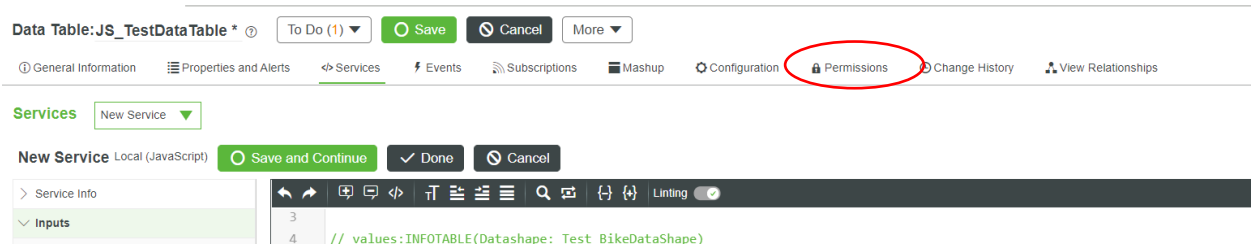
```
me.PictureNumber = me.PictureNumber + 1;
me.ImageText = newImage;
me.BikeImage = newImage;
me.NameInput = newUserName;
```

```
3
4   // values:INFOTABLE(Datashape: Test_BikeDataShape)
5   let values = Things["JS_TestDataTable"].CreateValues();
6   values.BikeImage = newImage; // IMAGE
7   values.ImageNumber = me.PictureNumber; // INTEGER [Primary Key]
8   values.ImageText = newImage; // STRING
9   values.NameInput = newUserName; // STRING
10  me.PictureNumber = me.PictureNumber + 1;
11  me.ImageText = newImage;
12  me.BikeImage = newImage;
13  me.NameInput = newUserName;
14
```

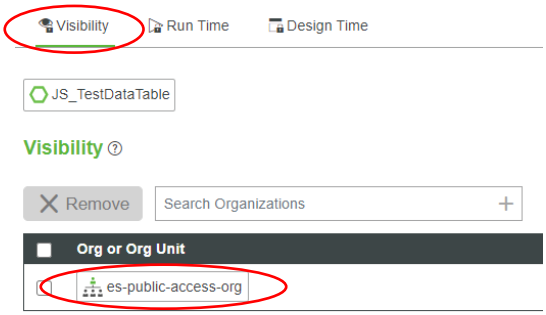
g. Click “Save and Continue” and then “Done”

4. Change Permissions in Data Table

a. Go to Permission tab

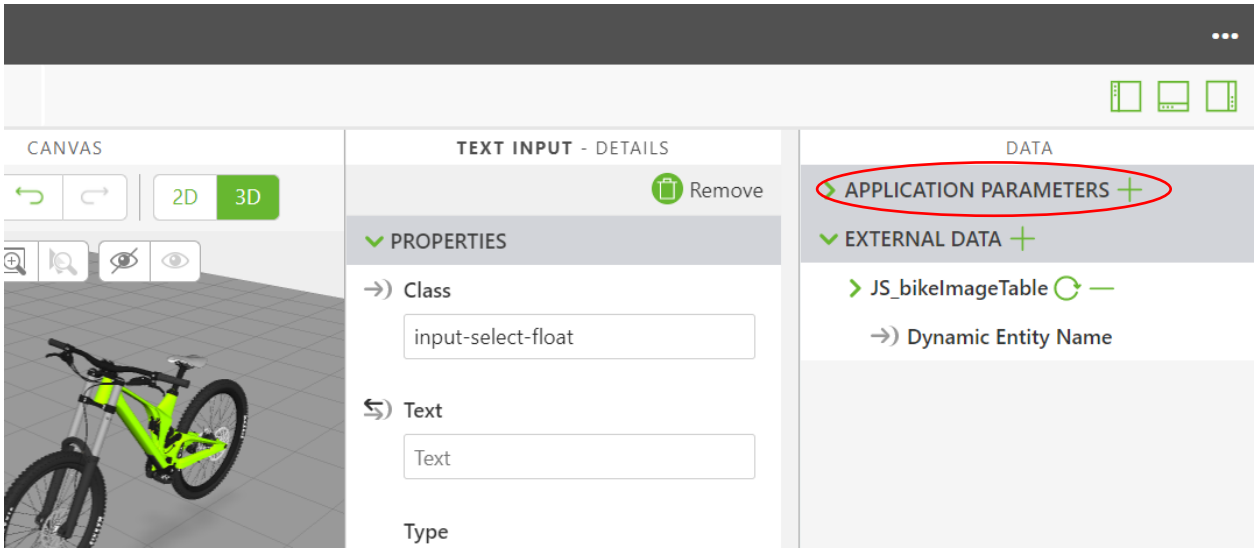


b. Under Visibility, search and select “es-public-access-org”



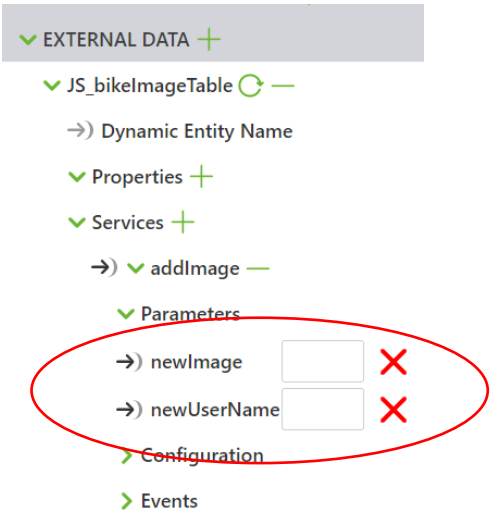
c. Under Run Time, search and select “es-public-access-org” and then check each box

5. Open Vuforia Studio → Bike Example
   a. On the far right column under external data, click on the + on “external data +”

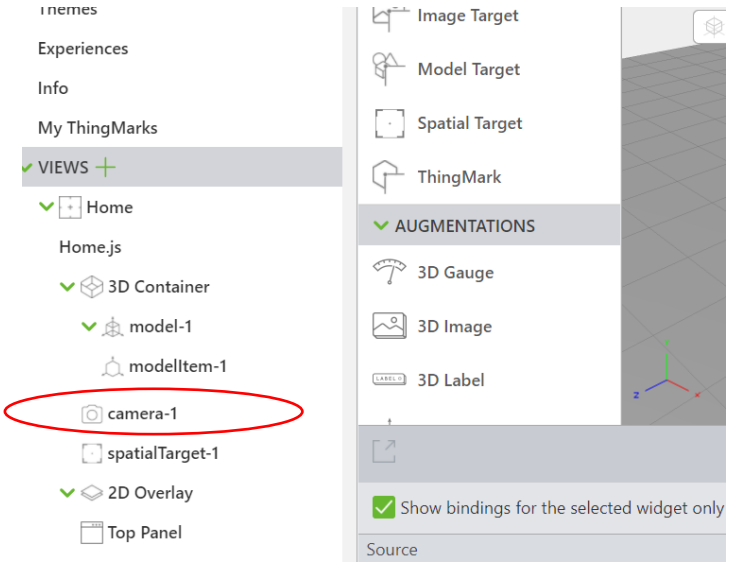


i. On the left tab of the popup, type in your initials and select your DataTable
ii. On the right tab of the popup, click the middle tab "Services"
iii. Search + for "addImage"

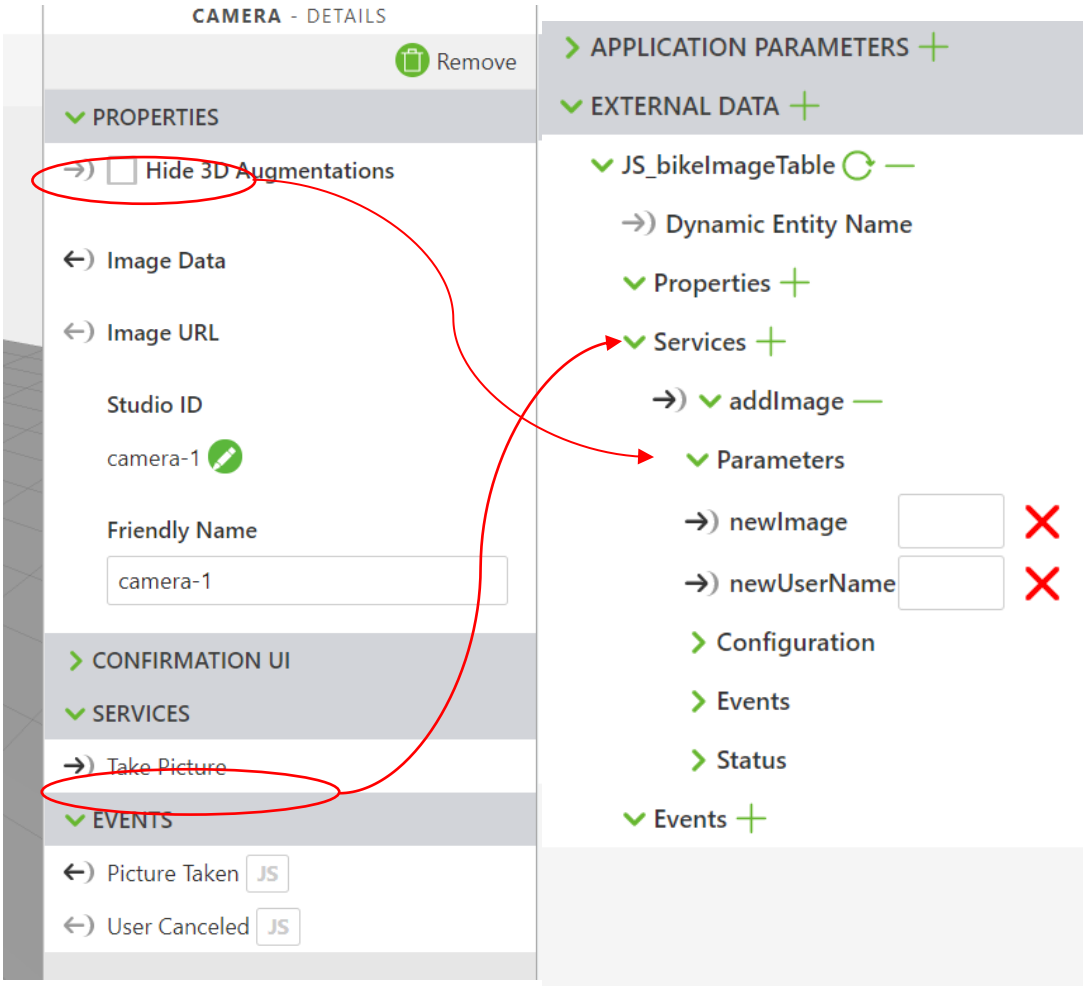
b. Under External Data, extent your Data Table → Services → addImage → Parameters, until you see NewImage and NewUserName



6. Bind Data to Thingworx:
   a. On the far left column find and select camera-1

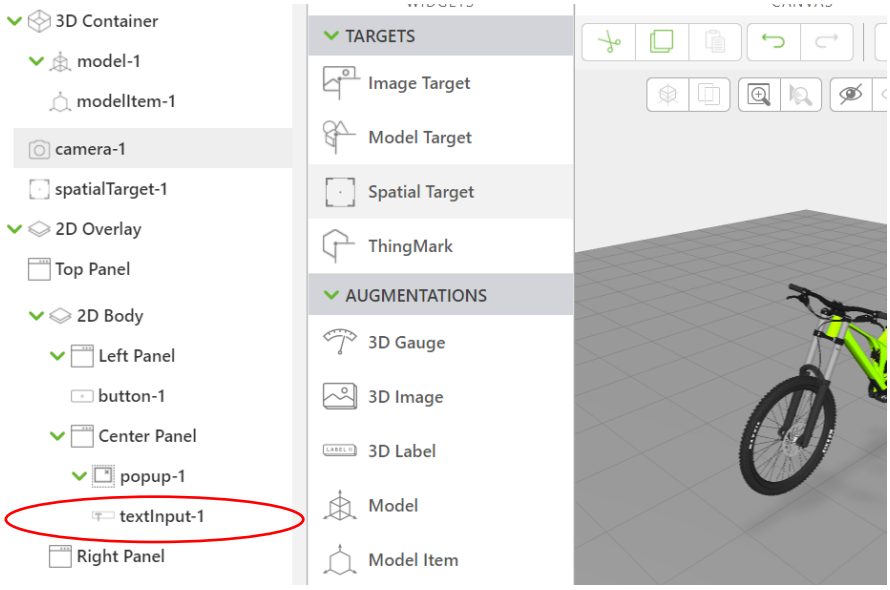


b. On the middle right panel, find “Picture Take” under Events, click and drop the “←” Picture Taken to “addImage” on the far right column

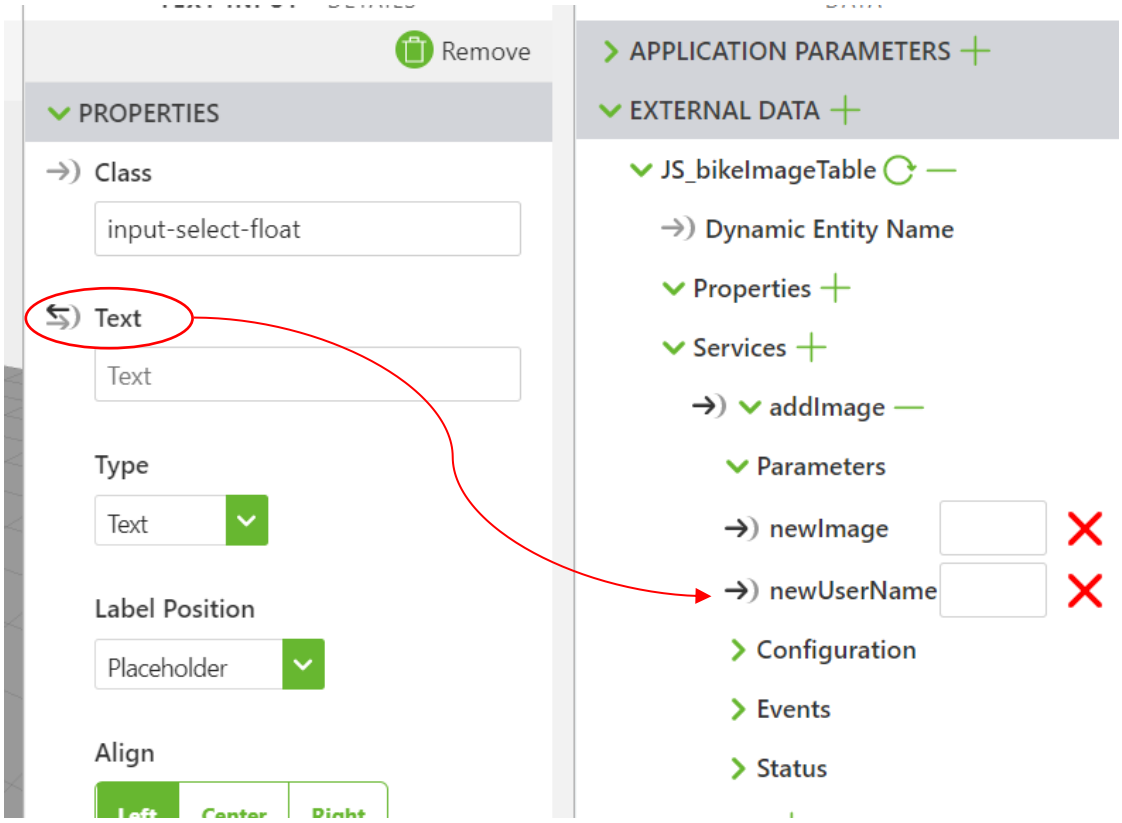


c. On the same middle-right panel, drag and drop the “←” from Image Data to “New Image” on the far right column

d. On the far left column, find and select “textInput-1”



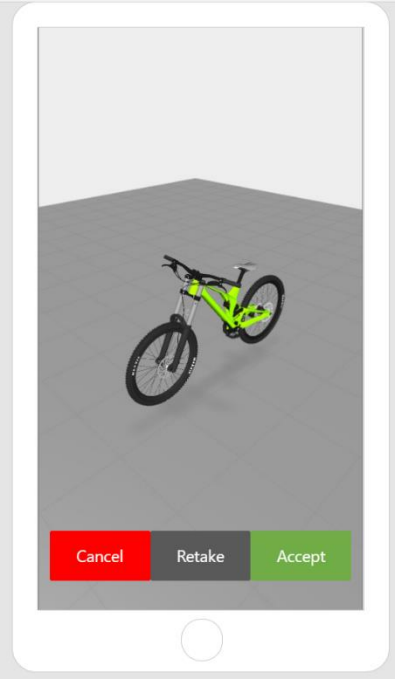
e. Click and drag the arrow from “text” to “newUserName” on the far right column



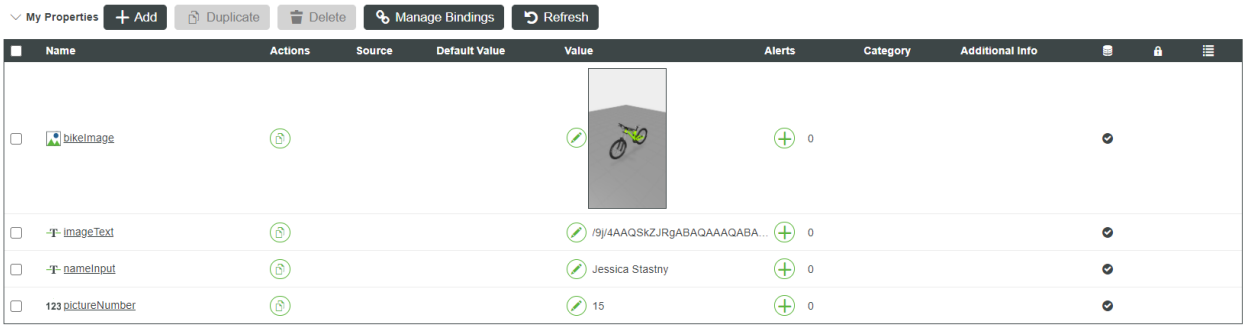
f. Click Save

7. Click Preview
   a. Type you Name and then press enter.
   b. Select the camera button.

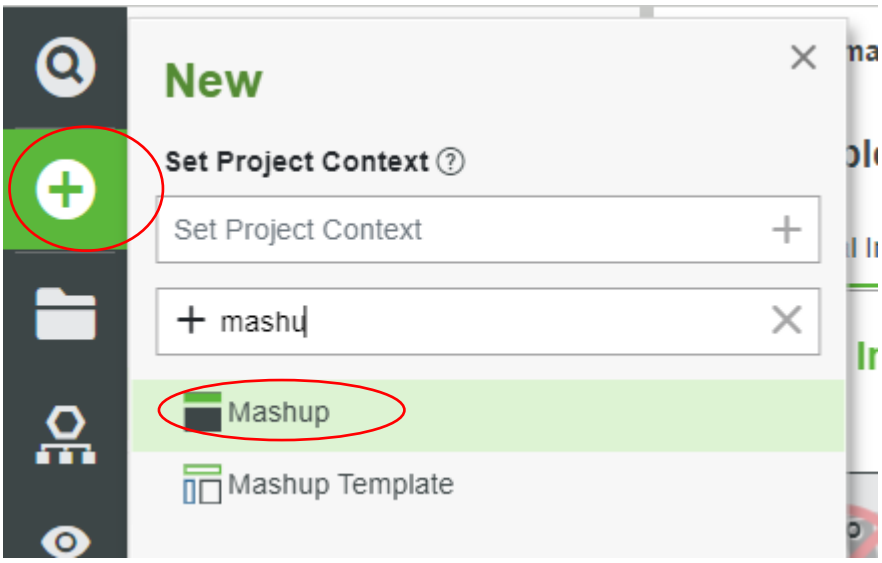
c. Press Accept



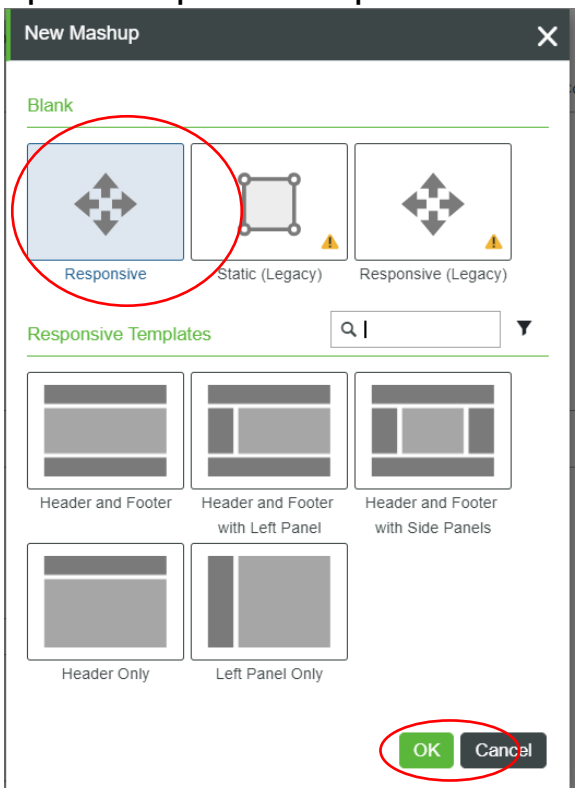
8. Go back into Thingworx to your Data Table and press refresh. In the Properties tab you should see the image you just took in Vuforia along with your name



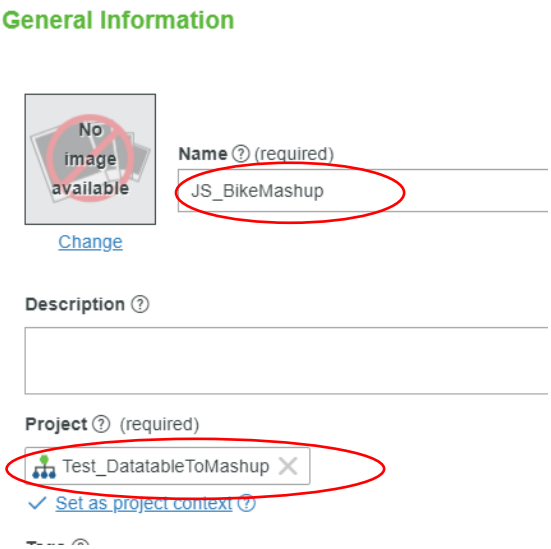
9. Create a new Mashup



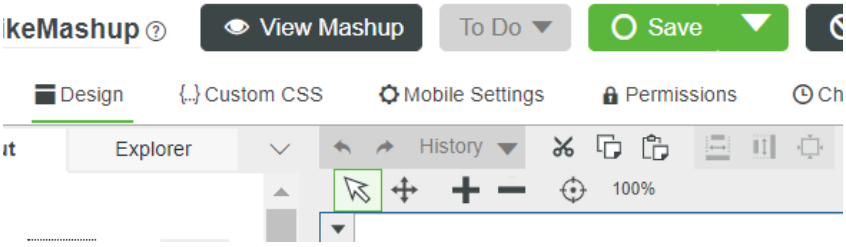
10. In the popup screen press "Responsive" and OK



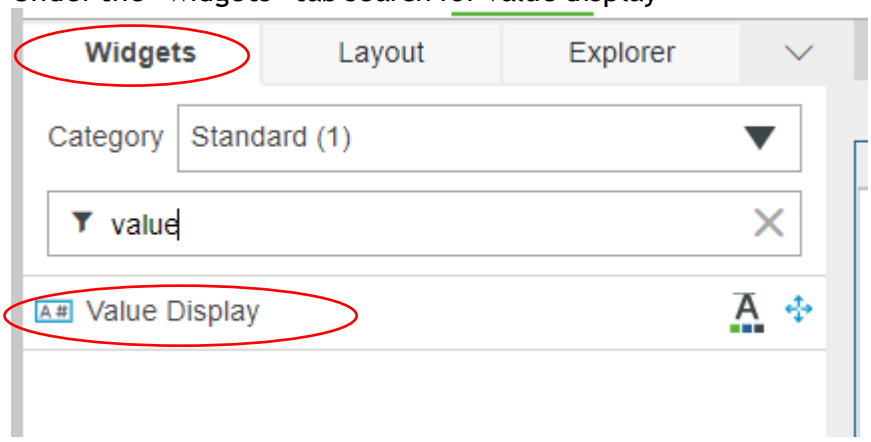
11. Name your Mashup: FirstName_BikeMashup (Ex. JS_BikeMashup)
    a. For Project, search and select Test_DatatableToMashup



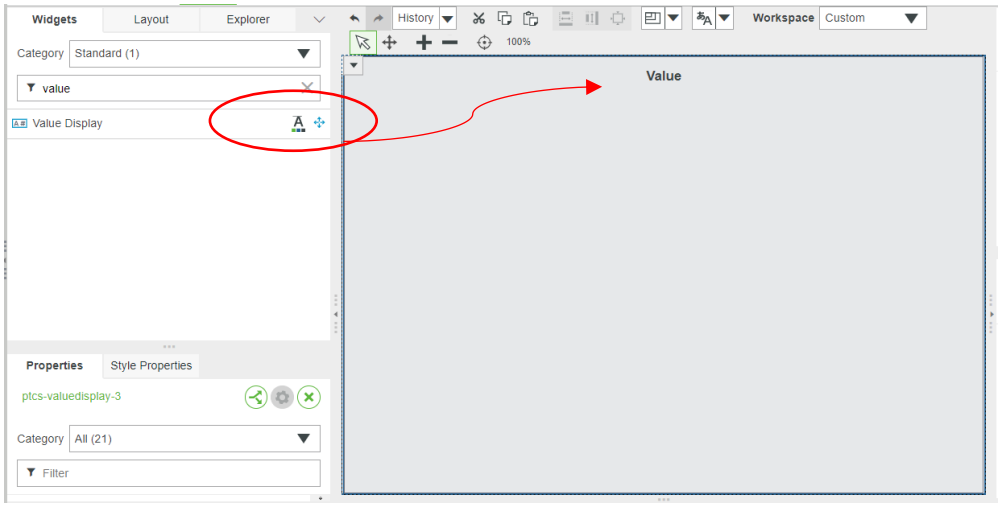
b. Press Save and go to the Design tab



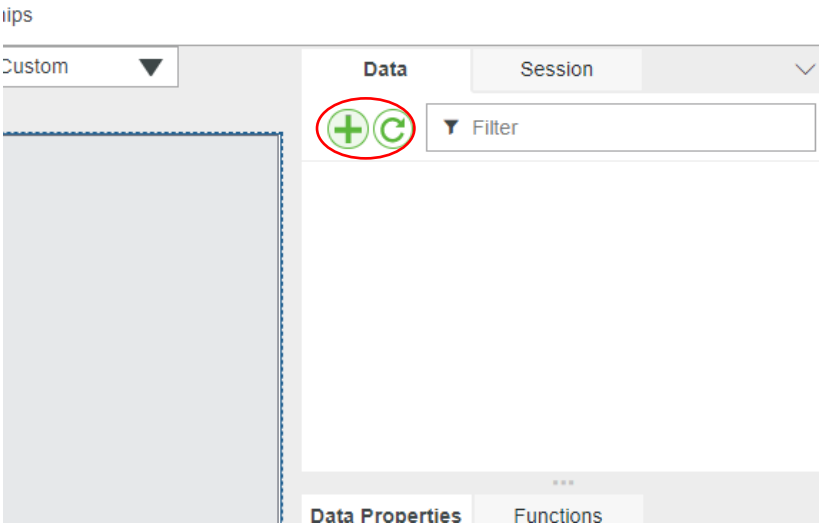
c. Under the "widgets" tab search for value display



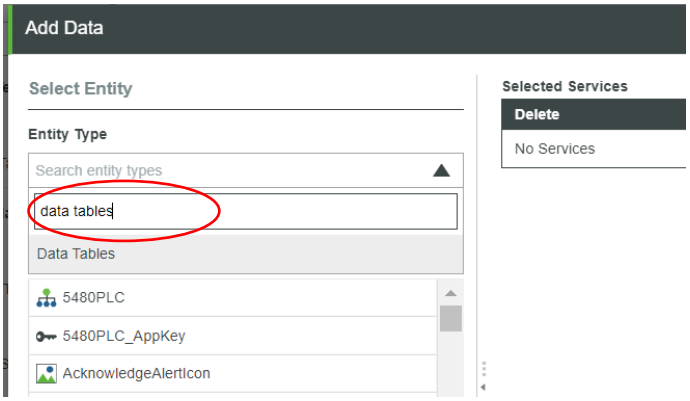
d. Click and drag the Value Display into the Mashup Panel in the center of the screen



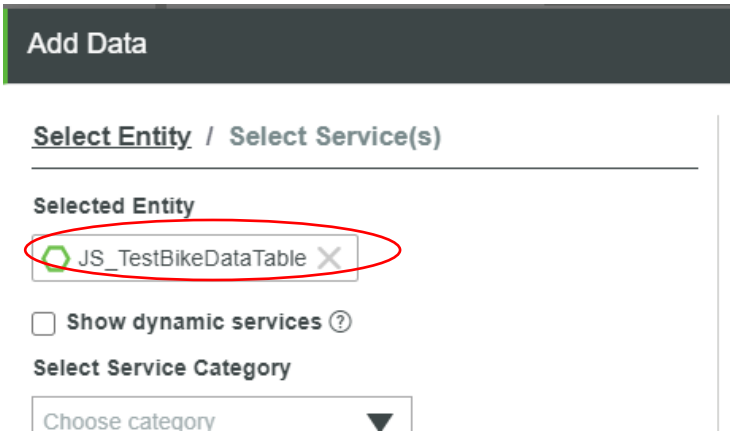
12. In the top right panel select the "+" button under the data tab



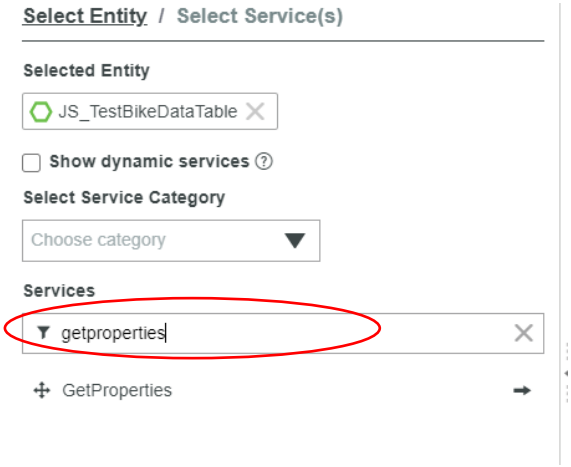
a. In the popup under Entities, search for Data Tables



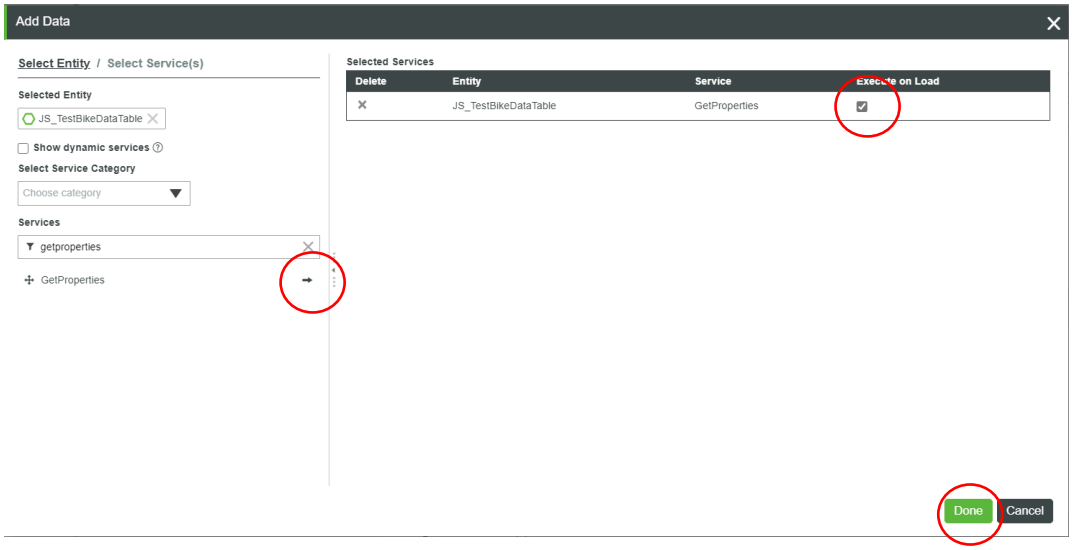
b. Find and select your Data Table



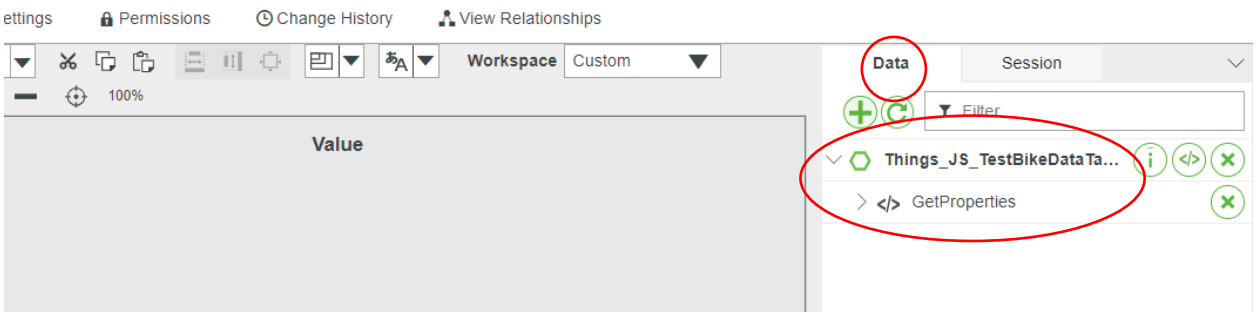
c. Under Services, search and select for "getProperties".



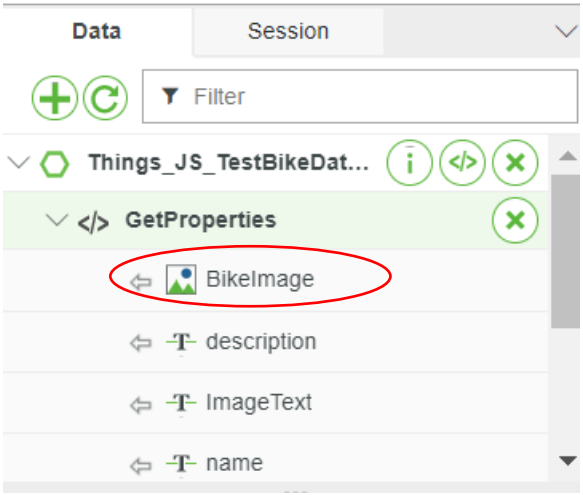
d. Press the "→" arrow next to "getProperties" to add it and check "Execute on Load"
e. Click "Done"



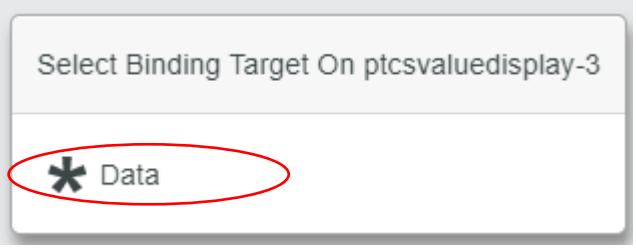
f. You should now be able to see "getProperties" under the Data tab as shown below

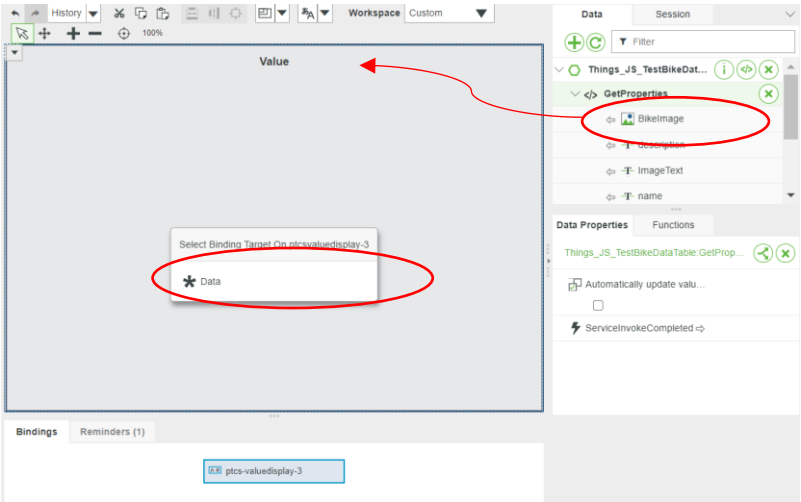


g. Expand the GetProperties tab until you see “BikeImage”

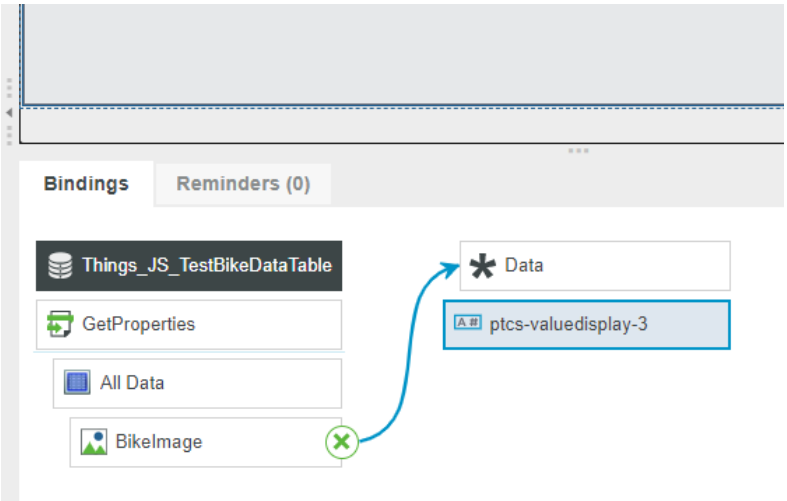


h. Click and drag the “←” button next to BikeImage into the Value Display in the center of the screen. A little popup should appear on the mashup screen.
i. Select “*Data”

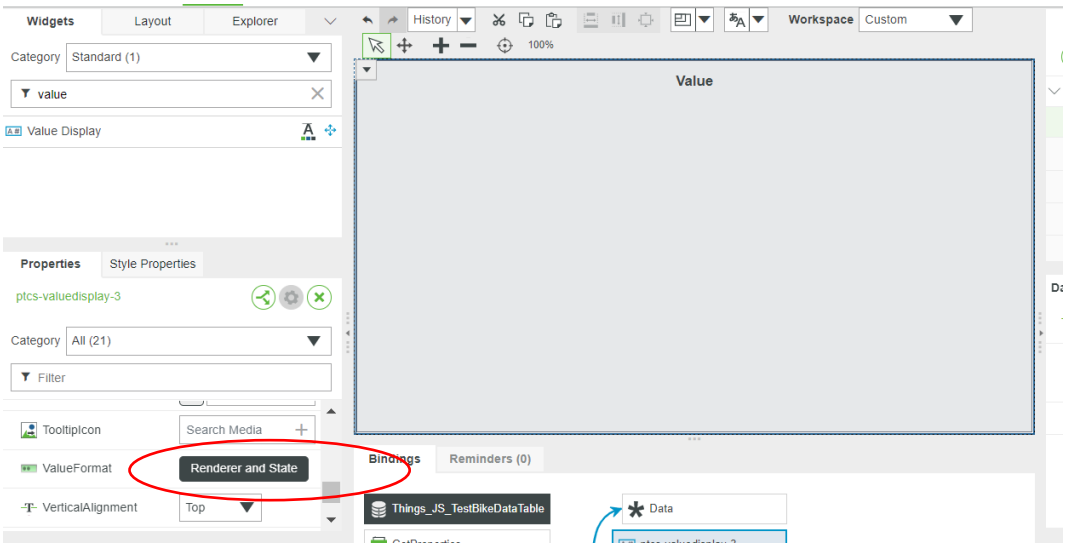




j. At the bottom of the screen under bindings you should see the BikeImage property now binded to the valuedisplay widget.

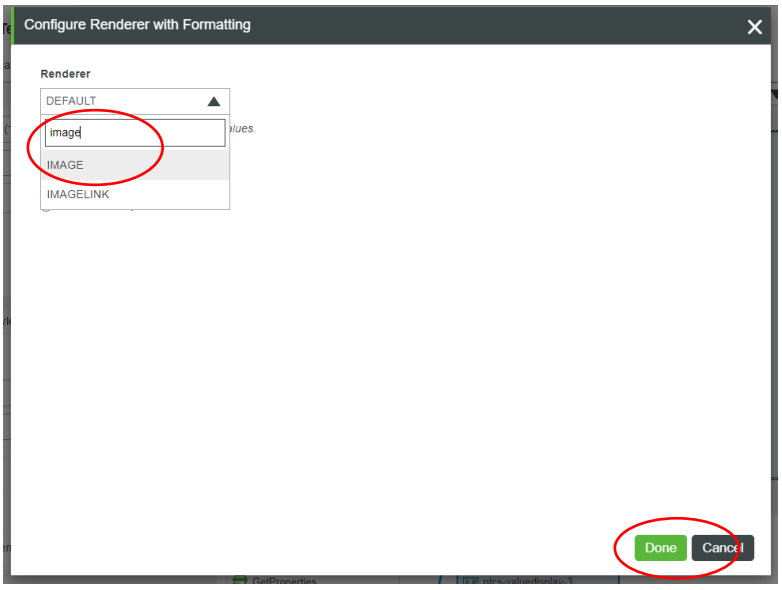


k. Click on the center of the screen on the Value widget in the mashup. Under the Properties tab on the bottom left panel of the screen, scroll down until you see “Value Format”

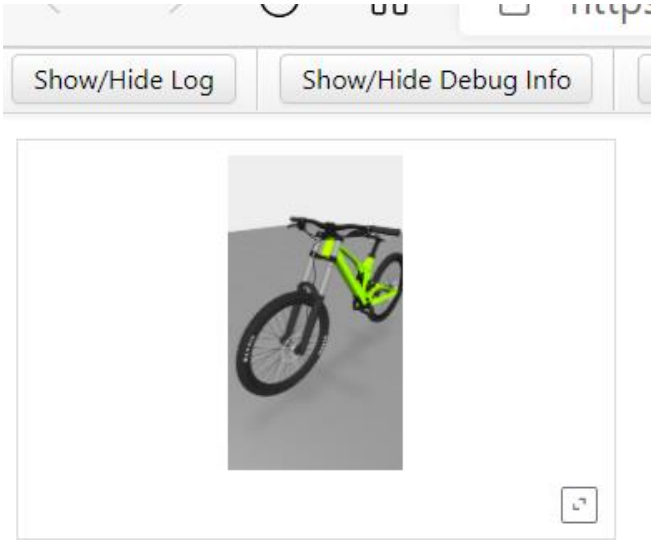


l. Select “Renderer and State”

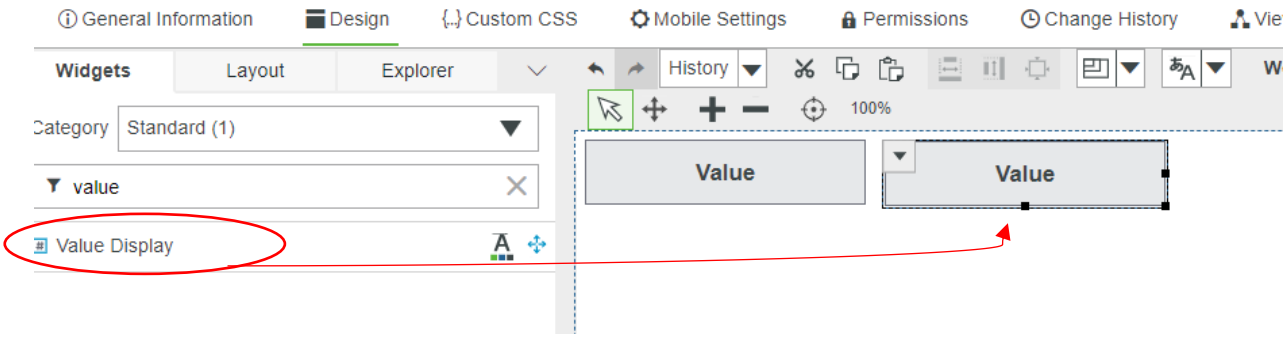
m. Under Renderer, search and select “Image” and then press “Done”.



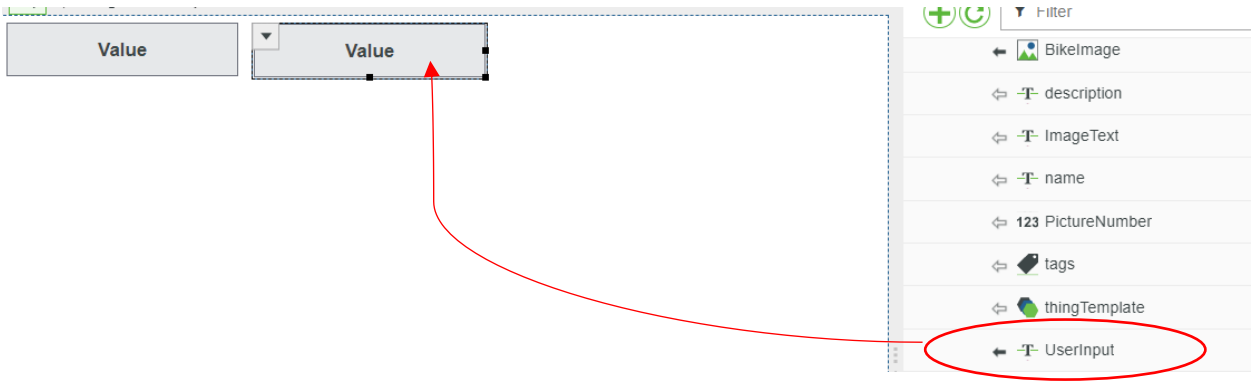
n. Press “Save” and “View Mashup”. An image of the most recent picture taken should appear on the screen.



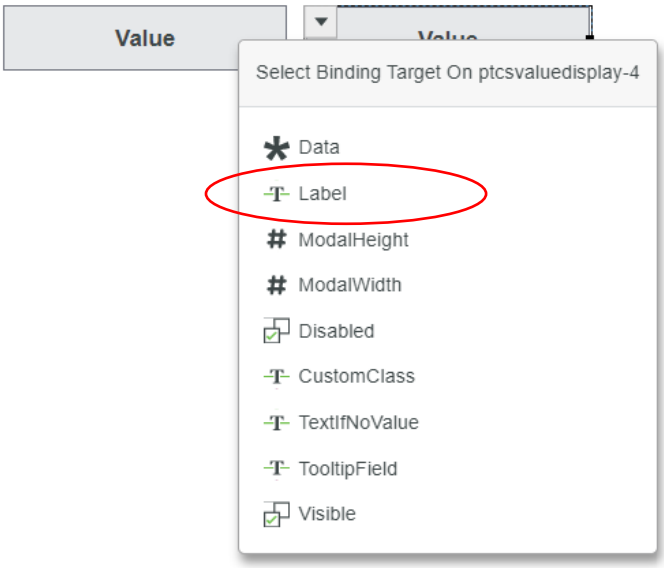
13. To display the username, insert another value display on the screen by dragging and dropping the widget into the center screen again.



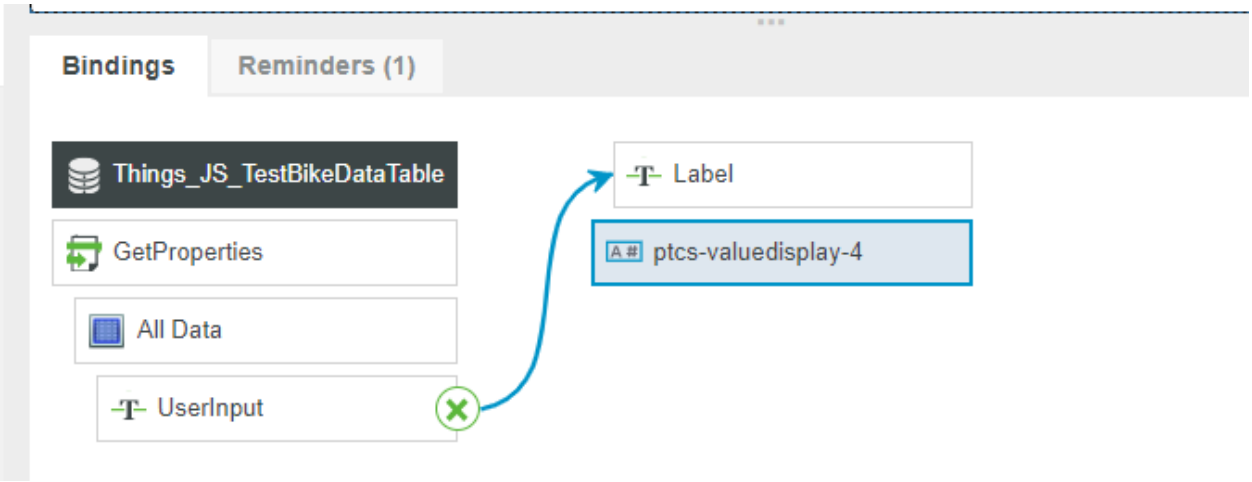
a. On the far right panel, select and drag the "←" button next to "UserInput" into the second and newest value display widget in the middle of the screen



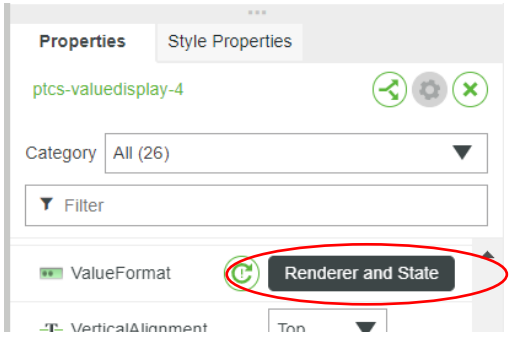
b. In the popup, select "label"

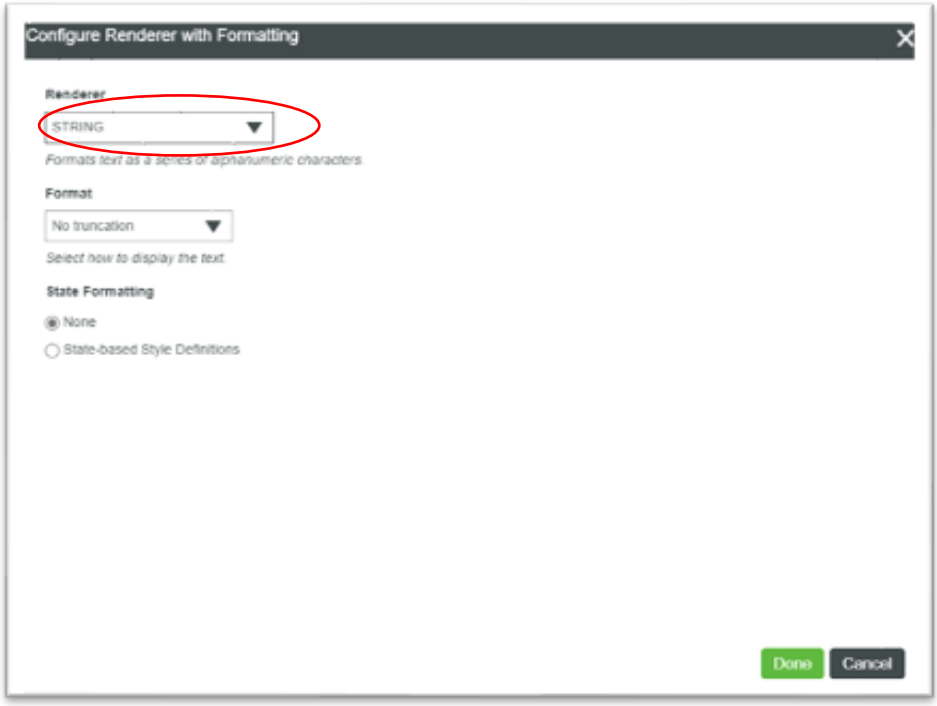


c. At the bottom of the screen you should now see the userInput bound to the second value display widget



d. In the bottom left panel select “Renderer and State” and change the Renderer from “default” to “String”





e. Select “Save” and “View Mashup”. You should now see the most recent Image and the user who took the picture.