Pass Country to Registration Flow

Table of Contents

1 Objective

In the previous exercise you called a flow that returned data that was then processed by your application. This flow in DaVinci had no UI, so it did not interact with the user, so effectively it was an API wrapper for a series of API calls to return specific data.

This exercise will take you through the process of passing data into a flow, this can be used with a flow that has no user interaction. Or as in this case a flow that does have user interaction.

Our fictitious Beginner's Luck site has ambitions of becoming a Global sensation, and needs to conform to local laws for gambling. Only users that meet the legal age requirement for the country they're from, should be allowed to register.

Tip

All the number instruction steps in each section must be followed to successfully complete this exercise. Any bullet points or images are for example only unless called out in a numbered step.

Tip

You will be using Glitch for editing the code and testing with the your flow changes. Before you start a lab or need to access Glitch, ensure that you are logged into your Glitch account and accessing the current project.

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2 Do the following task items

Since your application now knows the country code of the user, let's pass that code to your registration flow so it can look up the legal gambling age for that country.

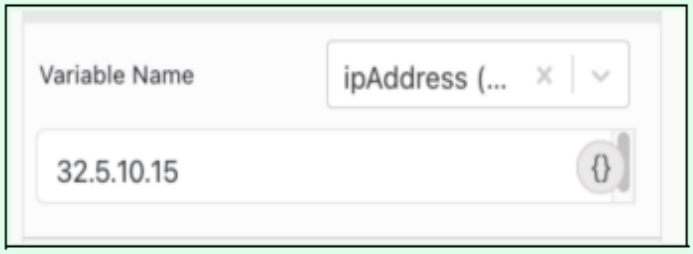
The legal age data is a JSON file in the base application (and also in your copy of it) therefore the first step is to get this data and for this purpose you will build a subflow that will be invoked by the registration flow. Then the registration flow needs to be modified to call the subflow and deal with this data to return a legal age limit. The processing will then be changed to leverage this new dynamic value.

The last part of course is to change the code in your web application to invoke the registration flow passing in the required attribute.

Tip

In running through this test if your current IP address does not resolve you can set an IP address by setting it in the **Set Flow Variables** node setting **ipAddress**. You can use any that you know is valid, some examples:

- You can use `32.5.10.15`, which is a United States based IP.
- You can use `31.185.46.221`, which is a Great Britain based IP.



- If you then want a dynamic value to be used during the application execution you will need to reset this variable back to a blank value.

2.1 Create legal age subflow

You will create a DaVinci subflow that will retrieve the legal age data from your application. This flow will be similar in functionality to the flow you built in the previous exercise to get the jackpot.

This flow will be passed in the country for the user based on what the application provides the registration flow.

1 In the DaVinci console create a new **blank** flow.
2 For the flow **Name** type or copy/paste:
    - **Subflow Retrieve Country Legal Age**
3 Add an **Input Schema** to the flow:

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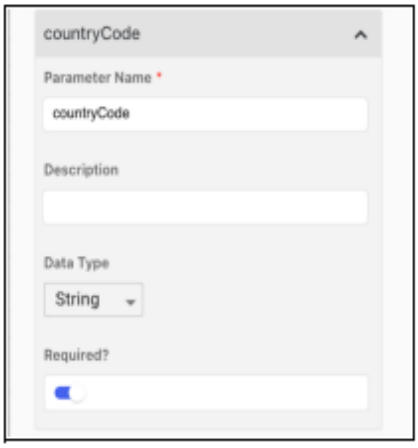
3.1 **Parameter Name** is **countryCode**
3.2 **Data Type** is **String**
3.3 The toggle **Required** must be turned on.

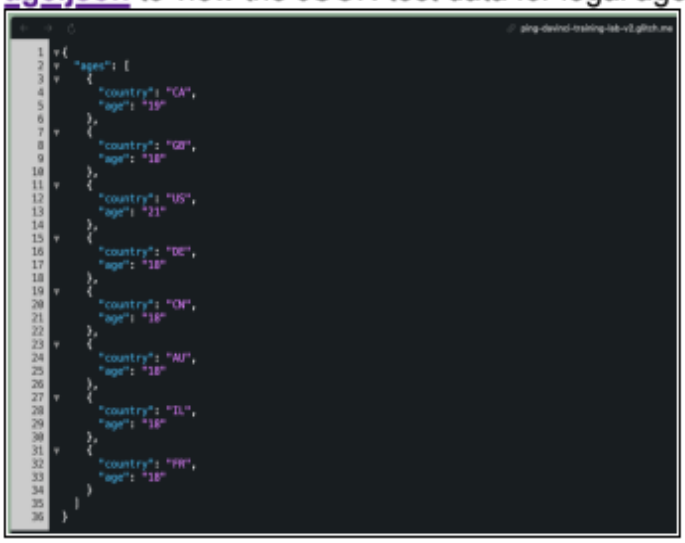


4 Add a **Variables** node as the first node of the flow.
5 Click the **Variables** node then select **Flow Instance Variable** capability.
6 Add a variable called **country_age_source** of type **string**.
    - This will hold the URL of the JSON file in your application.
7 Click **Apply** button to save your change at this point.
8 Continue with the next section.

2.1.1 Get the URL for the legal age data

The legal age data resides as a file in main Glitch application that you used to remix from. You need the URL for this file to add to the variable in the flow.

1 In a new browser tab open https://ping-davinci-training-lab-v2.glitch.me/json/country-legal-age.json to view the JSON test data for legal age:



2 Continue with the next section.

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2.1.2 Complete the flow for legal age

Now that you have viewed the data file it is time to complete the configuration of the variable in your flow. Then you will complete the rest of the flow to process this data and extract the legal age for the country.

1 In **DaVinci** browser tab.
2 In the **Value** field paste the URL you reviewed in the previous section:

3 In the **Settings** tab set the **Node Title** to
   - **Set Legal Age Source URL**
4 Apply your changes, maybe even save it at this state.
5 From the **Set Legal Age Source URL** node add a **Http** node.
6 Click the **Http** node then select **Make REST API Call** capability.
7 For the **URL** field select the **Flow Instance Variables** then select **country_age_source** variable.
8 In the **Settings** tab set the **Node Title** to
   - **Retrieve Age File**
9 Apply your changes and close the dialog.
10 From the **Retrieve Age File** node add a **Functions** node.
11 Click the **Functions** node then select **Custom Function** capability.
12 You will add two entries to **Variable Input List** as follows:
   12.1 **Add** a new variable with **Variable Name** is **ageData**
   12.2 **Value** is the **body** variable from the output of **Retrieve Age File** node.
      - The variable name may change to body after selecting the variable, make sure to change it back to **ageData**
   12.3 **Data Type** is **Object**
   12.4 **Add** a new variable with **Variable Name** is **countryCode**
   12.5 **Value** is the **countryCode** variable from **Global** parameters at the bottom of the list.

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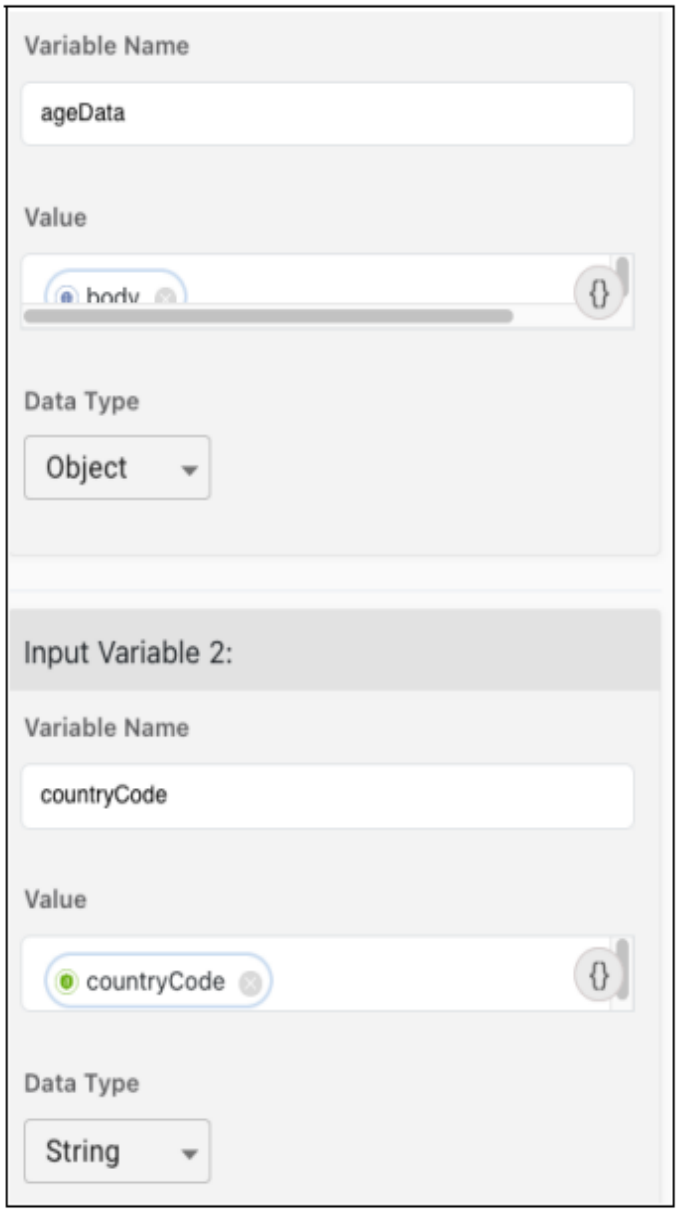
12.6 **Data Type** is **String**



13 Click **Apply** button to save your change at this point.

14 In the **Code** field remove the example code.

14.1 **Copy** and **Paste** the following code in the **Code** field.

```
module.exports = a = async ({ params }) => {
  const ageData = params.ageData;
  const countryCode = params.countryCode;
  let retval;
  // // iterate over each element in the array
  for (var i = 0; i < ageData.ages.length; i++) {
    let ageItem = ageData.ages[i];

    if (ageItem.country.toLowerCase() === countryCode.toLowerCase()) {
      return { 'age': ageItem.age};
    }
  }
  return { 'age': 25 };
}
```

- This code searches in the data set for the country data and returns the legal age.
- If no entry is found a default value is returned.
- The value to be returned will be defined in the output schema.

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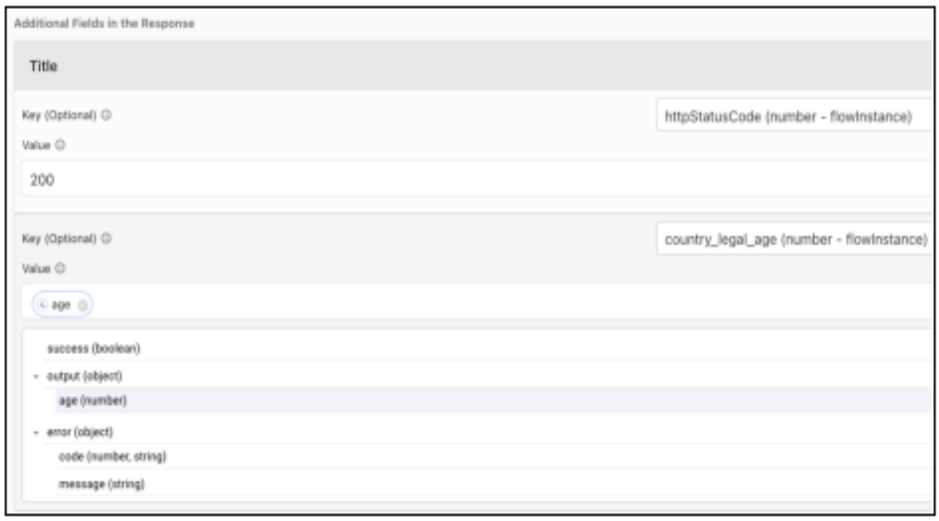
15 In the **Output Schema** field remove the example code.
   15.1 **Copy** and **Paste** the following code in the **Output Schema** field.

```
{
  "output": {
    "type": "object",
    "properties": {
      "age": {
        "type": "number"
      }
    }
  }
}
```

- The legal age is returned as a numeric value.

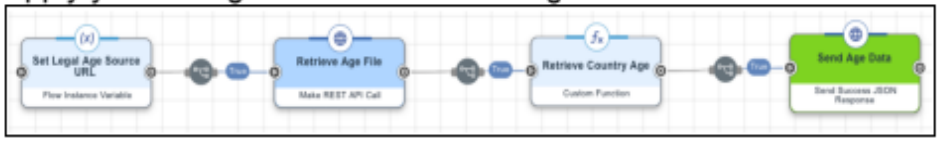
16 In the **Settings** tab set the **Node Title** to
   - **Retrieve Country Age**

17 Apply your changes and close the dialog.
18 From the **Retrieve Country Age** node add a **Http** node.
19 Click the **Http** node then select **Send Success JSON Response** capability.
20 You will add two entries to **Additional Fields in the Response** as follows:
   20.1 **Add** a new field with **Variable Name** is **httpStatusCode** of type **Number**
   20.2 **Value** is the constant **200**
      - This should already exist as a variable from the flow you wrote in an earlier exercise.
   20.3 **Add** a new field with **Variable Name** is **country_legal_age**
   20.4 **Data Type** is **Number**
   20.5 **Value** is the **age** variable from **Retrieve Country Age** node.



21 In the **Settings** tab set the **Node Title** to
   - **Send Age Data**

22 **Background** color of light green.
23 Apply your changes and close the dialog.



24 Save and **deploy** your flow.
   - You cannot test this flow because of the required input value to the flow that you defined in the schema.

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- You will test all the flow changes in this exercise when you complete the application changes at the end of this exercise.

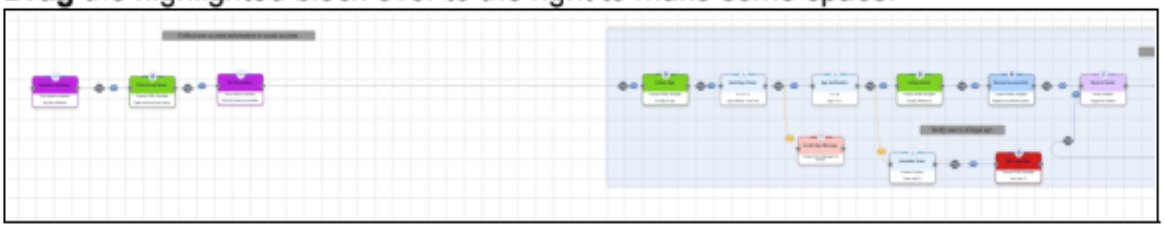
25 Continue with the next section.

2.2 Change registration flow to use legal age subflow

The existing registration flow needs to be changed to accept the country code as an incoming parameter. In addition to that it needs to leverage the new subflow to get the legal age value and then use this to adjust how it is checked in the flow.

1 In DaVinci **open** the **Progressive Registration** flow.
2 Add an **Input Schema** to the flow:
   2.1 **Parameter Name** is **countryCode**
   2.2 **Data Type** is **String**
   2.3 The toggle **Required** must be turned on.
      - This is the data that will be passed in from your web application to the flow when it invokes the flow.
3 You will add two new nodes to your flow between the **Set First Name** and **Collect Age** nodes.
   3.1 Use the **- Reset +** buttons in the bottom right of the canvas to resize your flow so you can highlight what you want to move.

   3.2 **Drag** the highlighted block over to the right to make some space.



   3.3 Delete the **Action decision** node connecting **Set First Name** and **Collect Age** nodes.
   3.4 Use **Reset** to set the flow size back to a normal size.
4 From the **Set First Name** node add a **Flow Conductor** node.
   4.1 Click the **Flow Conductor** node then select **Invoke Subflow** capability.
   4.2 Select **Subflow Retrieve Country Legal Age** flow.
   4.3 Set **Flow Version Id** as **-1**
   4.4 Set **countryCode** variable **countryCode** from **Global** variables.
   4.5 In the **Settings** tab set the **Node Title** to
      - **Retrieve Legal Age**

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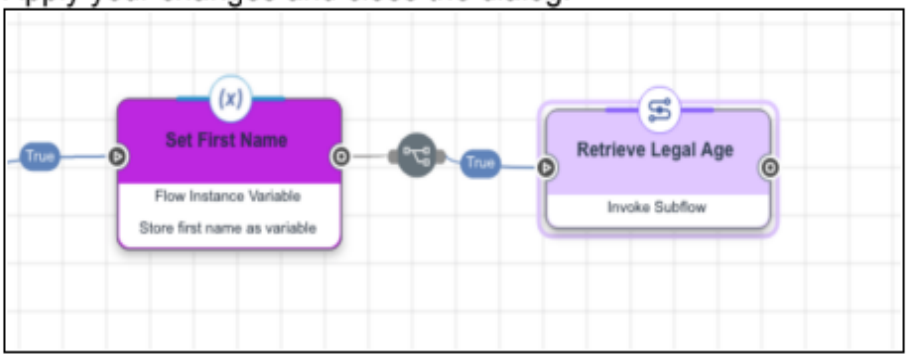
4.6 Apply your changes and close the dialog.



5 From the **Retrieve Legal Age** node add a **Variables** node.

5.1 Click the **Variables** node then select **Flow Instance Variable** capability.

5.2 Add **registrationLegalAge** variable as a **Number**

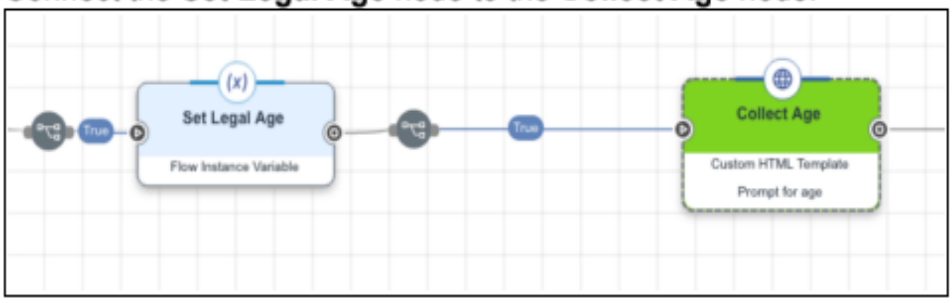
5.3 Set the **Value** to **country_legal_age** variable from the **Retrieve Legal Age** node.

5.4 In the **Settings** tab set the **Node Title** to

- **Set Legal Age**

5.5 Apply your changes and close the dialog.

6 Connect the **Set Legal Age** node to the **Collect Age** node.



7 You may want to **save** your changes at this point.

8 Now it is time to deal with the two existing nodes that use the legal age to use the new value based on the country of the user:

8.1 Click the **Age Verification** node to edit it:

8.1.1 In the **Value B** field delete the constant value of **21**

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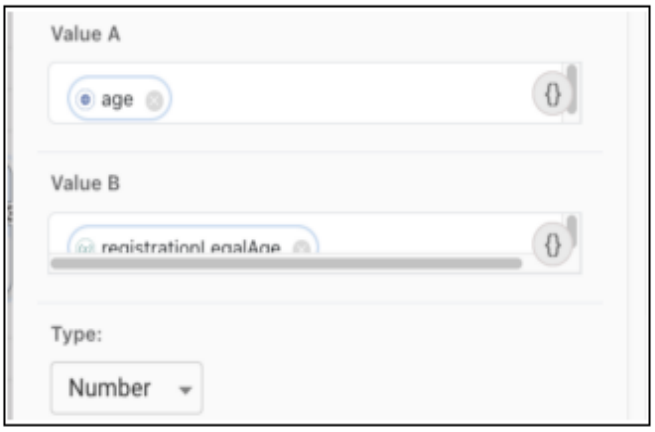
8.1.2 Select from **Flow Instance Variables** the variable **registrationLegalAge**



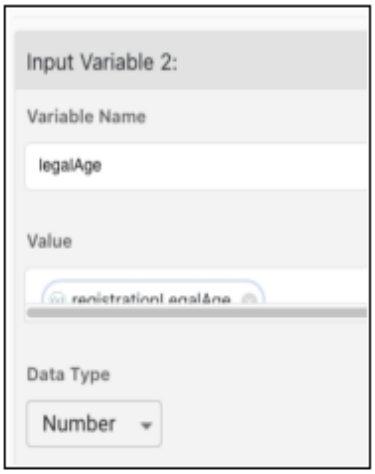
8.2 Apply and close the dialog.

8.3 Click the **Calculate Years** node to edit it:

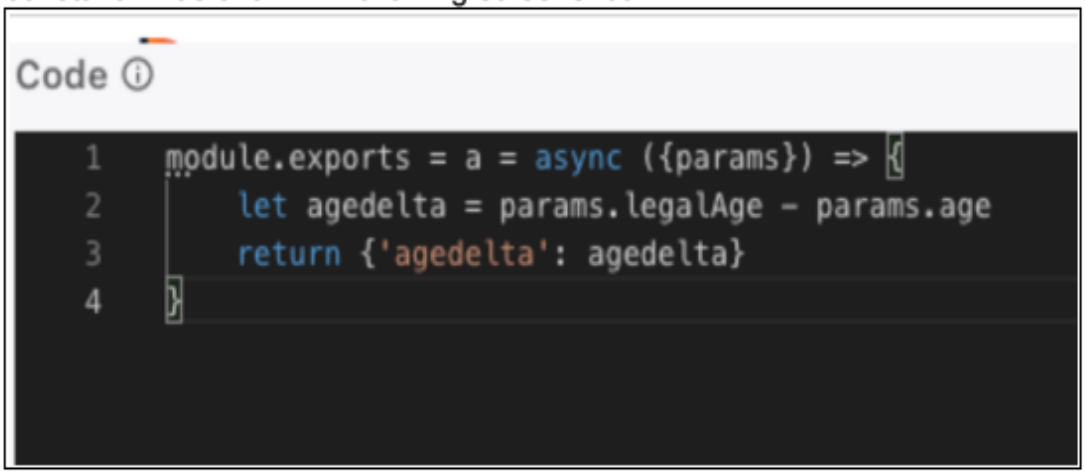
8.3.1 Add a new **Input Variable** called **legalAge**

8.3.1.1 Select from **Flow Instance Variables** the variable **registrationLegalAge**

8.3.1.2 The **Data Type** is **Number** from the dropdown list.



8.3.2 In the **Code** field change the expression to use **params.legalAge** instead of the constant **21** as shown in following screenshot:



8.4 Apply and close the dialog.

9 Save your flow if needed.

10 Continue with the next section.

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2.2.1 Change the image on the not legal age page

The error page that displays when a user is not of legal age, displays an image that shows as 21+ but that is not valid for all countries. You need to use a generic value, so the variable pointer in the flow needs to be changed.

1 Click the **Instance Variables** node at the start of your flow.
2 It will probably be easier to open the dialog to full screen to edit it:
  2.1 For the **imgUnderAge** variable delete the value.
  2.2 **Copy** and **paste** the following as the new value:
    - https://cdn.glitch.global/446927ec-783f-4130-8e7c-8c52d71246d8/underage-2-small.png?v=1669225707650
    - Because of wrapping an extra space may get added to the pasted value, if that happens make sure to remove it.

  2.3 Apply and close the dialog.
3 Save and deploy your flow.
  - As before you cannot test this flow because of the required input value to the flow that you defined in the schema.
  - You will test all the flow changes in this exercise when you complete the application changes at the end of this exercise.
  - You could create a wrapper flow to call this flow for testing that passes in the value if needed or use the same technique used in Jackpot flow to have a default value.
    - This will be left as a challenge exercise for after the training.
4 Continue with the next section.

2.3 Change web application to pass country code

Your flow changes have been completed and now it is time to integrate this new flow into your application. The application will need to save the value of the country based on the IP address of the user. This value will then be passed into the registration flow so that it can determine the correct legal age for the user.

1 In your **Glitch** application browser tab.
2 Close the **Preview Pane**, always best to have as much of the editor window as possible when editing.
3 In the editor **open** the file **index.html** to begin editing your application.

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4 At the top of the **script** tag that has all your functions you will be adding a variable to hold the country code:

```
    <script type="text/javascript">
      // Set as .env variables
      const companyId = "<%= companyId %>";
      /* TENANT ENDPOINT - .env variable DAVINCI_API_URL */
      const flowURL = "<%= flowURL %>";
```

5 Under **<script type="text/javascript">** add the following code:

```
// Placeholder for user country
let COUNTRY_CODE = ""
```

- This is the variable that will hold the country code that will be passed to the flow.
- It will initially be set by call to get the Jackpot and then used in calling the registration flow.

```
    <script type="text/javascript">
      // Placeholder for user country
      let COUNTRY_CODE = "";
      // Set as .env variables
```

6 The value will be set in the **loadJackpotSuccess** function:

6.1 Under the last line of this function add the following code:

```
COUNTRY_CODE = data.jackpot_country_code
document.getElementById('btn-register').disabled = false
```

6.2 Note the enabling of the register button line. This is to make sure that register button is not invoked until after this function completes and has the data from the Jackpot call.

```
      function loadJackpotSuccess(data) {
        // alert(JSON.stringify(data));

        const element = document.getElementById("jackpot");
        element.innerHTML = `
  <p class="jackpot"><strong>Get in on the action!</strong><br/>
  This week's ${data.jackpot_country_emoji} jackpot is ${
          data.jackpot_currency
        }${data.jackpot_amount.toLocaleString()}</p>`;

        COUNTRY_CODE = data.jackpot_country_code;
        document.getElementById("btn-register").disabled = false;
      }
    </script>
```

7 You need to change the register button so that it is disabled by default.

7.1 You will need to **find** the following code:

- <button id="btn-register" class="margin-top">

7.2 Type the word **disabled** at the end as follows:

- <button id="btn-register" class="margin-top" disabled>

7.3 This flag will disable the button until it is enabled by the `loadJackpotSuccess` function with the code you added to the function.

8 Continue with the next section.

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2.3.1 Change the load widget code to pass country code

The load widget code needs to be changed to accept the country code in the call to the function and then pass this on to DaVinci when the flow is invoked.

1 **Scroll** up to the **loadwidget** function in the in the **index.html** file.
2 In the **function** definition at the top of the file you will add a new parameter to be passed in.
  2.1 To the definition add **flowInputVariables** at end so it looks like the following:

```
function loadwidget(policyId, renderComponent, flowInputVariables) {
```

  - Don't forget the comma separate between the parameters.

3 Further down in tha file is the block of code that sets up the `config` with the properties to be submitted to DaVinci:
  3.1 Under the entry **policyId: policyId**
  3.2 Add a new line as follows:

```
parameters: flowInputVariables
```

  3.3 Don't forget the comma at the end of the previous line.

```
70          var props = {
71            config: {
72              method: "runFlow",
73              apiRoot: flowURL,
74              accessToken: responseData.access_token,
75              companyId: companyId,
76              policyId: policyId,
77              parameters: flowInputVariables
78            },
```

4 Now time to edit the **index.html** to make the changes that calls the function to load the widget.
  4.1 You will need to change the **`loadRegistrationFlow`** function in the **script** block.
  4.2 In the function after the second `const` entry, add the following line:

```
let flowInputData = {"countryCode": COUNTRY_CODE}
```

  - The data to be passed into the flow is a JSON object and in this case since it is a string called countryCode as you defined in the input schema of the flow earlier.

  4.3 In the **`loadwidget`** function call line, add the **`flowInputData`** as follows:

```
loadwidget(policyId, divComponent, flowInputData)
```

```
109       // Load DaVinci Registration Flow
110       function loadRegistrationFlow() {
111         const policyId = "2e[redacted]34";
112         const divComponent = "flow-widget";
113         let flowInputData = { countryCode: COUNTRY_CODE };
114
115         loadwidget(policyId, divComponent, flowInputData);
116       }
```

5 At this point your application is ready to call with flow with the new parameter for the country code.
6 Continue with the next section.

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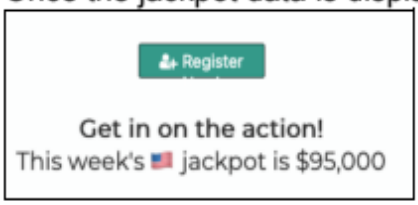
2.4 Test application and flow changes

Now that the code changes are made to your application to support the changes you made to the flow it is time to test this new flow and application code.

1 At the bottom of the **Glitch** editor click **Preview** button.
2 Click **Preview in a new window** to open the application in a new tab.
3 The new browser tab may open on the **country-legal-age.json** file because that was the last thing you were looking at.
   3.1 If that is the case change the address to **index.html** removing **json/country-legal-age.json** to load the application page.
4 You will notice that the registration button is originally a subdued green because it is disabled.
5 Once the jackpot data is displayed under the registration button, the button will be enabled.



6 Click **Register** badge to invoke your flow.
7 When you get to the **Verify Age** you may want to view what the age is for the country defined by the IP.

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7.1 You can view this back on the editor page by opening the **json/country-legal-age.json** file:

8 Run a test case with a age less than the legal age:

9 Run another test with an age at or over the legal age.

10 You don't have to finish the entire set of pages through the application.

11 You have completed this exercise.

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