



POLYTECHNIQUE
MONTRÉAL

LE GÉNIE
EN PREMIÈRE CLASSE

Guide TP2 (2/2)

INF8808E | Summer 2022

Version Python

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Callbacks

How to make your chart interactive

- Callback functions: Python functions that are automatically called by Dash whenever an input component's property changes.

▼ Dash Callbacks

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Callbacks

Simple Interactive Dash App

- You will need a component **ID** and a component **property** to inform to the app callback the actions on your **Input** and **Output**

```
import dash
import dash_core_components as dcc
import dash_html_components as html
from dash.dependencies import Input, Output

external_stylesheets = ['https://codepen.io/chriddyp/pen/bWLwgP.css']

app = dash.Dash(__name__, external_stylesheets=external_stylesheets)

app.layout = html.Div([
    html.H6("Change the value in the text box to see callbacks in action!"),
    html.Div(["Input: ",
              dcc.Input(id='my-input', value='initial value', type='text')]),
    html.Br(),
    html.Div(id='my-output'),
])

@app.callback(
    Output(component_id='my-output', component_property='children'),
    Input(component_id='my-input', component_property='value')
)
def update_output_div(input_value):
    return 'Output: {}'.format(input_value)

if __name__ == '__main__':
    app.run_server(debug=True)
```

Callbacks

Simple Interactive Dash App

Change the value in the text box to see callbacks in action!

Input:

Output: 123812u38

Callbacks

Simple Interactive Dash App

- In Dash, the inputs and outputs of our application are simply the properties of a particular component. In this example, our input is the "value" property of the component that has the ID "my-input". Our output is the "children" property of the component with the ID "my-output"
- The `component_id` and `component_property` keywords are optional (there are only two arguments for each of those objects). They are included in this example for clarity but will be omitted in the rest of the documentation for the sake of brevity and readability.
- Notice how we don't set a value for the children property of the my-output component in the layout. When the Dash app starts, it automatically calls all of the callbacks with the initial values of the input components in order to populate the initial state of the output components. In this example, if you specified something like `html.Div(id='my-output', children='Hello world')`, it would get overwritten when the app starts.

Callbacks

Dash app with State

- In some cases, you might have a "form"-type pattern in your application. In such a situation, you might want to read the value of the input component, but only when the user is finished entering all of his or her information in the form.
- **State** allows you to pass along extra values without firing the callbacks.

Callbacks

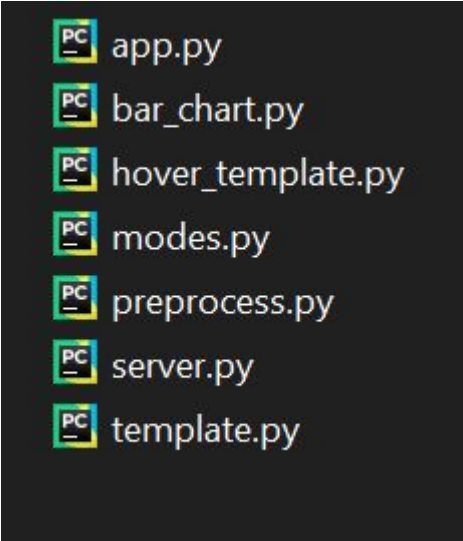
Simple Interactive Dash App

- Check for more information:
 - <https://dash.plotly.com/basic-callbacks>
 - <https://www.youtube.com/watch?v=mTsZL-VmRVE>
 - <https://medium.com/@benshentist/dash-callbacks-where-the-magic-happens-ab19260dbc7e>

Submission

More details for submission

- You are going to submit a zip file with python files showed on the side
(***matricule1_matricule2_matricule3.zip***)
- The deadline for submission of TP2 is:
May 22th at 23:59
- The submission is going to be made on Moodle on the appropriate box for Python



- app.py
- bar_chart.py
- hover_template.py
- modes.py
- preprocess.py
- server.py
- template.py