Using Common Widgets

USING IMAGES AND ICONS

AssetBundle

The **AssetBundle** **class** provides access to **custom resources** such as **images**, **fonts**, **audio**, **data files**, and more. Before a Flutter app can use a resource, you must **declare** it in the **pubspec.yaml** file.

1. **declaring each asset (one by one)**

```
// pubspec.yaml file to edit
# To add assets to your application, add an assets section, like this:
assets:
   - assets/images/logo.png
   - assets/images/work.png
   - assets/data/seed.json
```

2. **declare all the assets in each directory**

```
// pubspec.yaml file to edit
# To add assets to your application, add an assets section, like this:
assets:
   - assets/images/
   - assets/data/
```

Image

The **Image widget** displays an image from a **local** or **URL (web) source**.

To load an Image widget, there are a few different constructors to use.

- **Image()** : Retrieves image from an **ImageProvider** class
- **Image.asset()** : Retrieves image from an **AssetBundle** class using a **key**
- **Image.file()** : Retrieves image from a **File** class
- **Image.memory()** : Retrieves image from a **Uint8List** class
- **Image.network()** : Retrieves image from a **URL** path

Icon

The **Icon** widget is drawn with a glyph from a font described in **IconData**. Flutter's **icons.dart** file has the full list of icons available from the font **MaterialIcons**.

Creating the Images Project; Adding Assets; and Loading Images, Icons, and Decorators

Create a new Flutter project. For this project, you need to create only the **pages** and **assets/images** **folders**.

1. Open the **pubspec.yaml** file to add **resources**. In the **assets** section, add the **assets/images/** folder declaration.

```
# To add assets to your application, add an assets section, like this:
assets:
  - assets/images/
```

2. Open the **home.dart** file and **modify** the **body** property. Add a **SafeArea** widget to the **body** property with a **SingleChildScrollView** as a **child** of the **SafeArea** widget. **Add Padding** as a **child** of **SingleChildScrollView** and then add a **Column** as a **child** of the **Padding**.

```
body: SafeArea(
  child: SingleChildScrollView(
    child: Padding(
      padding: EdgeInsets.all(16.0),
      child: Column(
        children: <Widget>[
        ],
      ),
    ),
  ),
),
```

2. **Add** the widget **class** name **ImagesAndIconWidget()** to the **Column** children widget list. The **Column** is located in the **body** property.

```
body: SafeArea(
  child: SingleChildScrollView(
    child: Padding(
      padding: EdgeInsets.all(16.0),
      child: Column(
        children: <Widget>[
          const ImagesAndIconWidget(),
        ],
      ),
    ),
  ),
),
```

3. Add the **ImagesAndIconWidget()** widget **class** after **class Home extends StatelessWidget {...}**. In the widget class, a local image is loaded by the **AssetImage** class. **Using** the **Image. network** constructor an image is loaded by a **URL string**.

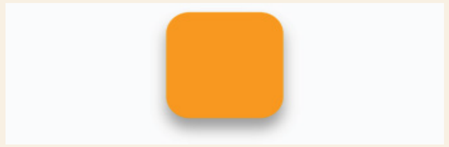
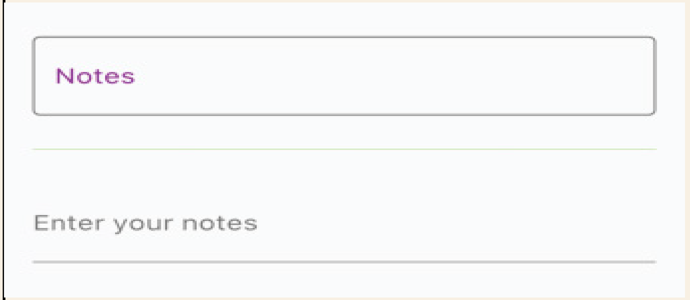
```
class ImagesAndIconWidget extends StatelessWidget {
  const ImagesAndIconWidget({
    Key key,
  }) : super(key: key);

  @override
  Widget build(BuildContext context) {
    return Row(
      mainAxisAlignment: MainAxisAlignment.spaceEvenly,
      children: <Widget>[
        Image(
          image: AssetImage("assets/images/logo.png"),
          //color: Colors.orange,
          fit: BoxFit.cover,
          width: MediaQuery.of(context).size.width / 3,
        ),
        Image.network(
          'https://flutter.io/images/catalog-widget-placeholder.png',
          width: MediaQuery.of(context).size.width / 3,
        ),
        Icon(
          Icons.brush,
          color: Colors.lightBlue,
          size: 48.0,
        ),
      ],
    );
  }
}
```

USING DECORATORS

Decorators help to convey a message depending on the user's action or customize the look and feel of a widget.

There are different types of decorators for each task.

- **Decoration**: The base class to **define other decorations**.
- **BoxDecoration**: Provides many ways to draw a **box with border**, **body**, and **boxShadow**.
- **InputDecoration**: Used in **TextField** and **TextFormField** to customize the **border**, **label**, **icon**, and **styles**.

BoxDecoration applied to a Container	**InputDecoration** with **OutlineInputBorder** and default border
	

Continuing the Images Project by Adding **Decorators**

Still editing the **home.dart** file

1. **Add** the widget **class** names **BoxDecoratorWidget()** and **InputDecoratorsWidget()** after the **ImagesAndIconWidget()** widget class. Add a **Divider()** widget between each widget class name.

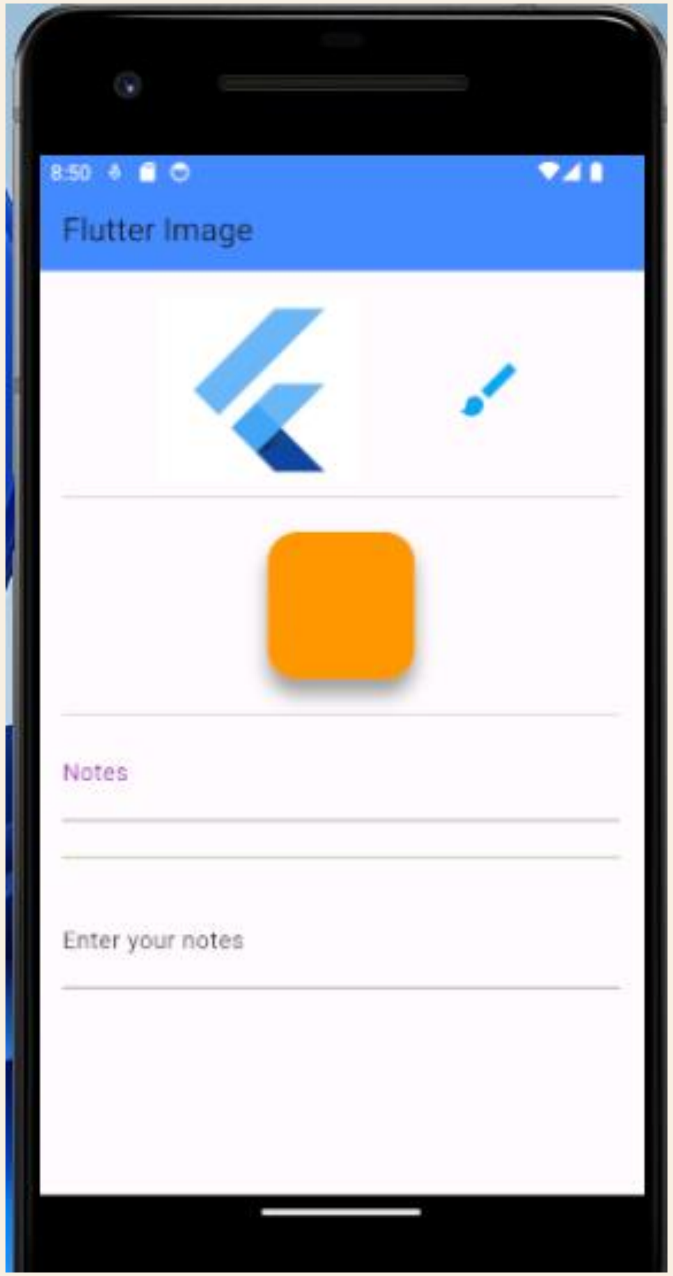
```
body: SafeArea(
  child: SingleChildScrollView(
    child: Padding(
      padding: EdgeInsets.all(16.0),
      child: Column(
        children: <Widget>[
          const ImagesAndIconWidget(),
          Divider(),
          const BoxDecoratorWidget(),
          Divider(),
          const InputDecoratorsWidget(),
        ],
      ),
    ),
  ),
),
```

2. Add the **BoxDecoratorWidget()** widget **class** after the **ImagesAndIconWidget()** widget **class**. The widget class returns a **Padding** widget with the **Container** widget as a **child**. The **Container decoration** property uses the **BoxDecoration** class. Using the **BoxDecoration borderRadius**, **color**, and **boxShadow** properties.

```
class BoxDecoratorWidget extends StatelessWidget {
  const BoxDecoratorWidget({
    Key key,
  }) : super(key: key);

  @override
  Widget build(BuildContext context) {
    return Padding(
      padding: EdgeInsets.all(16.0),
      child: Container(
        height: 100.0,
        width: 100.0,
        decoration: BoxDecoration(
          borderRadius: BorderRadius.all(Radius.circular(20.0)),
          color: Colors.orange,
          boxShadow: [
            BoxShadow(
              color: Colors.grey,
              blurRadius: 10.0,
              offset: Offset(0.0, 10.0),
            )
          ],
        ),
      ),
    );
  }
}
```

3. **Add** the **InputDecoratorsWidget()** widget class after the **BoxDecoratorWidget()** widget **class**. You take a **TextField** and use **TextStyle** to change the color and **fontSize** properties. The **InputDecoration** class is used to set the **labelText**, **labelStyle**, **border**, and **enabledBorder** values to customize the border properties.

```
class InputDecoratorsWidget extends StatelessWidget {
  const InputDecoratorsWidget({
    Key key,
  }) : super(key: key);

  @override
  Widget build(BuildContext context) {
    return Column(
      children: <Widget>[
        TextField(
          keyboardType: TextInputType.text,
          style: TextStyle(
            color: Colors.grey.shade800,
            fontSize: 16.0,
          ),
          decoration: InputDecoration(
            labelText: "Notes",
            labelStyle: TextStyle(color: Colors.purple),
            //border: UnderlineInputBorder(),
            //enabledBorder: OutlineInputBorder(borderSide: BorderSide(color: Colors.lightGreen)),
            border: OutlineInputBorder(),
          ),
        ),
        Divider(
          color: Colors.lightGreen,
          height: 50.0,
        ),
        TextFormField(
          decoration: InputDecoration(labelText: 'Enter your notes'), ), ],   );
  }
}
```



8:50

Flutter Image

Notes

Enter your notes