

Chapter 20: Basic Application Design with Dojo and ArcGIS Templates

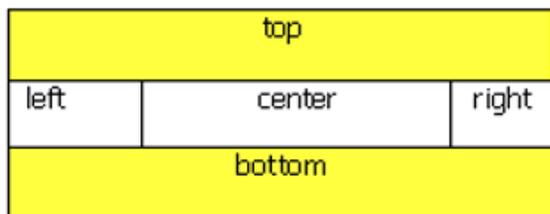
One of the most difficult tasks for many web developers building GIS applications is designing and creating the user interface. The ArcGIS Server API for JavaScript and Dojo greatly simplifies this task. Dojo's layout dijits provide a simple, efficient way to create application layouts and ESRI has provided a number of sample application layouts and templates that you can use to get up and running quickly.

Dojo BorderContainer

Since the AGIS API for JavaScript is built directly on top of Dojo you automatically have access to the user interface libraries including layout dijits such as [BorderContainer](#). BorderContainer serves primarily as a container for other child containers and can be one of two design types: headline or sidebar. You define the design type using the 'design' attribute. In either case, whether you define a design type of headline or sidebar is split into as many as 5 different regions: top, bottom, right, left, and center. Each region is normally filled by a Dojo layout element.

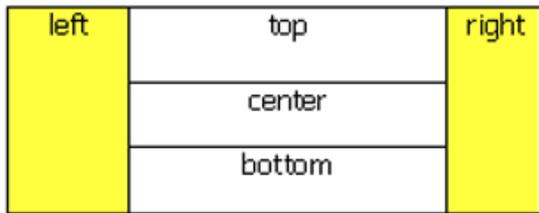
In the first code example we are defining the design to be of type 'headline' which results in the general configuration that you see below with the 'top' and 'bottom' regions stretching across the entire width of the screen space. In this case you only need to set the 'height' property for the top and bottom regions.

```
<div id="main-pane" dojoType="dijit.layout.BorderContainer" design="headline">
```



In the second code example we define the design as 'sidebar'. With the sidebar design the left and right regions expand to take up 100% of the height of the window, sacrificing the area available to the top and bottom regions. In this case you only need to define the width style property since the height will always be 100%.

```
<div id="mainWindow" dojotype="dijit.layout.BorderContainer" design="sidebar">
```



In either case the center region will conform to fit the amount of space available based on the sizing of the other regions.

Below you will see an illustration of the differences between the two design types.



Headline



Sidebar

Child Elements of BorderContainer

Each region of a BorderContainer (top, bottom, left, right, center) can be filled by a Dojo layout element. These elements are AccordionContainer, ContentPane, SplitContainer, StackContainer, and TabContainer. You can also create nested BorderContainers to further divide the available layout space.

Child elements are placed inside a region through the use of the 'region' attribute as seen in the code example below. Notice in the yellow highlighted section that the 'region' attribute is set to 'left'. This will create a ContentPane in the left region. A ContentPane is a very basic layout element and is used as a container for other widgets. In this case it is going to hold a TabContainer (green highlighted code) which contains additional ContentPane objects.

```

<div dojotype="dijit.layout.ContentPane" id="leftPane" region="left">
  <div dojotype="dijit.layout.TabContainer" >
    <div dojotype="dijit.layout.ContentPane" title = "Tab 1" selected="true">
      Content for the first tab
    </div>
    <div dojotype="dijit.layout.ContentPane" title="Tab 2" >
      Content for the second tab
    </div>
  </div>
</div>

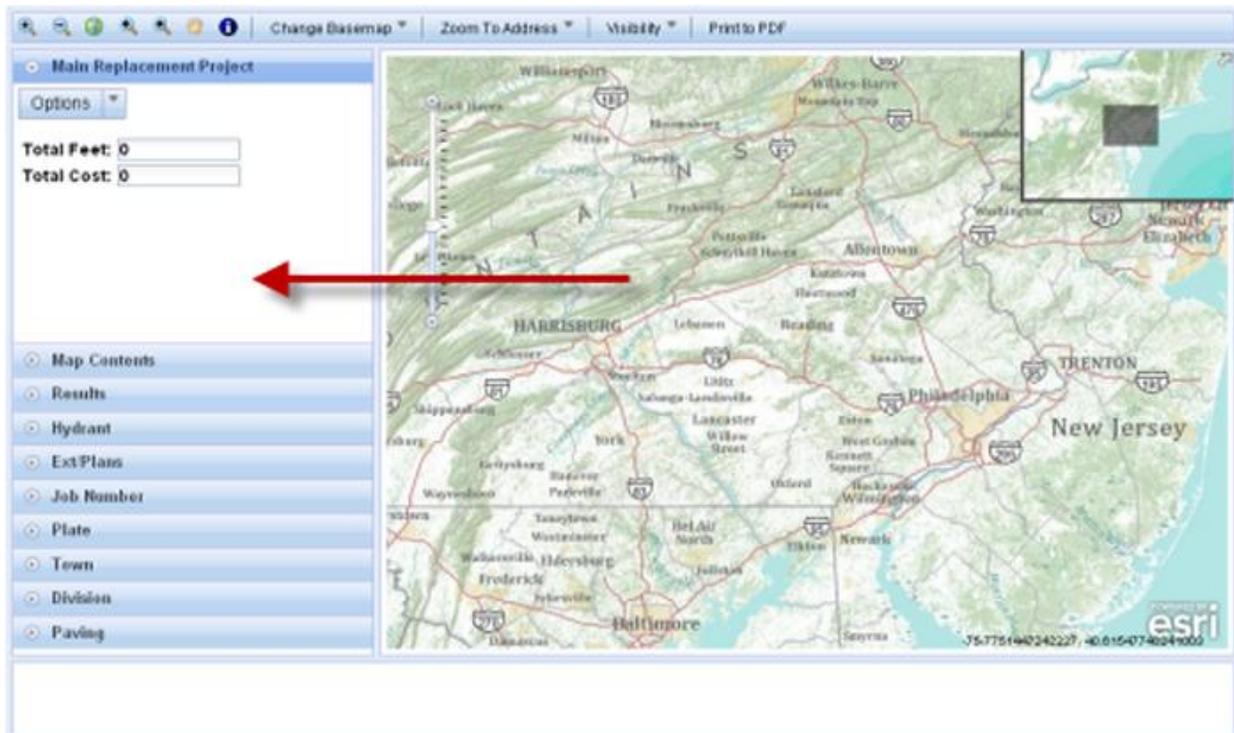
```

left	top	right
	center	
	bottom	



AccordionContainer

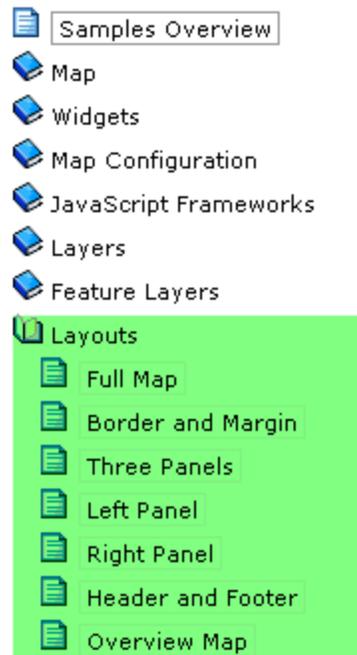
AccordionContainers hold a set of panes whose titles are visible, but only one pane’s content is visible at a time. As the user clicks a title, the pane contents become visible. These are excellent user interface containers that can hold a lot of information in a small area.



ESRI Sample Layouts

ESRI has provided a number of sample layouts that you can use to get started in the layout of your application. Go to the [ArcGIS API for JavaScript Samples](#) and click Layouts on the left hand side to see the available layouts. If you see one you like you can easily copy and paste the code into your application files to get started. Spend some time getting to know the various options provided by BorderContainer and its child layout elements.

JavaScript API Samples



Using ArcGIS.com Templates

You can also use ArcGIS.com templates as a starting point for your applications. There are 3 basic steps you need to follow in this case. You first need to create a new map using the ArcGIS.com viewer and select a Web application template. Next, download the selected template and personalize the layout. Finally, add any widgets you need to customize your application.

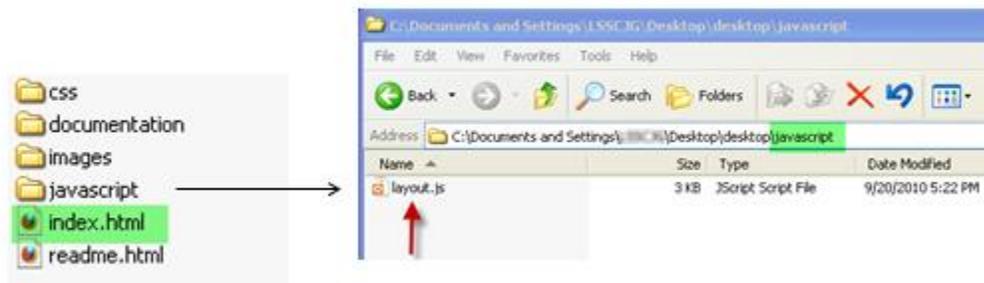
Using ArcGIS.com or ArcGIS.com viewer you can create, edit, and share maps. The first step to using an ArcGIS.com template is to go to ArcGIS.com, login, and then create a new map. Once a map has been built with the viewer you can then embed this map into an existing site or use one of the provided templates. These templates are a new feature that allow you to make a basic Web application out of your map without writing any code.

To obtain a template from ArcGIS.com you'll first need to share the map that you've created and then click "Make a Web Application". This will display a gallery of templates that you can preview and download. Find one you like and then click the download link and follow the instructions to install and configure the template.

Each template comes with a readme file that provides instructions on how to perform common customizations like adding a company logo and modifying the layout text. *A critical step explained in the readme file is how to put your map ID in the template*, so that your Web application "knows" which map from ArcGIS.com that it needs to display.

The downloaded template includes all the images and style rules used to define the application look and feel. The style rules are included in a CSS file and define how elements in the Web page like links, borders, headers etc. appear.

Once you've downloaded and unzipped the template you will find the directory structure as seen in the figure below. There will be folders for css, documentation, images, and javascript along with the stand-alone files index.html and readme.html. To add widgets to your application you'll need to make changes to index.html which is highlighted here as well as layout.js which can be found in the javascript folder.



The final step is to add any optional custom widgets to your application.