

# Exercises: Custom Widgets

Make a new Google Web Application Project called "ExercisesGwtCustomWidgets" (or some such -- my solution set is called GwtCustomWidgetExercises). You are not going to use any server-side code in this exercise, so remove all the extraneous code (.server and .shared package, web.xml entries for the servlet & servlet mapping).

1. Create a class that stores a Map with the name of a state as the key and a List<String> of cities as the value. You can design it however you want, but one idea is to give it the following methods:
  - public void addItem(String firstSelectedItem, List<String> secondSelectionList)
  - public List<String> getFirstSelectionList() (returning the list of all the keys in sorted order)
  - public List<String> getSecondSelectionList(String firstSelectedItem) (returning a list that corresponds to the "firstSelectedItem" key)

This is the data structure that your custom widget will use to query for information for our double ListBox widget. I.e., selecting from the first one will populate the second one with the associated values.

2. Create a custom widget that has 2 ListBoxes. Initially, the second ListBox is disabled. If the user selects an item from the first ListBox, it should populate the second ListBox with the values associated with the first ListBox's selection.
3. Improve your widget by adding "Select Item" as the very first item in the ListBox1. When the user selects the "Select Item" item in ListBox1, ListBox2 should appear disabled and only populated with one item called "Selection".
4. Designate an area on your host HTML page to place your custom widget into. Build up a list of states with associated cities (in those states) and initialize your custom widget with that data structure to use.
5. Test your code in production mode and deployed mode.