Google Maps Samples

Contents

Introduction

This document describes using raw JavaScript code to control Google Maps. For visual programming with a Google Maps control, see http://www.limnor.com/support/GoogleMapsControl.pdf

See https://developers.google.com/maps/documentation/javascript/tutorial for information on using Google Maps in your web projects. In this document, we create Limnor Studio samples based on samples provided by Google at https://developers.google.com/maps/documentation/javascript/examples/

The samples show how to use JavascriptFiles component to implement the sample code Google provides. The samples can be found in the following project: http://www.limnor.com/studio/WebGoogleMaps.zip

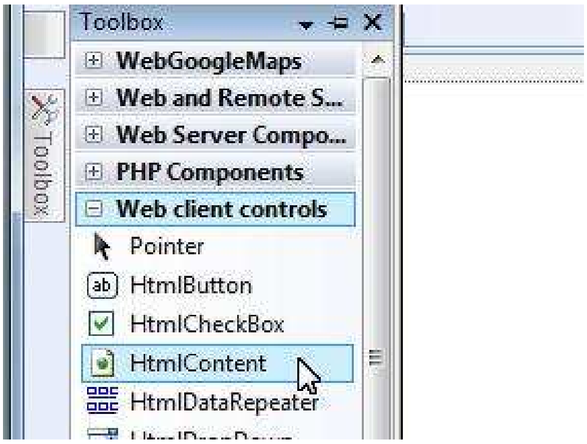
Another Google Maps sample project can be found here: http://www.limnor.com/studio/WebGoogleMapSearchPlace.zip . It allows searching for museums and movie theaters.

Map-simple

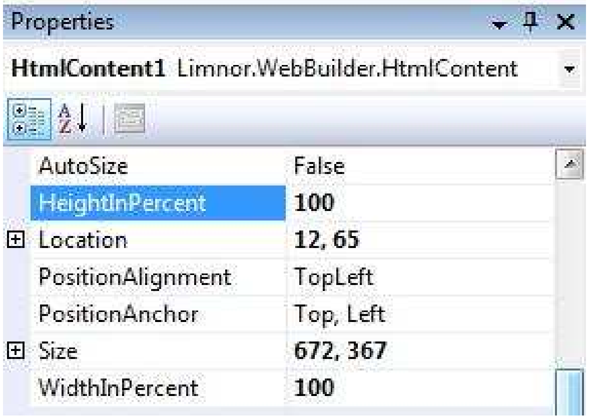
The sample is found at https://developers.google.com/maps/documentation/javascript/examples/map-simple

Add map holder

Add an HtmlContent for holding the Google map:



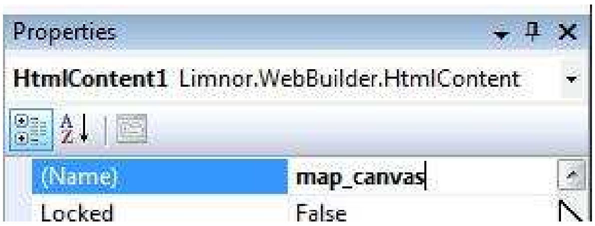
Set WidthInPercent and HeightInPercent to 100:



HtmlContent1 Limnor.WebBuilder.HtmlContent

AutoSize	False
HeightInPercent	100
⊞ Location	12, 65
PositionAlignment	TopLeft
PositionAnchor	Top, Left
⊞ Size	672, 367
WidthInPercent	100

Change the name to `map_canvas` as it is used in the Google sample:

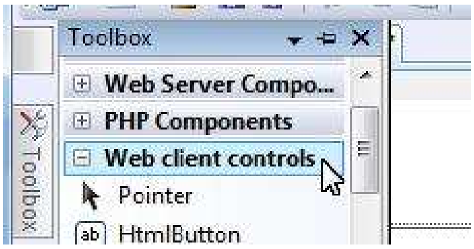


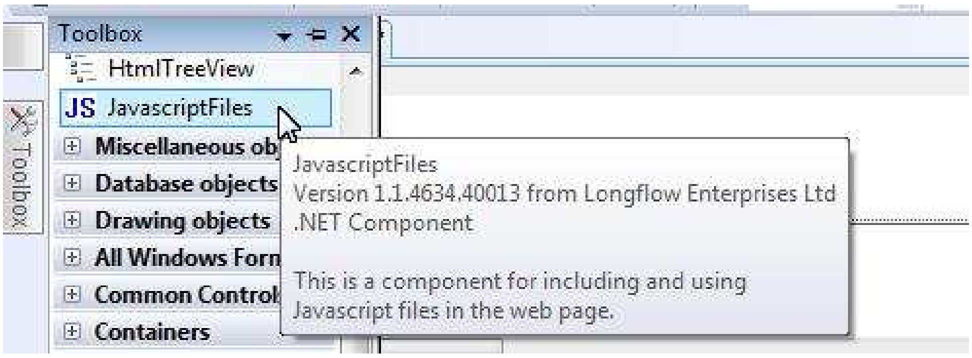
HtmlContent1 Limnor.WebBuilder.HtmlContent

(Name)	map_canvas
Locked	False

Add map library

Add JavascriptFiles to the page so that we may use the Google sample.

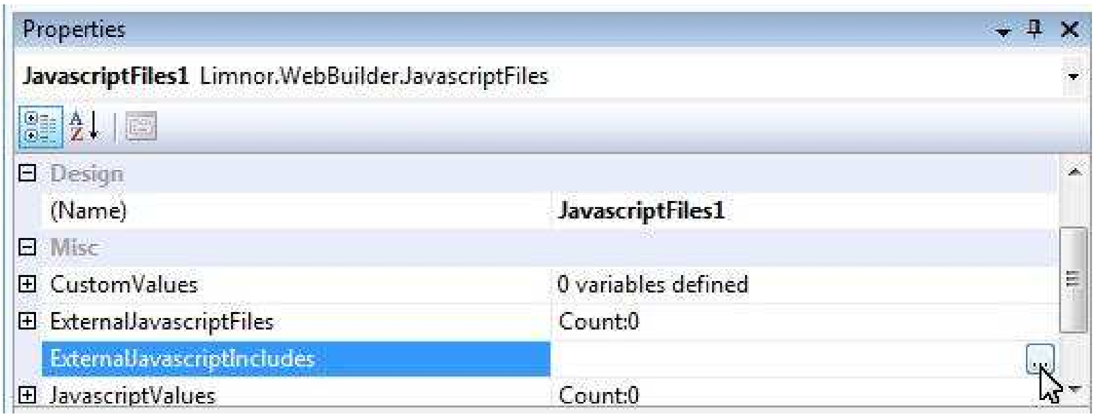




JavascriptFiles
Version 1.1.4634.40013 from Longflow Enterprises Ltd
.NET Component

This is a component for including and using Javascript files in the web page.

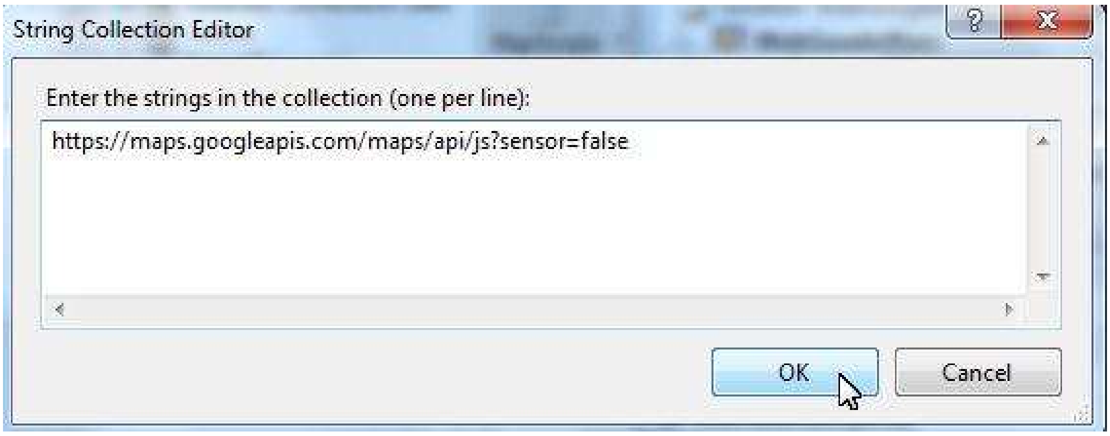
Add Google Maps library via property ExternalJavascritIncludes:


Properties

JavascriptFiles1 Limnor.WebBuilder.JavascriptFiles

⊟ Design	
(Name)	JavascriptFiles1
⊟ Misc	
⊞ CustomValues	0 variables defined
⊞ ExternalJavascriptFiles	Count:0
ExternalJavascriptIncludes	...
⊞ JavascriptValues	Count:0

Use https://maps.googleapis.com/maps/api/js?sensor=false to include Google Maps API:


String Collection Editor

Enter the strings in the collection (one per line):

https://maps.googleapis.com/maps/api/js?sensor=false

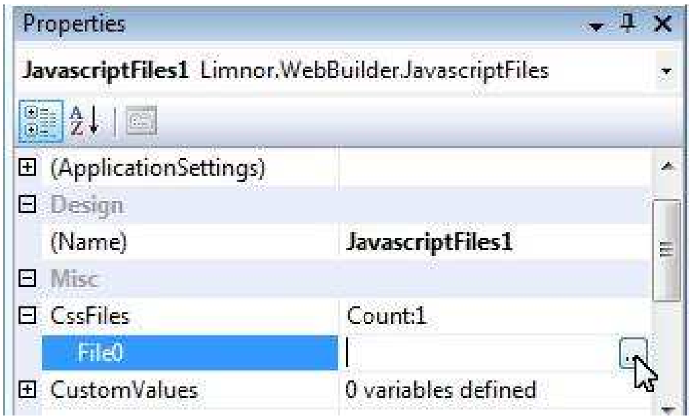
Note that in your projects, you may want to use a key in the above setting. For more information, see https://developers.google.com/maps/documentation/javascript/tutorial#api_key

In all samples in this document, no key is used.

Add Cascading Style Sheets

For your convenience the CSS file Google samples used can be downloaded from http://www.limnor.com/studio/googleMapsCss.zip

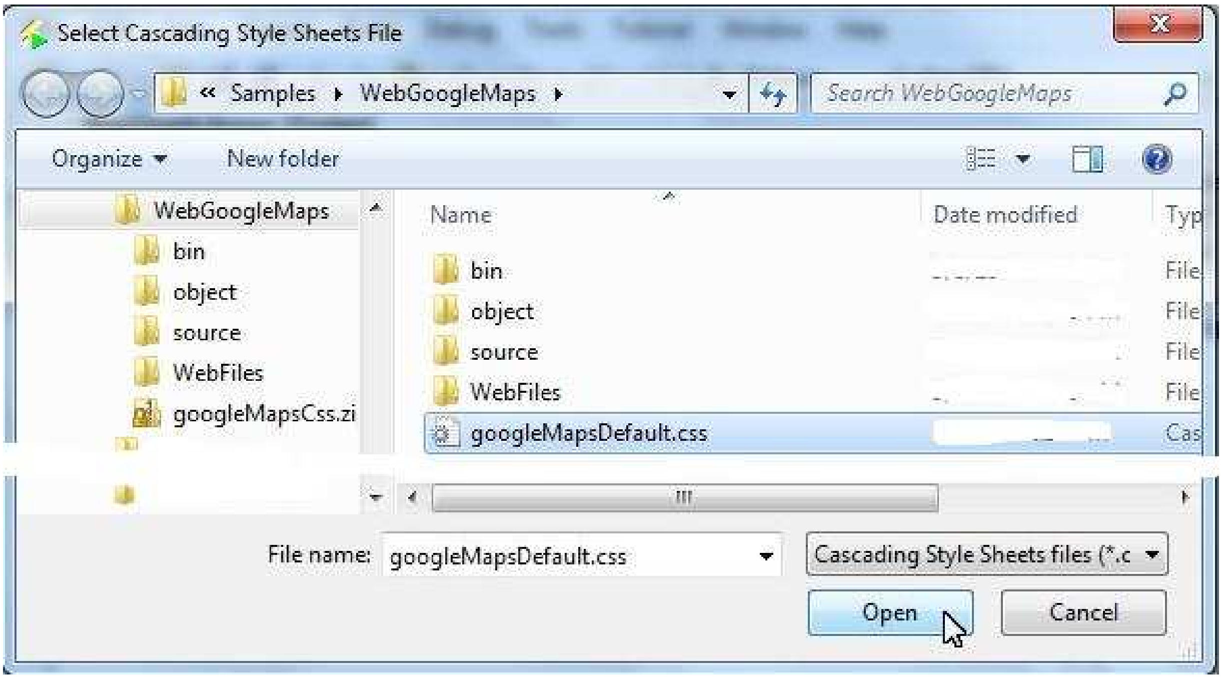
Unzip it to get file googleMapsDefault.css. Add it to JavascriptFiles:



Properties

JavascriptFiles1 Limnor.WebBuilder.JavascriptFiles

⊞ (ApplicationSettings)	
⊟ Design	
(Name)	JavascriptFiles1
⊟ Misc	
⊟ CssFiles	Count:1
File0	...
⊞ CustomValues	0 variables defined



Select Cascading Style Sheets File

« Samples ▸ WebGoogleMaps ▸

Search WebGoogleMaps

Organize ▾ New folder

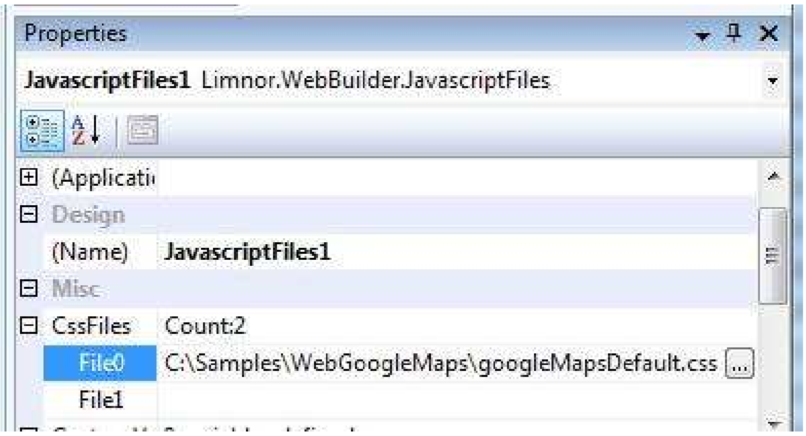
Name	Date modified	Typ
bin		File
object		File
source		File
WebFiles		File
googleMapsDefault.css		Cas

File name: googleMapsDefault.css

Cascading Style Sheets files (*.c

Open Cancel

The CSS file is added:



Properties

JavascriptFiles1 Limnor.WebBuilder.JavascriptFiles

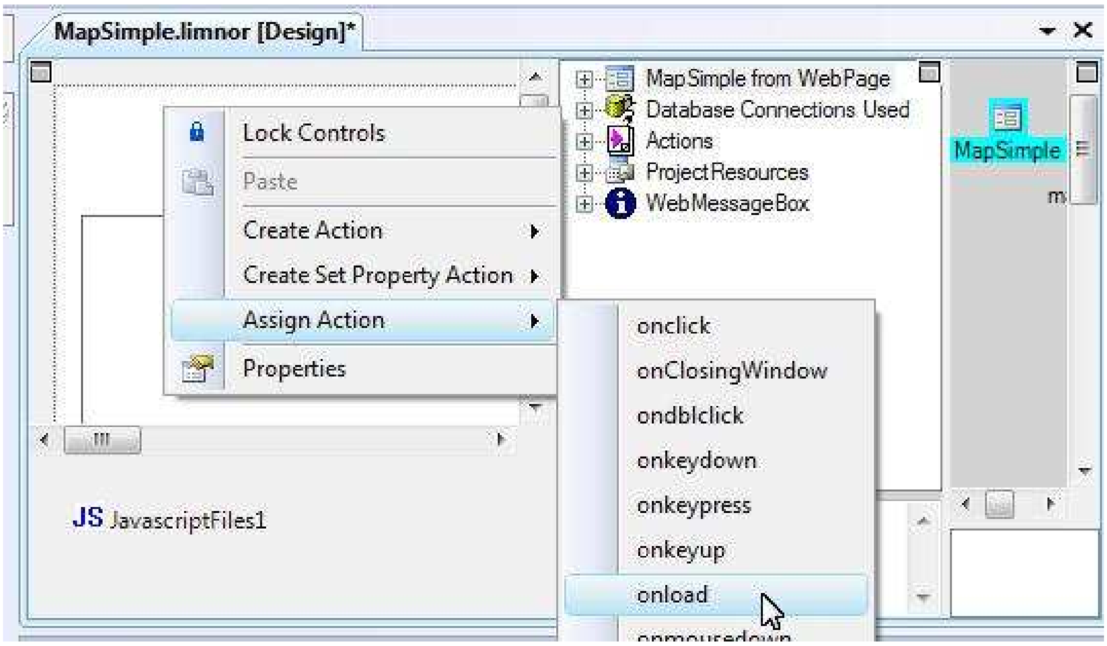
⊞ (Applicati	
⊟ Design	
(Name)	JavascriptFiles1
⊟ Misc	
⊟ CssFiles	Count:2
File0	C:\Samples\WebGoogleMaps\googleMapsDefault.css ...
File1	

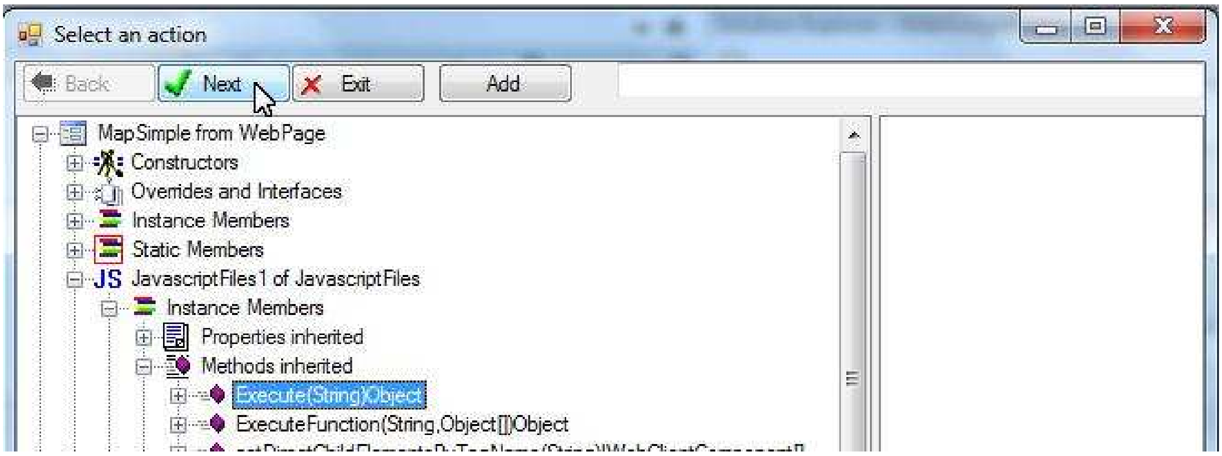
Initialize map

The Google sample uses following JavaScript code to initialize the map:

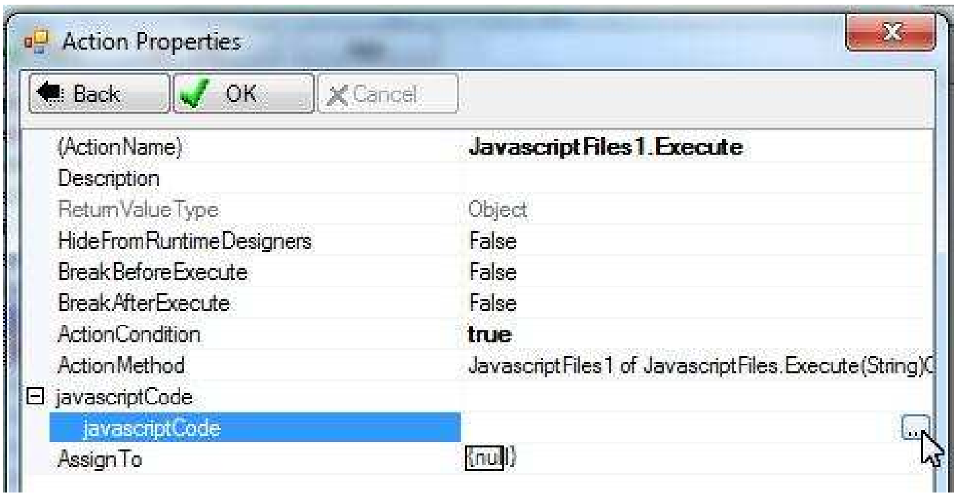
```
var map;
function initialize() {
  var mapOptions = {
    zoom: 8,
    center: new google.maps.LatLng(-34.397, 150.644),
    mapTypeId: google.maps.MapTypeId.ROADMAP
  };
  map = new google.maps.Map(document.getElementById('map_canvas'),
      mapOptions);
}
google.maps.event.addDomListener(window, 'load', initialize);
```

We may create an Execute action to execute the above code at onload event of the web page:

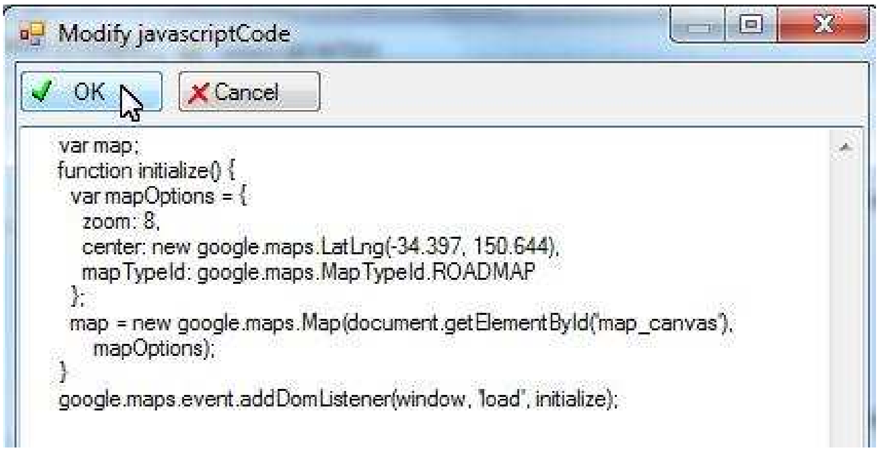




Specify the sample code:

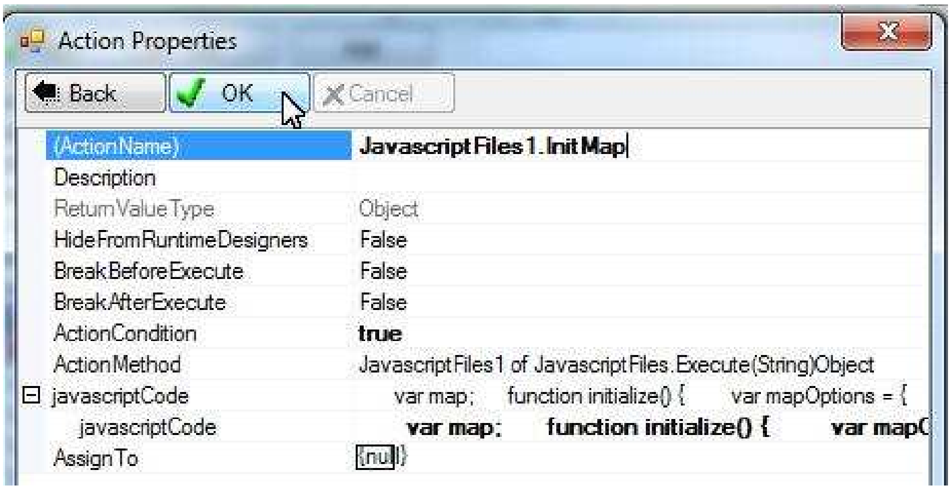


(ActionName)	**JavascriptFiles1.Execute**
Description	
ReturnValueType	Object
HideFromRuntimeDesigners	False
BreakBeforeExecute	False
BreakAfterExecute	False
ActionCondition	**true**
ActionMethod	JavascriptFiles1 of JavascriptFiles.Execute(String)O
⊟ javascriptCode	
javascriptCode	
AssignTo	{null}



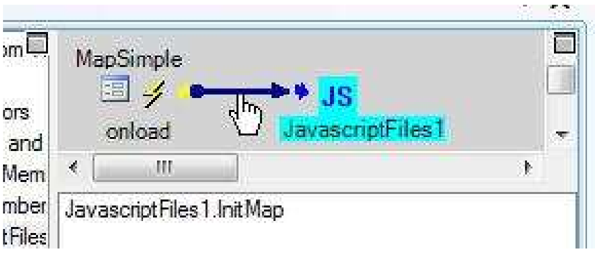
```
var map;
function initialize() {
  var mapOptions = {
    zoom: 8,
    center: new google.maps.LatLng(-34.397, 150.644),
    mapTypeId: google.maps.MapTypeId.ROADMAP
  };
  map = new google.maps.Map(document.getElementById('map_canvas'),
      mapOptions);
}
google.maps.event.addDomListener(window, 'load', initialize);
```

Rename the action and click OK:

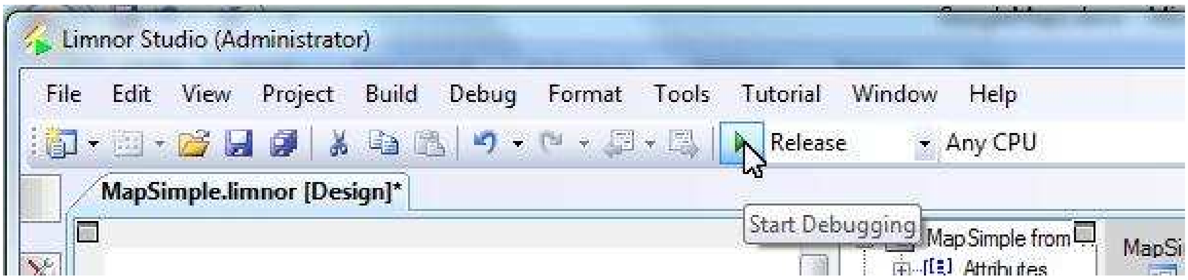


(ActionName)	**JavascriptFiles1.InitMap**
Description	
ReturnValueType	Object
HideFromRuntimeDesigners	False
BreakBeforeExecute	False
BreakAfterExecute	False
ActionCondition	**true**
ActionMethod	JavascriptFiles1 of JavascriptFiles.Execute(String)Object
⊟ javascriptCode	var map; function initialize() { var mapOptions = {
javascriptCode	**var map; function initialize() { var map(**
AssignTo	{null}

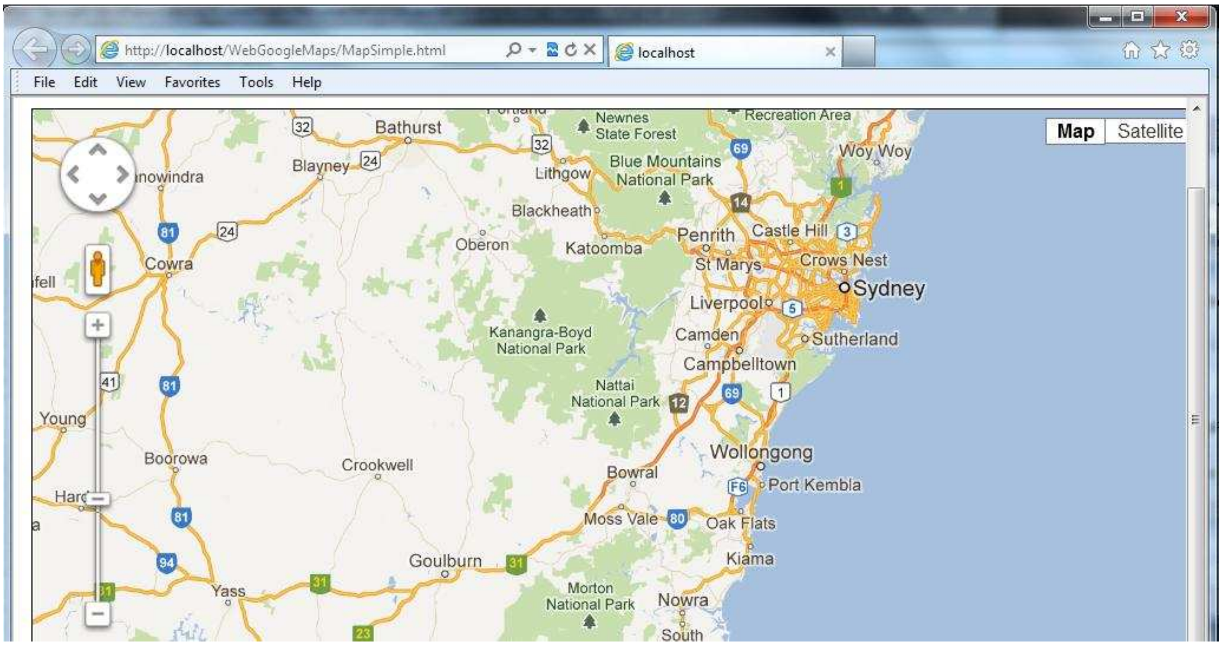
The action is created and assigned to onload event:



Test


Limnor Studio (Administrator)
File Edit View Project Build Debug Format Tools Tutorial Window Help
Release
Any CPU
MapSimple.limnor [Design]*
Start Debugging
MapSimple from
Attributes

The web page appears showing Google map:



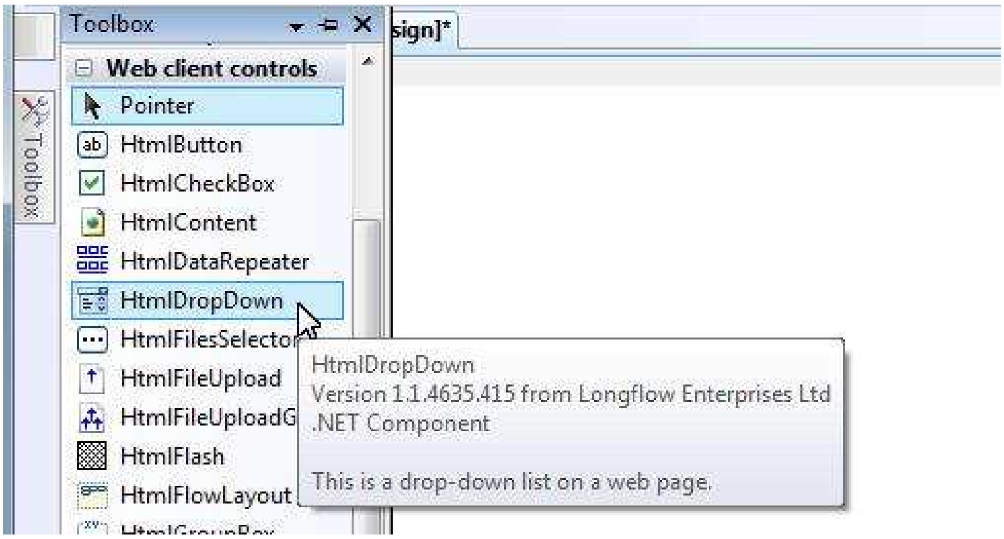
Direction-Simple

This Google sample can be found at https://developers.google.com/maps/documentation/javascript/examples/directions-simple

It uses two dropdown list boxes to select start and end points. Driving direction is displayed on the map.

Create UI

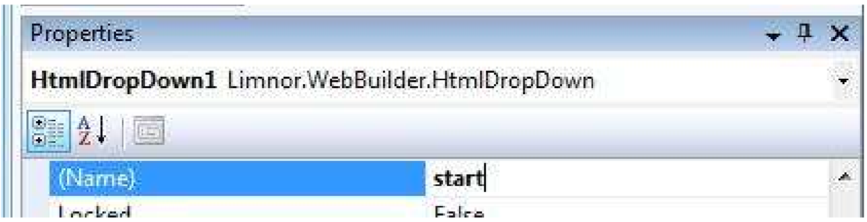
Add tow dropdown list boxes to the web page:



HtmlDropDown
Version 1.1.4635.415 from Longflow Enterprises Ltd
.NET Component

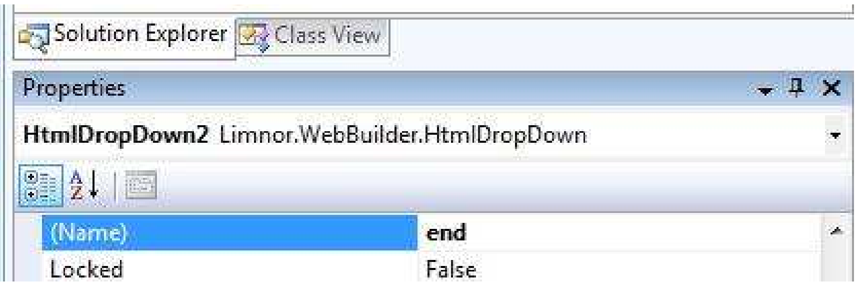
This is a drop-down list on a web page.

Rename the two dropdowns to start and end:



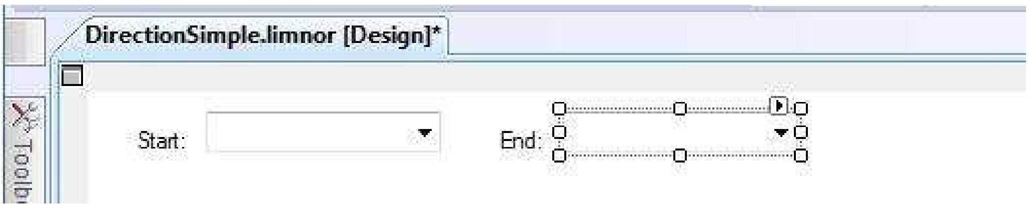
HtmlDropDown1 Limnor.WebBuilder.HtmlDropDown

(Name) start
Locked False

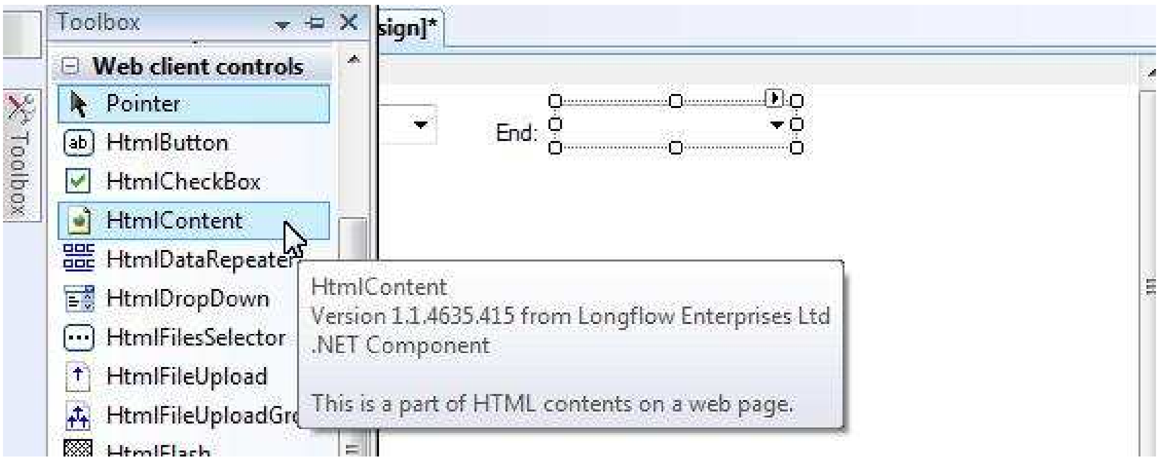


HtmlDropDown2 Limnor.WebBuilder.HtmlDropDown

(Name) end
Locked False



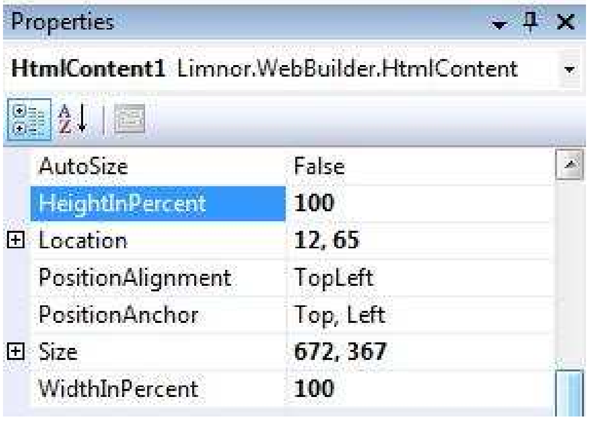
Add an HtmlContent for holding the map:



HtmlContent
Version 1.1.4635.415 from Longflow Enterprises Ltd
.NET Component

This is a part of HTML contents on a web page.

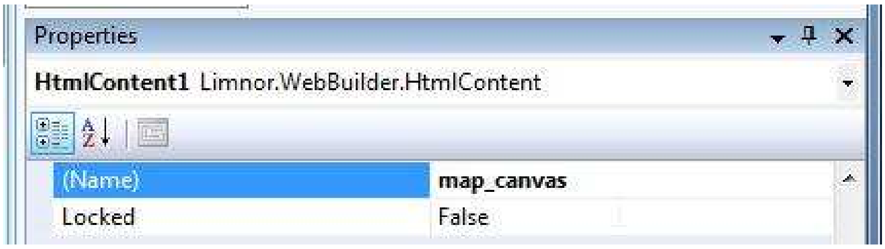
Set WidthInPercent and HeightInPercent to 100:


Properties

HtmlContent1 Limnor.WebBuilder.HtmlContent

AutoSize	False
HeightInPercent	100
⊞ Location	12, 65
PositionAlignment	TopLeft
PositionAnchor	Top, Left
⊞ Size	672, 367
WidthInPercent	100

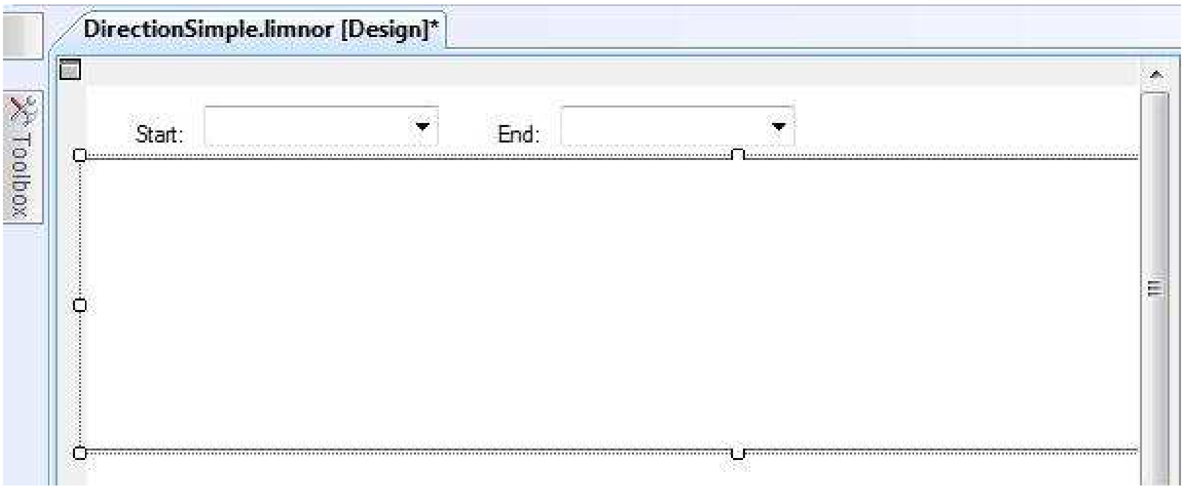
Rename it to map_canvas:


Properties

HtmlContent1 Limnor.WebBuilder.HtmlContent

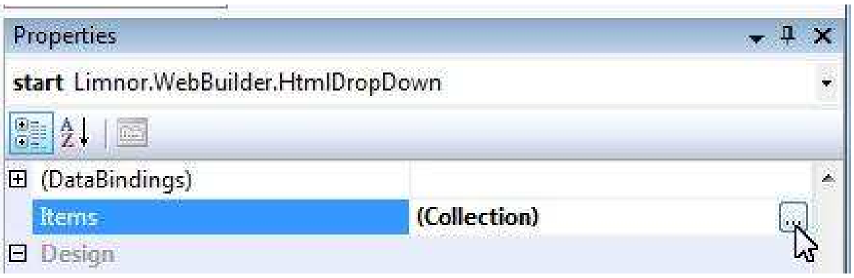
(Name)	map_canvas
Locked	False

This is finished UI:

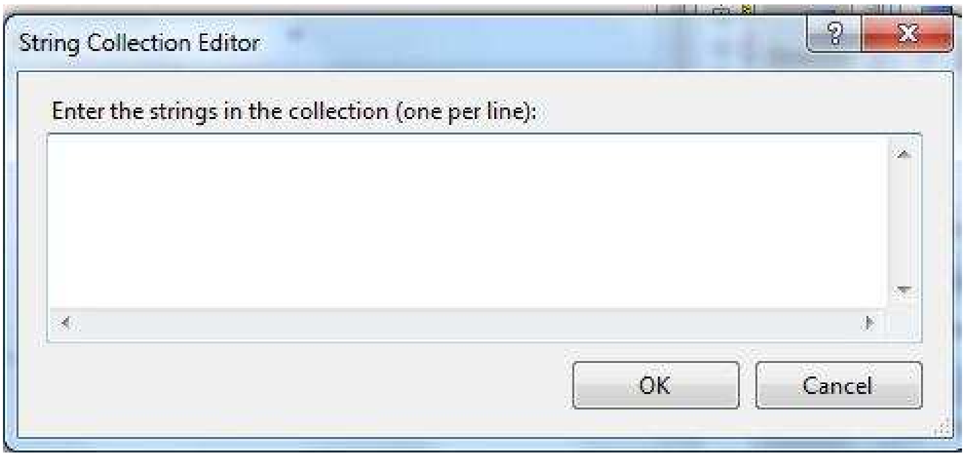


Add start and end cities

Add city names to start dropdown:



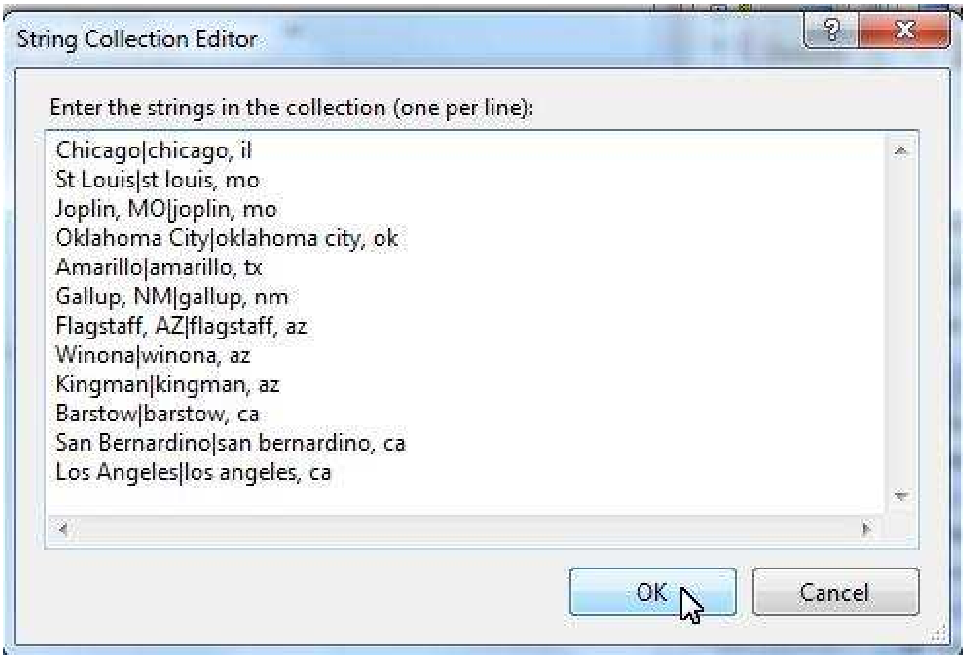
A dialogue box appears allowing us to enter dropdown items. Each line is for one item. Each item may have a display text and a value separated by a pipe symbol "|".



We enter following cities into it:

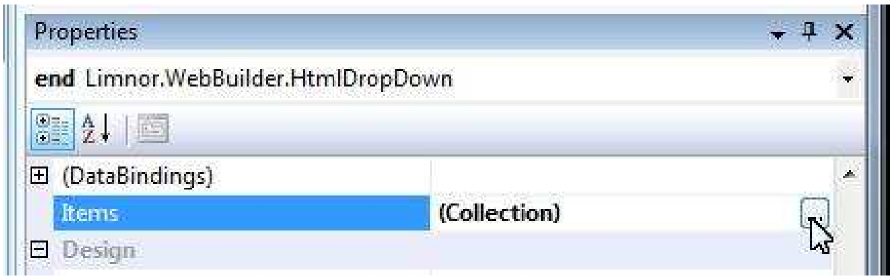
```
Chicago|chicago, il
St Louis|st louis, mo
```

```
Joplin, MO|joplin, mo
Oklahoma City|oklahoma city, ok
Amarillo|amarillo, tx
Gallup, NM|gallup, nm
Flagstaff, AZ|flagstaff, az
Winona|winona, az
Kingman|kingman, az
Barstow|barstow, ca
San Bernardino|san bernardino, ca
Los Angeles|los angeles, ca
```



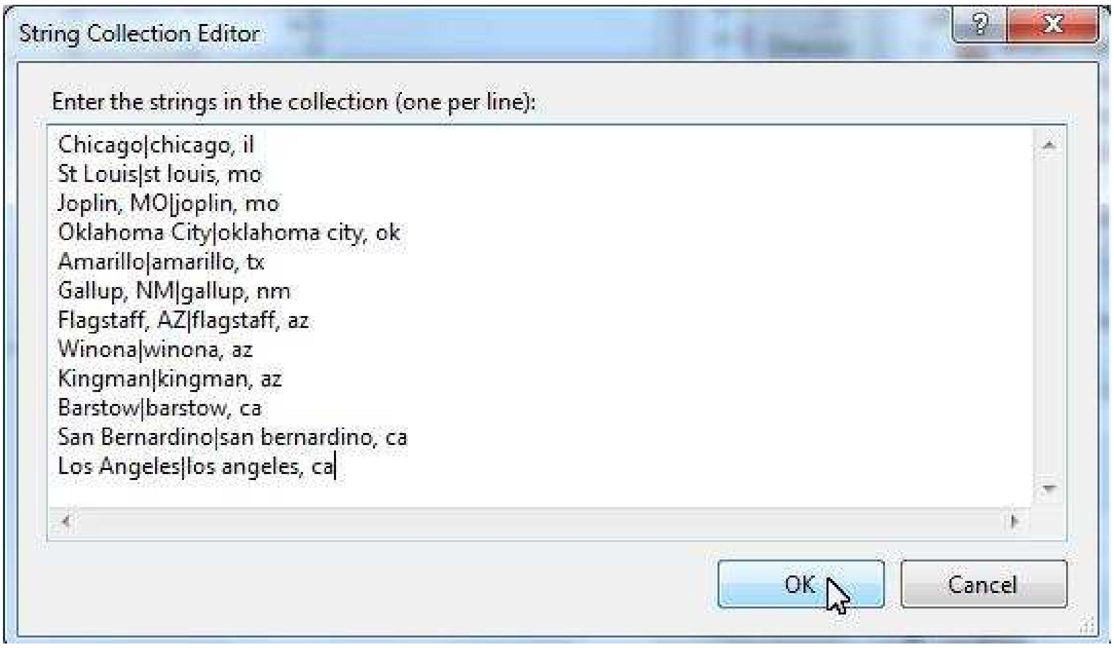
```
Chicago|chicago, il
St Louis|st louis, mo
Joplin, MO|joplin, mo
Oklahoma City|oklahoma city, ok
Amarillo|amarillo, tx
Gallup, NM|gallup, nm
Flagstaff, AZ|flagstaff, az
Winona|winona, az
Kingman|kingman, az
Barstow|barstow, ca
San Bernardino|san bernardino, ca
Los Angeles|los angeles, ca
```

We also enter these cities into end dropdown:



end Limnor.WebBuilder.HtmlDropDown

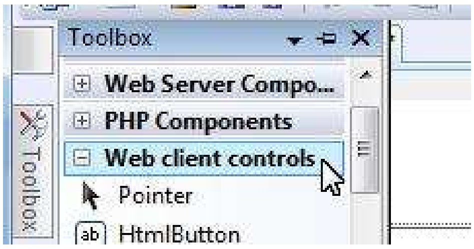
(DataBindings)
Items (Collection)
Design

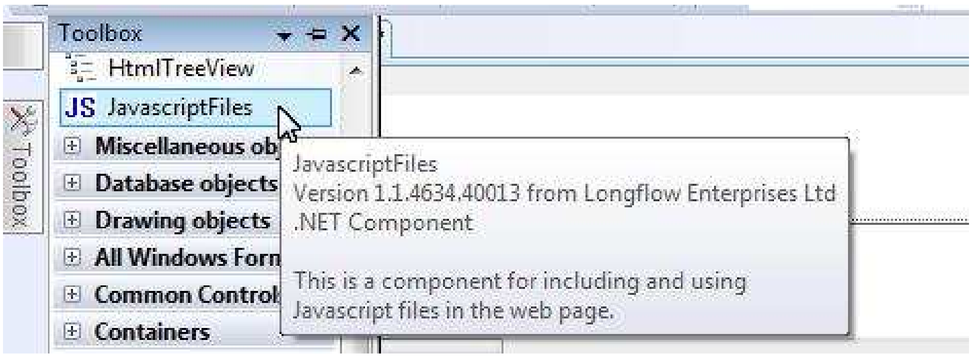


```
Chicago|chicago, il
St Louis|st louis, mo
Joplin, MO|joplin, mo
Oklahoma City|oklahoma city, ok
Amarillo|amarillo, tx
Gallup, NM|gallup, nm
Flagstaff, AZ|flagstaff, az
Winona|winona, az
Kingman|kingman, az
Barstow|barstow, ca
San Bernardino|san bernardino, ca
Los Angeles|los angeles, ca
```

Add map library

Add JavascriptFiles to the page so that we may use the Google sample.

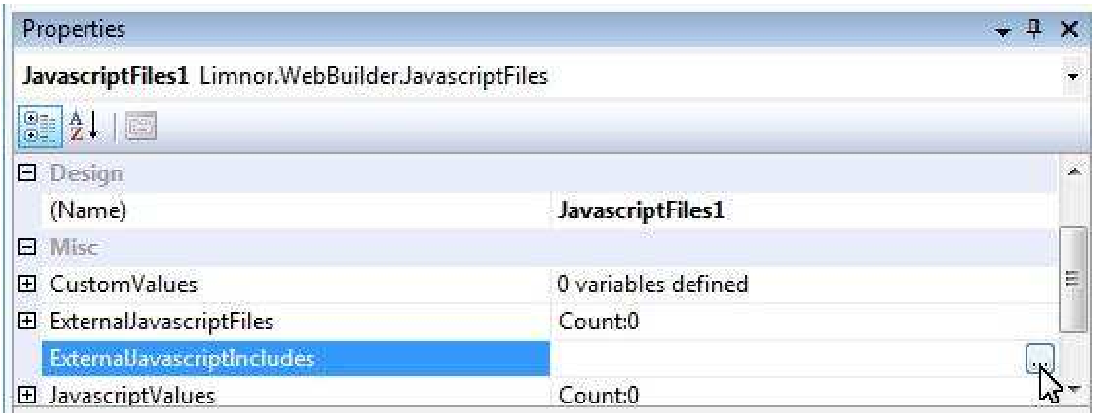




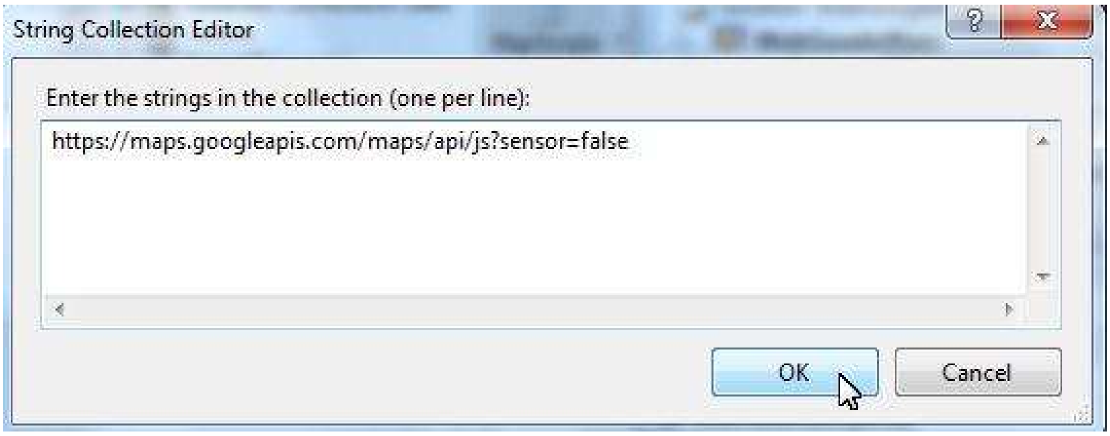
JavascriptFiles
Version 1.1.4634.40013 from Longflow Enterprises Ltd
.NET Component

This is a component for including and using Javascript files in the web page.

Add Google Maps library via property ExternalJavascritIncludes:



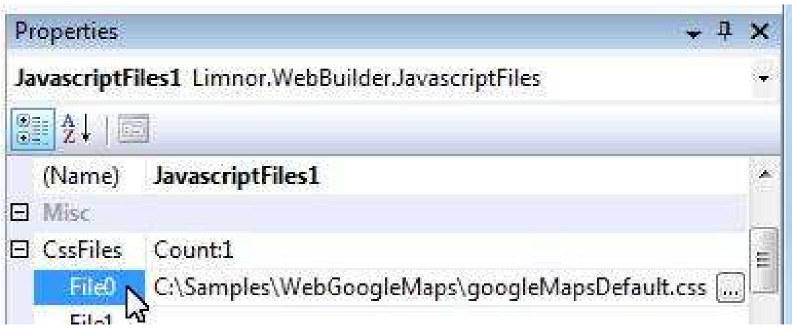
Use https://maps.googleapis.com/maps/api/js?sensor=false to include Google Maps API:



https://maps.googleapis.com/maps/api/js?sensor=false

Add Cascading Style Sheets

Add googleMapsDefault.css to JavascriptFiles:



File0: C:\Samples\WebGoogleMaps\googleMapsDefault.css

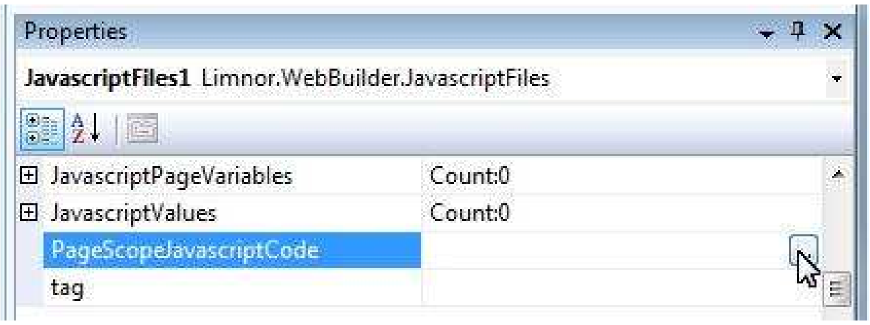
Add JavaScript Code

This Google sample uses the following JavaScript code to perform required functionality.

```
var directionDisplay;
var directionsService = new google.maps.DirectionsService();
var map;
```

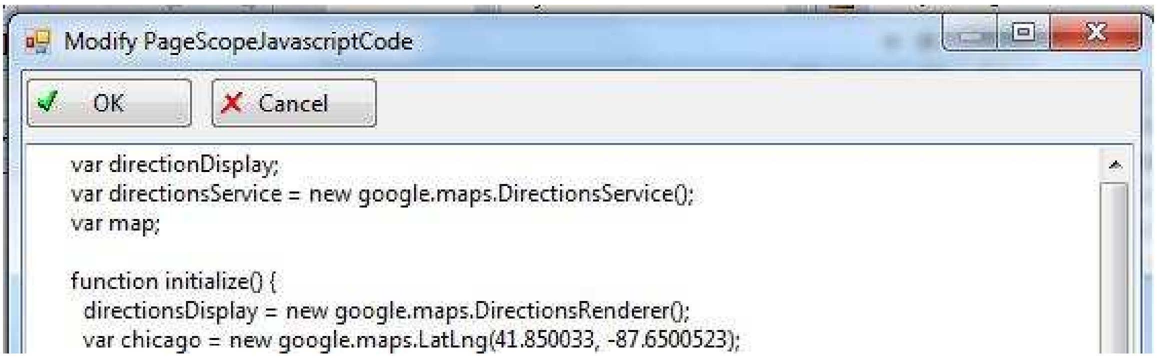
```
function initialize() {
  directionsDisplay = new google.maps.DirectionsRenderer();
  var chicago = new google.maps.LatLng(41.850033, -87.6500523);
  var mapOptions = {
    zoom:7,
    mapTypeId: google.maps.MapTypeId.ROADMAP,
    center: chicago
  }
  map = new google.maps.Map(document.getElementById('map_canvas'), mapOptions);
  directionsDisplay.setMap(map);
}

function calcRoute() {
  var start = document.getElementById('start').value;
  var end = document.getElementById('end').value;
  var request = {
      origin:start,
      destination:end,
      travelMode: google.maps.DirectionsTravelMode.DRIVING
  };
  directionsService.route(request, function(response, status) {
    if (status == google.maps.DirectionsStatus.OK) {
      directionsDisplay.setDirections(response);
    }
  });
}
```

We may set the above code to the PageScopeJavascriptCode property of the JavascriptFiles component:



⊞ JavascriptPageVariables	Count:0
⊞ JavascriptValues	Count:0
PageScopeJavascriptCode	
tag	

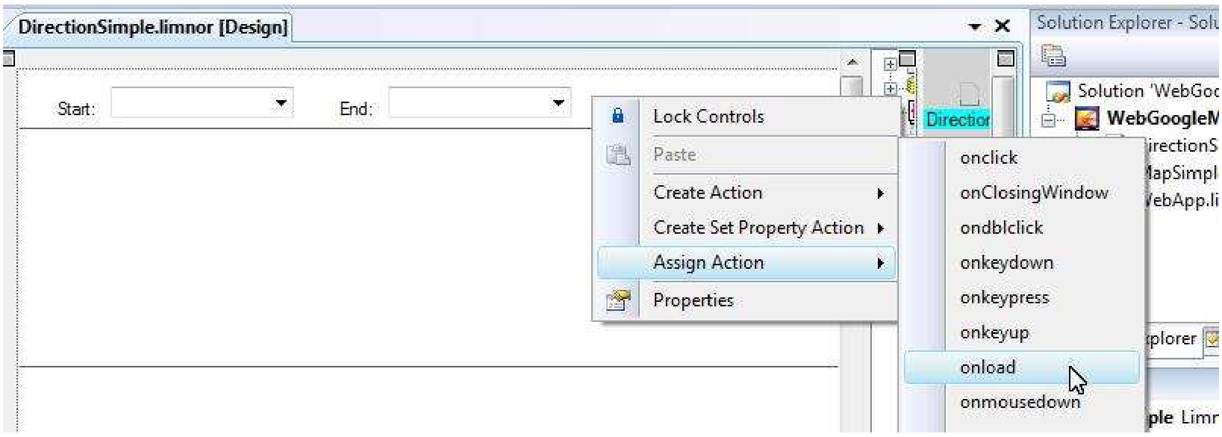
Copy the code from Google sample and paste into it:

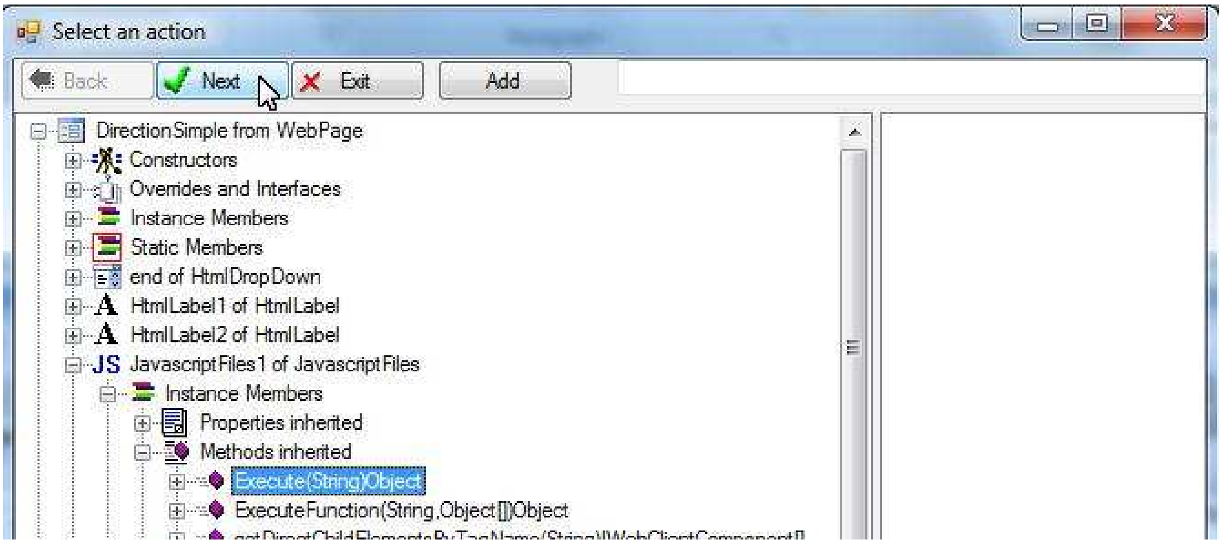


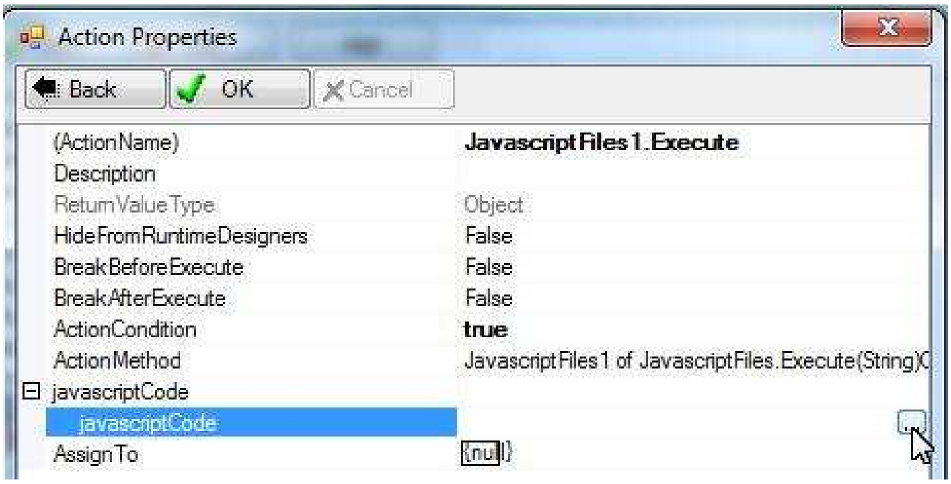
```
var directionDisplay;
var directionsService = new google.maps.DirectionsService();
var map;

function initialize() {
  directionsDisplay = new google.maps.DirectionsRenderer();
  var chicago = new google.maps.LatLng(41.850033, -87.6500523);
```

Initialize map

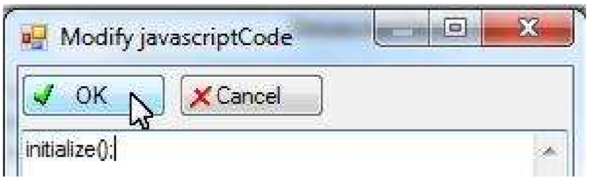
The Google sample executes “`initialize()`” at onload event to initialize map. We may use an Execute action to execute “`initialize()`” at onload event.







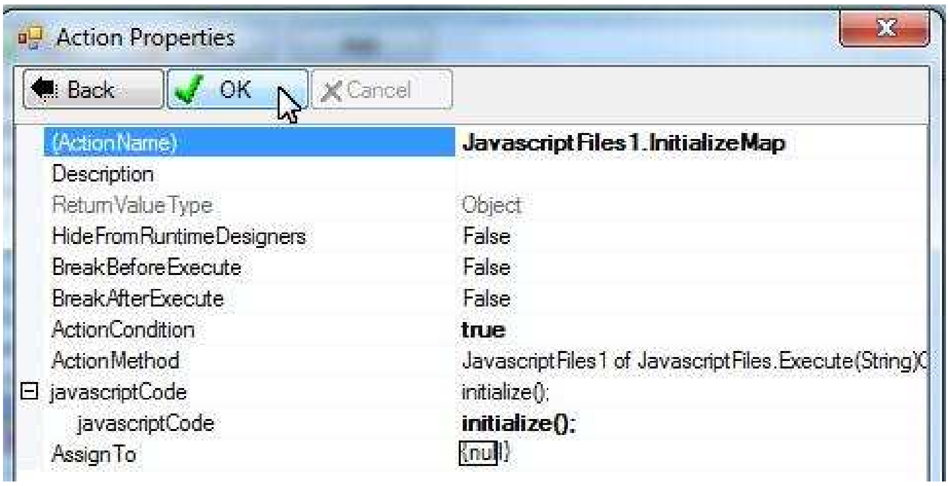
(ActionName)	JavascriptFiles1.Execute
Description	
ReturnValueType	Object
HideFromRuntimeDesigners	False
BreakBeforeExecute	False
BreakAfterExecute	False
ActionCondition	true
ActionMethod	JavascriptFiles1 of JavascriptFiles.Execute(String)C
⊟ javascriptCode	
javascriptCode	
AssignTo	{null}



initialize();

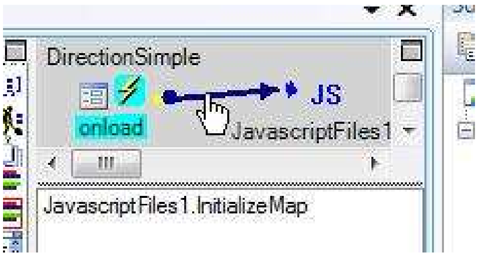
Note that a semi-colon is added at the end of the line. This is needed because it is a JavaScript statement, not an expression.

Rename the action and click OK:



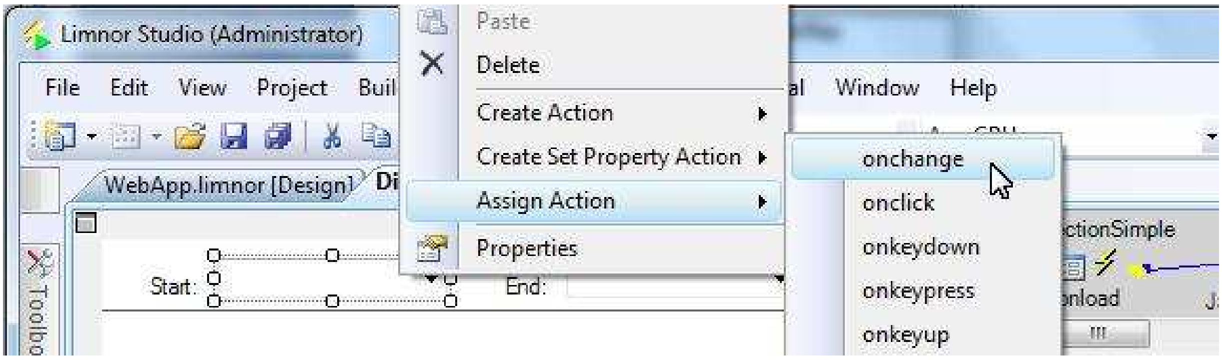
(ActionName)	JavascriptFiles1.InitializeMap
Description	
ReturnValueType	Object
HideFromRuntimeDesigners	False
BreakBeforeExecute	False
BreakAfterExecute	False
ActionCondition	true
ActionMethod	JavascriptFiles1 of JavascriptFiles.Execute(String)C
⊟ javascriptCode	initialize();
javascriptCode	initialize();
AssignTo	{null}

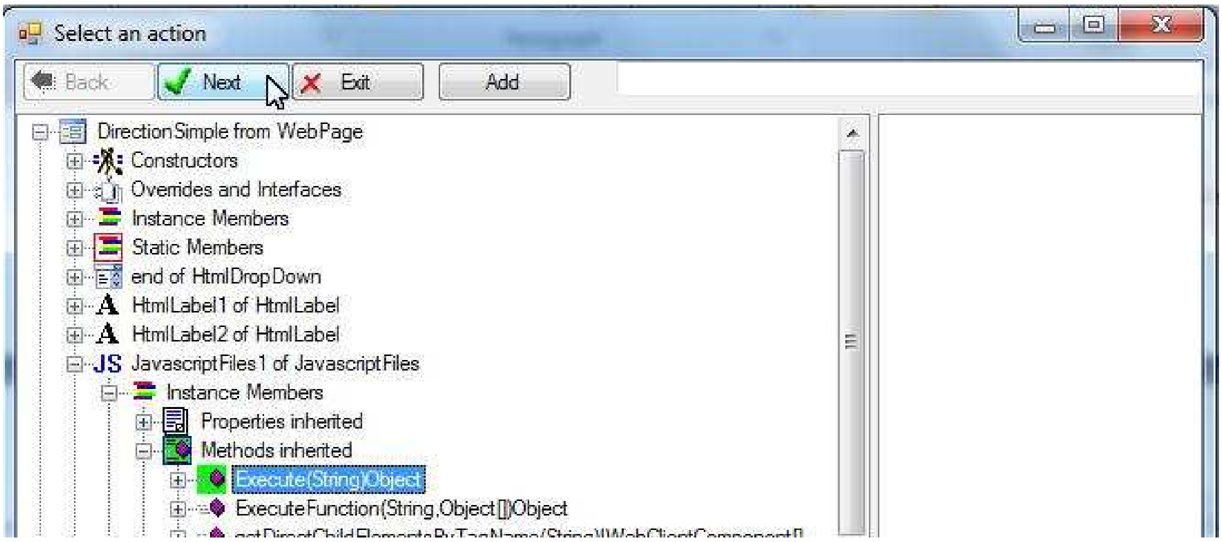
The action is created and assigned to the event:



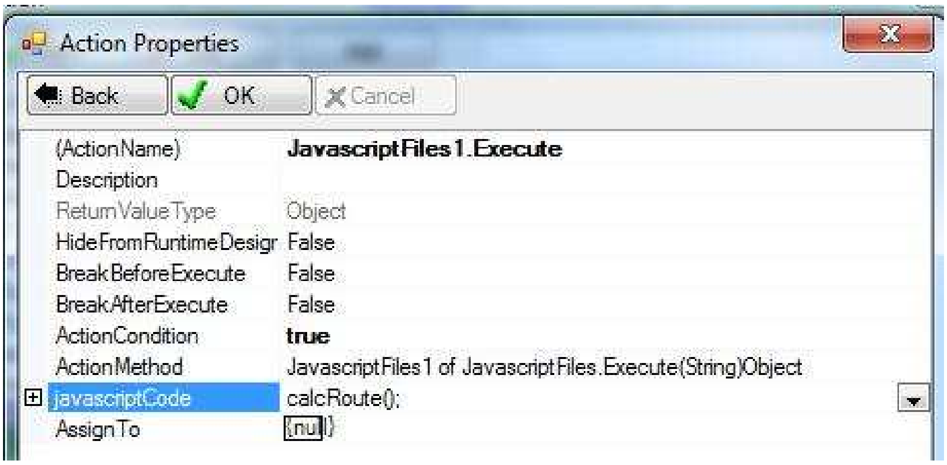
Respond to city selection

This Google sample executes “`calcRoute();`” when a dropdown list box changes selection. We may create an Execute action to execute the above code:



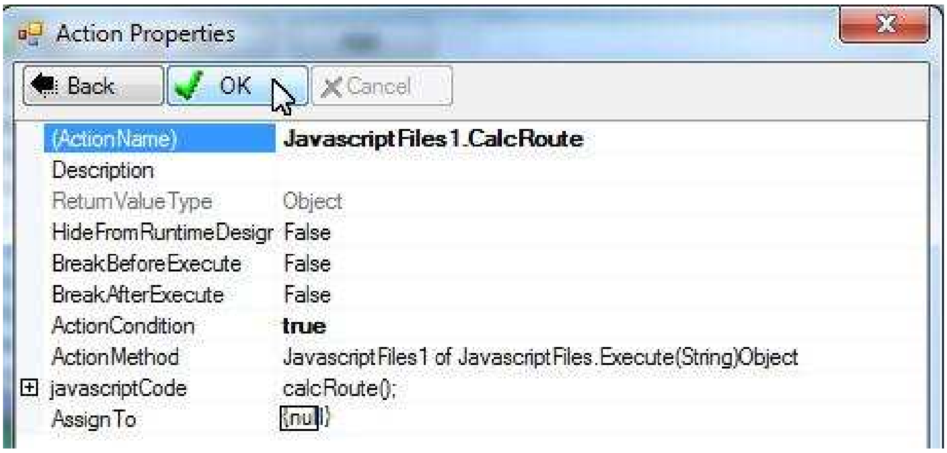


Enter `calcRoute();` into javascriptCode parameter:



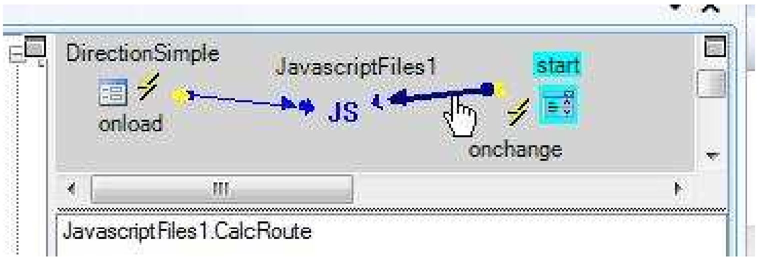
(ActionName)	**JavascriptFiles1.Execute**
Description	
ReturnValueType	Object
HideFromRuntimeDesigr	False
BreakBeforeExecute	False
BreakAfterExecute	False
ActionCondition	**true**
ActionMethod	JavascriptFiles1 of JavascriptFiles.Execute(String)Object
⊞ javascriptCode	calcRoute();
AssignTo	(null)

Rename the action and click OK:

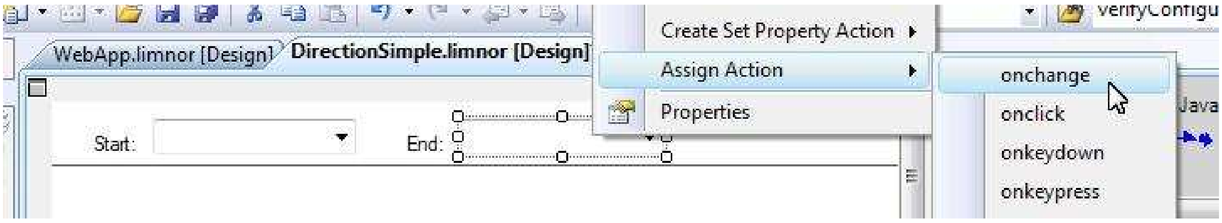


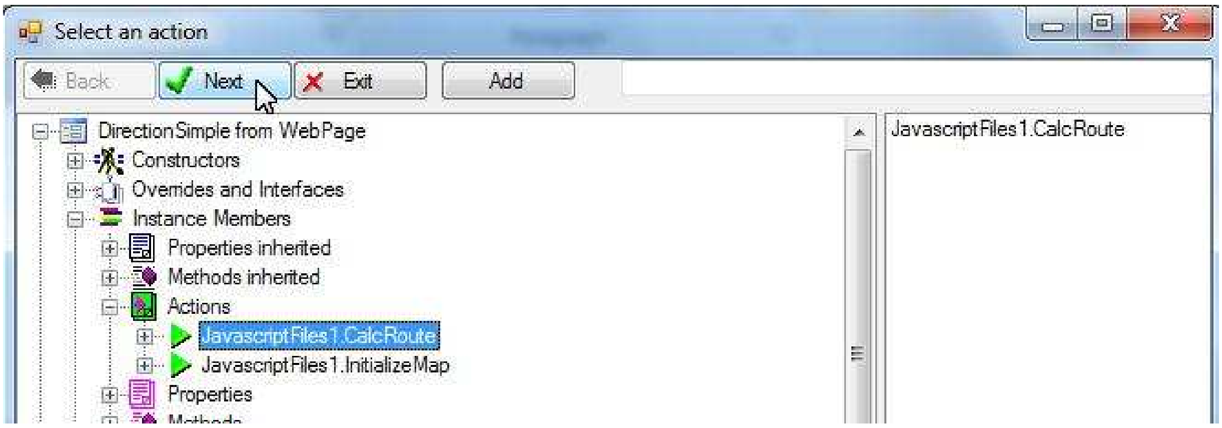
(ActionName)	**JavascriptFiles1.CalcRoute**
Description	
ReturnValueType	Object
HideFromRuntimeDesigr	False
BreakBeforeExecute	False
BreakAfterExecute	False
ActionCondition	**true**
ActionMethod	JavascriptFiles1 of JavascriptFiles.Execute(String)Object
⊞ javascriptCode	calcRoute();
AssignTo	(null)

The action is created and assigned to the dropdown list box:

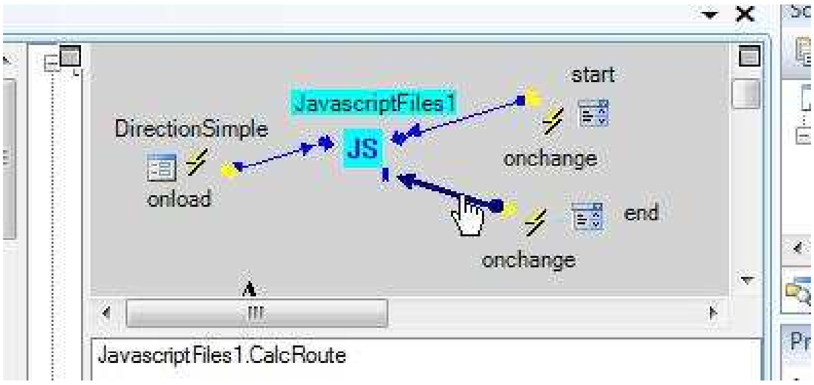


Assign this action to the other dropdown list box:



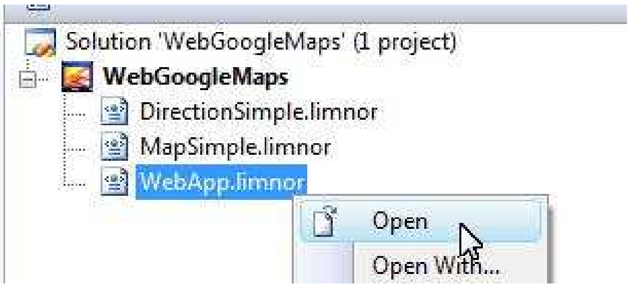


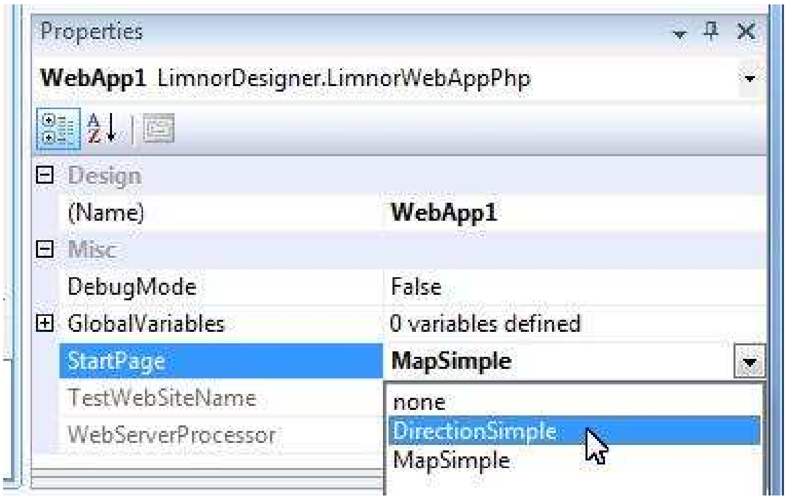
The action is assigned to the dropdown list box:



Test

Set the web page as the start page for testing it:





(Name) WebApp1

DebugMode False

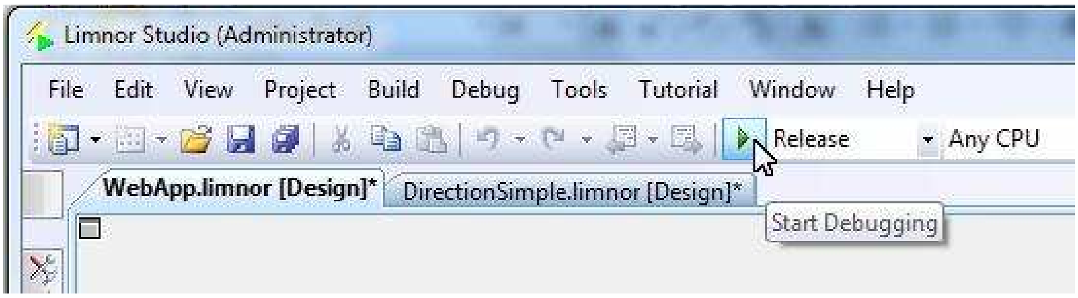
GlobalVariables 0 variables defined

StartPage MapSimple

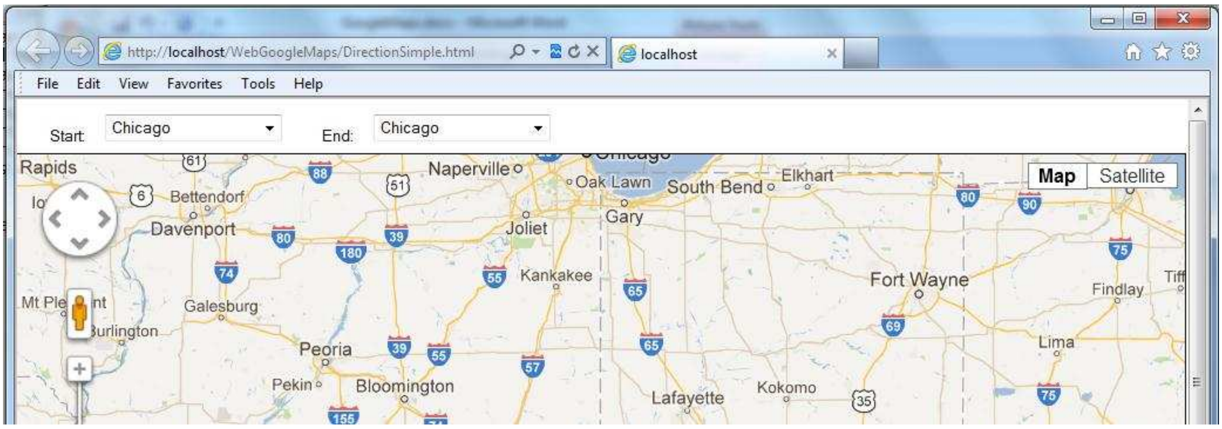
TestWebSiteName

WebServerProcessor

Click Run button:



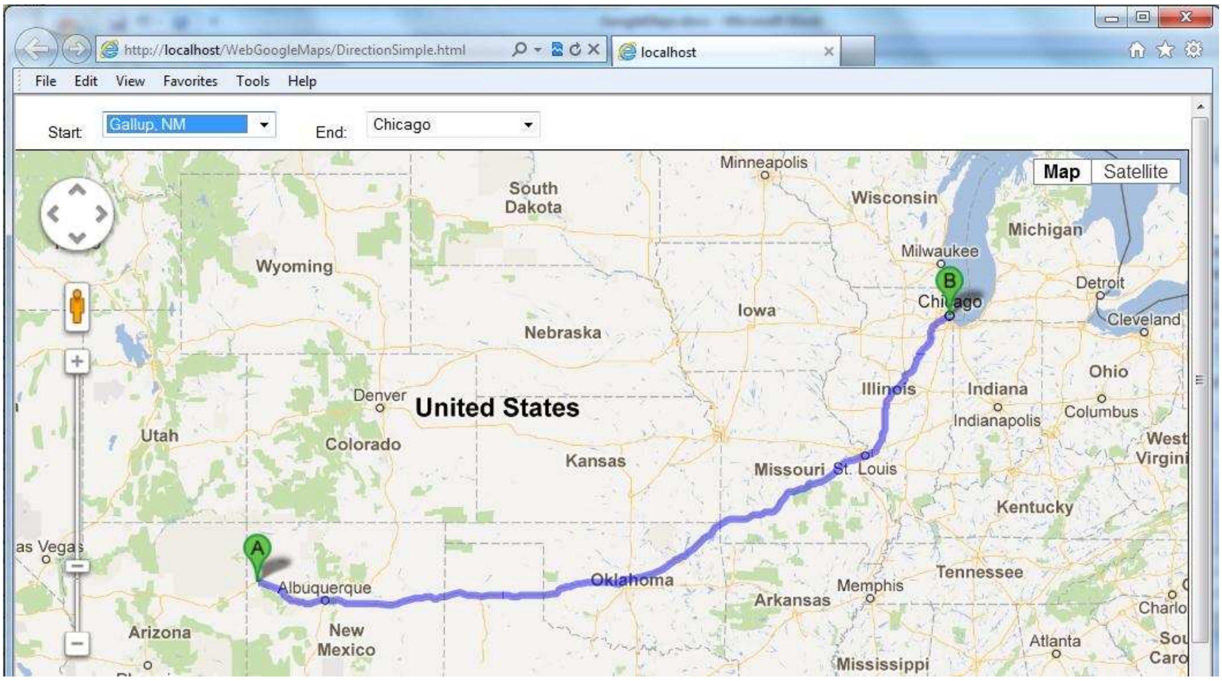
The web page appears. Google map displays in the holder:



Start: Chicago

End: Chicago

Make selections on dropdown list boxes. The direction is displayed:



http://localhost/WebGoogleMaps/DirectionSimple.html
localhost
File Edit View Favorites Tools Help
Map
Satellite
United States
Albuquerque
Chicago

Start: Gallup, NM

End: Chicago

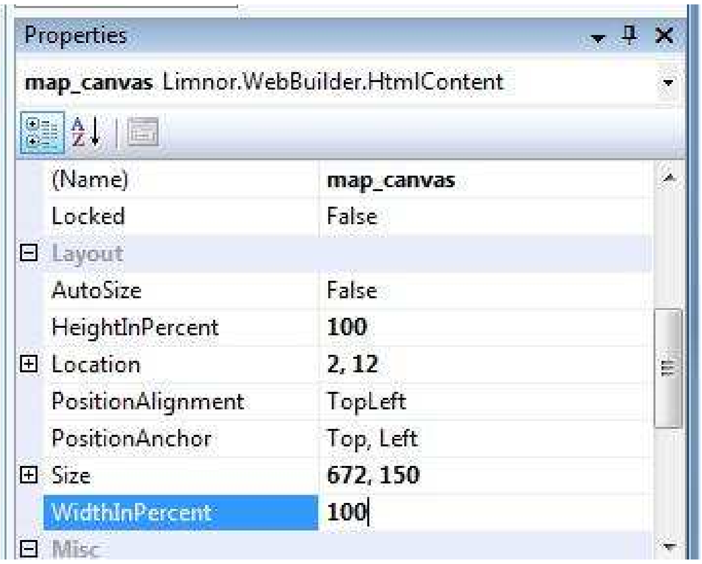
Simple Information Window

This Google sample is taken from https://developers.google.com/maps/documentation/javascript/examples/infowindow-simple-max .

It shows an information balloon on the map. Click on the balloon, an information window appears.

Add Map Holder

As with previous samples, we add an HtmlContent component to a web page. Set its Set WidthInPercent and HeightInPercent to 100. Change its name to `map_canvas` because the name is used in the sample code Google provides.



Properties

map_canvas Limnor.WebBuilder.HtmlContent

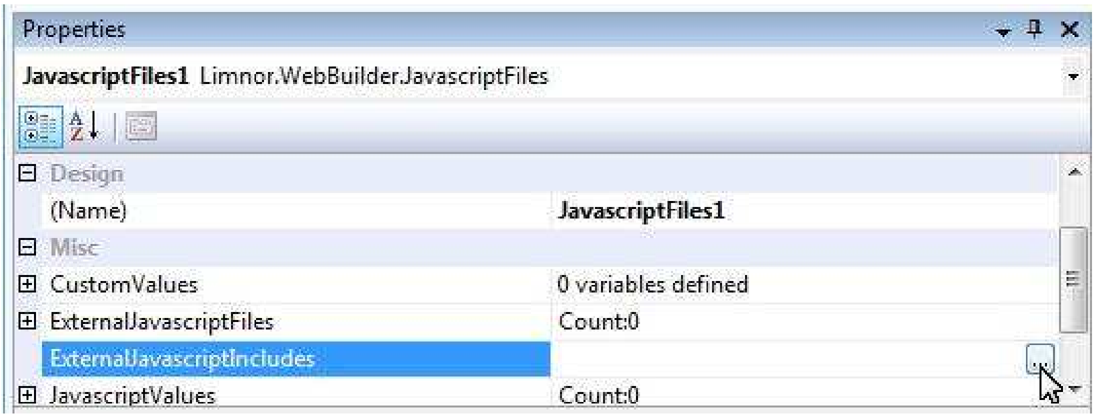
(Name)	map_canvas
Locked	False
⊟ Layout	
AutoSize	False
HeightInPercent	100
⊞ Location	2, 12
PositionAlignment	TopLeft
PositionAnchor	Top, Left
⊞ Size	672, 150
WidthInPercent	100
⊟ Misc	

Add map library

As with previous samples, add JavascriptFiles to the page so that we may use the Google sample. Add

https://maps.googleapis.com/maps/api/js?sensor=false

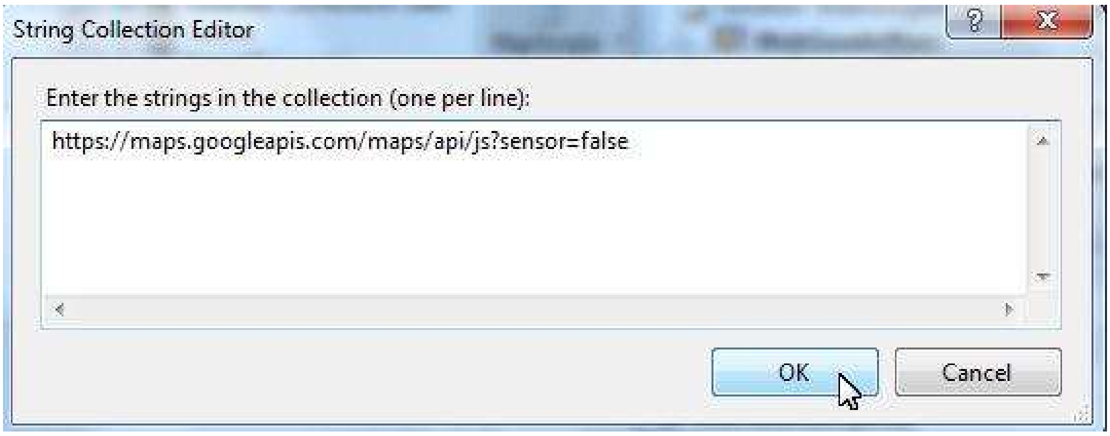
to JavascriptFiles:



Properties

JavascriptFiles1 Limnor.WebBuilder.JavascriptFiles

⊟ Design	
(Name)	JavascriptFiles1
⊟ Misc	
⊞ CustomValues	0 variables defined
⊞ ExternalJavascriptFiles	Count:0
ExternalJavascriptIncludes	...
⊞ JavascriptValues	Count:0

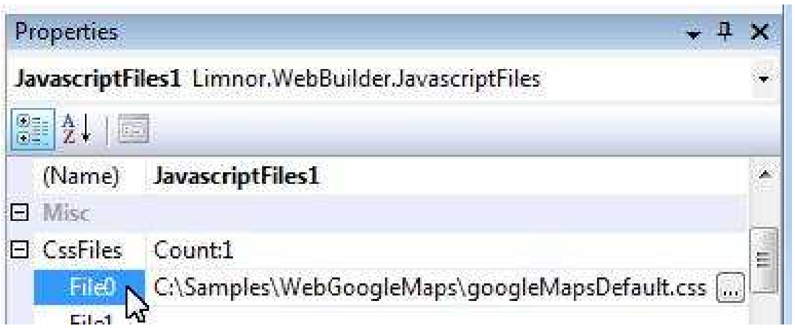


Enter the strings in the collection (one per line):

https://maps.googleapis.com/maps/api/js?sensor=false

Add Cascading Style Sheets

Add googleMapsDefault.css to JavascriptFiles:



JavascriptFiles1 Limnor.WebBuilder.JavascriptFiles

(Name) JavascriptFiles1

Misc

CssFiles Count:1

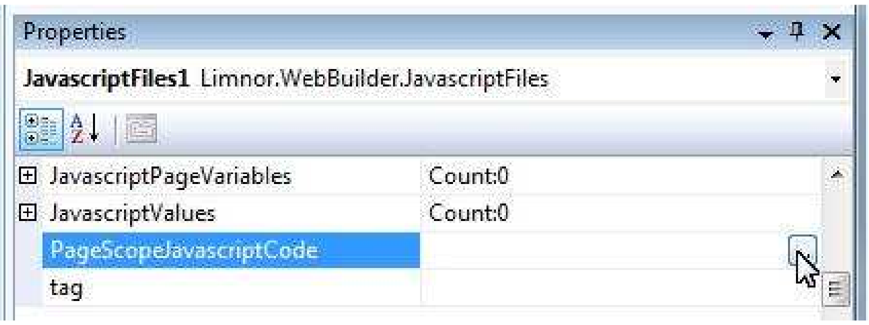
File0 C:\Samples\WebGoogleMaps\googleMapsDefault.css

Add JavaScript Code

This Google sample uses the following JavaScript code to perform required functionality.

```
  function initialize() {
    var myLatlng = new google.maps.LatLng(-25.363882,131.044922);
    var mapOptions = {
      zoom: 4,
      center: myLatlng,
      mapTypeId: google.maps.MapTypeId.ROADMAP
    }

    var map = new google.maps.Map(document.getElementById('map_canvas'), mapOptions);

    var contentString = '<div id="content">'+
        '<div id="siteNotice">'+
        '</div>'+
        '<h1 id="firstHeading" class="firstHeading">Uluru</h1>'+
        '<div id="bodyContent">'+
        '<p><b>Uluru</b>, also referred to as <b>Ayers Rock</b>, is a large ' +
        'sandstone rock formation in the southern part of the '+
        'Northern Territory, central Australia. It lies 335&#160;km (208&#160;mi) '+
        'south west of the nearest large town, Alice Springs; 450&#160;km '+
        '(280&#160;mi) by road. Kata Tjuta and Uluru are the two major '+
        'features of the Uluru - Kata Tjuta National Park. Uluru is '+
        'sacred to the Pitjantjatjara and Yankunytjatjara, the '+
        'Aboriginal people of the area. It has many springs, waterholes, '+
        'rock caves and ancient paintings. Uluru is listed as a World '+
        'Heritage Site.</p>'+
        '<p>Attribution: Uluru, <a
href="http://en.wikipedia.org/w/index.php?title=Uluru&oldid=297882194">'+
        'http://en.wikipedia.org/w/index.php?title=Uluru</a> '+
        '(last visited June 22, 2009).</p>'+
        '</div>'+
        '</div>';

      var infowindow = new google.maps.InfoWindow({
        content: contentString,
        maxWidth: 200
      });

      var marker = new google.maps.Marker({
        position: myLatlng,
        map: map,
        title: 'Uluru (Ayers Rock)'
      });
      google.maps.event.addListener(marker, 'click', function() {
       infowindow.open(map,marker);
      });
    }
```

We may set the above code to the PageScopeJavascriptCode property of the JavascriptFiles component:

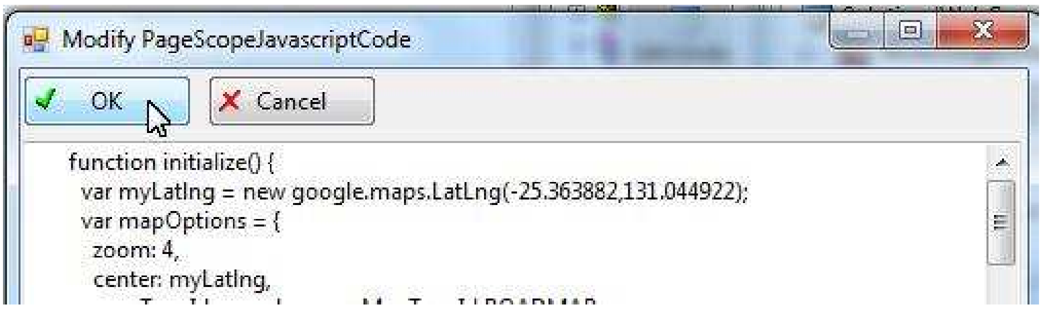


Properties

JavascriptFiles1 Limnor.WebBuilder.JavascriptFiles

⊞ JavascriptPageVariables	Count:0
⊞ JavascriptValues	Count:0
PageScopeJavascriptCode	
tag	

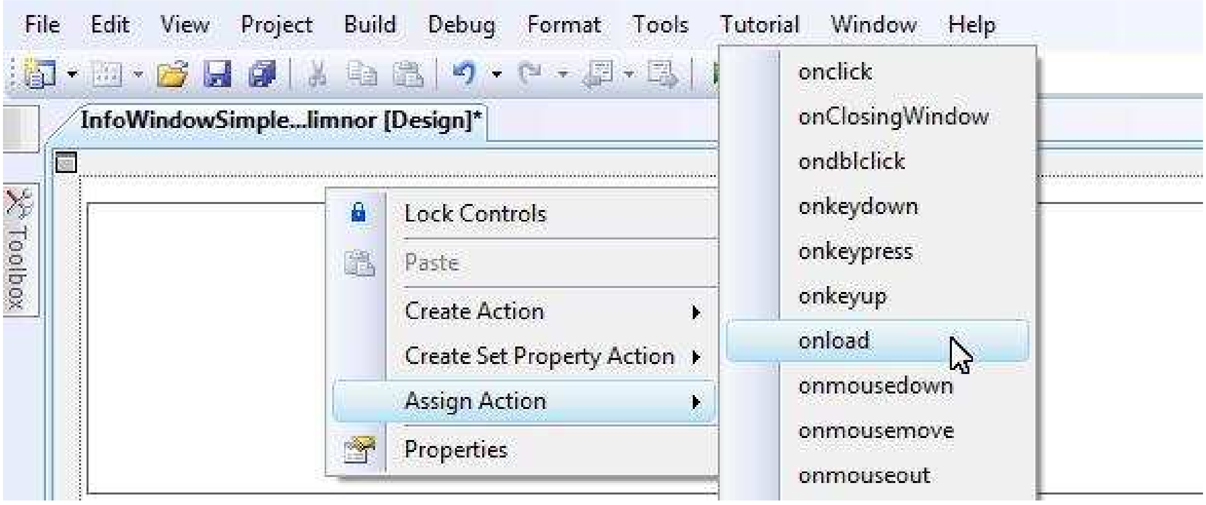
Copy the code from Google sample and paste into it:

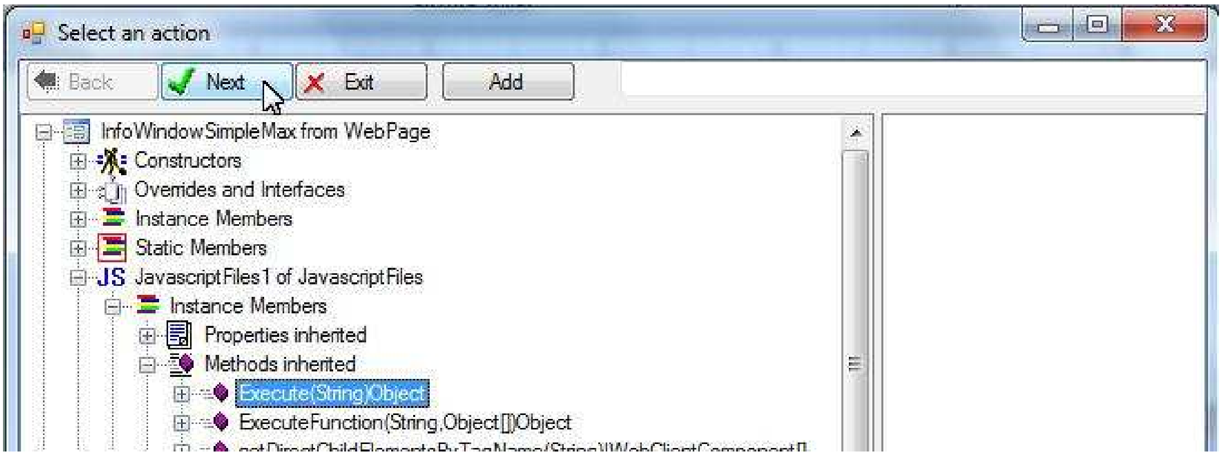


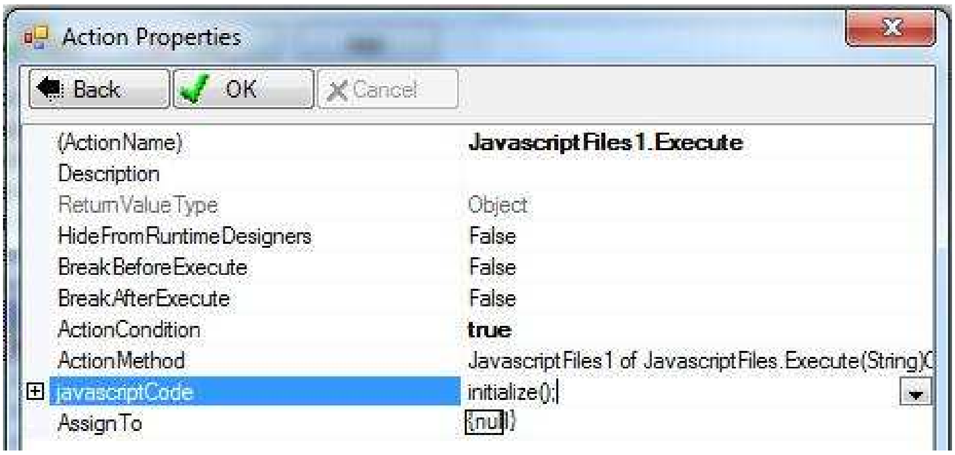
```
function initialize() {
  var myLatlng = new google.maps.LatLng(-25.363882,131.044922);
  var mapOptions = {
    zoom: 4,
    center: myLatlng,
```

Initialize map

The Google sample executes “`initialize()`” at onload event to initialize map. We may use an Execute action to execute “`initialize()`” at onload event.



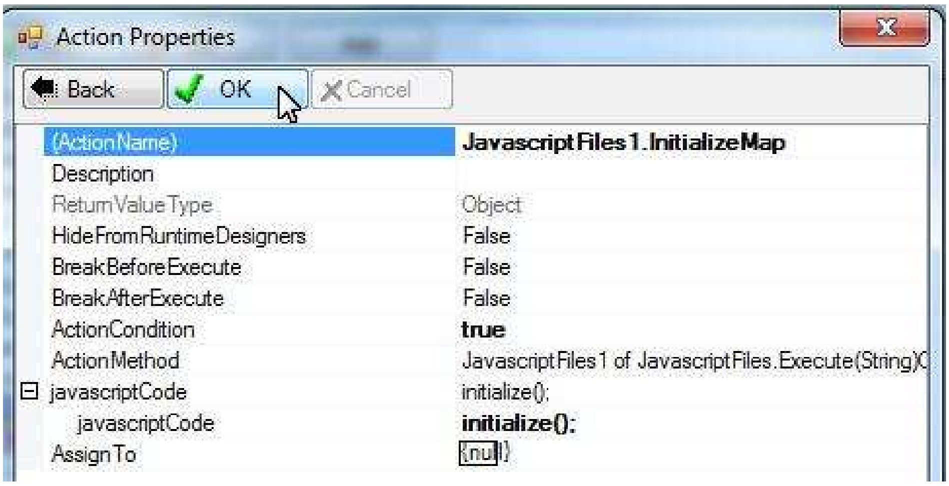




(ActionName)	JavascriptFiles1.Execute
Description	
ReturnValueType	Object
HideFromRuntimeDesigners	False
BreakBeforeExecute	False
BreakAfterExecute	False
ActionCondition	true
ActionMethod	JavascriptFiles1 of JavascriptFiles.Execute(String)(
⊞ javascriptCode	initialize();
AssignTo	{null}

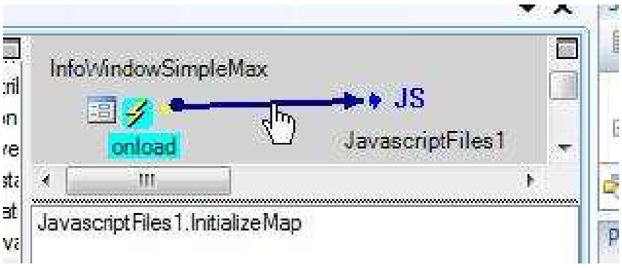
Note that a semi-colon is added at the end of the line. This is needed because it is a JavaScript statement, not an expression.

Rename the action and click OK:



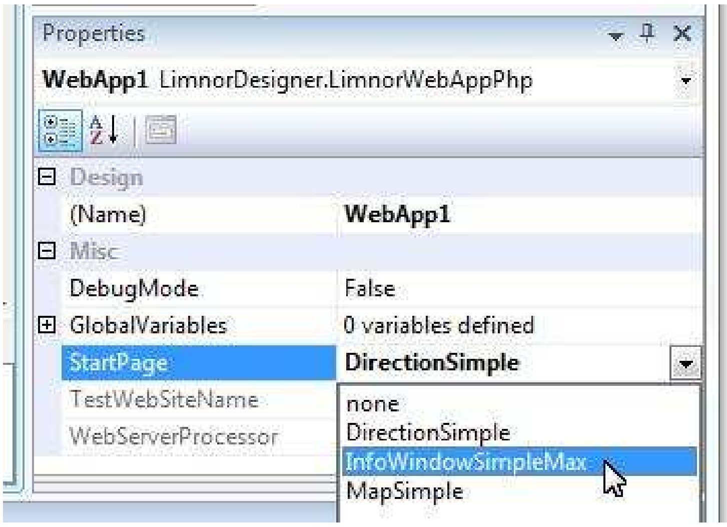
(ActionName)	JavascriptFiles1.InitializeMap
Description	
ReturnValueType	Object
HideFromRuntimeDesigners	False
BreakBeforeExecute	False
BreakAfterExecute	False
ActionCondition	true
ActionMethod	JavascriptFiles1 of JavascriptFiles.Execute(String)(
⊟ javascriptCode	initialize();
javascriptCode	initialize();
AssignTo	{null}

The action is created and assigned to the event:



Test

Change StartPage to this web page:



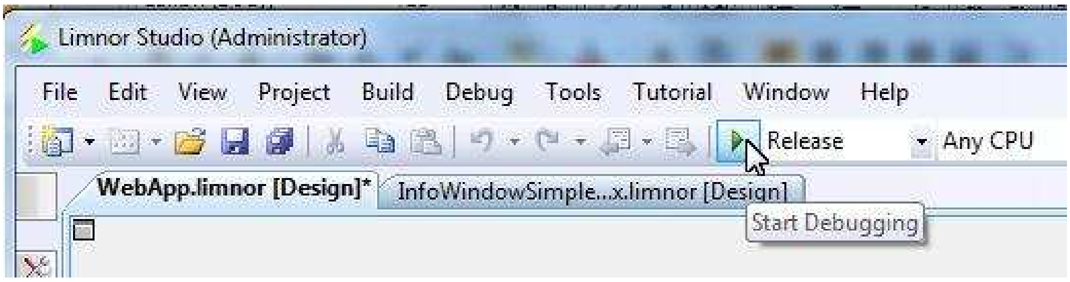
Properties

WebApp1 LimnorDesigner.LimnorWebAppPhp

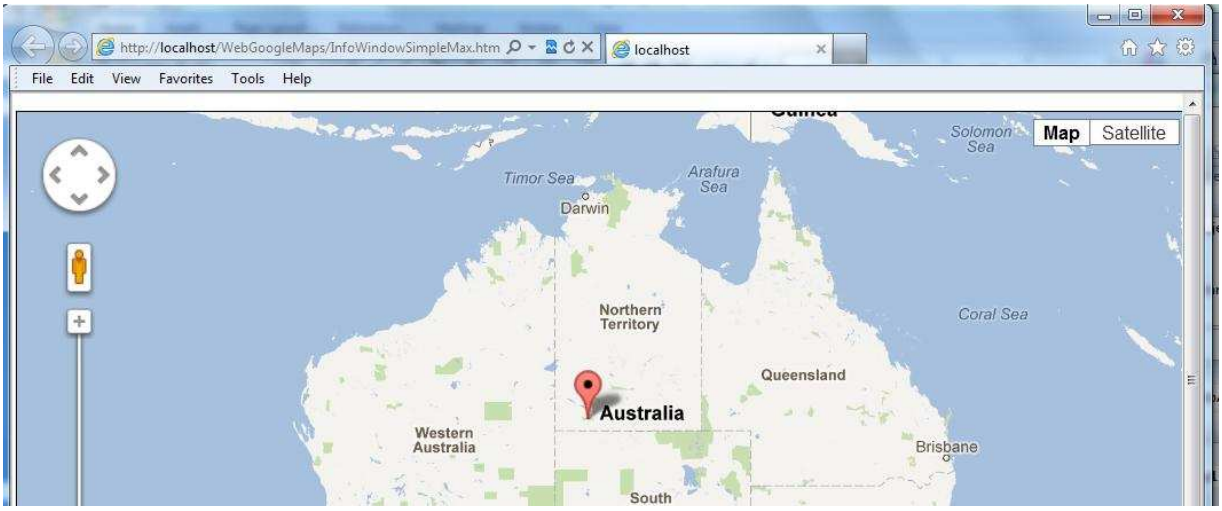
Design	
(Name)	WebApp1
Misc	
DebugMode	False
GlobalVariables	0 variables defined
StartPage	DirectionSimple
TestWebSiteName	
WebServerProcessor	

none
DirectionSimple
InfoWindowSimpleMax
MapSimple

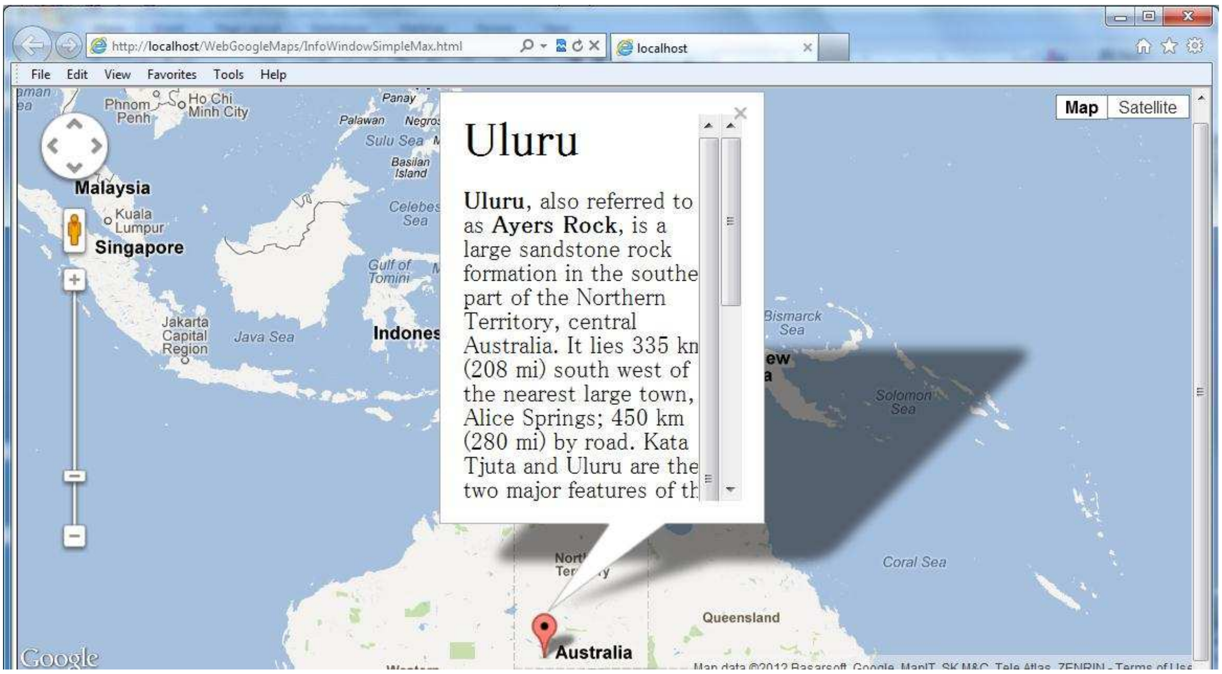
Click Run button:



The web page appears. The map appears. An information balloon appears:



Click the balloon. An information window appears:



Uluru

Uluru, also referred to as **Ayers Rock**, is a large sandstone rock formation in the southe part of the Northern Territory, central Australia. It lies 335 km (208 mi) south west of the nearest large town, Alice Springs; 450 km (280 mi) by road. Kata Tjuta and Uluru are the two major features of th