

# Uniface 9.5 Controlled Release

## DSP JavaScript API

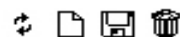
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Face to Face Voorjaarsconferentie 2011

# Agenda

1. Run at client
2. Integration
3. Summary

# 1. Run at client

## Tab Sample - Edit Project: My special sample project



General

Advanced

Project Owner

Project Manager

Id 002DC76C-0DFE-4538-BCE6-083D5019C55A

Project Name My special sample project

Start Date 10-feb-2011

End Date 24-feb-2011

All tabs edit the same data and are just a visual trick in the layout.

## Component Editor: US\_TAB2 (Dynamic Server Page)

## Structure

- US\_TAB2
  - DUMMY.PROJECTS
    - TAB1
    - TAB2
    - TAB3
    - TAB4
    - TABCONTENT1
    - TABCONTENT2
    - TABCONTENT3
    - TABCONTENT4
    - SELECTBOX
  - US\_PROJECT.PROJE

## Quick navigation

US\_TAB2

## Proc

```
trigger OnClick
public web
  putitem/id $fieldproperties (TABCONTENT1), "style:display", "table-row"
  putitem/id $fieldproperties (TABCONTENT2), "style:display", "none"
  putitem/id $fieldproperties (TABCONTENT3), "style:display", "none"
  putitem/id $fieldproperties (TABCONTENT4), "style:display", "none"
  putitem/id $fieldproperties (TAB1), "html:class", "tab selected"
  putitem/id $fieldproperties (TAB2), "html:class", "tab not-selected"
  putitem/id $fieldproperties (TAB3), "html:class", "tab not-selected"
  putitem/id $fieldproperties (TAB4), "html:class", "tab not-selected"
  return 0
end
```

## Tags

- Syntax Tags
- Operations
- Triggers
  - OnClick

## Triggers

- Extended Triggers
- Validate Field
- On Error
- Local Proc Modules
- Format
- Encrypt
- Deformat
- Defines
- Decrypt
- <Detail>

# Run at client?

Question: is there something else that can be executed on the browser?

Answer: Yes, there is: JavaScript!

Question: wouldn't it be nice if I could execute triggers on the browser?

Answer: Yes, it would!



# Proc: webtrigger

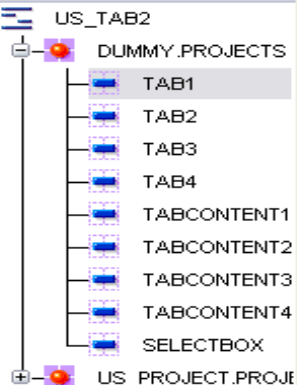
```
; Execute trigger with Proc on Server
trigger OnClick
  ; your Proc code here...
end
```

```
; Execute trigger with JavaScript on Browser
webtrigger OnClick
javascript
  // your JavaScript code here...
endjavascript
end
```



## Component Editor: US\_TAB2 (Dynamic Server Page)

## Structure



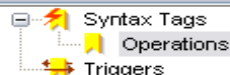
## Quick navigation

US\_TAB2

## Proc

```
webtrigger OnClick
; public web
javascript
  putitem/id $fieldproperties (TABCONTENT1), "style:display", "table-row"
  putitem/id $fieldproperties (TABCONTENT2), "style:display", "none"
  putitem/id $fieldproperties (TABCONTENT3), "style:display", "none"
  putitem/id $fieldproperties (TABCONTENT4), "style:display", "none"
  putitem/id $fieldproperties (TAB1), "html:class", "tab selected"
  putitem/id $fieldproperties (TAB2), "html:class", "tab not-selected"
  putitem/id $fieldproperties (TAB3), "html:class", "tab not-selected"
  putitem/id $fieldproperties (TAB4), "html:class", "tab not-selected"
endjavascript
end
```

## Tags



## Triggers

- Extended Triggers
- Validate Field
- On Error
- Local Proc Modules
- Format
- Encrypt
- Deformat
- Defines
- Decrypt
- <Detail>



# Uniface Objects on the browser

Question: can I manipulate Uniface objects on the browser

Answer: Yes, you can!



# Dynamic Server Page

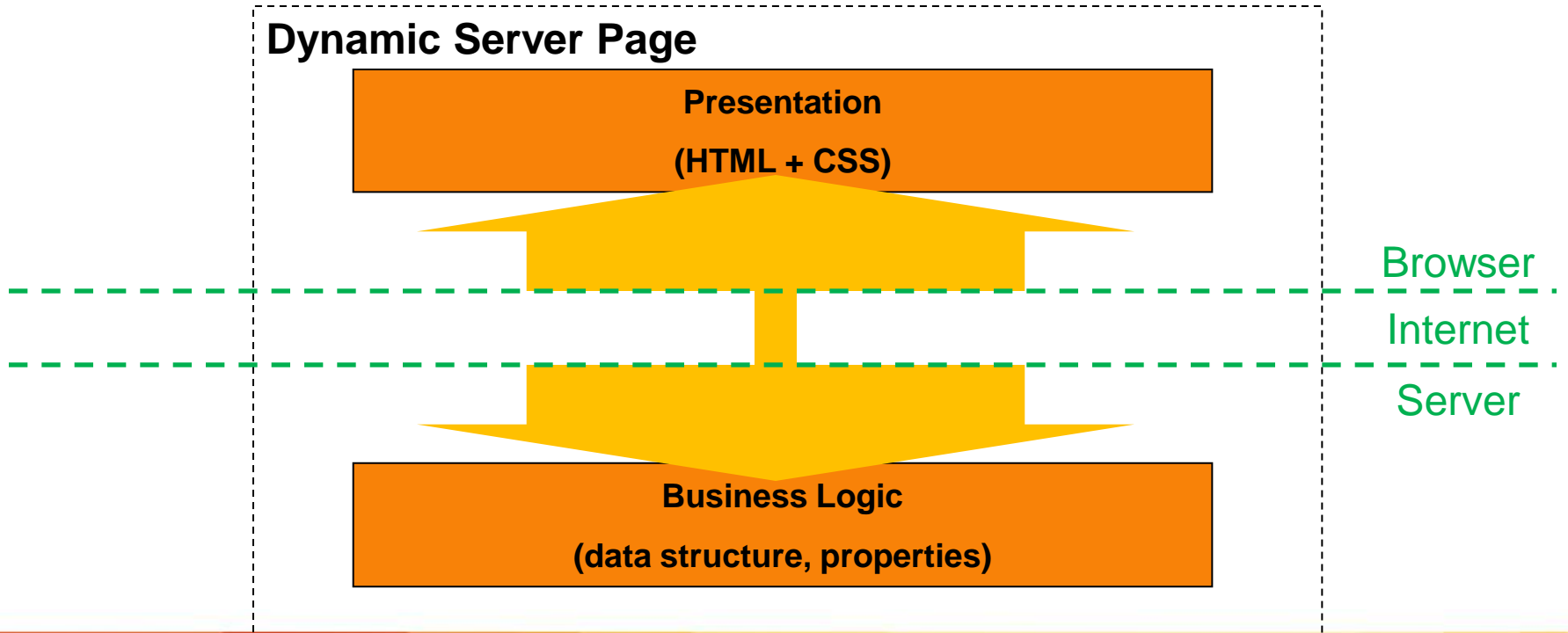
## Dynamic Server Page

**Presentation**  
**(HTML + CSS)**

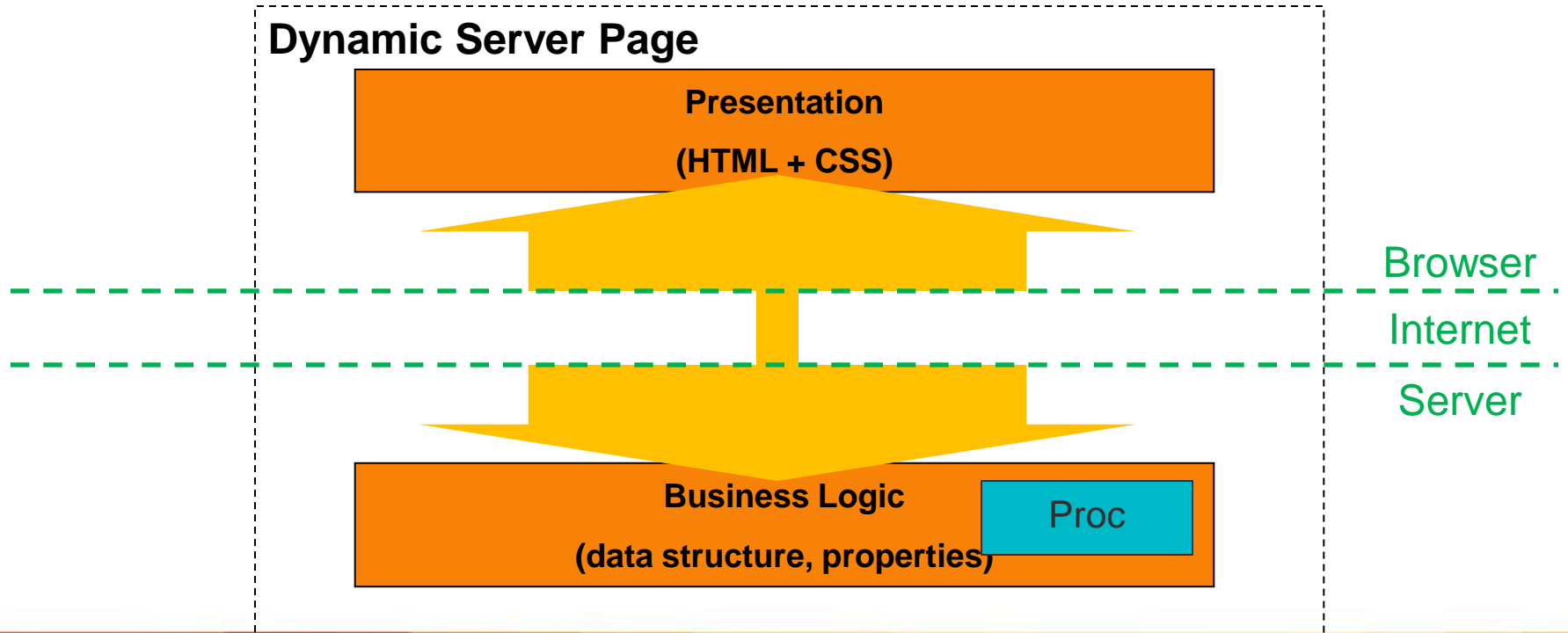
**Integrated Dynamic  
Web Functionality**  
**(Complex)**

**Business Logic**  
**(data structure, properties)**

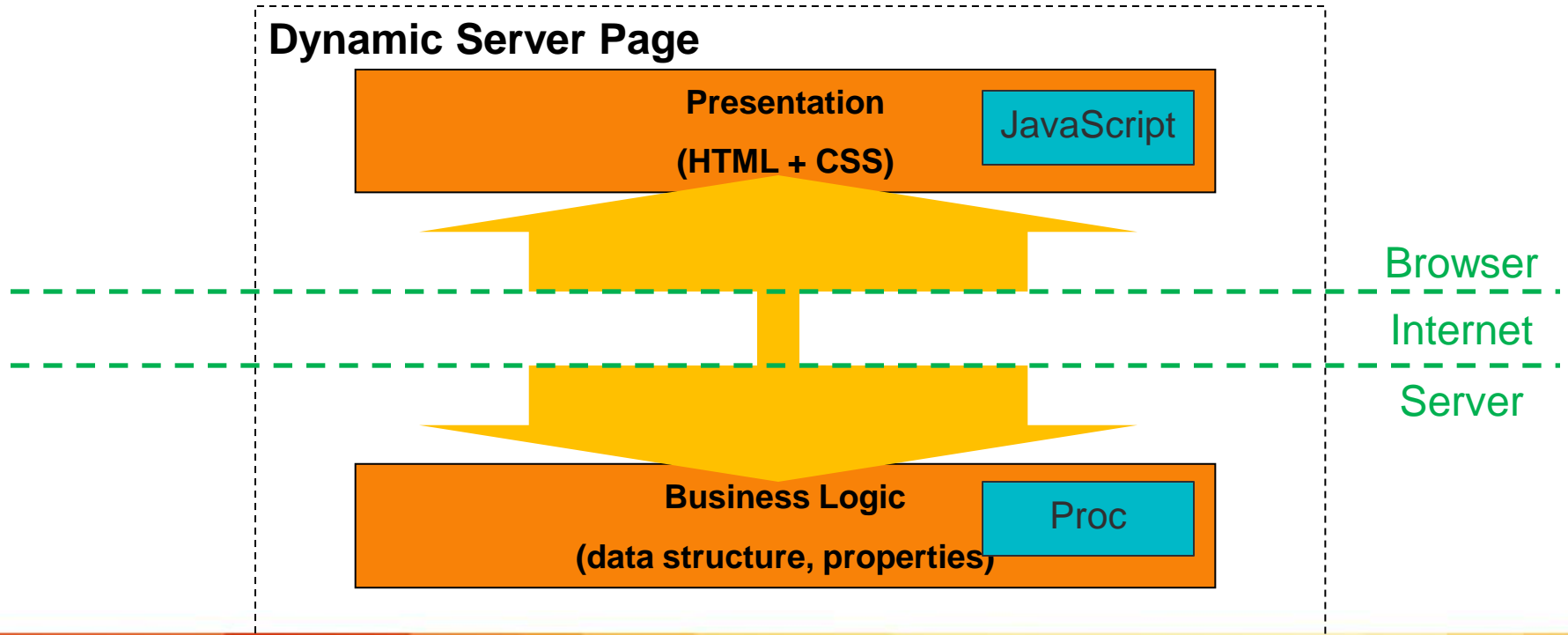
# Dynamic Server Page



# Dynamic Server Page



# Dynamic Server Page



# JavaScript API for DSPs

- JavaScript is OO
- Uniface JavaScript API is also OO
- API Objects with methods/functions
- JavaScript is case sensitive
- Uniface JavaScript API is case sensitive



# JavaScript API objects

- `uniface` – main object
- `uniface.DSPInstance`
- `uniface.Entity`
- `uniface.Occurrence`
- `uniface.Field`



# Data object hierarchy

Web Page URL: <http://website/uniface/wrd/INST1>

DSP1-INST1

ENTITY1

Occurrence(0)

FLD1 FLD2 FLD3

ENTITY2

Occurrence(0)

FLD1 FLD2

ENTITY3

Occurrence(0)

FLD1 FLD2

ENTITY4

Occurrence(0)

FLD1

FLD2

DSP2-INST1

DSP3-INST1



# API Object: `uniface`

Methods/functions:

- `uniface.getInstanceNames()`
- `uniface.getDSPInstance(instName)`
- `uniface.createDSPInstance(...)`
- ...



# API Object: `uniface.DSPInstance`

Methods/functions:

- `uniface.DSPInstance.getName()`
- `uniface.DSPInstance.getEntities()`
- `uniface.DSPInstance.getEntity(name)`
- `uniface.DSPInstance.activate(...)`
- `uniface.DSPInstance.remove()`
- ...



# API Object: `uniface.Entity`

Methods/functions:

- `uniface.Entity.getName()`
- `uniface.Entity.getShortName()`
- `uniface.Entity.getParent()`
- `uniface.Entity.getOccurrences()`
- `uniface.Entity.getOccurrence(index)`
- `uniface.Entity.createOccurrence(...)`



# API Object: `uniface.Occurrence`

Methods/functions:

- `uniface.Occurrence.getIndex()`
- `uniface.Occurrence.getStatus()`
- `uniface.Occurrence.getFields()`
- `uniface.Occurrence.getEntities()`
- `uniface.Occurrence.insertNewBefore()`
- `uniface.Occurrence.insertNewAfter()`
- `uniface.Occurrence.remove()`



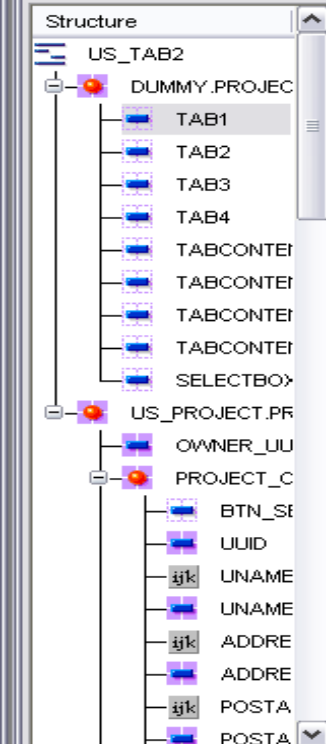
# API Object: `uniface.Field`

Methods/functions:

- `uniface.Field.getName()`
- `uniface.Field.getShortName()`
- `uniface.Field.getParent()`
- `uniface.Field.getValue()`
- `uniface.Field.setValue(value)`
- `uniface.Field.getProperty(...)`
- `uniface.Field.setProperty(...)`



## Component Editor: US\_TAB2 (Dynamic Server Page)



Proc

```

webtrigger OnClick
; public web
javascript
var inst = uniface.getDSPInstance("US_TAB2");
var ent = inst.getEntity("DUMMY.PROJECTS");
var occ = ent.getOccurrence(0);

var tabContent1 = occ.getField("TABCONTENT1");
var tabContent2 = occ.getField("TABCONTENT2");
var tabContent3 = occ.getField("TABCONTENT3");
var tabContent4 = occ.getField("TABCONTENT4");
tabContent1.setProperty("style:display", "table-row");
tabContent2.setProperty("style:display", "none");
tabContent3.setProperty("style:display", "none");
tabContent4.setProperty("style:display", "none");

alert("Hallo");
var tab1 = occ.getField("TAB1");
var tab2 = occ.getField("TAB2");
var tab3 = occ.getField("TAB3");
var tab4 = occ.getField("TAB4");
tab1.setProperty("html:class", "tab selected");
tab2.setProperty("html:class", "tab not-selected");
tab3.setProperty("html:class", "tab not-selected");
tab4.setProperty("html:class", "tab not-selected");

/*
; putitem/id $fieldproperties(TABCONTENT1), "style:display", "table-row
; putitem/id $fieldproperties(TABCONTENT2), "style:display", "none"

```

Tags

- Syntax Tags
  - Operations

Triggers

- Extended Triggers
  - Validate Field
  - On Error
  - Local Proc Modules
  - Format
  - Encrypt
  - Deformat
  - Defines
  - Decrypt
  - <Detail>

Quick navigation

US\_TAB2 (2)



# Run at client?

Question: is there a way to reuse browser side code?

Answer: Yes, there is: weboperation!



# Proc: weboperation

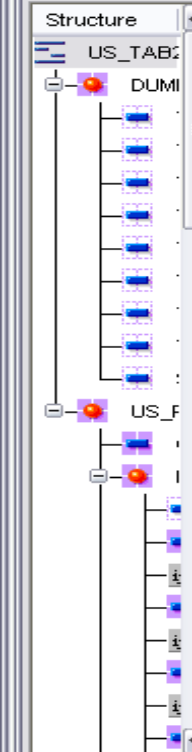
```
operation showTab ; Execute with Proc on Server
params
  string param1 : IN
endparams
  ; your Proc code here...
end
```

```
weboperation showTab ; Execute with JavaScript on Browser
params
  string param1 : IN
endparams
javascript
  // your JavaScript code here...
endjavascript
end
```





## Component Editor: US\_TAB2 (Dynamic Server Page)



Proc

```

weboperation setTab
params
    numeric pTabId : IN
endparams
javascript
    occ = uniface.getDSPInstance("US_TAB2").getEntity("DUMMY.PROJECTS").getOccurrence(0);
    if (pTabId == 1) {
        occ.getField("TAB1").setProperty("html:class", "tab selected");
        occ.getField("TAB2").setProperty("html:class", "tab not-selected");
        occ.getField("TAB3").setProperty("html:class", "tab not-selected");
        occ.getField("TAB4").setProperty("html:class", "tab not-selected");
        occ.getField("TABCONTENT1").setProperty("style:display", "table-row");
        occ.getField("TABCONTENT2").setProperty("style:display", "none");
        occ.getField("TABCONTENT3").setProperty("style:display", "none");
        occ.getField("TABCONTENT4").setProperty("style:display", "none");
    }
    else if (pTabId == 2) {
        occ.getField("TAB1").setProperty("html:class", "tab not-selected");
        occ.getField("TAB2").setProperty("html:class", "tab selected");
        occ.getField("TAB3").setProperty("html:class", "tab not-selected");
        occ.getField("TAB4").setProperty("html:class", "tab not-selected");
        occ.getField("TABCONTENT1").setProperty("style:display", "none");
        occ.getField("TABCONTENT2").setProperty("style:display", "table-row");
        occ.getField("TABCONTENT3").setProperty("style:display", "none");
        occ.getField("TABCONTENT4").setProperty("style:display", "none");
    }
    else if (pTabId == 3) {
        occ.getField("TAB1").setProperty("html:class", "tab not-selected");
        occ.getField("TAB2").setProperty("html:class", "tab not-selected");
        occ.getField("TAB3").setProperty("html:class", "tab selected");
    }

```

Tags

- Operatio
- Operations
- Edit
- set<VAF

Triggers

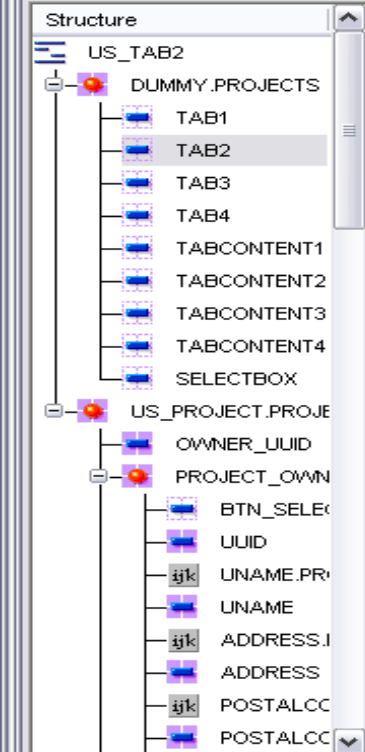
- Set State
- Operations
- Get State
- Execute
- Defines
- Local Proc M
- Asynchronou

Quick navigation

US\_TAB2 (2)



## Component Editor: US\_TAB2 (Dynamic Server Page)



Proc

```
webtrigger onClick
javascript
    uniface.getDSPInstance("<$componentname>").activate("setTab", 2);
endjavascript
end
```

Tags

- Syntax Tags
  - Operations

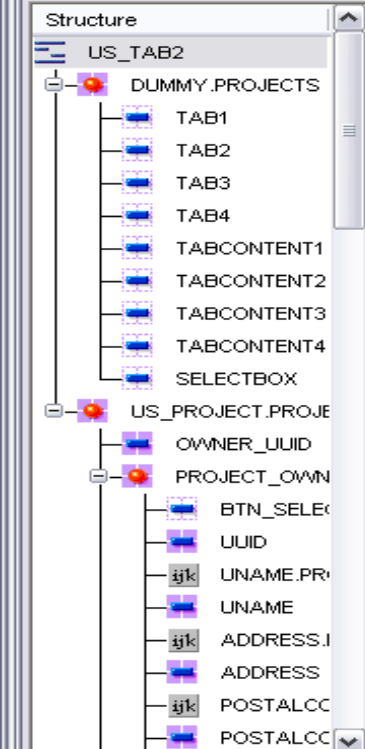
Triggers

- Extended Triggers
- Validate Field
- On Error
- Local Proc Modules
- Format
- Encrypt
- Deformat
- Defines
- Decrypt
- <Detail>

Quick navigation

US\_TAB2 (2)

## Component Editor: US\_TAB2 (Dynamic Server Page)



Proc

```
public web
; retrieve data
retrieve/e "US_PROJECT"
return 0
end
```

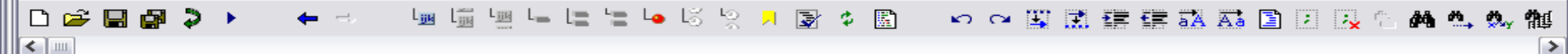
Tags

Triggers

- ▶ Set State
- ▶ Operations
- ▶ Get State
- ▶ Execute
- ▶ Defines
- ▶ Local Proc Modules
- ▶ Asynchronous Interrupt

Quick navigation

US\_TAB2 (2)



# Run at client?

Question: is there a way to activate a weboperation from the server?

Answer: Yes, there is: webactivate!



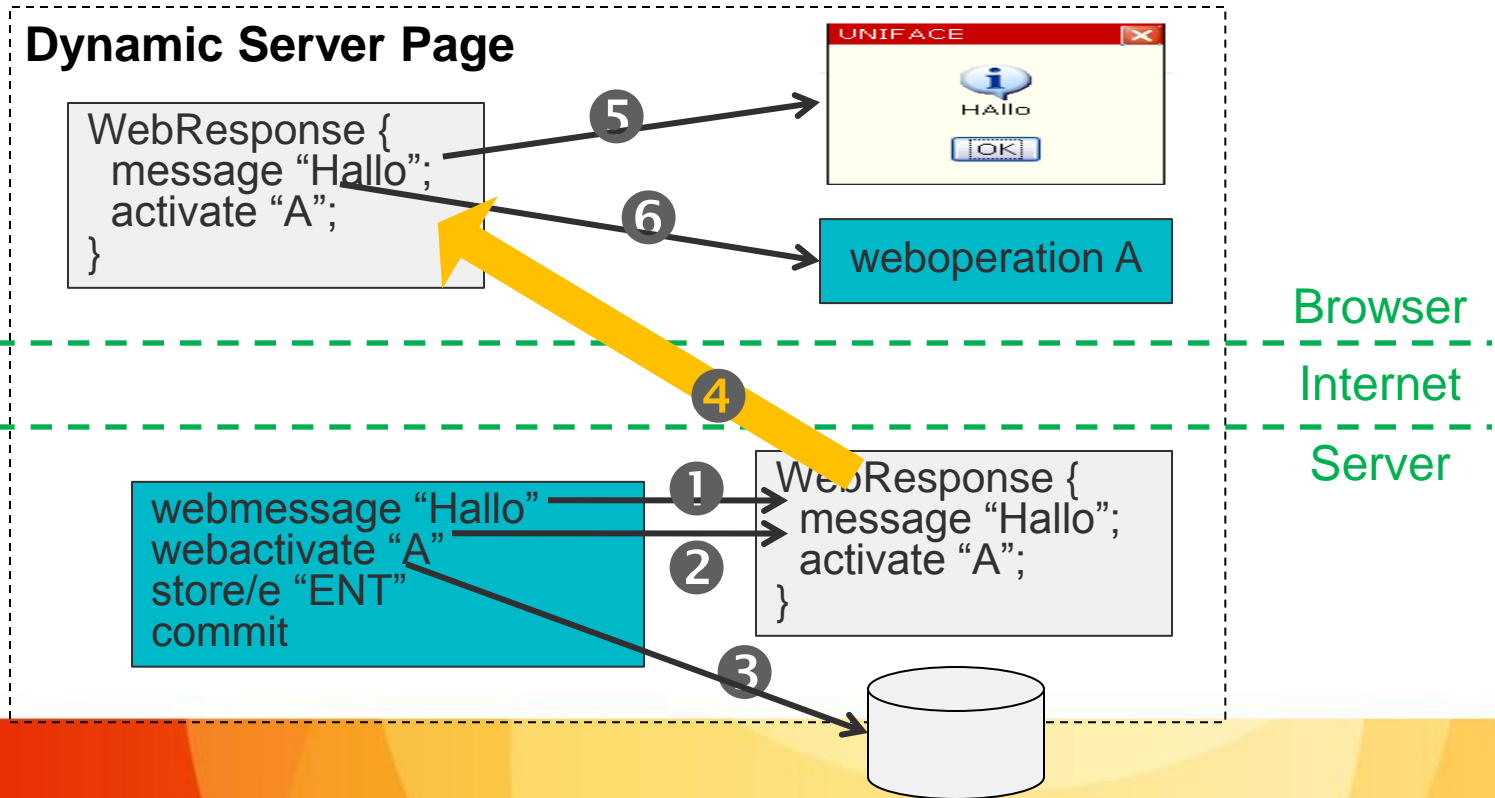
# Proc: webactivate

```
; Instruct the server to activate an operation  
activate $instancename.showTab(1)
```

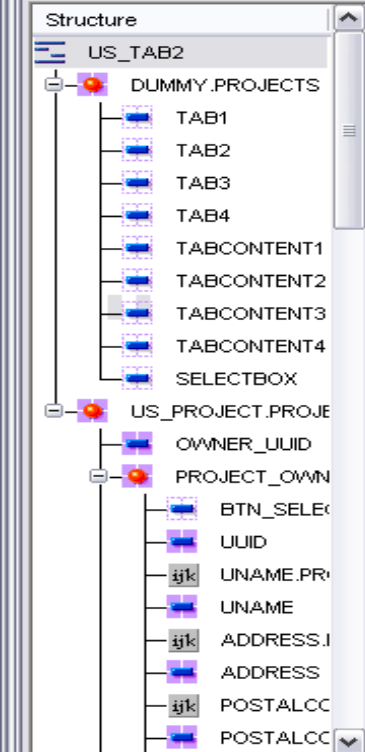
```
; Instruct the browser to activate an operation  
webactivate $instancename.showTab(1)
```



# Proc: webactivate



## Component Editor: US\_TAB2 (Dynamic Server Page)



Proc

```
public web
; retrieve data
retrieve/e "US_PROJECT"
; select first tab
webactivate $instancename.setTab(1)
return 0
end
```

Tags



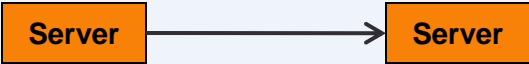


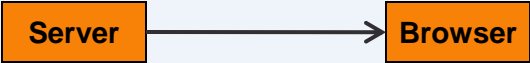
Triggers

- ▶ Set State
- ▶ Operations
- ▶ Get State
- ▶ Execute
- ▶ Defines
- ▶ Local Proc Modules
- ▶ Asynchronous Interrupt

Quick navigation

US\_TAB2 (2)

# Run at client!

	operation	weboperation
<code>DSPInstance.activate()</code>	 <pre>graph LR; Browser[Browser] --&gt; Server[Server]</pre>	 <pre>graph LR; Browser[Browser] --&gt; Browser[Browser]</pre>
<code>activate</code>	 <pre>graph LR; Server[Server] --&gt; Server[Server]</pre>	<del><pre>graph LR; Server[Server] --&gt; Browser[Browser]</pre></del>
<code>webactivate</code>	 <pre>graph LR; Server[Server] --&gt; Browser[Browser]; Browser --&gt; Server[Server]</pre>	 <pre>graph LR; Server[Server] --&gt; Browser[Browser]</pre>



# JavaScript in the UDE

Question: why JavaScript in the UDE?

Answer: Precompiler!



# JavaScript: precompiler

Include Procs / #include

Constants / #defines

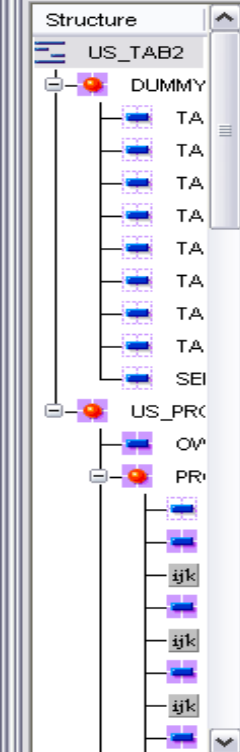
Code generation / #for

Overlay inheritance

- From model to component
- From template to component



## Component Editor: US\_TAB2 (Dynamic Server Page)



Proc

```

weboperation setTab
params
  numeric pTabId : IN
endparams
javascript
  occ = uniface.getDSPInstance("US_TAB2").getEntity("DUMMY.PROJECTS").getOccurrence(0);
  #for TABID = (1,2,3,4)
    if (pTabId = <TAB1>) {
      occ.getField("TAB<TAB1>").setProperty("html:class", "tab selected");
      occ.getField("TABCONTENT<TAB1>").setProperty("style:display", "table-row");
    }
    else
      occ.getField("TAB<TABID>").setProperty("html:class", "tab not-selected");
      occ.getField("TABCONTENT<TABID>").setProperty("style:display", "none");
    }
  #endifor
endjavascript
end

```

Tags

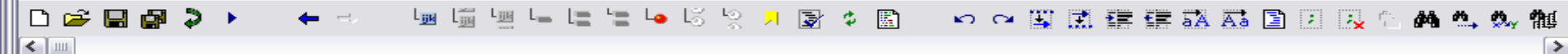


Triggers

- ▶ Set State
- ▶ Operations
- ▶ Get State
- ▶ Execute
- ▶ Defines
- ▶ Local Proc I
- ▶ Asynchron

Quick navigation

US\_TAB2 (2)



```
Zoom
79]      weboperation setTab
80]      params
81]          numeric pTabId : IN
82]      endparams
83]      javascript
84]          occ = uniface.getDSPInstance("US_TAB2").getEntity("DUMMY.PROJECTS").getOccurrence(0);
85]      #for TABID = (1,2,3,4)
86]          if (pTabId == 1) {
87]              occ.getField("TAB1").setProperty("html:class", "tab selected");
88]              occ.getField("TABCONTENT1").setProperty("style:display", "table-row");
89]          }
90]          else {
91]              occ.getField("TAB1").setProperty("html:class", "tab not-selected");
92]              occ.getField("TABCONTENT1").setProperty("style:display", "none");
93]          }
94]      #endifor
86]          if (pTabId == 2) {
87]              occ.getField("TAB2").setProperty("html:class", "tab selected");
88]              occ.getField("TABCONTENT2").setProperty("style:display", "table-row");
89]          }
90]          else {
91]              occ.getField("TAB2").setProperty("html:class", "tab not-selected");
92]              occ.getField("TABCONTENT2").setProperty("style:display", "none");
93]          }
94]      #endifor
86]          if (pTabId == 3) {
87]              occ.getField("TAB3").setProperty("html:class", "tab selected");
88]              occ.getField("TABCONTENT3").setProperty("style:display", "table-row");
89]          }
90]          else {
91]              occ.getField("TAB3").setProperty("html:class", "tab not-selected");
92]              occ.getField("TABCONTENT3").setProperty("style:display", "none");
93]          }
94]      #endifor
86]          if (pTabId == 4) {
87]              occ.getField("TAB4").setProperty("html:class", "tab selected");
88]              occ.getField("TABCONTENT4").setProperty("style:display", "table-row");
89]          }
90]          else {
91]              occ.getField("TAB4").setProperty("html:class", "tab not-selected");
92]              occ.getField("TABCONTENT4").setProperty("style:display", "none");
93]          }
94]      #endifor
95]          if (pTabId == 3) { // ; if the selected tab do
96]              // ; instruct to load Google map
97]              this.activate("loadGoogleMap");
98]          }
99]      endjavascript
100]      end
```

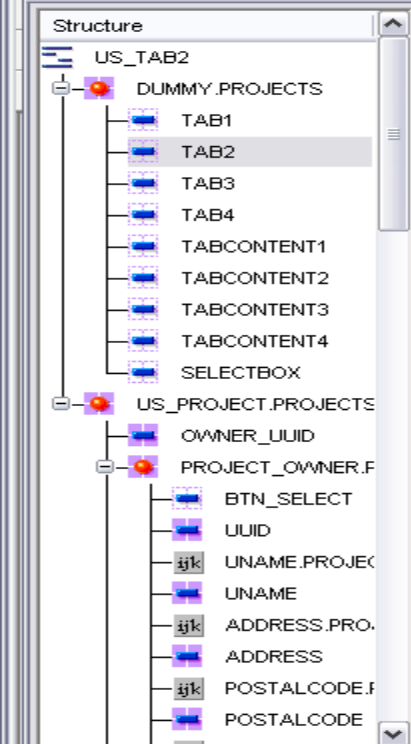
# API Object: **this** object

```
webtrigger onClick
javascript
  this.setValue("this field");
endjavascript
end
```

```
weboperation setTab
params
  numeric pTabId : IN
endparams
javascript
  this.activate("setTab", 2);
endjavascript
end
```



## Component Editor: US\_TAB2 (Dynamic Server Page)



Quick navigation

US\_TAB2 (2)

Proc

```
webtrigger onClick
javascript
  this.getDSPInstance().activate("setTab", 2);
endjavascript
end
```

Tags

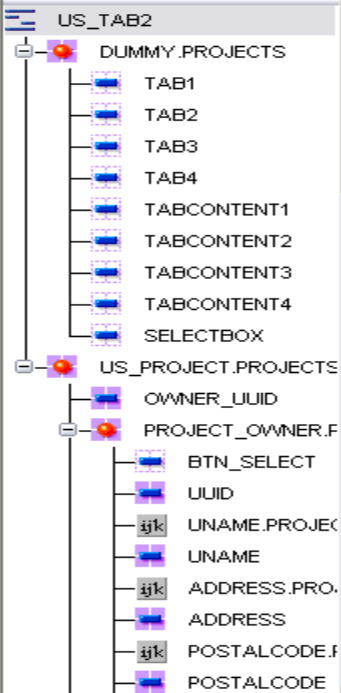
- Syntax Tags
  - Operations

Triggers

- Extended Triggers
  - Validate Field
  - On Error
  - Local Proc Modules
  - Format
  - Encrypt
  - Deformat
  - Defines
  - Decrypt
  - <Detail>

## Component Editor: US\_TAB2 (Dynamic Server Page)

## Structure



## Quick navigation

US\_TAB2 (2)

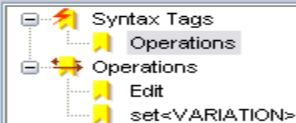
## Proc

```

weboperation setTab
params
    numeric pTabId : IN
endparams
javascript
    occ = this.getEntity("DUMMY.PROJECTS").getOccurrence(0);
    #for TABID = (1,2,3,4)
        if (pTabId == <TABID>) {
            occ.getField("TAB<TABID>").setProperty("html:class", "tab select");
            occ.getField("TABCONTENT<TABID>").setProperty("style:display", "block");
        }
        else {
            occ.getField("TAB<TABID>").setProperty("html:class", "tab not-selected");
            occ.getField("TABCONTENT<TABID>").setProperty("style:display", "none");
        }
    #endifor
endjavascript
end

```

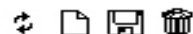
## Tags



## Triggers

- Set State
- Operations
- Get State
- Execute
- Defines
- Local Proc Modules
- Asynchronous Interrupt

## Tab Sample - Edit Project: My special sample project



General

Advanced

Project Owner

Project Manager

Goals

The goal of this project is to explain how the new RIA JavaScript API works as delivered in Uniface 9.5 CR.

Uncertainties

As always, it just might do the trick or completely miss the point and nobody has a clue what I'm talking about.

All tabs edit the same data and are just a visual trick in the layout.



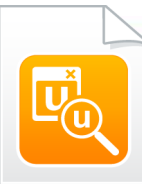
# Run at client - Summarize

Uniface JavaScript API:

- Access to all Uniface data objects
- Activate webtriggers and weboperations

Reduce server roundtrips:

- Better end-user responsiveness
- Less server load (more users?)

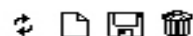


# 2. Integration

Browser address bar: [http://localhost:8082/uniface/wrd/US\\_TAB2](http://localhost:8082/uniface/wrd/US_TAB2)

Browser tabs: Uniface Samples, Google Maps Javascript API V3 Tutorial...

## Tab Sample - Edit Project: My special sample project



General

Advanced

Project Owner

Project Manager

Information about the Project Owner [\[Select\]](#)

Name	<input type="text" value="Michael Karlsen"/>
Address	<input type="text" value="One Campus Martius 1"/>
Postal Code	<input type="text" value="48226"/>
City	<input type="text" value="Detroit"/>
Country	<input type="text" value="United States of America"/>

Address of Project Owner in Google Maps:

All tabs edit the same data and are just a visual trick in the layout.

# Google Maps – The map

<http://code.google.com/apis/maps/documentation/javascript/tutorial.html#LatLng>

```
<!DOCTYPE html>
<html>
  <head>
    <script type="text/javascript"
      src="http://maps.google.com/maps/api/js?sensor=set_to_true_or_false">
    </script>
    <script type="text/javascript">
      function initialize() {
        var latlng = new google.maps.LatLng(-34.397, 150.644);
        var myOptions = { zoom: 8, center: latlng,
                          mapTypeId: google.maps.MapTypeId.ROADMAP };
        var map = new google.maps.Map(document.getElementById("map_canvas"), myOptions);
      }
    </script>
  </head>
  <body onload="initialize()">
    <div id="map_canvas" style="width:100%; height:100%"></div>
  </body>
</html>1
```

Server Page Layout Editor

Body Text (no class) Variable Width

446px

Information about the Project Owner Static Text		Address of Project Owner in Google Maps:
Label	Editbox	
Label	Editbox	
Label	Editbox	
Label	Editbox	
Label	Editbox	
Label	Editbox	

Information about the Project Manager Static Text		Address of Project Manager in Google Maps:
Label	Editbox	
Label	Editbox	
Label	Editbox	
Label	Editbox	
Label	Editbox	
Label	Editbox	

Normal HTML Tags Source Preview

<body> <table> <tbody> <tr> <td> <table> <tbody> <tr> <td> <div>

## Server Page Layout Editor

Body Text

(no class)

Variable Width

```

1. <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-tran
2. <html xmlns="http://www.w3.org/1999/xhtml">
3. <head>
4.   <meta http-equiv="Content-Type"
5.     content="text/html; charset=UTF-8" />
6.   <meta content="Uniface 9" name="Default" />
7.   <link href="../css/udsp.css" type="text/css"
8.     rel="stylesheet" />
9.   <style type="text/css">
10.    .tab.not-selected {
11.      border-bottom-style: solid !important;
12.      background-image: url(../tab2/tab-not-selected.jpg) !important;
13.    }
14.    .tab.selected {
15.      border-bottom-style: none !important;
16.      background-image: url(../tab2/tab-selected.jpg) !important;
17.    }
18.    .tab:hover {
19.      background-image: url(../tab2/tab-hover.jpg) !important;
20.    }
21.  </style>
22. <title>Uniface Samples</title>
23. <meta name="author" content="Gerton Leijdekker" />
24. <script type="text/javascript" src="http://maps.google.com/maps/api/js?sensor=false">
25.   </script>
26. </head>
27. <body>
28. <table
29.   style="border-style: none none solid; border-bottom: 1px solid rgb(255, 153, 0); text-align: left; width:

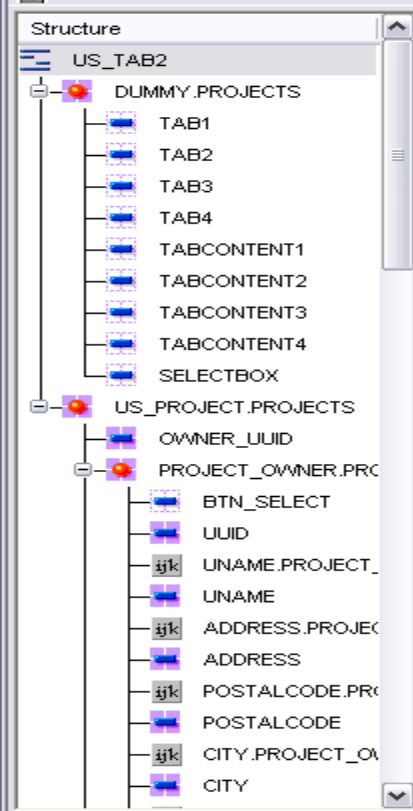
```

Normal

HTML Tags

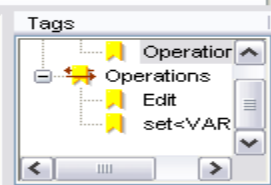
Source

Preview

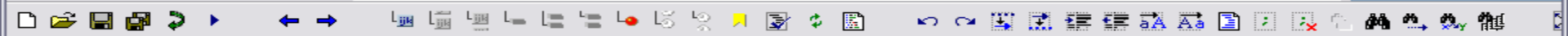


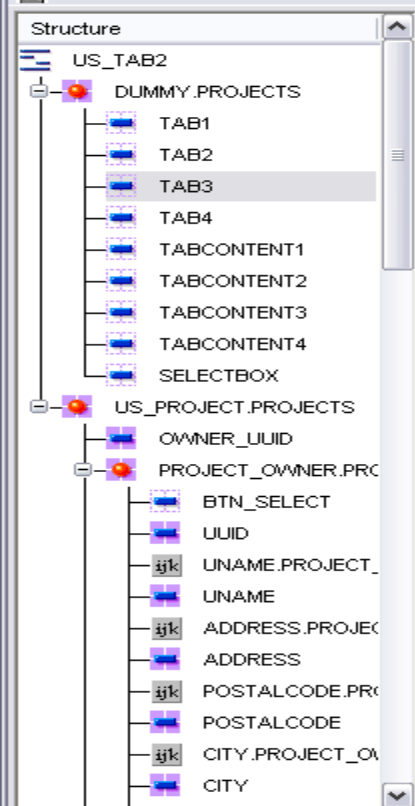
Quick navigation  
US\_TAB2 (3)

```
Proc
weboperation initializeGoogleMap
params
  string pMapId      : IN
endparams
javascript
  var latlng = new google.maps.LatLng(52.311264, 4.944681);
  var myOptions = { zoom: 8, center: latlng,
                    mapTypeId: google.maps.MapTypeId.ROADMAP };
  map = new google.maps.Map(document.getElementById(pMapId), myOptions);
endjavascript
end
```



- Triggers
- Set State
  - Operations
  - Get State
  - Execute
  - Defines
  - Local Proc Modules
  - Asynchronous Interru





Quick navigation  
US\_TAB2 (3)

```
Proc  
  
webtrigger OnClick  
javascript  
var dsp = this.getDSPInstance();  
dsp.activate("settab", 3);  
// ; initialize Google Map  
dsp.activate("initializeGoogleMap", "map_canvas_project_owner");  
endjavascript  
end
```

Tags

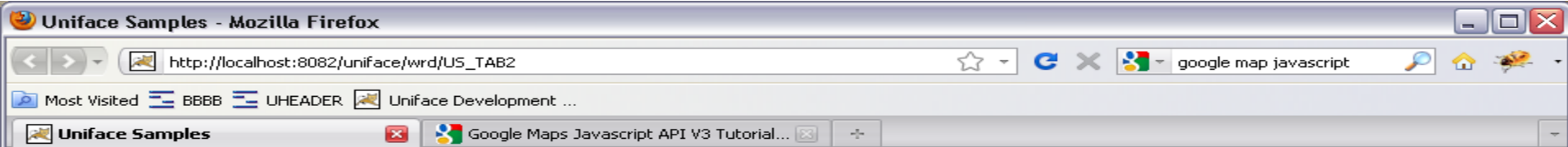
- Syntax Tags
  - Operations

Triggers

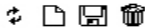
- Extended Triggers
- Validate Field
- On Error
- Local Proc Modules
- Format
- Encrypt
- Deformat
- Defines
- Decrypt
- <Detail>







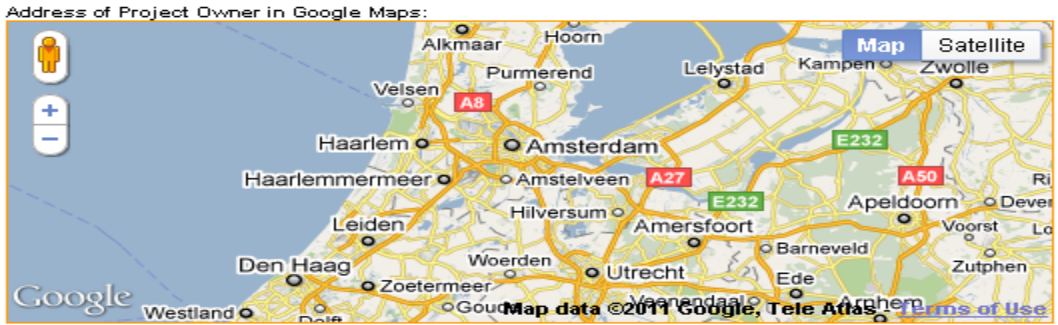
### Tab Sample - Edit Project: My special sample project



- General
- Advanced
- Project Owner
- Project Manager

Information about the Project Owner [\[Select\]](#)

Name	<input type="text" value="Michael Karlisen"/>
Address	<input type="text" value="One Campus Martius 1"/>
Postal Code	<input type="text" value="48226"/>
City	<input type="text" value="Detroit"/>
Country	<input type="text" value="United States of America"/>



All tabs edit the same data and are just a visual trick in the layout.

# Google Maps - Geocoding

<http://code.google.com/apis/maps/documentation/javascript/services.html#Geocoding>

```
function codeAddress () {  
    var address = document.getElementById("address").value;  
    geocoder.geocode( { 'address': address }, function(results, status) {  
        if (status == google.maps.GeocoderStatus.OK) {  
            map.setCenter(results[0].geometry.location);  
            var marker = new google.maps.Marker({  
                map: map,  
                position: results[0].geometry.location  
            });  
        } else {  
            alert("Geocode was not successful for the following reason: " + status);  
        }  
    });  
}
```

## Component Editor: US\_TAB2 (Dynamic Server Page)

Structure

- US\_TAB2
  - DUMMY\_PROJECTS
    - TAB1
    - TAB2
    - TAB3
    - TAB4
    - TABCONTENT1
    - TABCONTENT2
    - TABCONTENT3
    - TABCONTENT4
    - SELECTBOX
  - US\_PROJECT\_PROJECTS
    - OWNER\_LUID
    - PROJECT\_OWNER.PROC
      - BTN\_SELECT
      - LUID
      - UNAME.PROJECT\_
      - UNAME
      - ADDRESS.PROJEC
      - ADDRESS
      - POSTALCODE.PROC
      - POSTALCODE

Quick navigation  
US\_TAB2 (3)

```

Proc
weboperation showAddress
params
  string pPostalCode : IN
  string pCity       : IN
  string pCountry    : IN
endparams
javascript
var address = pPostalCode + " " + pCity + "," + pCountry;
var geocoder = new google.maps.Geocoder();
geocoder.geocode( { 'address': address}, function(results, status) {
  if (status == google.maps.GeocoderStatus.OK) {
    map.setCenter(results[0].geometry.location);
    var marker = new google.maps.Marker({
      map: map,
      position: results[0].geometry.location
    });
  }
});
endjavascript
end
  
```

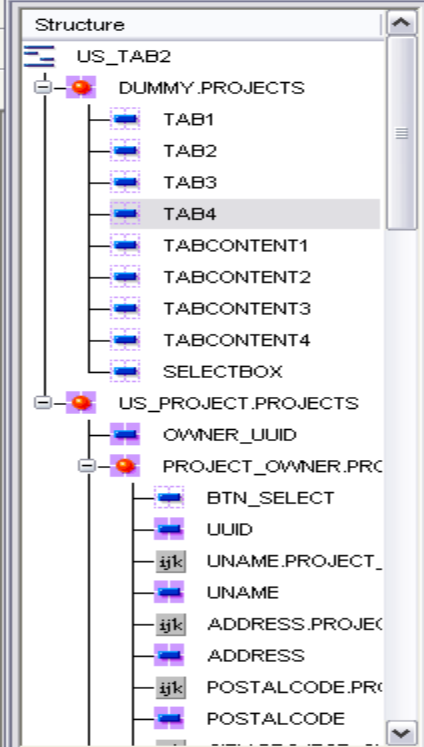
Tags

- Operator
  - Operations
    - Edit
    - set=VAR

Triggers

- Set State
- Operations
- Get State
- Execute
- Defines
- Local Proc Modules
- Asynchronous Interr

## Component Editor: US\_TAB2 (Dynamic Server Page)



Quick navigation  
US\_TAB2 (3)

Proc

```

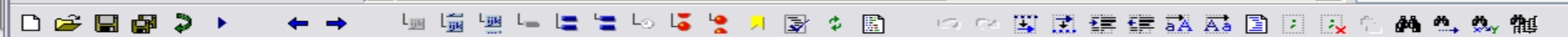
webtrigger OnClick
javascript
var dsp = this.getDSPInstance();
dsp.activate("settab", 4);
// ; show Google map
dsp.activate("initializeGoogleMap", "map_canvas_project_manager");
// ; show address
var occ = dsp.getEntity("US_PROJECT.PROJECTS").getOccurrence(0).getEnti
var postalCode = occ.getField("POSTALCODE").getValue();
var city = occ.getField("CITY").getValue();
var country = occ.getField("COUNTRY").getValue();
dsp.activate("showAddress", postalCode, city, country);
endjavascript
end
  
```

Tags

- Syntax Tags
  - Operations

Triggers

- Extended Triggers
  - Validate Field
  - On Error
  - Local Proc Modules
  - Format
  - Encrypt
  - Deformat
  - Defines
  - Decrypt
  - <Detail>



Uniface Samples - Mozilla Firefox

http://localhost:8082/uniface/wrd/US\_TAB2

Most Visited BBBB UHEADER Uniface Development ...

Uniface Samples Google Maps Javascript API V3 Service...

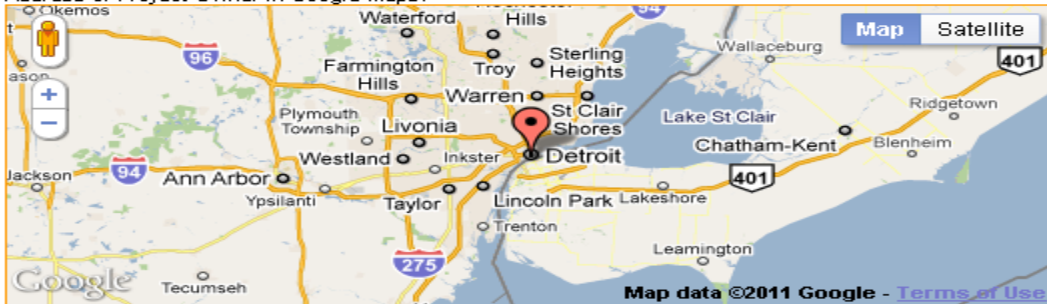
Tab Sample - Edit Project: My special sample project

General Advanced Project Owner Project Manager

Information about the Project Owner [\[Select\]](#)

Name	Michael Karlzen
Address	One Campus Martius 1
Postal Code	48226
City	Detroit
Country	United States of America

Address of Project Owner in Google Maps:



Map data ©2011 Google - [Terms of Use](#)

All tabs edit the same data and are just a visual trick in the layout.

Uniface Samples - Mozilla Firefox

http://localhost:8082/uniface/wrd/US\_TAB2

Most Visited BBBB UHEADER Uniface Development ...

Uniface Samples Google Maps Javascript API V3 Service...

Tab Sample - Edit Project: My special sample project

- General
- Advanced
- Project Owner
- Project Manager

Information about the Project Owner [\[Select\]](#)

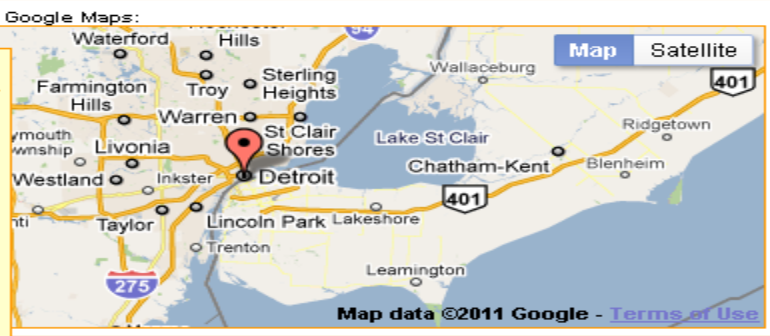
Name	Michael Karlsen
Address	One Car
Postal Code	48226
City	Detroit
Country	United S

**Select Project Owner...**

- Gerton Leijdekker
- Anthony Cardoso
- Lawrence Andreassen
- Donald Jensen
- Michael Karlsen
- Dennis Edwards
- Pipo de Clown
- Mamma Loe
- Kees de Graaf
- Kees Vlieringa
- George Roberts

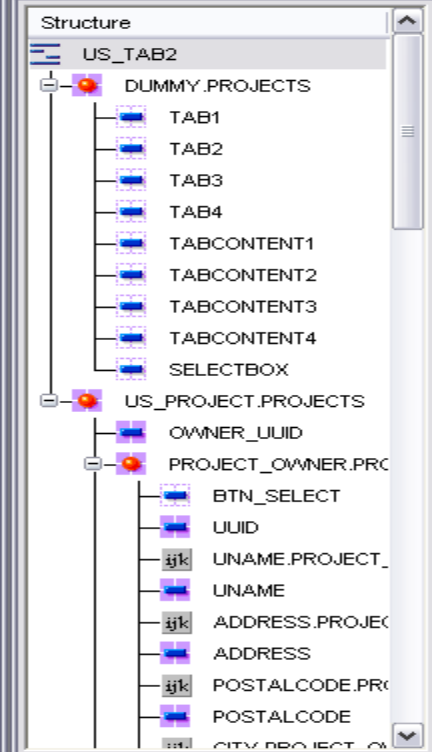
OK

Cancel



All tabs edit the same data and are just a visual trick in the layout.

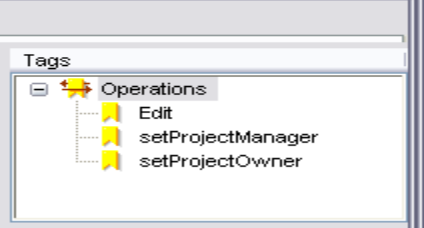
Component Editor: US\_TAB2 (Dynamic Server Page)



```

Proc
operation setProjectOwner
public web
params
string pSelectedId : IN
endparams
if (pSelectedId != "NULL")
clear/e "PROJECT_OWNER"
OWNER_UUID = pSelectedId
UUID.PROJECT_OWNER = pSelectedId
retrieve/x "PROJECT_OWNER"
; Street format: "1679VG Midwood, The Netherlands"
webactivate $instancename.showAddress (POSTALCODE.PROJECT_OW
endif
SELECTBOX = ""
return 0
end

operation setProjectManager
public web
params
string pSelectedId : IN
endparams
if (pSelectedId != "NULL")
clear/e "PROJECT_MANAGER"
MANAGER_UUID = pSelectedId
UUID.PROJECT_MANAGER= pSelectedId
retrieve/x "PROJECT_MANAGER"
; Street format: "1679VG Midwood, The Netherlands"
webactivate $instancename.showAddress (POSTALCODE.PROJECT_MA
endif
    
```



- Triggers
- ▶ Set State
  - ▶ Operations
  - ▶ Get State
  - ▶ Execute
  - ▶ Defines
  - ▶ Local Proc Modules
  - ▶ Asynchronous Interrupt

Quick navigation: US\_TAB2 (2)

Bottom toolbar with various icons for file operations, navigation, and development tools.

Uniface Samples - Mozilla Firefox

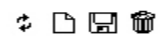
File Edit View History Bookmarks Tools Help

http://localhost:8082/uniface/wrd/US\_TAB2

Most Visited BBBB UHEADER Uniface Development ...

Uniface Samples

## Tab Sample - Edit Project: My special sample project



- General
- Advanced
- Project Owner
- Project Manager

Information about the Project Owner [\[Select\]](#)

Name	Gerton Leijdekker
Address	Lieveveld 17
Postal Code	1679VG
City	Midwoud
Country	The Netherlands

Address of Project Owner in Google Maps:

Map data ©2011 Google, Tele Atlas - [Terms of Use](#)

All tabs edit the same data and are just a visual trick in the layout.



# Integration - Summarize

Uniface JavaScript API:

- Access to all Uniface data objects
- Activate webtriggers and weboperations

Allows integration with any JavaScript based third party product



# 3. Summary

# Summarize (1)

New Proc instructions:

- webtrigger
- weboperation
- webactivate
- javascript – endjavascript

# Summarize (2)

New JavaScript objects:

- uniface
- uniface.DSPInstance
- uniface.Entity
- uniface.Occurrence
- uniface.Field
- this

# Uniface JavaScript API

- Reduce server roundtrips
- Optimize end-user responsiveness
- Reduce server load
- Integrate with JS-based third party products

# Thank you

Available now: Uniface 9.5 Controlled Release

Register at Frontline

**uniface**<sup>TM</sup>  
uniface.com