

WEB UI FRAMEWORK.

For Rapid HTML5 web page development.

Connected Home Division

Intel Confidential



Agenda

- **Design and Directory structure**
- **How to create a new web page in existing Framework?**
- **How to customize Colors, Logo ?(Hands On)**

Technologies

HTML5

(HyperText Markup Language)



Filename extension	.html
Internet media type	text/html
Type code	TEXT
Uniform Type Identifier (UTI)	index.html ^[1]
Developed by	World Wide Web Consortium and WHATWG
Type of format	Markup language
Extended to	XHTML5 (XML-serialized HTML5)
Open format?	Yes

Bootstrap (front-end framework)



Stable release	3.2.0 / June 26, 2014
Written in	HTML, CSS, LESS, SASS and JavaScript
Platform	Web engines
Type	HTML and CSS-based design templates
License	MIT License (Apache License 2.0 prior to 3.1.0)
Website	getbootstrap.com

AngularJS



ANGULARJS
by Google

Developer(s)	Brat Tech LLC, Google and community.
Initial release	2009
Stable release	1.4.8 / November 19, 2015; 20 days ago
Development status	Active
Written in	JavaScript
Platform	Cross-platform, see Legacy browser support
Size	144 KiB production 1 MB development
Type	JavaScript library
License	MIT License
Website	angularjs.org

Responsive Single Page Design

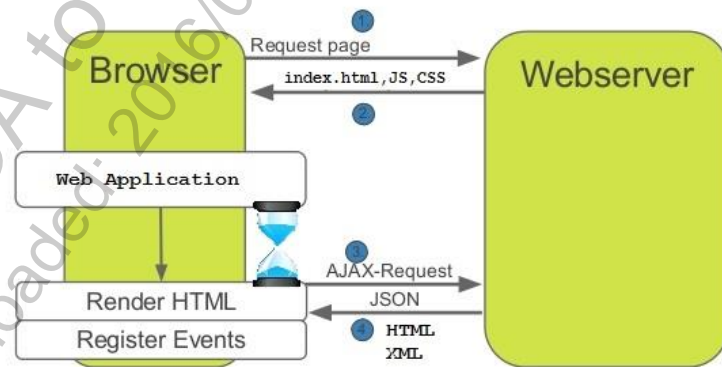
- Responsive Web Design is an approach for designing web pages to provide :
 - Optimal viewing experience
 - Easy reading and navigation
 - Minimum resizing and scrolling
 - Single web page should work across a wide range of devices (Desktop/Mobile/Tablets).



Responsive Single Page Design

- **Single-Page Applications (SPAs) are Web apps that load a single HTML page and dynamically update that page as the user interacts with the app.**
 - Most of necessary code - JavaScript and CSS – is retrieved with a single page load, saving time for other page loads based on the User Action .

Client SPA Rendering



cgi_set (~ REST API)

The Set operation can be Add new object or Modify or Delete an existing objects.

Example Web Post Queries:

Add Operation:

http://192.168.1.1/cgi-bin/cgi_set?Object=Device.IP.Interface&Operation=Add&Enable=True&Interface=br-lan

Modify Operation:

http://192.168.1.1/cgi-bin/cgi_set?Object=Device.IP.Interface.1&Operation=Modify&Enable=False

Delete Operation:

http://192.168.1.1/cgi-bin/cgi_set?Object=Device.IP.Interface.1&Operation=Del

The CGI supports the post query data with single object and multiple objects.

http://192.168.1.1/cgi-bin/cgi_set?Object=Device.PPP.Interface.1&Operation=Modify&Enable=False, Object=Device.ATM.Link.1&Operation=Modify&Enable=True

cgi_set (~ REST API)

▼ General

Request URL: http://10.64.60.208:9001/cgi-bin/cgi_set
Request Method: POST
Status Code: 200 OK
Remote Address: 10.64.60.208:9001

► Response Headers (8)

▼ Request Headers

[view source](#)

Accept: application/json, text/plain, */*
Accept-Encoding: gzip, deflate
Accept-Language: en-US,en;q=0.8,te;q=0.6
Authorization: Digest username="admin", realm="auth", nonce="60b4b6e51e8b29b577396264aa74b51e", uri="/cgi-bin/cgi_set", response="f4baa8377d290879fa328359da480cc7", qop=auth, nc=00000068, cnonce="4ebb0b925f10cce2"
Cache-Control: no-cache
Connection: keep-alive
Content-Length: 57
Content-Type: application/json; charset=UTF-8
Cookie: ugwcookie=e08af5c137d8584bdfb09dea7211c363
Host: 10.64.60.208:9001
Origin: http://10.64.60.208:9001
Pragma: no-cache
Referer: http://10.64.60.208:9001/
User-Agent: Mozilla/5.0 (Windows NT 6.1) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/48.0.2564.41 Safari/537.36
X-FirePHP-Version: 0.0.6

▼ Request Payload

Object=Device.WiFi.SSID.1&Operation=Modify&SSID=test_ssid

cgi_get (~ REST API)

The GET Operation can be used to get the object and parameter information. GET is defined with multiple API to get different format of data.

Examples:

cgi_get: Get all the information about the object for the requested object without and filtering

http://192.168.1.1/cgi-bin/cgi_get?Object=Device.IP.Interface

cgi_get_nosubobj: Get only the Object information with multiple instances but no sub-object information

http://192.168.1.1/cgi-bin/cgi_get_nosubobj?Object=Device.IP.Interface

cgi_get_fillparams: Get only the requested parameters info with all the instances of the object

http://192.168.1.1/cgi-bin/cgi_get_fillparams?Object=Device.IP.Interface&Name=&Status=

cgi_get (~ REST API)

× Headers Preview Response Cookies Timing

▼ General

Request URL: http://10.64.60.208:9001/cgi-bin/cgi_get?Object=Device.IP.Interface
Request Method: GET
Status Code: 200 OK
Remote Address: 10.64.60.208:9001

► Response Headers (9)

▼ Request Headers [view source](#)

Accept: application/json, text/plain, */*
Accept-Encoding: gzip, deflate, sdch
Accept-Language: en-US,en;q=0.8,te;q=0.6
Authorization: Digest username="admin", realm="auth", nonce="60b4b6e51e8b29b577396264aa74b51e", uri="/cgi-bin/cgi_get?Object=Device.IP.Interface", response="944bd8b4a42c63975f0e1d727ed4320e", qop=auth, nc=000000fe, cnonce="fa7d7044ba351ffe"
Cache-Control: no-cache
Connection: keep-alive
Cookie: ugwcookie=e08af5c137d8584bdfb09dea7211c363
Host: 10.64.60.208:9001
Pragma: no-cache
Referer: http://10.64.60.208:9001/
User-Agent: Mozilla/5.0 (Windows NT 6.1) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/48.0.2564.41 Safari/537.36
X-FirePHP-Version: 0.0.6

▼ Query String Parameters [view source](#) [view URL encoded](#)

Object: Device.IP.Interface

cgi_get Response

Filter ☐ Hide data URLs **All** XHR JS CSS Img Media Font Doc WS Other

Name	Path	Headers	Preview	Response	Cookies	Timing
 cgi_get?Object=Device.IPInt... /cgi-bin				<pre>1 { 2 "Objects": [3 { 4 "ObjName": "Device.IP.Interface.1.IPv4Address.1.", 5 "Param": [6 { 7 "ParamName": "Enable", 8 "ParamId": "33", 9 "ParamValue": "true", 10 "ParamFlag": "0x400010" 11 }, 12 { 13 "ParamName": "Status", 14 "ParamId": "34", 15 "ParamValue": "Enabled", 16 "ParamFlag": "0x200004" 17 }, 18 { 19 "ParamName": "Alias", 20 "ParamId": "35", 21 "ParamValue": "cpe-IPInterfaceIPv4Address-1", 22 "ParamFlag": "0x400000" 23 }, 24 { 25 "ParamName": "IPAddress", 26 "ParamId": "36", 27 "ParamValue": "192.168.1.1", 28 "ParamFlag": "0x400000" 29 }, 30 { 31 "ParamName": "SubnetMask",</pre>		

1 requests | 1.8 KB transferred | ...

How to ADD a new web page?

Keep your view.xml or custom.html file in Web-UI Source Directory :

`./feeds/ltq_packages/feeds/ugw_packages/web-cgi/src/www/`

Edit menu.json file to include your new file :

`./feeds/ltq_packages/feeds/ugw_packages/web-cgi/src/www/menu.json`

Compile Package

`make package/feeds/ugw_packages/web-cgi/`

How to ADD a new web page?

menu.json file to include new web page:

`./feeds/ltq_packages/feeds/ugw_packages/web-cgi/src/www/menu.json`

```
{
  "menu": [{
    "name": "Basic",
    "id": "home",
    "childrens": [{
      "name": "Internet",
      "icon": "internet",
      "childrens": [{
        "name": "Internet Connections",
        "viewtype": "tableform",
        "view": "wan_wanconnections",
        "childrens": []
      }]
    }]
  }, {
    "name": "Advanced",
    "id": "home",
    "childrens": [{
      "name": "Internet",
      "icon": "internet",
      "childrens": [{
        "name": "DSL",
        "viewtype": "tableform",
        "view": "dslstatus",
        "childrens": []
      }]
    }]
  }]
}
```

View.xml

XML templates used for different UI compositions which are frequently used.

Each template is associated with specific UI layout.

Example: `viewtype="table"` , `viewtype="form"`

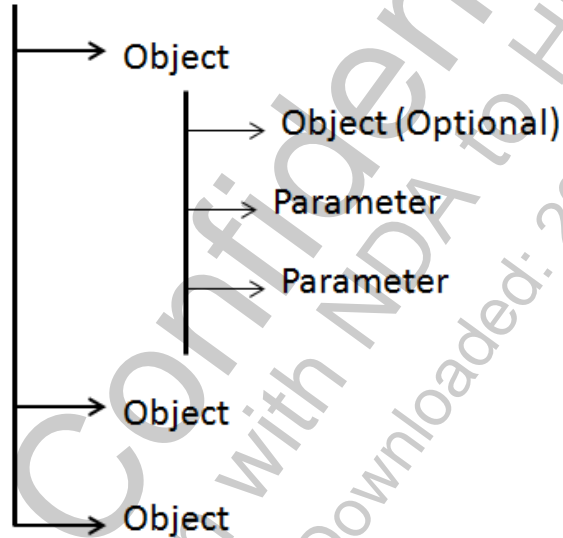
Attribute: `type="Toggle"` `type="Checkbox"`

XSL files are used to convert these xml files to html files.

No need to change / write JavaScript for every New page.

View.xml

View



View.xml - Table

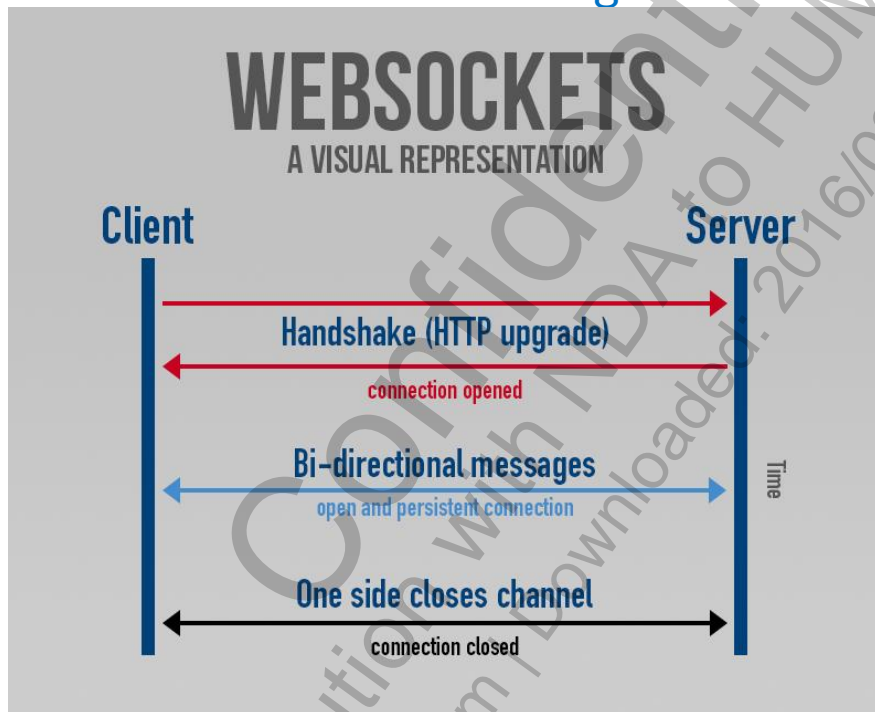
```
▼<view>
  ▼<header>
    <name>System Log Configurations</name>
    ▼<description>
      The CPE device provides customized logging the messages to File, Remote, Console, Telnet and Web.
    </description>
  </header>
  ▼<object name="Device.DeviceInfo.VendorLogFile.*" viewType="table">
    <parameter name="X_LANTIQ_COM_Source" type="string" webname="Log Source" maxlen="64"/>
    <parameter name="X_LANTIQ_COM_Destination" type="string" webname="Log Destination" maxlen="64"/>
    <parameter name="Name" type="string" webname="File Name" maxlen="64"/>
    <parameter name="MaximumSize" type="string" webname="File Size" maxlen="64"/>
    <parameter name="X_LANTIQ_COM_IPAddress" type="string" webname="Remote IP" maxlen="64"/>
    <parameter name="X_LANTIQ_COM_Port" type="string" webname="Port No" maxlen="64"/>
    <parameter name="X_LANTIQ_COM_LogLevel" type="string" webname="Log Level" maxlen="64"/>
    <parameter name="X_LANTIQ_COM_FilterString" type="string" webname="Filter String" maxlen="64"/>
    <parameter name="Persistent" type="checkbox" Display="No" webname="Enable File BackUp"/>
    <parameter name="edit" action="post" routeurl="edit($event,'syslogngviewform')" type="button" webname="Edit" maxlen="64"/>
    <parameter name="view" action="post" routeurl="view($event,'syslogtable')" type="button" webname="View" maxlen="64"/>
    <parameter name="delete" action="post" type="button" webname="delete" maxlen="64"/>
    <parameter name="Add" action="post" routeurl="formToOpen('syslogngviewform')" type="button" webname="Add" maxlen="64"/>
  </object>
</view>
```

View.xml - Form




```
<view viewid="syslogng">
  <helptext/>
  <header>
    <name>System Log Configure</name>
    <description>
      The CPE device provides customized logging the messages to File, Remote, Console, Telnet and Web.
    </description>
  </header>
  <object name="Device.DeviceInfo.VendorLogFile.*" viewtype="form" Type="string">
    <parameter name="X_LANTIQ_COM_Source" type="dropdown" validvalues="kernel,user,both" writable="true" webname="Log Source" maxlen="64"/>
    <parameter name="X_LANTIQ_COM_Destination" type="dropdown" validvalues="file,console,telnet,remote" writable="true" webname="Log Destination" maxlen="64"/>
    <parameter name="Name" type="string" writable="true" parent="file" parentname="Device.DeviceInfo.VendorLogFile.*" depends="X_LANTIQ_COM_Destination" webname="File Name" maxlen="64"/>
    <parameter name="MaximumSize" type="string" writable="true" parent="file" parentname="Device.DeviceInfo.VendorLogFile.*" depends="X_LANTIQ_COM_Destination" webname="File Size (in Bytes)" maxlen="64"/>
    <parameter name="X_LANTIQ_COM_IpAddress" type="ipv4" writable="true" parent="remote" parentname="Device.DeviceInfo.VendorLogFile.*" depends="X_LANTIQ_COM_Destination" webname="Remote IP" maxlen="64"/>
    <parameter name="X_LANTIQ_COM_Port" type="string" writable="true" parent="remote" parentname="Device.DeviceInfo.VendorLogFile.*" depends="X_LANTIQ_COM_Destination" webname="Port No" maxlen="64"/>
    <parameter name="X_LANTIQ_COM_LogLevel" type="dropdown" validvalues="emerg,alert,crit,err,warn,notice,info,debug" writable="true" webname="Log Level" maxlen="64"/>
    <parameter name="X_LANTIQ_COM_FilterString" type="string" writable="true" webname="Filter String" maxlen="64"/>
    <parameter name="Persistent" type="checkbox" Display="No" webname="Enable File BackUp"/>
    <parameter name="Add" action="post" routeurl="Apply($event, 'syslogngview')" type="submitbutton" webname="Apply" maxlen="64"/>
    <parameter name="cancel" action="post" routeurl="Add('syslogngview')" type="submitbutton" webname="Cancel" maxlen="64"/>
  </object>
</view>
```


WEB-SOCKETS Support

WEB Sockets facilitates real time messages to be sent to web page from server.



Security –Lighttpd Digest-Authentication



New Tab x

← → ↻

← HTTP/1.1 401 Unauthorized

▼ Response Headers view parsed

HTTP/1.1 401 Unauthorized

WWW-Authenticate: Digest realm="auth", nonce="cdb6e31f3a3333841eef0f8c46a54bf2", qop="auth"

Content-Type: text/html

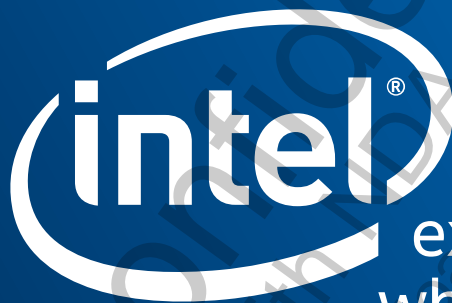
Content-Length: 351

10 Nov 2015 00:59:51 GMT

User Name:

Password:

Log In Cancel



experience
what's inside™

Intel Colors

Default Colors

R: 255 G: 255 B: 255	R: 0 G: 0 B: 0	R: 177 G: 186 B: 191	R: 0 G: 60 B: 113	R: 183 G: 209 B: 8	R: 0 G: 113 B: 197	R: 0 G: 156 B: 218	R: 248 G: 212 B: 76	R: 255 G: 164 B: 0	R: 255 G: 78 B: 0
#FFFFFF	#000000	#B1BABF	#003C71	#B7D108	#0071C5	#009CDA	#F8D44C	#FFA400	#FF4E00

Colors

+35%	-35%	-40%	-60%	-40%	-60%	+25%	-40%	-40%	-40%
R: 166 G: 166 B: 166	R: 89 G: 89 B: 89	R: 208 G: 214 B: 217	R: 96 G: 181 B: 255	R: 227 G: 249 B: 86	R: 130 G: 202 B: 255	R: 0 G: 117 B: 163	R: 251 G: 229 B: 148	R: 255 G: 200 B: 102	R: 255 G: 149 B: 102
#A6A6A6	#595959	#D0D6D9	#60B5FF	#E3F956	#82CAFF	#0075A3	#FBE594	#FFC866	#FF9566