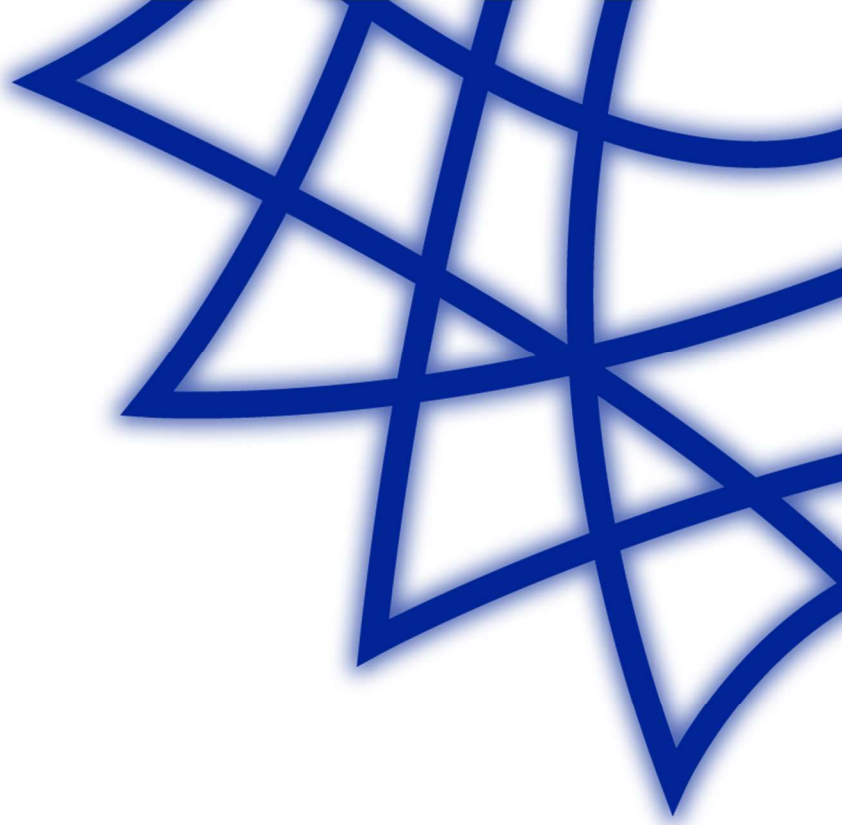




Global Blue



IC2 Integra Web - Embedded mode

WebView using C#



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2 Document History

Date	Version	Author	Change description	Status
13.02.2019	1.0	Sundararajan Krishna Bharathi	Initial version	1 st draft
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4 Purpose of the document

The purpose of this document is to provide best practices, tips and sample code to developers working on integrating with Global Blue's IC2 Integra Web integrated issuing solution, in embedded WebView mode and using C#.



5 Using IC2 Integra Web as embedded WebView with C#

5.1 Technical recommendations

For creating a WebView, the below recommendations should be followed and sample code should be considered by developers using C#.

5.1.1 Navigating to the IC2 Integra URL with form post data

Using the Web view control, navigate to the IC2 Integra URL with form post data.

Example in Win forms WebBrowser control:

```
Var postDataString =
    "{sessiontoken=eyJhbGciOi..&action=issuesilent&application=integra&language=en&shellmode=true
    &issuemodel={...}}";
var postData = Encoding.UTF8.GetBytes(postDataString.ToString());
_webBrowser.navigate(new Uri("../integra", "", postData, "Content-Type: application/x-www-form-
urlencoded"));
```

5.1.2 Injecting necessary Javascript function

In the WebBrowser class **NavigatedEventHandler()** a Javascript function needs to be injected into the page. The below function will be used by IC2 Integra to communicate back to the component using WebBrowser control. Example in Win forms WebBrowser control:

```
public void WebBrowserNavigatedEventHandler(object sender, WebBrowserNavigatedEventArgs e)
{
    ExecJavaScript("function
    JSB_SendEvent(data){window.external.sendEvent(JSON.stringify(data));}");
}
```

5.1.3 Registering necessary event

Registering WebBrowser control's **_webBrowser.ObjectForScripting** event with object having ComVisible method, can be achieved as below:

```
public void SendEvent(string data) {}
```

This method receives all the messages (as events) from the IC2Integra Web application instead of Postmessage callback.

5.1.4 Issuing success message

In case the TFS form was successfully issued, the POS System will receive a JSON message named **EvtPdfPrint**. The structure of this event will be as below:

```
{
    Encoding:String,
    NumericDocIdentifier:string,
    TransactionID:string,
    MimeType:string,
    Content:string (base64 encoded)
    Traveller //traveller details
    Traveller Address
    TotalGrossAmount,
    TotalRefundAmount,
```

```
ShopInvoiceNumber
}
```

5.1.5 Printing a thermal text layout

The TXT layout configuration follows custom defined tags.

The logic for Partner developers to use when printing the TXT layout, is:

1. Perform base64 Decode of the print data
2. Check if <TearOff> end tag is not properly closed , if so then replace the text <TearOff> with <TearOff/>
3. Replace XML escape characters:

From	To
"&"	"&"
"\""	"""
"'"	"'"

4. Except the below thermal printer data tags, remove all other unused tags:
 - NONE
 - HFONT
 - BOLD
 - INVERSE
 - CENTER
 - LEFT
 - RIGHT
 - TEAROFF
 - BC
 - IMG
 - QR
5. Convert all the tag names to UPPERCASE
6. Parse through each tag and set respective printer commands based on the tag names (most of these names are self-explanatory) (NOTE : BC is for Barcode)

5.1.6 Printing a thermal text layout

When IC2 Web is running in shellmode, certain details of shop/UI are cached in the browsers' localStorage in order to optimize performance.

The POS System using IC2 Web as a embedded WebView, should implement clearing of this caching logic. Every time the WebView is loaded, the below steps will need to be performed.

- 1) Navigate directly to the web URL (without any form post data)

```
webView1.DocumentCompleted += InitialDocumentLoadCompleted;
webView1.Navigate(new Uri(<<IC2WebURL>>))
```



- 2) Once the document is loaded, the below code gets executed in order to clear the localstorage (which is used in shellmode)

```
public void InitialDocumentLoadCompleted(object sender,
WebBrowserDocumentCompletedEventArgs e)
{
    if (sender is WebBrowser && ((WebBrowser)sender).Url == new Uri("about:blank"))
    {
        return; //ignore
    }
    Dispatcher.CurrentDispatcher.BeginInvoke((Action)(() =>
    {
        try
        {
            webBrowser1.Document.InvokeScript("eval", new[] {
"window.localStorage.clear();" });
        }
        catch (Exception)
        {
        }
    }));
    webBrowser1.DocumentCompleted -= InitialDocumentLoadCompleted;
    LoadIC2();
}
```

- 3) After clearing the cache, the LoadIC2() method needs to be called as always. At this point the form contents are actually posted to IC2 Web.



6 Glossary

Abbreviation	Name	Description
GB	Global Blue	
TFS	Tax Free Shopping	Tax Free Shopping (TFS) is GB's name of the service that offers foreign travellers the possibility to receive tax refund on goods they buy, and export in their personal luggage.

Table 1 – Glossary