## CICS CDS [ Content Delivery Server ]

## (an evolution from CICS JS/Server)

## **Samples Manual**

Version 3 Release 1

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# Samples

### 1. Favorites Menu

#### /CICS/MF3Z/sam/samples/favorites.html

This sample appears as shown below:

#### **CICS Content Delivery Server: Sample Directory**

Name	Description	Open in Editor
RGRAPH / Bookmark / CICS Cobol Program with COMMAREA	An RGRAPH Sample using a Bookmark and a called program with COMMAREA to produce a pie chart	<b>.</b>
RGRAPH CICS Cobol Program with COMMAREA	RGRAPH / CICS Cobol Program with COMMAREA to produce a bar chart	<b>-</b> &
Dojo Toolkit FILEA listing: CICS Cobol Program Ajax call with CONTAINER	Dojo Toolkit calling a CICS Cobol Program to supply the FILEA records	<b>.</b>
JSON Data Chart.js sample	JSON Call to CICS to build a Chart.js bar chart	૱
Use of a CICS TSQueue	CICS TSQueue usage	<b>.</b>
Block Type Record Sample	Use of Block Type Records	૱
FILEA Web Application	FILEA - A modern version	₽.

This sample simply shows a number of the other samples provided with a description and two hyperlinks: the one on the left being a descriptive name of the sample and the Green Spanner Icon that can be clicked to open that particular Application record in the CICS CDS Editor.

## 2. FILEA Web Application

Also selectable from the **Favorites Menu** application, this example can be accessed with the following Url:

/CICS/MF3Z/sam/application/filea/filea.html

A screen-shot of the application is shown below:

FILEA Application An old application, with a new (modern) look	Add new record       Reload Page       Clear Screen       Help         Search Name and/or Address field       Image: Clear Screen       Image: Clear Screen       Image: Clear Screen	Region: CICSMF46 Sysid: SF46 Sun, 21 Jun 2020 13:13:24 +0000
000100         S. D. BORMAN         ×           000102         J. T. CZAYKOWSKI         ×           000104         M. B. DOMBEY         ×           000106         A. I. HICKSON         ×           000106         A. I. HICKSON         ×           000106         A. I. HICKSON         ×           000106         Steve         ×           000654         Steve         ×           000762         SUSAN MALAIKA         ×           000783         J. S. TILLING         ×           001781         TINA J YOUNG         ×           003210         B.A. WALKER         ×           003210         B.A. WALKER         ×           003210         B.A. WALKER         ×           003210         B.A. WALKER         ×           004004         JANET FOUCHE         4Ac           004005         IAN HALL         II           004445         DR. P. JOHNSON         •           004478         ADRIAN JONES         •           005581         PETE ROBBINS         ×           006016         SIR MICHAEL ROBERTS         ×           007074         ANDREW WHARMBY         × <t< th=""><th>Display         Key:       003890         Name:       BRIAN HARDER         Phone:       0000000         Address:       NICE, FRANCE         Comment:       *******************         Date:       28 05 74</th><th>Show Confidential info.</th></t<>	Display         Key:       003890         Name:       BRIAN HARDER         Phone:       0000000         Address:       NICE, FRANCE         Comment:       *******************         Date:       28 05 74	Show Confidential info.
111111         C. BAKER         ×           121212         Steve         ×           121212         Steve         ×	Key: 003890 (BRIAN HARDER) loaded.	

This sample build upon the FILEA sample that IBM provide with CICS itself. The FILEA VSAM file is accessed and the data within it accessed. The records from the file are displayed in the left hand panel and can be scrolled and clicked on. Doing so will result in the record details being shown in the central panel.

Clicking (or right clicking) on the record number/Name in the left hand side green panel will cause an action menu to pop-up from which various actions can be chosen. From here, the record can be deleted, Updated or used as a model for a new record to be added to the file.

When required, a CICS Cobol program (SAM0FILA) is called via AJAX calls from within the javascript that run in the Web page. This program accesses the VSAM file and returns JSON data to the client which then populates the page as required. The Sample program source is supplied in the HLQ..SAMPCOB dataset.

This program, when initiated, looks for WEB FORMFIELD input data and acts accordingly.

When opened in the CICS css Editor, the application is defined in a single FreeformText Fragment as shown below:

Application ID: CICSMF46 Userid: MOFUSR1 Company: MOFS RegionType: TEST Id: Test of CDN Server Add new Area Preview Save Load Clear Check Url: 🛛 Page Delete Expiry: 3600 ○ -1 ○ 1 minute ○ 1 hour ○ 1 Day Page Disable Page HTTPStatus: 202 Status Text: Optional Page Status Text (if/when Page Disabled) File: age Description (optional) HTTP header fields separated by newline characters (optional) Row: 000 Section Disabled Section Delete Type: Fragment / Freeform \$ Section Description (optional) Type of Section • Resource: Transfer: Binary / No Definition: <!DOCTYPE html> <html> <head> Snead>
<title>FILEA Application</title>
<link rel="shortcut icon" href="./images/favicon.png" type="image/x-icon" />
<link rel="stylesheet" href="./isos/filea.css" />
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1" />
<script src="./js/filea.js"></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></s </head> <body> <div id="wrapper"> <div class="grid-container"> <div class="itemH1"> <hl>FILEA Application</hl> <h6>An old application, with a new (modern) look</h6> </div> <div class="itemH2">
 <span class="itemH2">
 <span class="hamburger">&#8801;</span>
 <span id="topmenu">
 <img class="topM" data-top="tAdd" src="./images/newaddl.png" alt="[&#10010;]" title="Add new record"><span data-top="tAdd">Add new record</span>
 <img class="topM" data-top="tAld" src="./images/newaddl.png" alt="[&#8634;]" title="Reload Page"><span data-top="tAdd">Add new record</span>
 <img class="topM" data-top="tClr" src="./images/newaddl.png" alt="[&#8857;]" title="Reload Page"><span data-top="tAdd">Reload Page</span>
 <img class="topM" data-top="tClr" src="./images/newaddl.png" alt="[&#8857;]" title="Reload Page"><span data-top="tAdd">Reload Page</span>
 <img class="topM" data-top="tClr" src="./images/newaddl.png" alt="[&#8857;]" title="Reload Page"><span data-top="tRel">Reload Page</span>
 <img class="topM" data-top="tClr" src="./images/newaddl.png" alt="[&#8857;]" title="Reload Page"><span data-top="tRel">Reload Page</span>
 </img class="topM" data-top="tClr" src="./images/newaddl.png" alt="[&#8857;]" title="Reload Page"><span data-top="tRel">Reload Page</span>
 </img class="topM" data-top="tClr" src="./images/newaddl.png" alt="[&#8857;]" title="Reload Page"><span data-top="tRel">Reload Page</span>
 </img class="topM" data-top="tClr" src="./images/newaddl.png" alt="[&#8857;]" title="Reload Page"><span data-top="tRel"</span>
 </span> <br> /// 

(input id="searchData" type="text" placeholder="🍳 Search Name and/or Address field">

<button type="button" id="searchClr" title="Clear Search field">&#8619; </div>

As can be seen, a number of components of the application are also served from CICS CDS, such as the relative address to /css/filea.css and /js/filea.js

# 3. RGRAPH / Bookmark / CICS Cobol Program with COMMAREA

Also selectable from the **Favorites Menu** application, this example can be accessed with the following Url:

/CICS/MF3Z/sam/examples/rgraph/pie-chart-3.html

A screen-shot of the application is shown below:



When this application runs, a CICS Cobol program is called via AJAX and passed a commarea. It acts according to the information supplied to it in that Commarea and then interrogates CICS to build up the numbers of ways in which the local CICS transactions have been installed. This information is passed back to the client where the javascript in use causes the 3-D PieChart to be drawn. The javascript in use in this case is Graph which itself is loaded from CICS CDS. Cobol Source for SAMPCOM2 is supplied with CICS CDS.

The sample also uses a CICS Bookmark that is referenced by the CICS Cobol program to help build the application.

### 4. Dojo Toolkit FILEA listing CICS Cobol Program Ajax call with CONTAINER

Also selectable from the **Favorites Menu** application, this example can be accessed with the following Url:

/CICS/MF3Z/sam/filea/list-records-2.html

A screen-shot of the application is shown below:

#### **Dojox DataGrid**

#### **CICS Sample Application FILEA Data**

Data obtained via a json call to CICS where sample program DTK0004H collects the data from FILEA and builds the json response.

Number	Name	Date	Amount	Address	Phone	Notes
000100	S. D. BORMAN	26 11 81	\$0100.11	SURREY, ENGLAND	32156778	*****
000102	J. T. CZAYKOWSKI	26 11 81	\$1111.11	WARWICK, ENGLAND	98356183	*****
000104	M. B. DOMBEY	26 11 81	\$0999.99	LONDON, ENGLAND	12846293	*****
000106	A. I. HICKSON	26 11 81	\$0087.71	CROYDON, ENGLAND	19485673	*****
000111	ALAN TULIP	01 02 74	\$0111.11	SARATOGA, CALIFORNIA	46120753	*****
000654	Steve	26 11 81	9999	Peebles	9999	sdsdsd
000762	SUSAN MALAIKA	01 06 74	\$0000.00	SAN JOSE, CALIFORNIA	22312121	******
000983	J. S. TILLING	21 04 75	\$9999.99	WASHINGTON, DC	34512120	*****
001222	D.J.VOWLES	10 04 73	\$3349.99	BOBLINGEN, GERMANY	70315551	******
001781	TINA J YOUNG	21 06 77	\$0009.99	SINDELFINGEN, GERMANY	70319990	*****
003210	B.A. WALKER	26 11 81	\$3349.99	NICE, FRANCE	12345670	*****
003214	PHIL CONWAY	00 06 73	\$0009.99	SUNNYVALE, CAL.	34112120	*****
003890	BRIAN HARDER	28 05 74	\$0009.99	NICE, FRANCE	00000000	*****

This application calls a CICS Cobol program to fetch the VSAM FILEA data and respond with that data in JSON formation. Dojo Toolkit functions use that data to build a sortable table in the display.

Sample Cobol program source for DTK0004H is provided in HLQ..SAMPCOB

### 5. Use of a CICS TSQueue

Also selectable from the **Favorites Menu** application, this example can be accessed with the following Url:

#### /CICS/MF3Z/sam/tsq/tsq1.html

A screen-shot of the application is shown below:



Add new Area Preview Save Load Clear Check	
Uri: Irea Append blank Row	
Page Disable   Page Delete   Expiry: -1 •-1 1 minute 1 hour 1 Day	
File:         USR         Page HTTPStatus:         202         Status Text:         Optional Page Status Text (if/when Page Disabled)	
	0
Page Description (optional) TTTP header fields separated by newline characters (optional) TTTP header fields separated by newline characters (optional)	0
Power 000 Section Dischlad Section Delate Turger Fromment (Frontern	
Section Description (optional)	
Resource: Resource Transfer: Binary / NoAppendCRLF	
Definition: [adinition	243
<pre><tilo>CDM Sample: TSQ Usage <pre><pre><pre><pre><pre><pre><pre><pre></pre></pre></pre></pre></pre></pre></pre></pre></tilo></pre>	
.center {     reardin: auto;	
width: 60%; border: 3px solid #73AD21;	1
Row: 001 Section Disabled Section Delete Type: Load TSQ	<b>↑</b> A⁺
Section Description (optional)	≁
Resource: IAPLICATION-X Transfer: Binary/NoappendCRLF  Definition: Calculation	150
Resource: JAPPLCATION-X Transfer: Sinary/NoappendCRLF   Definition: Softmann  Abit_Doaded TSQ record	150
Resource: IAPPLICATION-X       Transfer:       Sinary/NoappendCRLF         Definition:       Sinary/NoappendCRLF <h1>Loaded T80 record <h2><h15 a="" be="" h2="" in="" preload="" probably="" queue<="" would=""> <h3>or call a program to build the TSQ prior to usage</h3></h15></h2></h1>	150
Resource: IAPELCATION-X       Transfer:       Binary/NoappendCRLF         Definition:       California <h3>or call a program to build the TSQ prior to usage</h3> Row: 002       Section Disabled       Section Delete       Type:         Insert TSQ       Section Disabled       Section Delete       Type:	150
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Resource: IAPPLICATION-X       Transfer: Binary / NoappendCRLF         Definition:       Definition: <hl>&gt;or call a program to build be a preload queue</hl> <hl>&gt;         <hl>&gt;or call a program to build the TSO prior to usage</hl> <hl>&gt;         Row: 002       Section Disabled       Section Delete         Row: color       Section Delete       Type:         Insert TSO       Insert TSO       Insert TSO         Becource:       APPLICATION-X       Transfer:         Binary / NoappendCRLF       Definition:       Definition:</hl></hl>	
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Resource:       APPLICATION-X       Transfer:       Binary / NoappendCRLF         Oefinition:       Control of the second of the sec	

The application is shown inserting information into named TSQ (which is created or added to) and then uses that named TSQ to insert information into the web response.

#### 6. Block Type Record Sample

Also selectable from the **Favorites Menu** application, this example can be accessed with the following Url:

/CICS/MF3Z/sam/testing/htmlblock1.html

A screen-shot of the application is shown below:

/sam/testing/htmlblock1.html_0001.mf3part   Block #1.1 no Url in block encoding> 3 < Note: As no coded Url, takes page URL as template.   Fhis content came from /sam/testing/htmlblock1_0001.mf3part   Sem/testing/htmlblock1.html_002.mf3part   Block #1.2 no Url in block encoding> 3 < Note: As no coded Url, takes page URL as template.   Phis content came from /sam/testing/htmlblock1.html_002.mf3part   Sam/testing/htmlblock1.html_003.mf3part   Block #1.3 no Url in block encoding> 3 < Note: As no coded Url, takes page URL as template.   Phis content came from /sam/testing/htmlblock1.html_003.mf3part   Sam/testing/htmlblock1.html_0003.mf3part   Block #1.3 no Url in block encoding> 3 < Note: As no coded Url, takes page URL as template.   Phis content came from /sam/testing/htmlblock1_0003.mf3part   Sam/testing/htmlblock2test.html_0001.mf3part   Sam/testing/htmlblock2test.html_0001.mf3part   Block #2 Url encoded but no template(%%%%)> 2/sam/testing/htmlblock2test.html <   sam/testing/htmlblock2test.html_0002.mf3part   Block #3.1 Url encoded plus template(%%%%)> 2/sam/testing/htmlblock3test%%% html <   Sam/testing/htmlblock3test_0001.html.mf3part   Block #3.1 Url encoded plus template(%%%%)> 2/sam/testing/htmlblock3test%%% html <   Sam/testing/htmlblock3test_0001.html.mf3part	/sam/testing/htmlblock1.html	
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Block #3.2 /sam/testing/htmlblock3test_0002.html.mf3part Block #3.1 Utl encoded plus template(%%%%)> 2./sam/testing/htmlblock3test%%%% html <	Block #2 Url encoded but no template(%%%%)> 2./sam/testing/htmlblock2test.html < /sam/testing/htmlblock3test_0001.html.mf3part	
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Block #3.1 Url encoded plus template(%%%%)> 2 /sam/testing/htmlblock3test%%%% html <	Block #2 Url encoded but no template(%%%%)> 2./sam/testing/htmlblock2test.html < /sam/testing/htmlblock3test_0001.html.mf3part Block #3.1 Url encoded plus template(%%%%)> 2./sam/testing/htmlblock3test%%%%.html < Block #3.2	
store a or on our of the comprise (10 10 10 10 10 10 10 10 10 10 10 10 10 1	Block #2 Url encoded but no template(%%%%)> 2./sam/testing/htmlblock2test.html < /sam/testing/htmlblock3test_0001.html.mf3part Block #3.1 Url encoded plus template(%%%%)> 2./sam/testing/htmlblock3test%%%%.html < Block #3.2 /sam/testing/htmlblock3test_0002.html.mf3part	

This sample shows how blocked records can be used to build up a web response.

#### 7. Use of PDS DOCTEMP resource definition

Also selectable from the **Favorites Menu** application, this example can be accessed with the following Url:

/CICS/MF3Z/sam/doctemp/simple-page.html

screen-shot of the application is shown below:

#### Simple webpage built using a PDS member CICS document template

In the editor, it looks like this:

#### Application ID: CICAMF50 Userid: MOFUSR1 Company: Matter of Fact RegionType: ACCEPTANCE Id: Test of CDServer

Add new Area Preview Save Load Clear Check	
Url: /sam/doctemp/simple-page.html	
Page Disable Page Delate URL to be Loaded / Saved (updated) or Deleted 1 minute 1 hour 1 Day	
File: USR Page HTTPStatus: 202 Status Text: Optional Page Status Text (if/when Page Disabled)	

Page Description (optional)	
HTTP header fields separated by newline characters (optional)	
Row: 000 Section Disabled Section Delete Type: Document Template	0
Now over been blaabed i been been been i in been been been be	
Section Description (optional)	
Resource: HTML0001 Transfer: EDCDIC / NoAppendCRLF	_
Definition: MEM(HTML0001) DD(SAMFILE)	
Fragment text (depends on 'Type')	
8	

As can be seen, a CICS DOCUMENT TEMPLATE named HTML0001 in the PDS with DDNAME SAMLIFE is defined as the content of the application. In turn, the content of that file member is as follows:

<!DOCTYPE html> <html lang=en> <head> <title>CICS Content Delivery Server</title> </head> <body> <h1>Simple webpage built using a PDS member CICS document template</h1> </body> </html>

## 8. Chart.js sample - Ajax call for data responding json

Also selectable from the **Favorites Menu** application, this example can be accessed with the following Url:

/CICS/MF3Z/sam/examples/tsq3.html

screen-shot of the application is shown below:

#### Chart.js Bar Chart Demo



Data URL: /CICS/MF3Z/USR/ian/RGraph/testRAND.json

This sample uses Chart.js to build a bar graph. By clicking the /SAM url button and then the Start button, Ajax calls are made to the application defined at testRAND.json. Doing so will result in the graph being dynamically redrawn periodically as new data is fetched from CICS.

The Directory listing for the URL /sam/utility/testrand.json is shown below:

Control:	Record# 1	Url: <u>/sam/utili</u>	t <u>y/testra</u>	und.json Se	gments: <b>1</b>	
Meta:	UserId: CICS	SD LastUpda	te: Mon,	11 May 2020	) 15:20:5	5 +0000 (3798181255000)
Page:	Active: Yes	Expiry:	-1	Status: 202	Description	n: RGraph Demo test1
Section:	Active: Yes	Length:	8	Type: P (Progran	ו)	
Resourc	e (8)	MF3RAND2				

As can be seen, the CICS Program MF3RAND2 is used when that AJAX call is made. The Cobol source for that program is supplied with CICS CDS in the SAMPCOB file.

## 9 RGraph AJAX call to Cobol returning JSON

Also selectable from the **Favorites Menu** application, this example can be accessed with the following Url:

/CICS/MF3Z//rgr/4.65/demos/bar-ajax-4.html

screen-shot of the application is shown below:

# A Bar chart using AJAX



This sample uses Rgraph.js. The RGraph parameters used call a CICS Cobol program called SAMCOM3 passing a COMMAREA. The definition for the AJAX called program is shown below:

Control:	Record# 235	Url: <u>/rgr/4.6</u>	65/demo	<u>s/getdata3.h</u>	<u>ntml</u> Seg	ments: 1		
Meta:	Userid: MOF	USR1 Last	Update: Tt	ue, 21 Apr 20	020 13:0	5:36 +000	00 (379644	45136000)
Page:	Active: Yes	Expiry:	-1	Status: 202				
Section:	Active: Yes	Length:	79	Type: <b>Q</b> (Prog. C	commArea)			
Resourc Content PROGRAM MF3SPDD MF3SRVV MF3DFT0 MF3DIRC MF3DIRC MF3AN00 MF3CTUP MF3CONF	e (8) (79) -USECOUNT N 3 0 T 0 0 G	SAMPCOM3						

As can be seen, the Commarea contents can be specified within the application definition for the AJAX called program. When SAMPCOM3 executes, it use the contents of the COMMAREA to determine its actions - in this case to interrogate the USECOUNT for a number of CICS programs. That information is placed in a JSON web response and returned to the Client where the RGraph.js toolkit creates a barchart as shown.

## Appendix.

As time passes, Matter of Fact Software are creating new and improved Samples and examples. Contact us for the latest developments.

End of Document