

RestApi FastCgi Quick Start

Monday, April 13, 2020 12:10 PM

Purpose:

This document provides the basic steps to setup and configure the 10.2A PL/B Web Server and 10.2A PLBWIN to demonstrate the PWS RESTAPI Services with the 10.2A FastCgi configuration being used.

Requirements:

1. 10.2A PL/B Web Server.
2. 10.2A PLBWIN, PLBNET, or PLB (Unix) runtime.
3. DemoRestApiFastCgi.zip contains demo zip files referenced in this document.

See 'c:\sunbelt\plbwebsrv.102A\demo\programs\source\DemoRestApiFastCgi.zip'

plbwebsrv.fastcgi.ini.sample.zip

Contains sample 'plbwebsrv.ini' keywords used to enable RestApi FastCgi support.

restapi_fastcgi_plbwin.zip

Contains files used by a PLBWIN runtime to execute FastCgi program 'phonefcgi.plc'.

restapi_fastcgi_sunide_200406.zip

Contains source for 'phonefcgi.pls' program with SunIde project.

restcli_fastcgi_webpages.zip

Contains HTML/CSS/JavaScript Web Pages used for demoing RestApi FastCgi support.

Demo Program:

When the PL/B Web Server is configured to support the RESTAPI services while using the FastCgi support, the PWS server preloads 1 to 99 PL/B runtime instances when the PWS server is started. When a RestApi GET/POST request from a client browser HTML web page with a JavaScript routine is received, the PWS server submits/queues the request so a free PL/B runtime can get the request and process it using the 'phonefcgi.plc' program. The interface between the PWS server and the PL/B runtimes is using the FASTCGI protocol.

PHONEFCGI

This program executes in a similar manner as the RESTAPI program 'phonemsg.pls'. However, the 'phonefcgi.pls' program continues to execute in an endless LOOP while executing the 'Runtime.HttpRequest' method to detect a queued RestApi request. Once the request is detected/processed, a response is sent back to the client and the program continues to loop waiting for another request to be detected.

Depending on the type of RESTAPI request received, the program uses DBxxxxx statements to access a SQLite test database. Once the request data is properly processed, a HTTP response is returned using the RUNTIME object 'HttpResponse' method. This program is implemented to do simple manipulation of a SQLite test database to fetch, write, and delete messages.

Also, the 'phonefcgi.pls' program is a demonstration program that DISPLAYs each received

RestApi request to the PL/B runtime main window.

Html Web Pages, CSS, and JavaScript Demo:

fcgimain.html - Main page with description of supported REST methods.

fcgientry.html - Page to allow entry of a phone message.

fcgiquery.html - Page to allow query of messages. Messages can be filtered by name.

fcgisupp.css - CSS support file.

fcgisupp.js - JavaScript support file that MUST be modified by the user.

Configurations and Setup:

PlbWebSrv

1. Create a directory named 'PwsCgi' in the 'c:\temp\' directory.

The 'c:\temp\PwsCgi' is the directory where temporary CGI data files are created and processed from. The 'plbwebsrv' must be configured to use this directory.

2. Add and modify the following for your 'plbwebsrv' server:

```
#####
# The 'PLBWEB_CGI_INFODIR' keyword can be assigned
# to a fully qualified path and optional 'prefix' where
# working PWS CGI data files are rendered. By default
# these CGI data files are temporary and are deleted
# after the data is moved into a PWS child process.
#
# Note:
#   When using the 'PLBWEB_CGI_INFODIR' keyword, the
#   PWS server DOES NOT delete the CGI temporary files.
#   However, the PLB runtime DOES delete any CGI file
#   that is used.
#
PLBWEB_CGI_INFODIR=c:\temp\PwsCgi\z
#
#####
# The configuration keywords found in this paragraph are
# used to setup a PLB Rest Service. There can be up to
# 99 Rest Service definitions supported by the PWS server.
#
# Please note:
#   1. The ONLY PLB runtimes which can be used to execute
#   a Rest Service program are PLBWIN, PLBNET, or
#   PLB (Unix).
#
PLBWEB_REST_BASEURL01=MyFastSrv/
PLBWEB_REST_CMDLINE01=c:\sunbelt\plbwebsrv.102A\code\fastcgi\plbwin.exe -ic:
\sunbelt\plbwebsrv.102A\code\fastcgi\plbwin_fastrest.ini -h %s phonefcgi.plc
PLBWEB_REST_USE_FCGI01=ON
PLBWEB_REST_PORTNUM01=9000
PLBWEB_REST_MAX_COUNT01=2
#
#####
```

Plbwin

1. Create a subdirectory named 'fastcgi' in the 'c:\sunbelt\plbwebsrv.102A\code' directory.

The 'c:\sunbelt\plbwebsrv.102A\code\fastcgi' directory contains the RESTAPI demo program (phonefcgi.plc), PLBWIN runtime, and supporting files.

- A. Copy the 'restapi_fastcgi_plbwin.zip' files into the 'c:\sunbelt\plbwebsrv.102A\code\fastcgi' directory.
2. A PLBWIN serialized for the customer must be moved into the 'c:\sunbelt\plbwebsrv.102A\code\fastcgi' directory. The demo configuration will allow the customer PLBWIN to execute the demo program 'phonefcgi' via a RESTAPI FastCgi service request from a client browser web page.
3. The 'c:\sunbelt\plbwebsrv.102A\code\fastcgi\plbwin_fastrest.ini' runtime INI file may need to be modified to use valid customer directories where the 10.2A PWS has been installed.

RestCli FastCgi WebPages

1. The Sunbelt RestCli FastCgi Web Pages, CSS, and JavaScript are found in a zip file named 'restcli_fastcgi_webpages.zip' file. Copy these files into any\some directory to be executed.

fcgientry.html
fcgimain.html
fcgiquery.html
fcgisupp.css
fcgisupp.js

2. Edit the 'fcgisupp.js' JavaScript file and modify the source line as follows to use the URL\IP address that is the same as the 10.2A PWS Server configuration.

```
var commAddr = "http://10.149.71.107:8081/MyFastSrv/phonefcgi";
```

Steps to Run RESTAPI FastCgi Demo Using Customer 10.2A PWS:

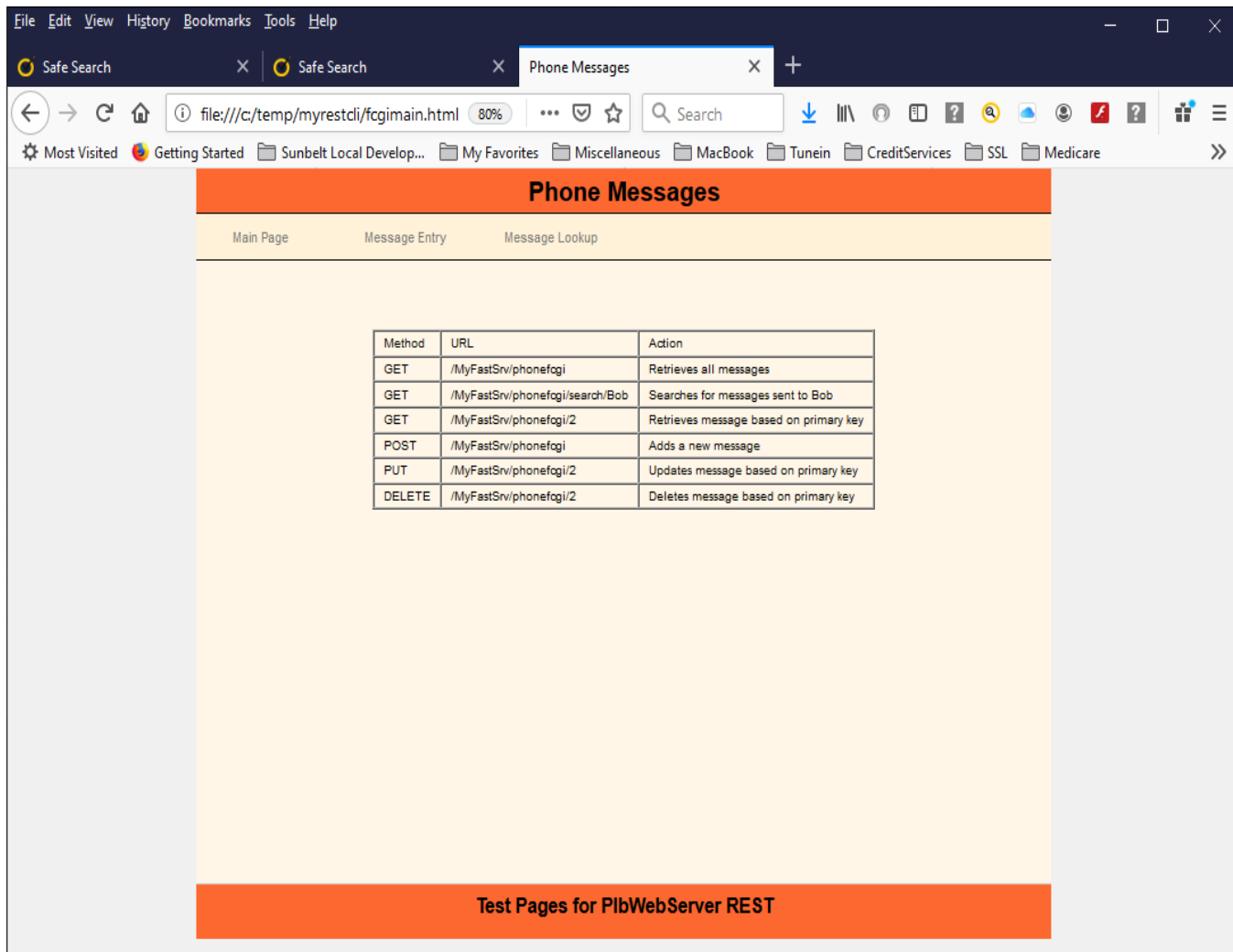
1. Start 10.2A PWS Server.
2. Copy the 'restcli_fastcgi_webpages.zip' files into a customer directory like:

C:\temp\myrestcli\

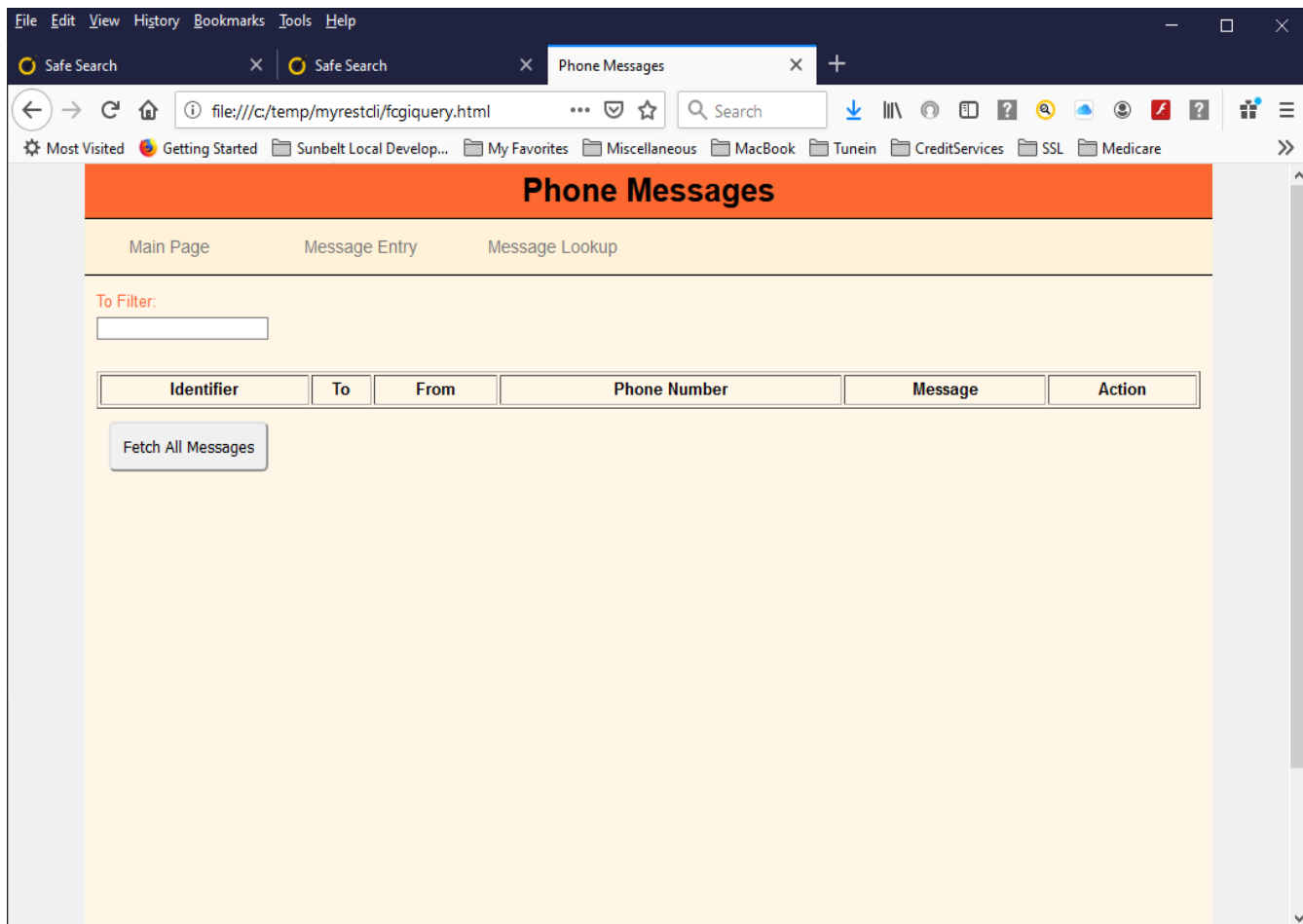
3. Using any Browser, enter and execute the URL command as follows:

<file:///c:/temp/myrestcli/fcgimain.html>

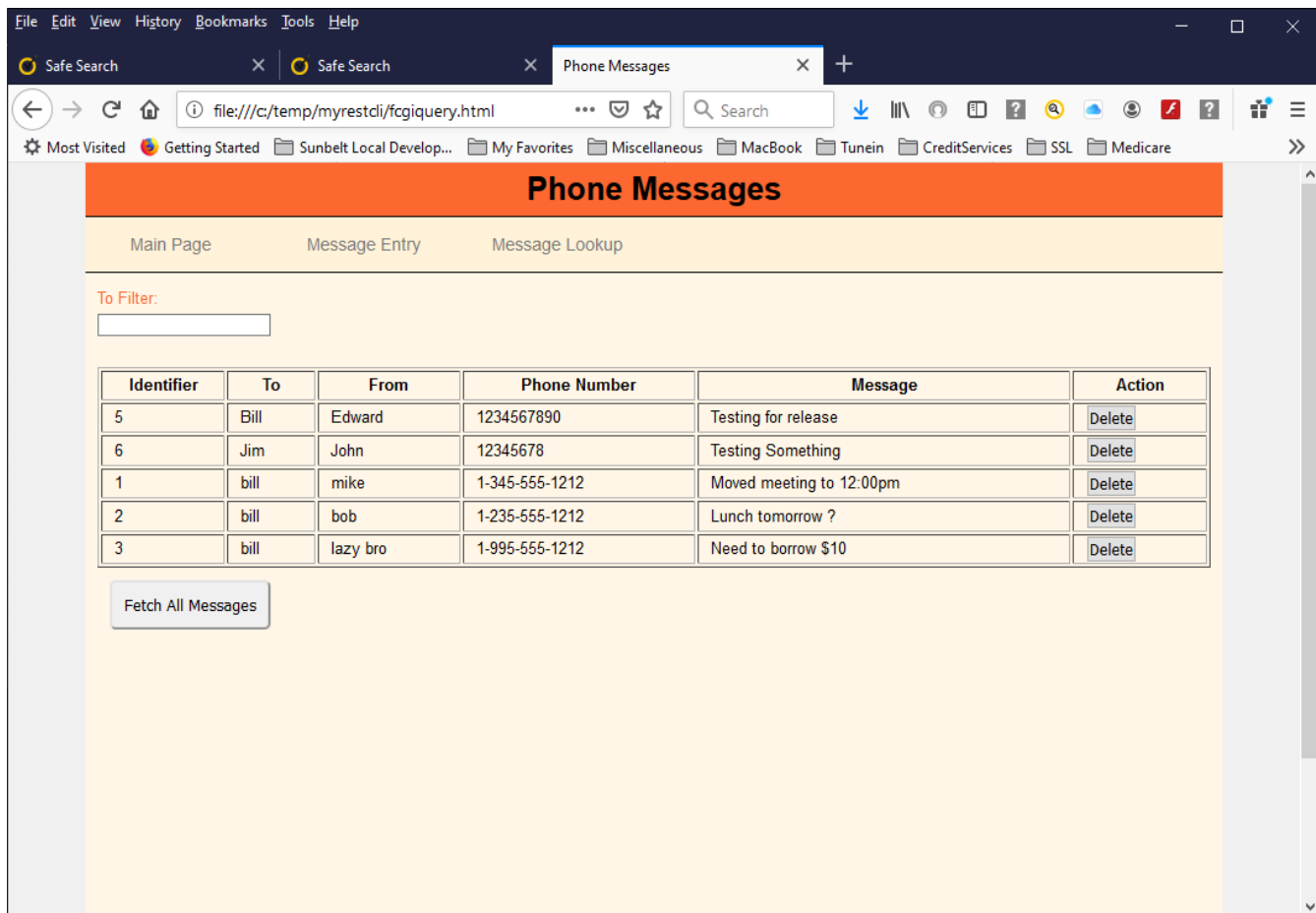
The Sunbelt RestCli FastCgi Main Web Page Appears as follows:



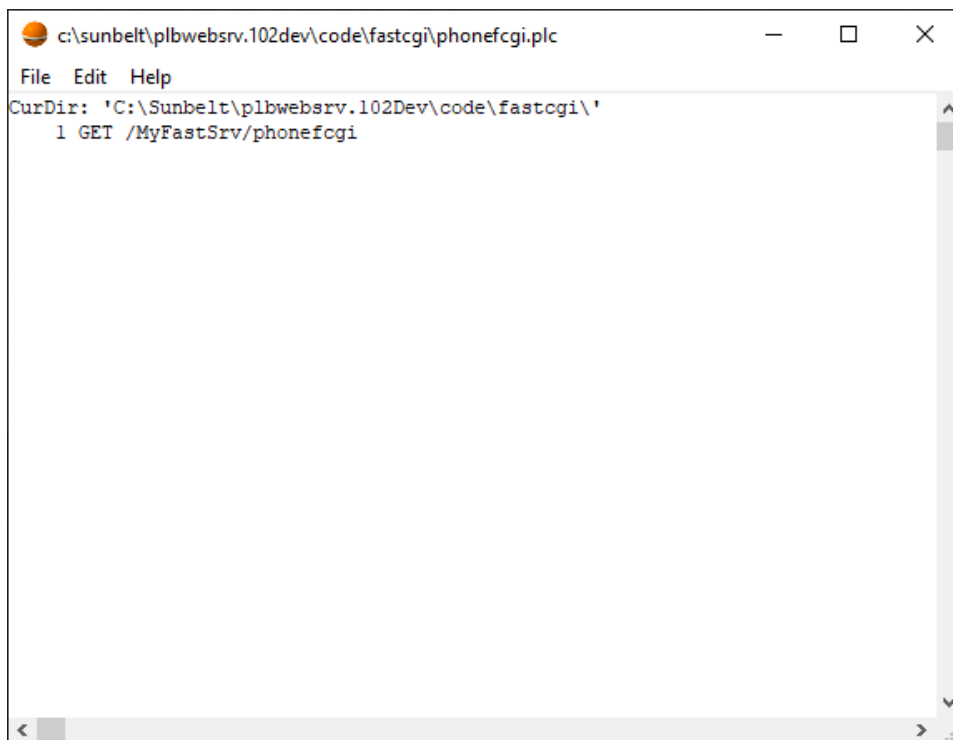
4. Use Menu Items to select the 'Message Lookup'.



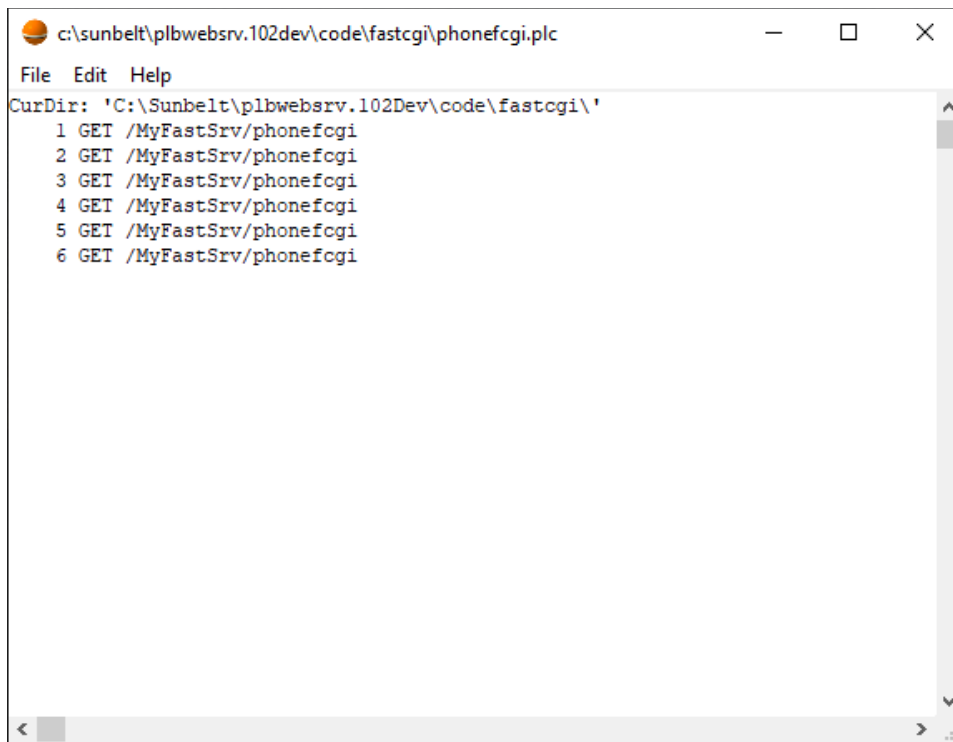
5. Click on the 'Fetch All Messages' button to retrieve data via the RestApi FastCgi service.



One of the 'phonefcgi.plc' main windows display will look like this:



Click the 'Fetch All Messages' button multiple times and the 'phonefcgi.plc' main window will look something like this where each RestApi request is displayed:



A Notepad window titled "c:\sunbelt\plbwebsrv.102dev\code\fastcgi\phonefcgi.plc". The window contains a menu bar with "File", "Edit", and "Help". The text area shows the current directory as "C:\Sunbelt\plbwebsrv.102Dev\code\fastcgi\" and a list of six GET requests to "/MyFastSrv/phonefcgi".

```
c:\sunbelt\plbwebsrv.102dev\code\fastcgi\phonefcgi.plc
File Edit Help
CurDir: 'C:\Sunbelt\plbwebsrv.102Dev\code\fastcgi\'
1 GET /MyFastSrv/phonefcgi
2 GET /MyFastSrv/phonefcgi
3 GET /MyFastSrv/phonefcgi
4 GET /MyFastSrv/phonefcgi
5 GET /MyFastSrv/phonefcgi
6 GET /MyFastSrv/phonefcgi
```