



Your first SmartPad4i Application with jQueryMobile.

With your Smartphone, your Tablet and your
Browser with SP4i-V2



Introduction

This is a tutorial to create your first SmartPad4i Application with JQueryMobile.

In this document you will see:

- How to create your first html page?
- Your first RPG program,
- How to deploy it on your web application server,
- How to run it with your browser
- And how to use it with your Smartphone or Tablet with the SP4i-V2 application for Android or iOS.

This document is based on the SmartPad4i Express version.

You need to download and install this version, please go to the SmartPad4i home page at <http://www.systemobjects.com/homesp4i.html> and fill the form to request the trial version.

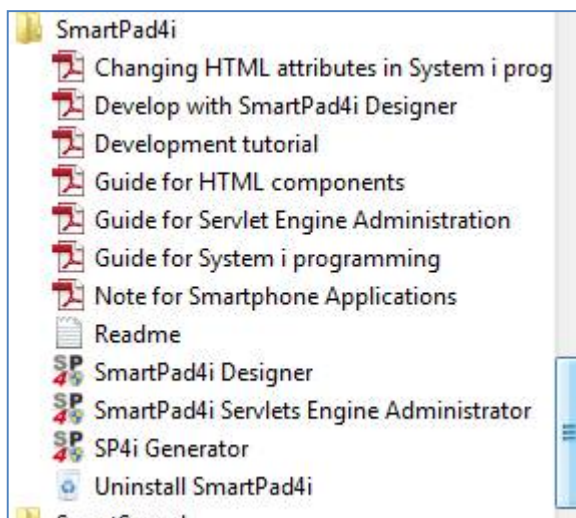
With the Express version you will install the complete product on your IBM i and your PC bundled with a PC Tomcat 7.0 server product.

The installation will also install:

- Libraries on your System i,
- Two subsystems,
- And start these subsystems. Please verify your IPL procedure to add the start of these subsystems,
- Please use a *QSECOFR user id for the installation procedure.

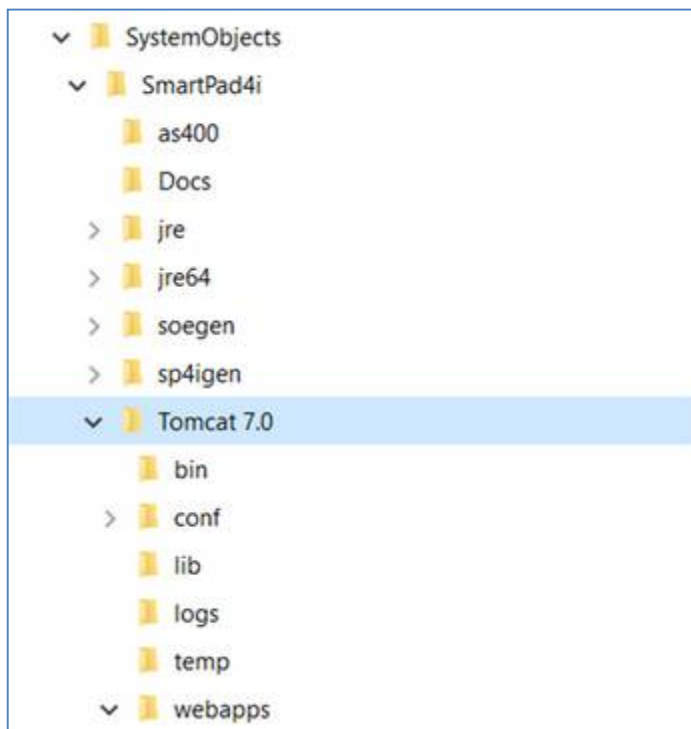
Before to begin, please verify that your installation is fine and configure your web application server.

You must have this in your “Start”:

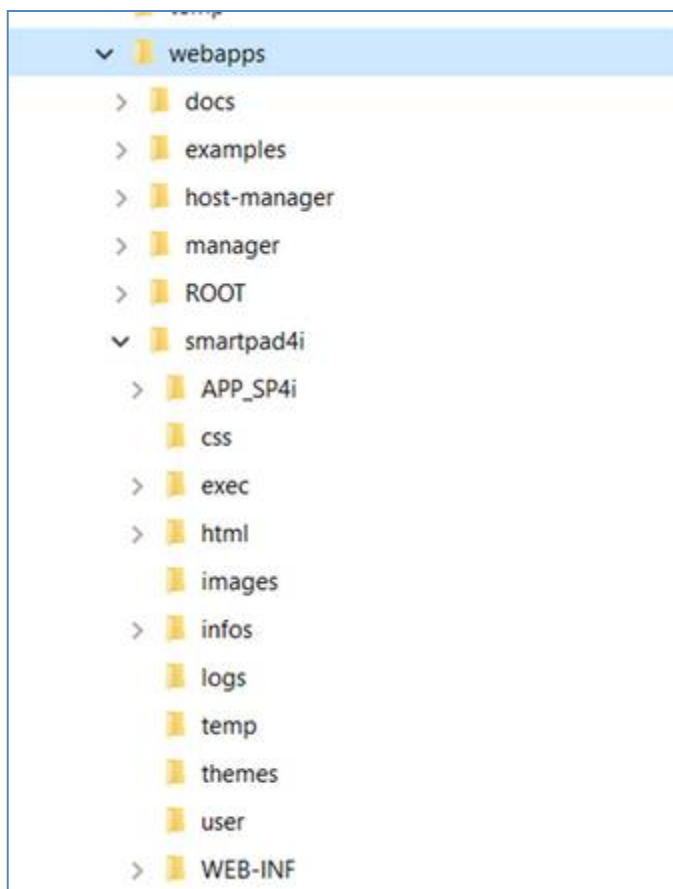


Please read the “Guide for Servlet Engine Administration” to configure your web application server.

On your “C” disk you will have a “SystemObjects” directory like this:



And these directories under “webapps”:



All the source files for this tutorial can be downloaded at www.systemobjects.com/helloi_jq.zip

The first HTML page.

With your html tool create your first HTML 5 page, named helloi.html.

In this page you will create:

- A form,
- Two input fields,
- Two buttons.

To create this page, it's easier to have a tool like Dreamweaver or one of the solution listed on this page: <http://jquerymobile.com/resources/>

A JQueryMobile page is a set of division named "page", "header", "main" and "footer".

In the main division you need to add two input fields and two buttons.

You can see the code for this page here:

```
<!DOCTYPE html>
<html>
<head>
<meta charset="iso-8859-1">
<meta name="viewport" content="width=device-width">
<title>My First SmartPad4i Program</title>
<!-- uncomment these three line to see your page in the browser.
<link rel="stylesheet"
href="http://code.jquery.com/mobile/1.3.2/jquery.mobile-1.3.2.min.css">
<script src="http://code.jquery.com/jquery-1.9.1.min.js"></script>
<script src="http://code.jquery.com/mobile/1.3.2/jquery.mobile-
1.3.2.min.js"></script>
-->
</head>
<body>
<script src="AR/theme/jquery.mobile-1.4.2.min.js"></script>
<form>
<div data-role="page" id="page">
<div data-role="header" data-position="fixed">
<h1>Hello System i</h1>
</div>
<div data-role="main">
<div data-role="fieldcontain"> <label for="in">Input &nbsp;&nbsp;:</label>
<input data-mini="true" name="textinput" id="in" type="text"> </div>
<div data-role="fieldcontain"> <label for="out">Output &nbsp;&nbsp;:</label>
<input data-mini="true" name="textinput2" id="out" type="text"> </div>
<button id="exec" data-icon="check" data-inline="true" data-
mini="true">Execute</button> <button id="exit" data-icon="delete" data-
inline="true" data-mini="true">Exit</button> </div>
<div data-role="footer" data-position="fixed">
<h4>Powered by SP4i</h4>
</div>
</div>
```

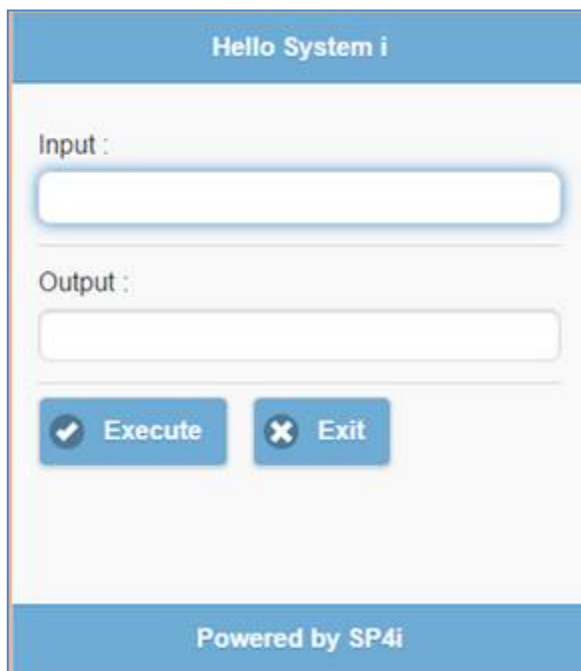
```
</form>
</body></html>
```

To fit your image on your screen, browser or Smartphone, we have added the following line before the “</head>” tag:

```
<meta name="viewport" content="width=device-width" /> (in yellow)
```

The blue lines are to show what you need to put on your page either to see it offline, you need to leave these lines commented to run with SP4i.

Here is a screen shot of this page:



The object of this first program is to read the first field, display the result in the second field when the user clicks the “execute” button or exit the program.

You need to give a unique name to all your objects:

- The first input field will be named “in”,
- The second “out”,
- The first button “exec”,
- The second button “exit”.

Now create a directory in your web application server under the html directory.

Name this directory “HELLOI”, this is also the name of the library in the system i to store your source and object programs. Please create the library in your System i.

On your PC, you must have something like this:

```
C:/SystemObjects/SmartPad4i/Tomcat 7.0/webapps/smartpad4i/html/HELLOI
```

Store your helloi.html in the HELLOI directory on your web application server.

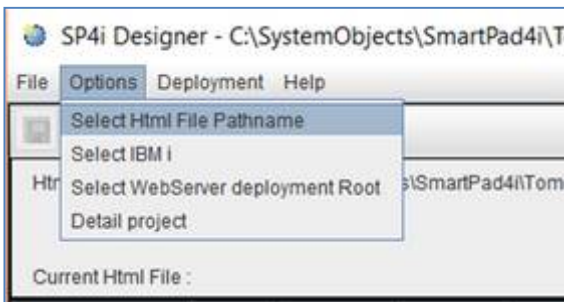
Please don't forget to copy the “AR” folder of your .../smartpad4i/APP_SP4I/ directory into the HELLOI subdirectory of your web application server.

Call SP4i designer

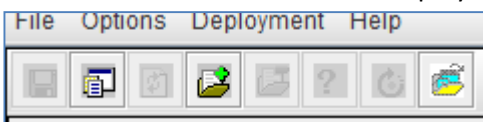
SP4i Designer is used to define some additional information for our HTML page.

In the SP4i Designer:

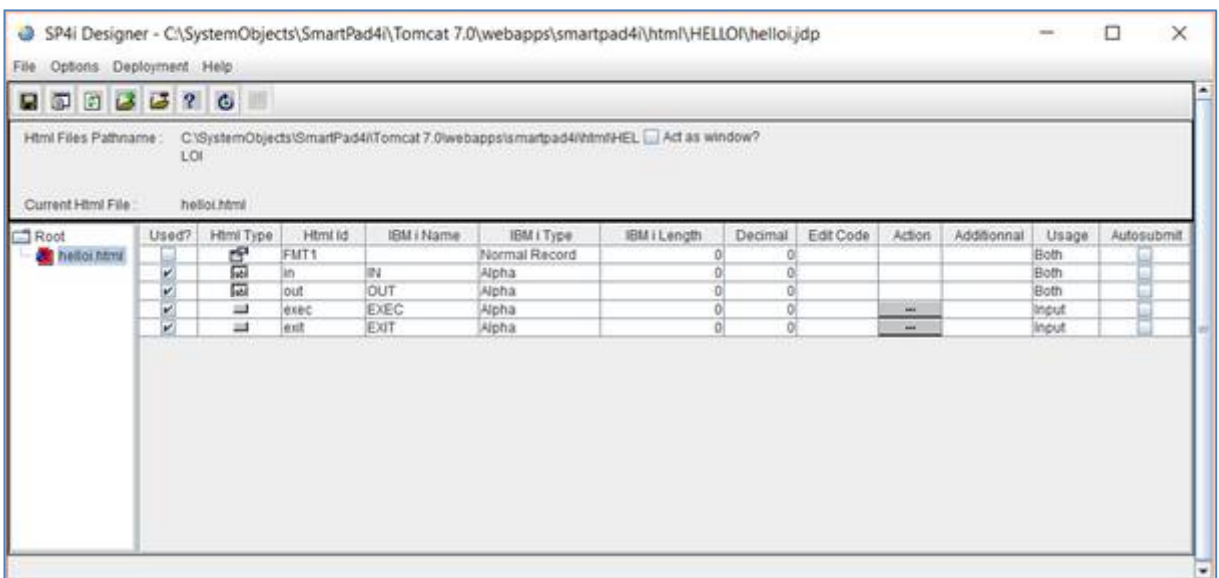
- Create a new project in the File menu,
- Name it Helloi,
- Log in your System I,
- In the Options menu, select the first option “Select Html...”,



- Choose the HELLOI directory under the “html” directory,
- In the Options menu, select “Select WebServer...”,
- Choose the “webapps” directory under the “Tomcat 7.0” directory.
- Select the “+” button under the Deployment menu:

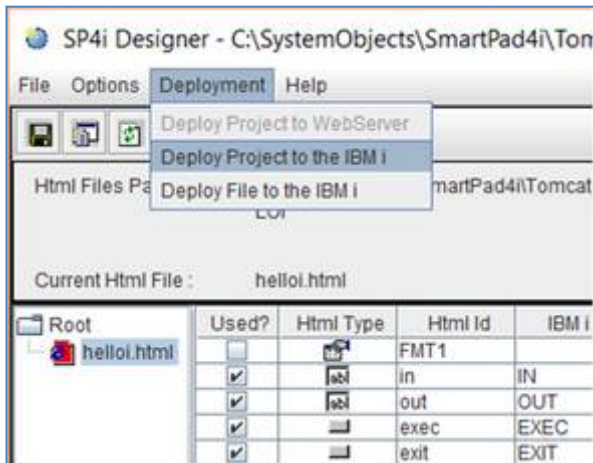


- Choose our “helloi.html”,
- You have this screen:

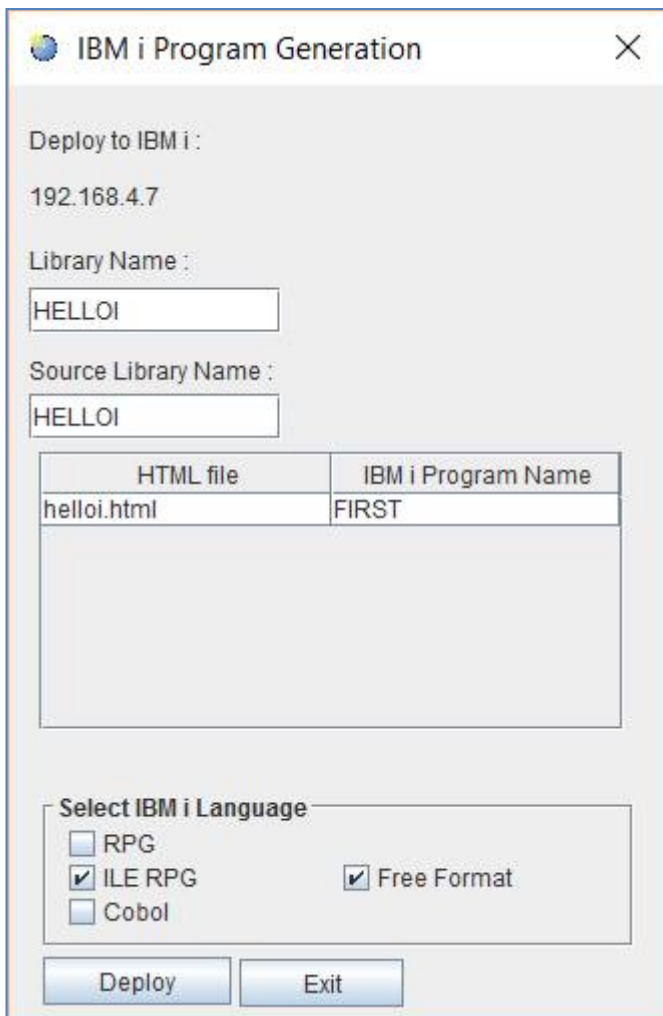


- As you can see each object of the HTML page is a line,
- In the “IBM i Length” column, enter 20 for our two fields, IN and OUT.
- For each button, Exec and Exit, click the button on the “Action” column leave the value 1 for Exec and enter the value “F3” for exit,
- You will check these values in your RPG program to execute or exit,
- Save your project with the first icon under the menu,

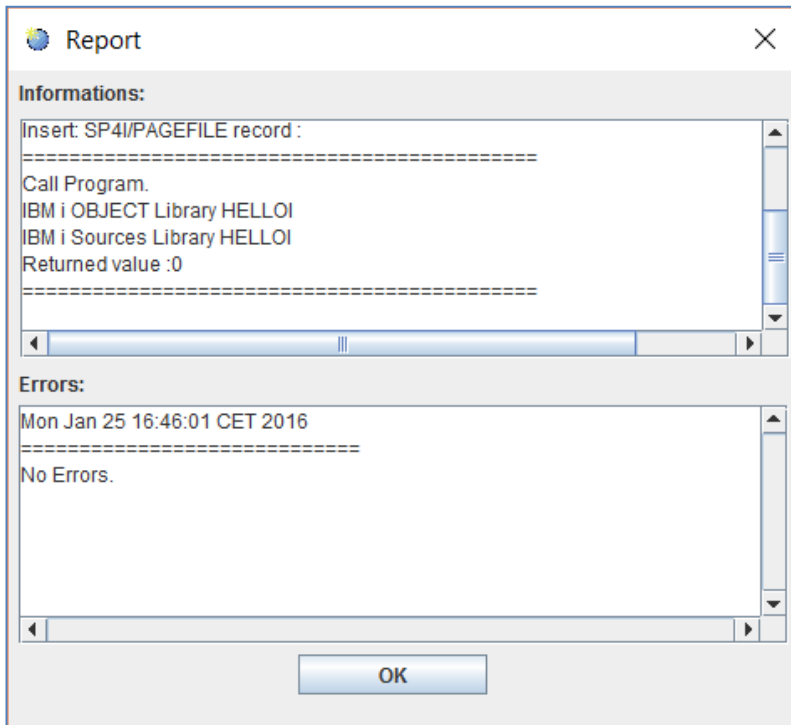
- Now click the Deployment menu and choose “Deploy Project to the IBM i”,



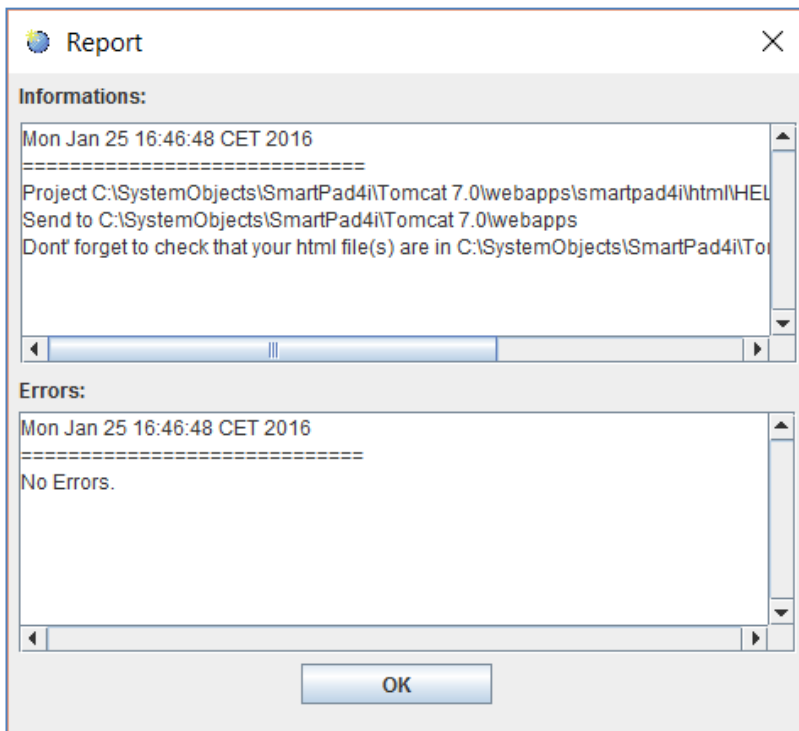
- Enter the library name HELLOI,
- The program name “FIRST”, plus enter,
- Select your language, “ILE RPG” and check “Free Format” (if you are at least in 7.1 or more)



- Click “Deploy”,
- You must have this screen:



- Click “OK”,
- Now click the Deployment menu and choose “Deploy Project to WebServer”,
- You must have this screen:



- Click “OK”.
- It’s done for SP4i Designer

The RPG program.

We have created two programs in your HELLOI library:

- One ILE RPG Free Form program named “FIRST”,
- One CLP program named SETENV. This program is already compiled and you can run it to put your library on the LIBLIST,
- Edit your FIRST program in the HELLOI library,
- Under the line 0162 enter the following code:

```
0162.00 // YOUR CODE
0162.01     if spactn <> 'F3';
0162.02         oout = iin;
0162.03         oin  = ' ';
0162.04         spexit='0';
0162.05         iter;
0162.06     endif;
```

- In the first line we make a test with the “spactn” variable which is filled with the return value we choose with SP4i Designer when the user clicks this button,
- If it’s not the “F3” return value (the return value for the Exit button):
 - We move the input value of the first field to the second one, it’s not a very important program,
 - And we clear the input first field,
 - Next we set the “spexit” to ‘0’, (it’s the flag to continue the general loop)
 - And we continue the loop with “iter”.
- Please note that we named our first field “IN”, but in the SP4i program this field is used as an external data structure, and prefixed with “I” for input and “O” for output, so we “read” IIN, write to OOUT and we clear OIN.
- Compile your program,
- It’s done.

With an older version of RPG, you need to add these lines under 0110.00:

```
0110.00 * YOUR CODE
0110.01 C     SPACTN             IFNE             'F3'
0110.02 C                                     MOVEL             IIN             OOUT
0110.03 C                                     MOVEL             *BLANKS         OIN
0110.04 C                                     GOTO             T200
0110.05 C                                     ENDIF
```

And if you are using Cobol:

```
0102.00 ---> * YOUR CODE
0103.00         IF SPACTN NOT EQUAL "F3" THEN
0104.00         MOVE  IIN TO OOUT
0105.00         MOVE  " " TO OIN
0106.00         GO TO  T200
0107.00         END-IF.
0108.00 P050 * </YOURCODE>
```

Run your program in your browser.

To run your program in your browser and to prepare the next step to run it in your Smartphone or Tablet, you need to customize the "start_connect.html" page stored in the "APP-SP4i" directory of your web application server.

We are going to run this program using the SP4i "automatic logon" feature, that means the user doesn't need to have a user id and a password, you will use a standard profile stored with your program name in the .../smartpad4i/exec/profile/helloi.txt file.

Here is a copy of this file:

```
[Settings]
USERID=Your_standard_profile
PASSWD=The_password_for_this_profile
USE128=0
PGMAPP=FIRST
LIBAPP=*LIBL
PGMENV=SETENV
LIBENV=HELLOI
```

You must fill the USERID and PASSWD, the PGMAPP is the name of your program (FIRST) and the LIBENV is your library (HELLOI).

Change the "start_connect.html" file and change this line:

```
Mobi.doLogon('profile/appsmart2.txt');
```

You must have now this:

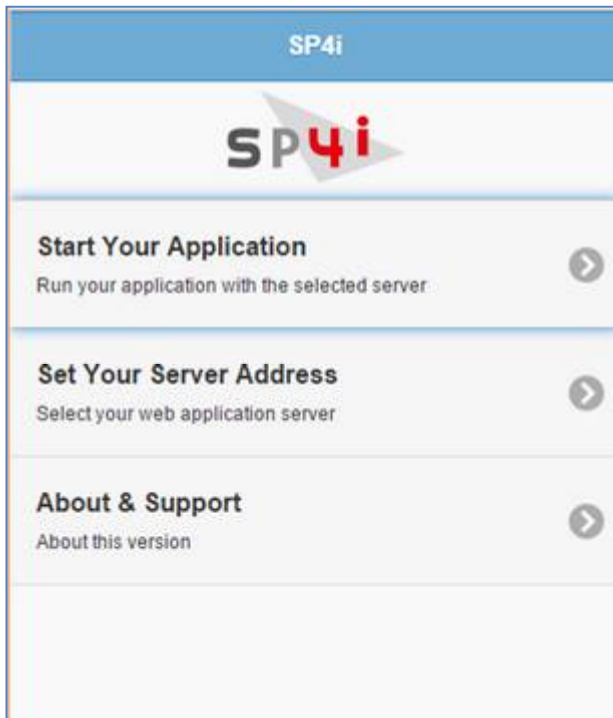
```
Mobi.doLogon('profile/helloi.txt');
```

Now start the "Tomcat 7.0" service of your PC if needed,

In your browser enter http://localhost/smartpad4i/APP_SP4i/index.html

Please verify the port of your localhost server, it may be also 8080.

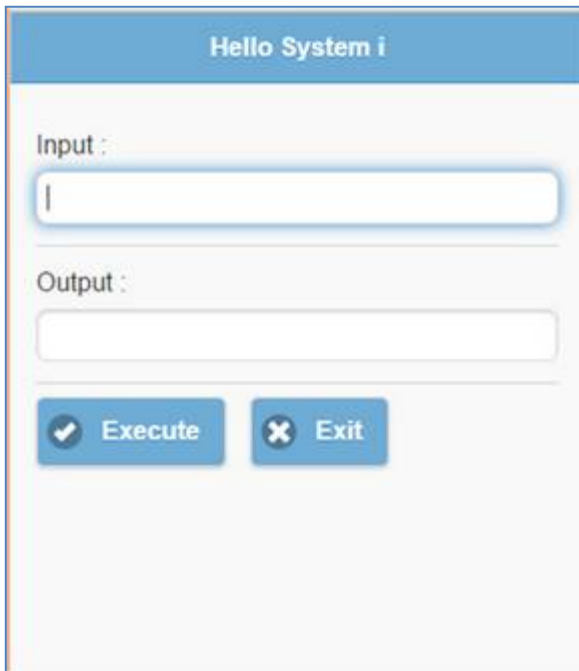
You get this screen:



- Click “Set Your Server Address” and enter the address of your web application server and of your start page like this:
- You get this:



- Click the button “Set Your Server Address”,
- Now click the “Start Your Application” button and you get this:



- You can test your program, it runs.
- Congratulations for your first SmartPad4i program.

Run your program with your Smartphone (or Tablet).

Now to run this application on your Smartphone or Tablet:

- Install SP4i-V2 from iTunes for iOS or Google Play for Android,
- Make sure that your PC running your web application server has a public IP address or at least if you are connected by WiFi, your Smartphone and your PC are in the same domain,
- Run the SP4i-V2 application on the Smartphone,
- Change the addresses like in the previous page of this document,
- Run your first application in your Smartphone,
- Congratulations, you run your first SmartPad4i Mobile application!