Article
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Generate and Validate Captcha Code

Suppose you have developed your own web app with InterSystems technologies stack and now want to perform a captcha validation on the client side in order to determine whether or not the user is human and make it safer. There are some modern frameworks to address the captcha issue, however most part of them needs internet access to generate codes and sometimes are complex to implement. Take this as basic example considering that image recognition has gotten too good. That's why you nowadays you tend to see more pattern recognition captchas than mere reading ones. (I.e. click all the images with a store front in it). If you need something more complex go ahead, develop, improve this code and share it. Read on to find out how to use this basic example:

Demo.Captcha class

Using this class, you can create captcha image files on physical directory in order be displayed on your app. Note that the image directory where the images are created needs to be available for your web application access those images. To create the captcha image, call the following method passing the full file name as a parameter:

Create image file
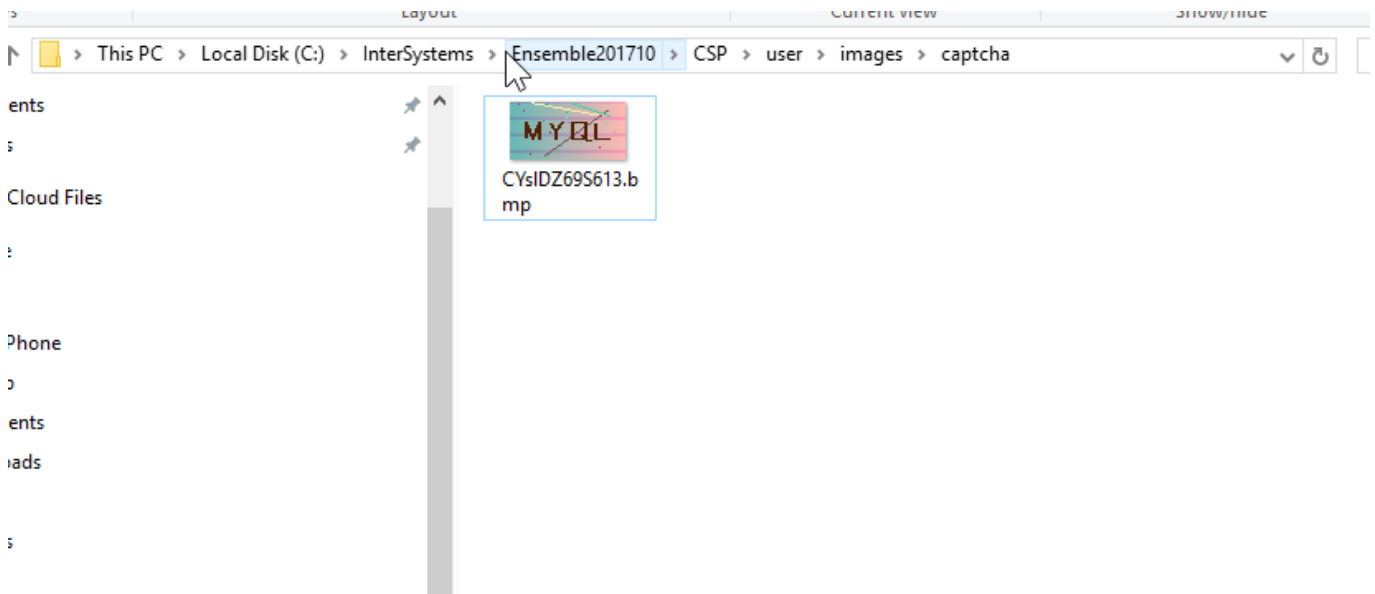
```
Set tCount = $Increment(^CacheTemp("CAPTCHA",0))

Set tPath = "C:\InterSystems\Ensemble201710\CSP\user\images\captcha\"
If '##class(%File).DirectoryExists(tPath) {
   Set tSC = ##class(%File).CreateDirectoryChain(tPath)
}

Set tFileName = %session.SessionId_tCount_".bmp"
Set tFullName = tPath_tFileName
Set tCaptcha = ##class(Demo.Captcha).CreateImage(tFullName)
Write tCaptcha,!
```

On your System > Security Management > Web Applications > Edit Web Application, note that the CSP Files Physical Patch is the same on the code above adding " \images\captcha\" piece.

CSP File Settings				
Serve Files	Always ▼	Serve Files Timeout	3600	seconds
CSP Files Physical Path	c:\intersystems\ensemble201710\csp\user\			Browse...
Package Name		Default Superclass		
CSP Settings	☑ Recurse ☑ Auto Compile ☑ Lock CSP Name			

After run the code above to create the captcha images, talke a look at that path. You will see all the generated captcha images as follows (note that you will need a %session object):

The method CreateImage() from Demo.Captcha class will also return the generated captcha code that is going to allow you to validate against the user entered captcha code on your web application.
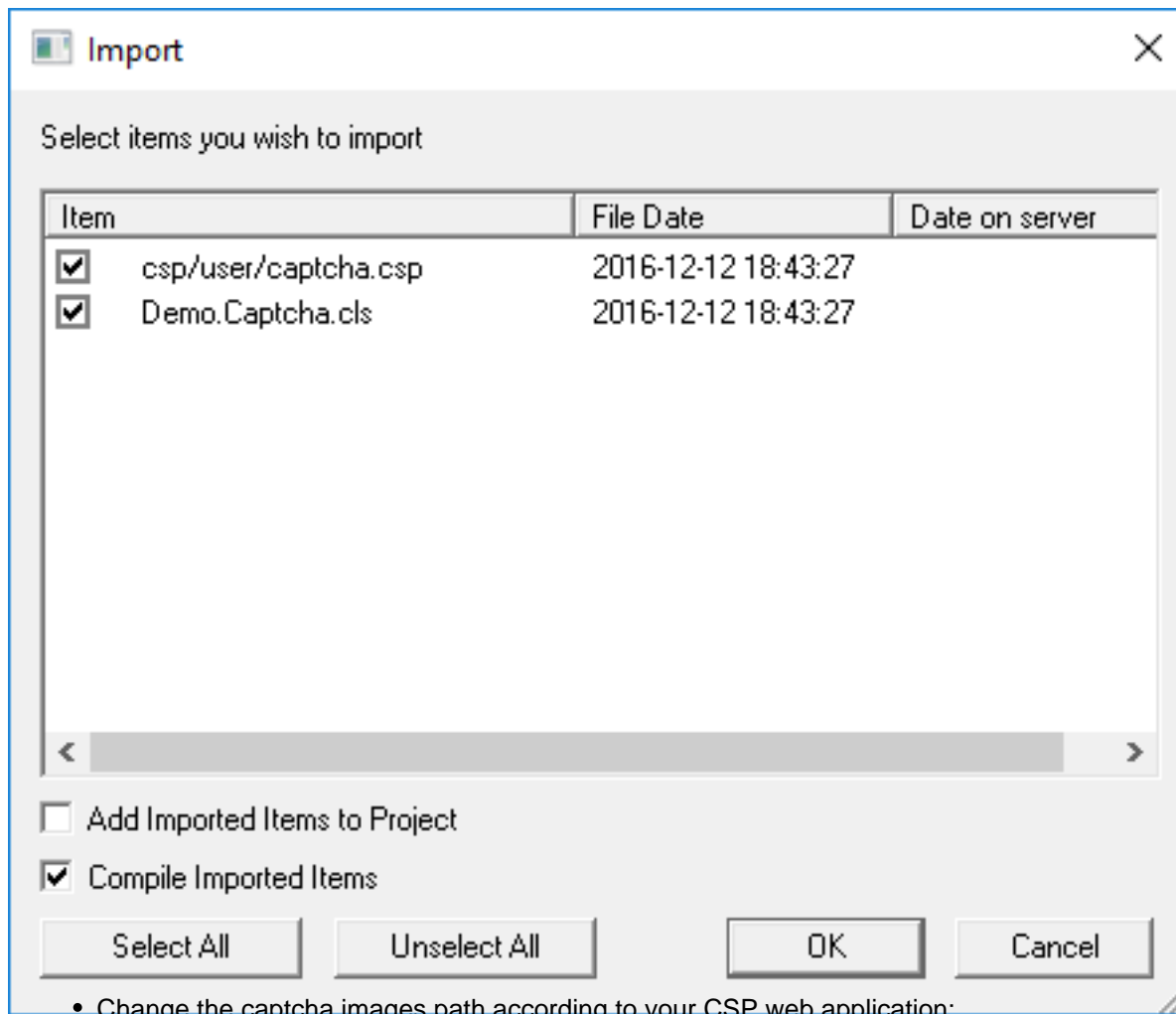
Example

In order to make your life easier I have prepared a simple CSP file that renders a captcha image and validates that. You can import the XML file attached and verify and change the paths as needed to match your CSP web application.
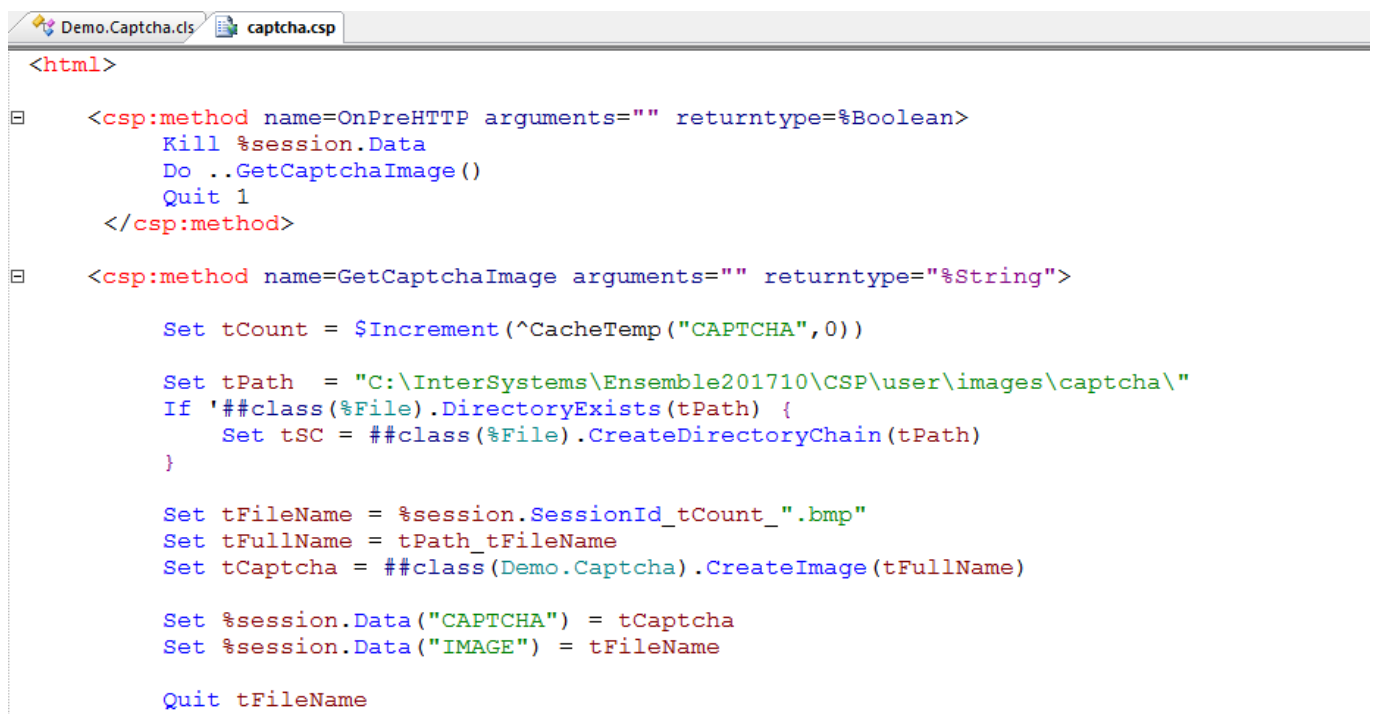
- Installing on USER namespace, open Studio and import the XML file;
- Open the captcha.csp file on your browser;
    - Click on "change image" button to create and display a new captcha image if needed;
- Enter the image code on the blank input box;
- Click on validate button and check the message;
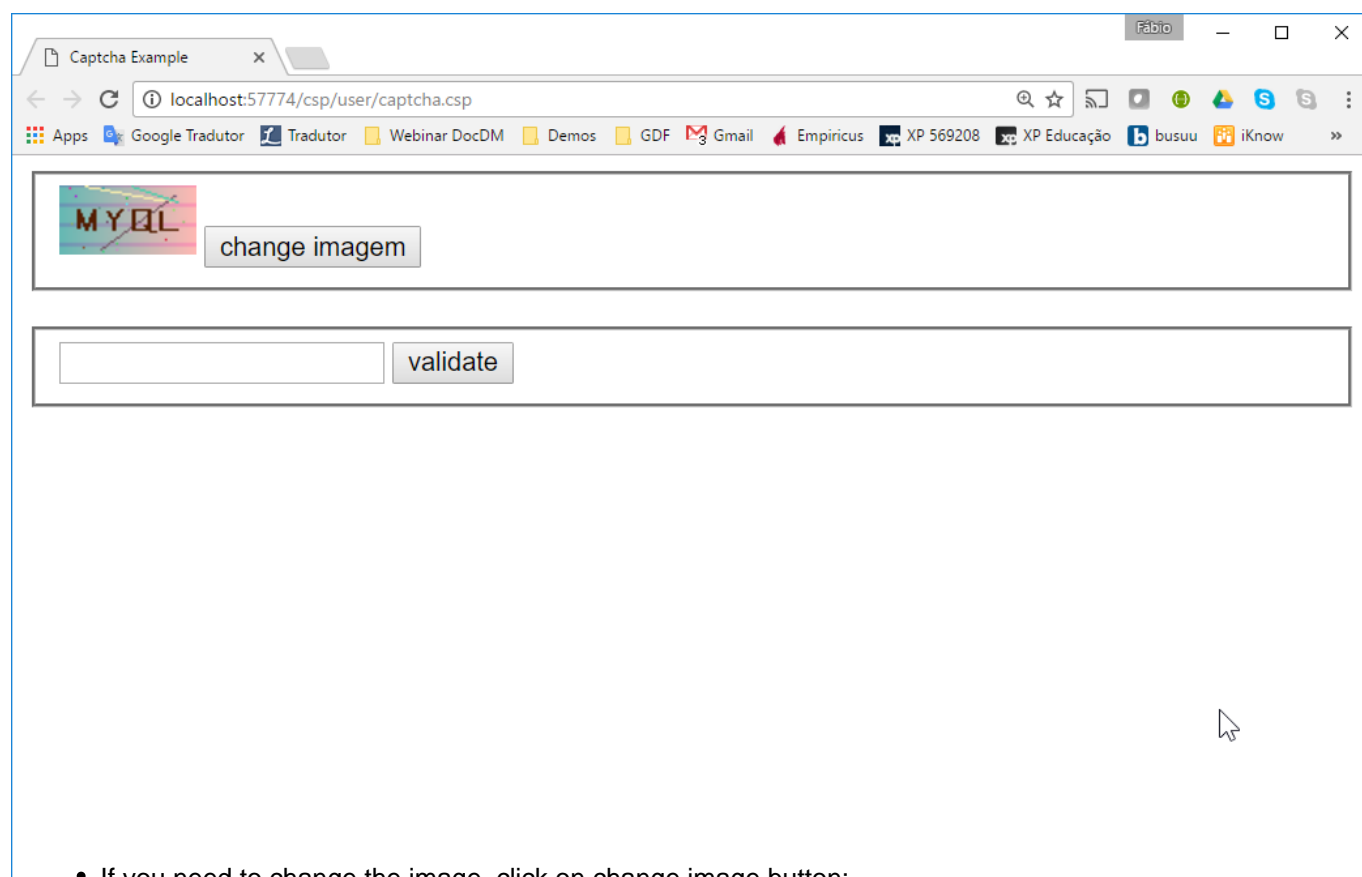
Importing classes

- Open Studio;
- Select USER namespace;
- Go to Tools->Import Local and select the captcha.xml file that you have downloaded;
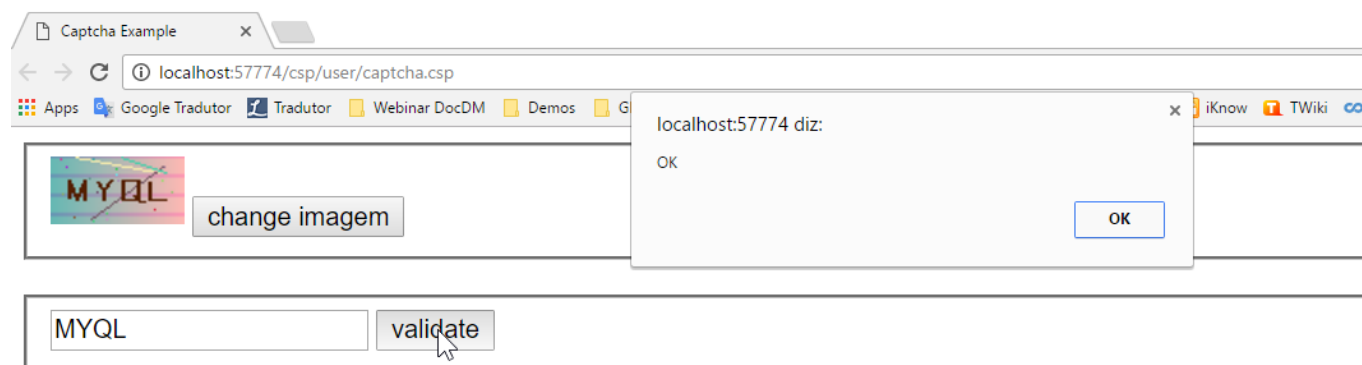- Import those classes according to the snapshot bellow;

Import

Select items you wish to import

Item	File Date	Date on server
☑ csp/user/captcha.csp	2016-12-12 18:43:27	
☑ Demo.Captcha.cls	2016-12-12 18:43:27	

☐ Add Imported Items to Project

☑ Compile Imported Items

[Select All]　[Unselect All]　　　[OK]　[Cancel]

- Change the captcha images path according to your CSP web application;

Demo.Captcha.cls　captcha.csp

```
<html>

    <csp:method name=OnPreHTTP arguments="" returntype=%Boolean>
        Kill %session.Data
        Do ..GetCaptchaImage()
        Quit 1
    </csp:method>

    <csp:method name=GetCaptchaImage arguments="" returntype="%String">

        Set tCount = $Increment(^CacheTemp("CAPTCHA",0))

        Set tPath  = "C:\InterSystems\Ensemble201710\CSP\user\images\captcha\"
        If '##class(%File).DirectoryExists(tPath) {
            Set tSC = ##class(%File).CreateDirectoryChain(tPath)
        }

        Set tFileName = %session.SessionId_tCount_".bmp"
        Set tFullName = tPath_tFileName
        Set tCaptcha = ##class(Demo.Captcha).CreateImage(tFullName)

        Set %session.Data("CAPTCHA") = tCaptcha
        Set %session.Data("IMAGE") = tFileName

        Quit tFileName
    </csp:method>
```

- Open captcha.csp files on your web browser by clicking on view web page button , on Studio;
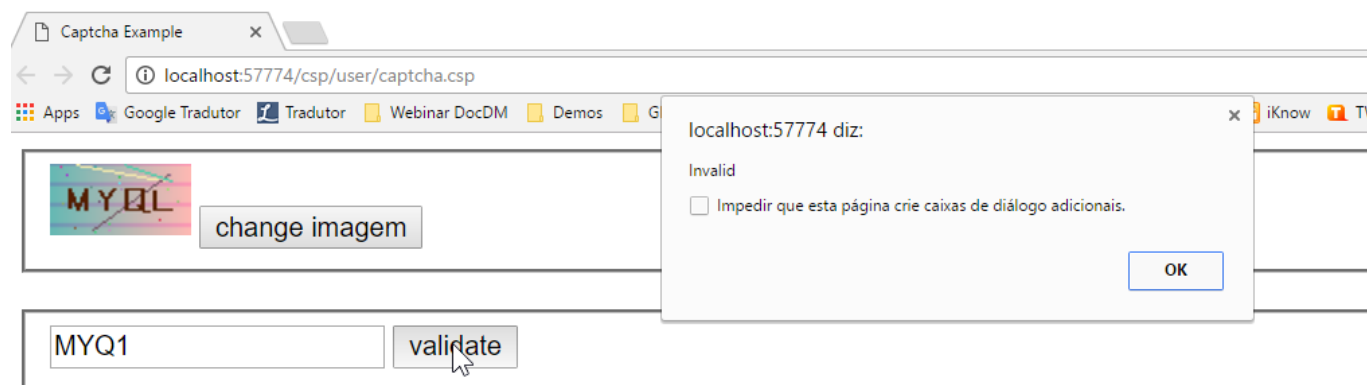
- If you need to change the image, click on change image button;
  - See the captcha images directory;
- Enter the captcha code on the blank input box and click on validate;
  - See the results;
  - Repeat this steps as much as you want

Feel free to contact me whenever you need.

I hope it helps.

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#CSP #Frontend #ZEN #Caché

Source URL:https://community.intersystems.com/post/generate-and-validate-captcha-code