Description

This package contains a tool that notifies a Dollar Universe node upon a mail reception on a Exchange mailbox. This allows you to start a new Dollar Universe workflow based on a mail. The main properties of the mail are transmitted to the workflow).
From a technical standpoint, the tool can be run as a standalone application or can be installed as a Windows Service (to allow an external supervision tool to monitor its status).
The tool connects to the MS Exchange server through its Web Service Managed APIs (EWS).

We also provide in a separate package the C# library (and its source code) that you can use in your own applications.

Prerequisites

- Exchange Server 2007 Service Pack 1 (SP1) or above. This includes Exchange Online (Office 365).
- The .NET Framework 4 must be installed
- This package has been developed and tested on Windows 7 SP 1 (x64); also tested on Windows Server 2008 R2 SP1 (x64)

Package content description

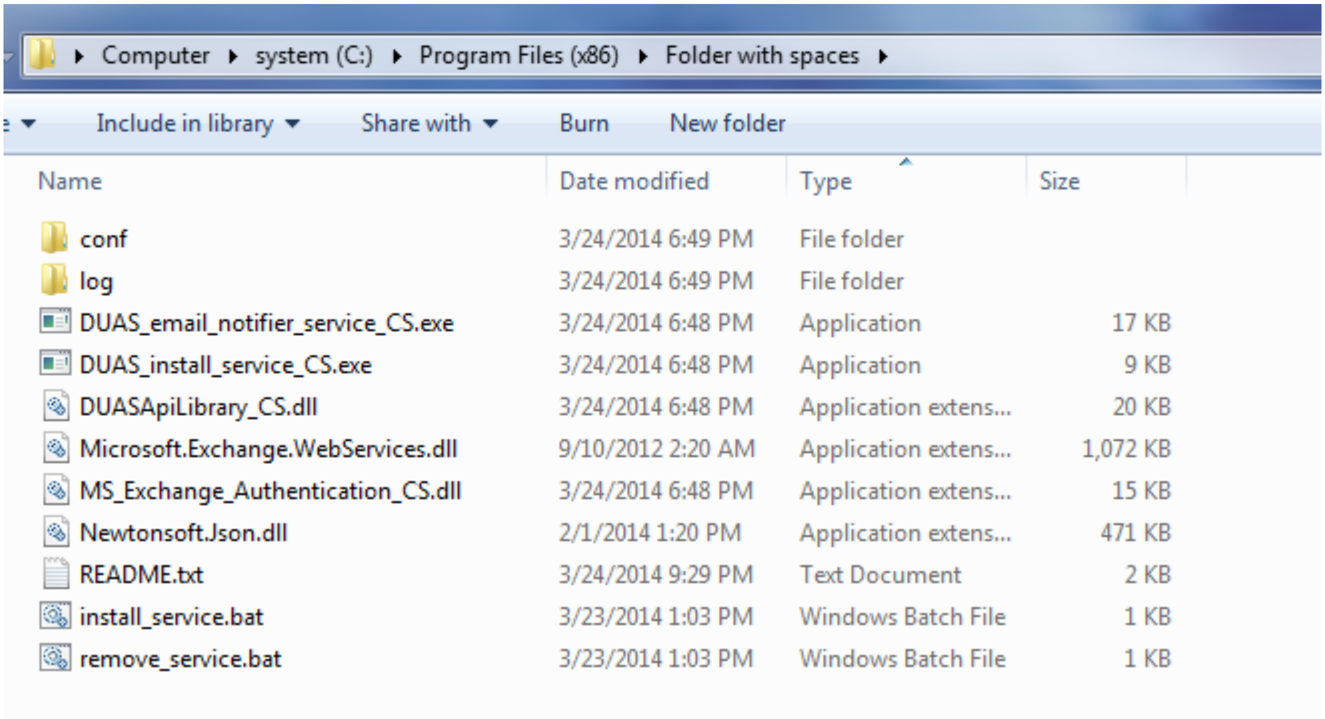
2 separate packages are provided :

- The Windows Service / binary file : DUAS_email_notifier_service.zip (to get the source code : DUAS_email_notifier_service_src.zip)
- The C# libraries (.dll files) : DUAS_csharp_DLLs.zip (to get the source code : DUAS_csharp_DLLs_scr.zip)

Note : The Newtonsoft.Json.dll is open source. See home page at : Json.NET

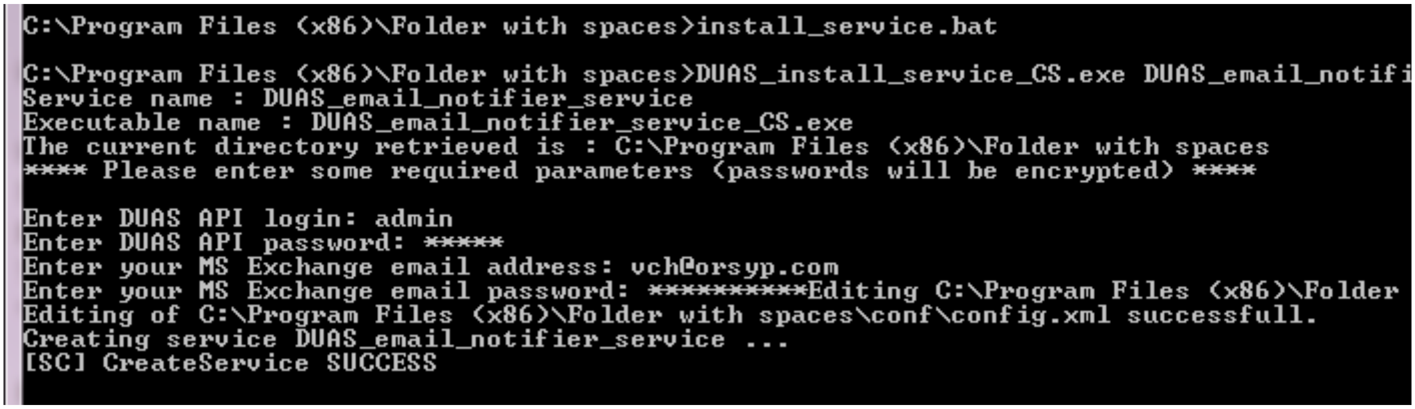
How to use

- Download DUAS_email_notifier_service.zip and uncompress it anywhere on your file system:


Computer ▸ system (C:) ▸ Program Files (x86) ▸ Folder with spaces ▸
Include in library ▾
Share with ▾
Burn
New folder

Name	Date modified	Type	Size
conf	3/24/2014 6:49 PM	File folder	
log	3/24/2014 6:49 PM	File folder	
DUAS_email_notifier_service_CS.exe	3/24/2014 6:48 PM	Application	17 KB
DUAS_install_service_CS.exe	3/24/2014 6:48 PM	Application	9 KB
DUASApiLibrary_CS.dll	3/24/2014 6:48 PM	Application extens...	20 KB
Microsoft.Exchange.WebServices.dll	9/10/2012 2:20 AM	Application extens...	1,072 KB
MS_Exchange_Authentication_CS.dll	3/24/2014 6:48 PM	Application extens...	15 KB
Newtonsoft.Json.dll	2/1/2014 1:20 PM	Application extens...	471 KB
README.txt	3/24/2014 9:29 PM	Text Document	2 KB
install_service.bat	3/23/2014 1:03 PM	Windows Batch File	1 KB
remove_service.bat	3/23/2014 1:03 PM	Windows Batch File	1 KB

- open a CMD shell As Administrator
- cd to the root directory of the application
- run *install_service.bat* and follow the instructions:

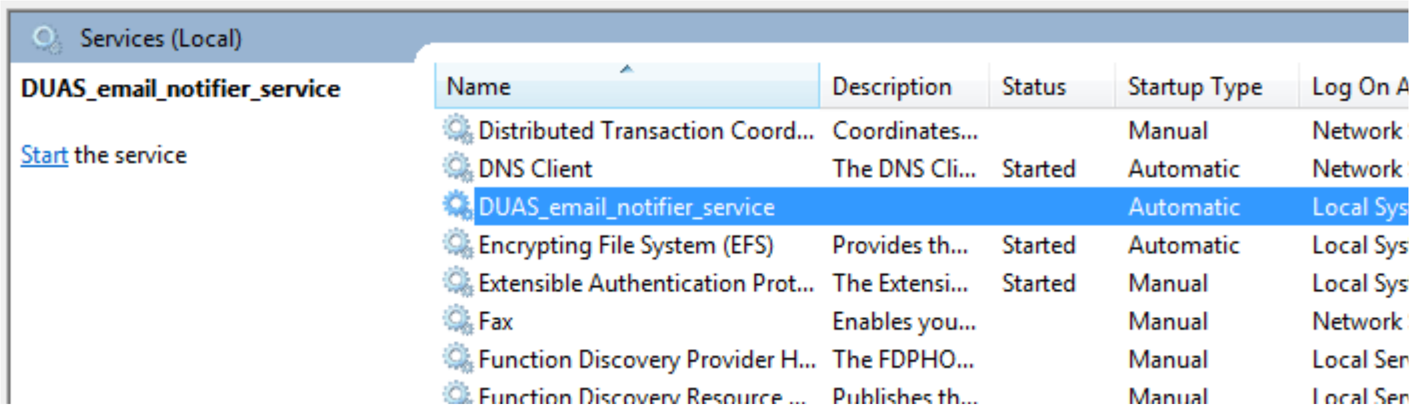


```
C:\Program Files (x86)\Folder with spaces>install_service.bat

C:\Program Files (x86)\Folder with spaces>DUAS_install_service_CS.exe DUAS_email_notifi
Service name : DUAS_email_notifier_service
Executable name : DUAS_email_notifier_service_CS.exe
The current directory retrieved is : C:\Program Files (x86)\Folder with spaces
**** Please enter some required parameters (passwords will be encrypted) ****

Enter DUAS API login: admin
Enter DUAS API password: *****
Enter your MS Exchange email address: vch@orsyp.com
Enter your MS Exchange email password: **********Editing C:\Program Files (x86)\Folder
Editing of C:\Program Files (x86)\Folder with spaces\conf\config.xml successfull.
Creating service DUAS_email_notifier_service ...
[SC] CreateService SUCCESS
```

- a Windows Service named DUAS_email_notifier_service is created (**do not start the service yet**, you need to follow the configuration instructions first):



Services (Local)

DUAS_email_notifier_service

Start the service

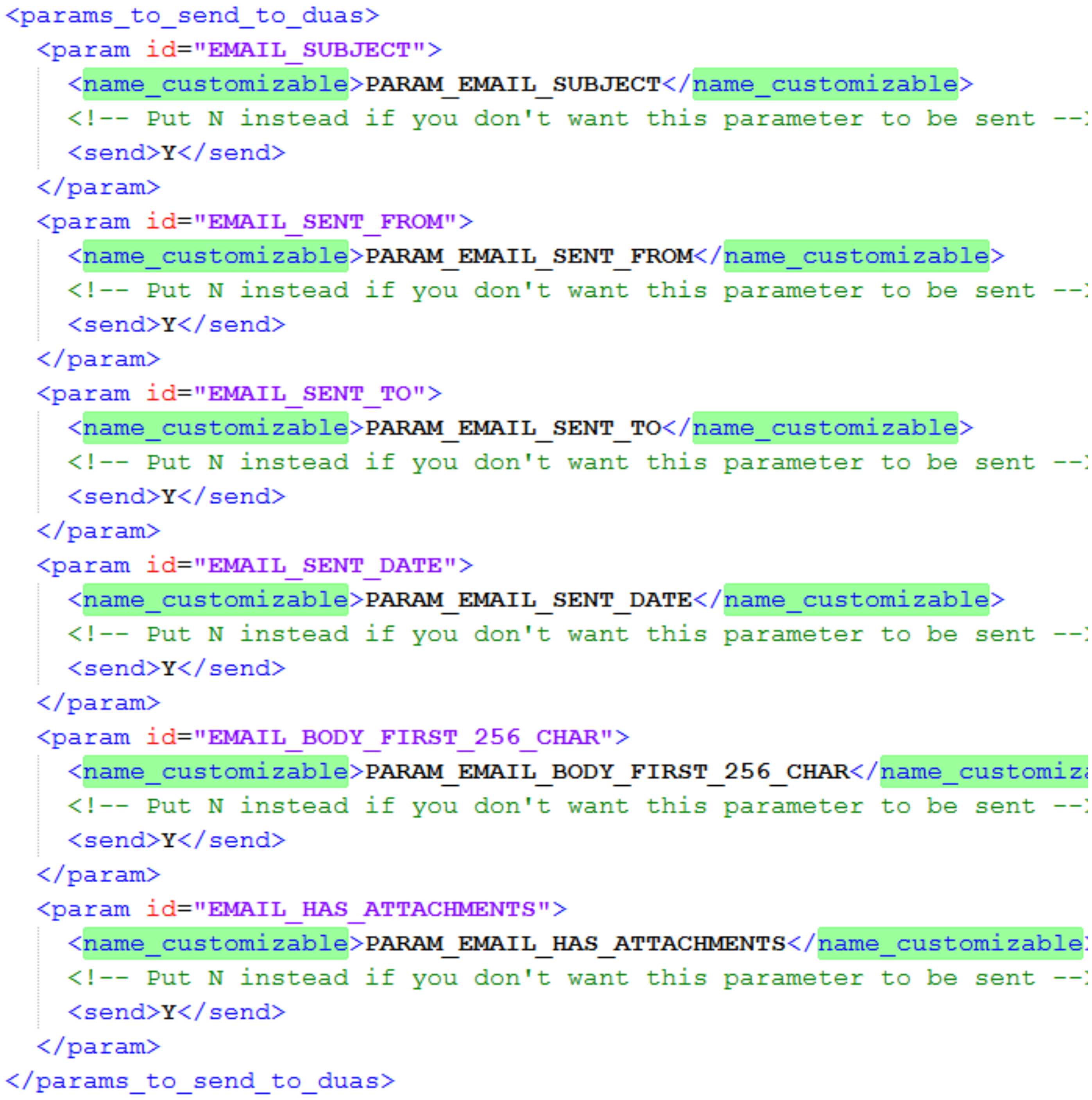
Name	Description	Status	Startup Type	Log On A
Distributed Transaction Coord...	Coordinates...		Manual	Network
DNS Client	The DNS Cli...	Started	Automatic	Network
DUAS_email_notifier_service			Automatic	Local Sys
Encrypting File System (EFS)	Provides th...	Started	Automatic	Local Sys
Extensible Authentication Prot...	The Extensi...	Started	Manual	Local Sys
Fax	Enables you...		Manual	Network
Function Discovery Provider H...	The FDPHO...		Manual	Local Ser
Function Discovery Resource ...	Publishes th...		Manual	Local Ser

Configuration instructions

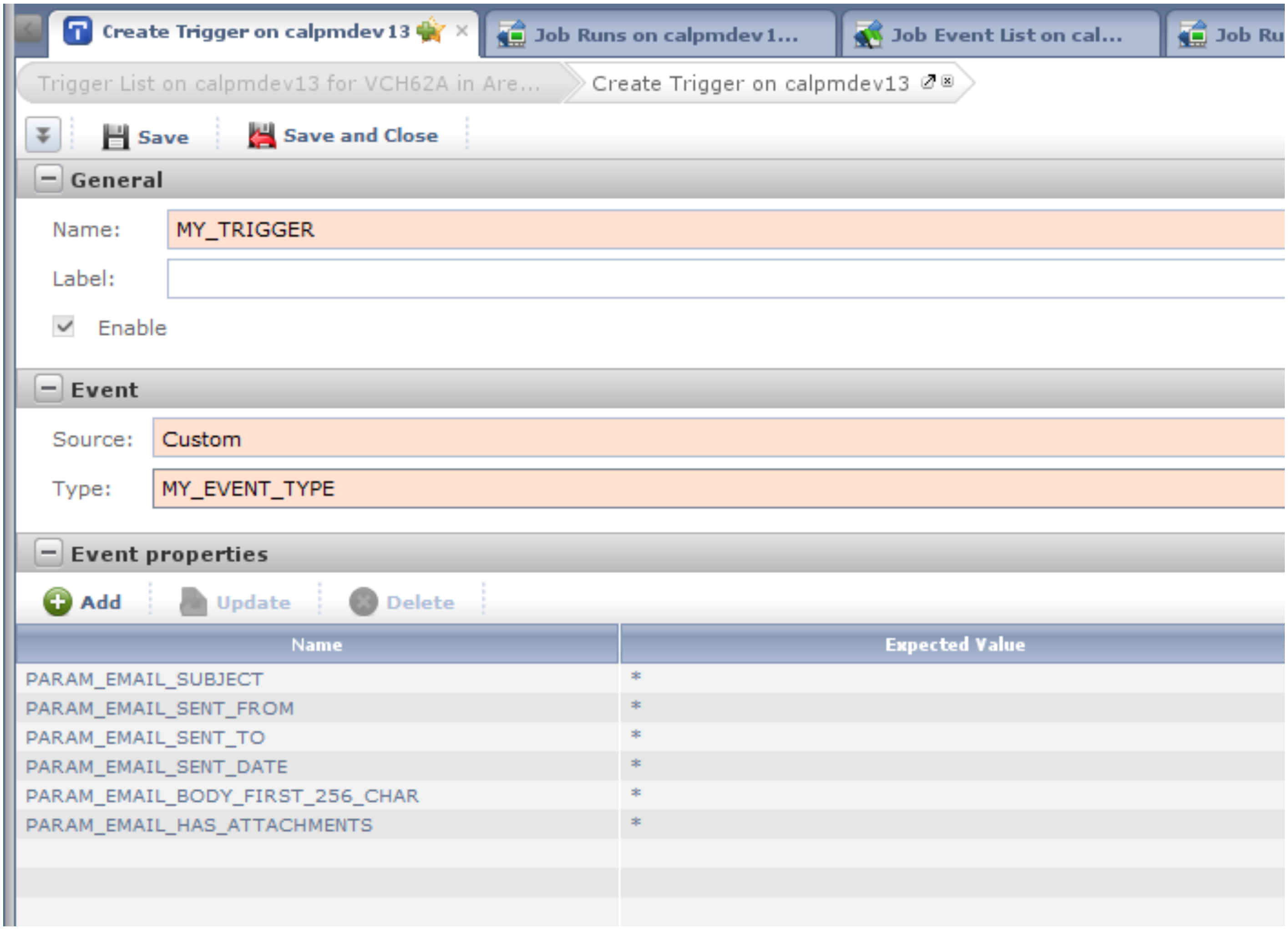
- Fill in the following **mandatory** parameters in conf/config.xml:

```
<duas_param>
  <host>PUT_YOUR_HOST_NAME</host>
  <port>PUT_YOUR_HOST_PORT_NUMBER</port>
  <!-- READ-ONLY TAG, PLEASE DO NOT MANUALLY EDIT THIS TAG (filled i
  <login></login>
  <!-- READ-ONLY TAG, PLEASE DO NOT MANUALLY EDIT THIS TAG (filled i
  <p></p>
  <trigger_event_type>PUT_YOUR_TRIGGER_EVENT_TYPE</trigger_event_typ
  <!-- All accepted values: A,I,S or X -->
  <area>PUT_YOUR_AREA</area>
</duas_param>
```

- Fill in the following **optionnal** parameters (the event properties must match your Dollar Universe Trigger object):



```
<params_to_send_to_duas>
  <param id="EMAIL_SUBJECT">
    <name_customizable>PARAM_EMAIL_SUBJECT</name_customizable>
    <!-- Put N instead if you don't want this parameter to be sent --
    <send>Y</send>
  </param>
  <param id="EMAIL_SENT_FROM">
    <name_customizable>PARAM_EMAIL_SENT_FROM</name_customizable>
    <!-- Put N instead if you don't want this parameter to be sent --
    <send>Y</send>
  </param>
  <param id="EMAIL_SENT_TO">
    <name_customizable>PARAM_EMAIL_SENT_TO</name_customizable>
    <!-- Put N instead if you don't want this parameter to be sent --
    <send>Y</send>
  </param>
  <param id="EMAIL_SENT_DATE">
    <name_customizable>PARAM_EMAIL_SENT_DATE</name_customizable>
    <!-- Put N instead if you don't want this parameter to be sent --
    <send>Y</send>
  </param>
  <param id="EMAIL_BODY_FIRST_256_CHAR">
    <name_customizable>PARAM_EMAIL_BODY_FIRST_256_CHAR</name_customiz
    <!-- Put N instead if you don't want this parameter to be sent --
    <send>Y</send>
  </param>
  <param id="EMAIL_HAS_ATTACHMENTS">
    <name_customizable>PARAM_EMAIL_HAS_ATTACHMENTS</name_customizable
    <!-- Put N instead if you don't want this parameter to be sent --
    <send>Y</send>
  </param>
</params_to_send_to_duas>
```


Create Trigger on calpmdev13
Job Runs on calpmdev1...
Job Event List on cal...
Job Ru
Trigger List on calpmdev13 for VCH62A in Are...
Create Trigger on calpmdev13
Save
Save and Close
Add
Update
Delete

General

Name: MY_TRIGGER

Label:

☑ Enable

Event

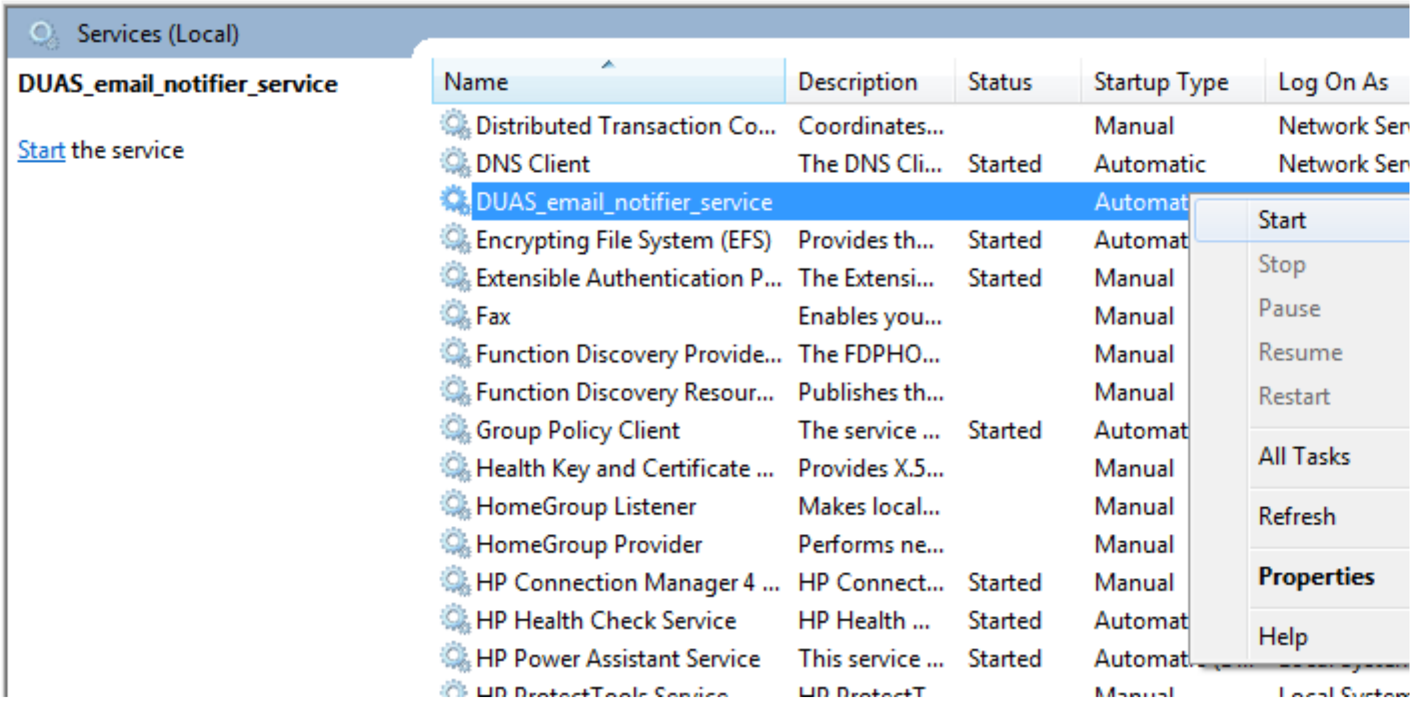
Source: Custom

Type: MY_EVENT_TYPE

Event properties

Name	Expected Value
PARAM_EMAIL_SUBJECT	*
PARAM_EMAIL_SENT_FROM	*
PARAM_EMAIL_SENT_TO	*
PARAM_EMAIL_SENT_DATE	*
PARAM_EMAIL_BODY_FIRST_256_CHAR	*
PARAM_EMAIL_HAS_ATTACHMENTS	*

- Start your windows service named DUAS_email_notifier_service:



Services (Local)

DUAS_email_notifier_service

Start the service

Name	Description	Status	Startup Type	Log On As
Distributed Transaction Co...	Coordinates...		Manual	Network Ser
DNS Client	The DNS Cli...	Started	Automatic	Network Ser
DUAS_email_notifier_service			Automat	
Encrypting File System (EFS)	Provides th...	Started	Automat	
Extensible Authentication P...	The Extensi...	Started	Manual	
Fax	Enables you...		Manual	
Function Discovery Provide...	The FDPHO...		Manual	
Function Discovery Resour...	Publishes th...		Manual	
Group Policy Client	The service ...	Started	Automat	
Health Key and Certificate ...	Provides X.5...		Manual	
HomeGroup Listener	Makes local...		Manual	
HomeGroup Provider	Performs ne...		Manual	
HP Connection Manager 4 ...	HP Connect...	Started	Manual	
HP Health Check Service	HP Health ...	Started	Automat	
HP Power Assistant Service	This service ...	Started	Automat	
HP ProtectTools Service	HP ProtectT...		Manual	Local System

Uninstallation

- Stop the *DUAS_email_notifier_service* Windows Service .
- Open a CMD shell As Administrator
- cd to the root directory of the application
- Run *remove_service.bat*

Output

- The logs are available in log/output.log

```
2014-03-24 22:27:04 **** Server is starting ****
2014-03-24 22:27:04 Parsing C:\PROGRA~2\FOLDER~1\conf\config.xml ...
2014-03-24 22:27:04 Data parsing of C:\PROGRA~2\FOLDER~1\conf\config.xml
successfull.
2014-03-24 22:27:04 Using Autodiscover to find EWS URL for vch@orsyp.com.
Please wait...
2014-03-24 22:27:18 Autodiscover Complete
2014-03-24 22:27:20 --------- StreamSubscription event -------
2014-03-24 22:27:52 **** A New Email has been received ! ****
2014-03-24 22:27:52 Message-ID:
<a3950be8fd56428bab6196a709ad4248@DB4PR06MB362.eurprd06.prod.outlook.com>
2014-03-24 22:27:52 Thread-Index: Ac9H0c5XaqVzF2QQR+mCLbLMZbw1ww==
2014-03-24 22:27:52 Thread-Topic: My email Subject 01
2014-03-24 22:27:52 From: Chikhaoui Vladimir
<SMTP:Vladimir.Chikhaoui@orsyp.com>
2014-03-24 22:27:52 To: Vladimir.Chikhaoui@orsyp.com
2014-03-24 22:27:52 In-Reply-To:
```

```
2014-03-24 22:27:52 References:
2014-03-24 22:27:52 Subject: My email Subject 01
2014-03-24 22:27:52 Date: 3/24/2014 10:27:41 PM
2014-03-24 22:27:52 Sender: Chikhaoui Vladimir
<SMTP:Vladimir.Chikhaoui@orsyp.com>
2014-03-24 22:27:52 hasAttachments: False
2014-03-24 22:27:52 Body (256 first char.): My email body 01

2014-03-24 22:27:52 **** Triggers an event to DUAS ****
2014-03-24 22:27:52 DUAS - Login request => Status is empty !
2014-03-24 22:27:52 error_code = No error code
2014-03-24 22:27:52 error_message = Invalid URI: Invalid port specified.
2014-03-24 22:27:52
2014-03-24 22:27:52 **** A New Email has been received ! ****
2014-03-24 22:27:52 Message-ID:
<a3950be8fd56428bab6196a709ad4248@DB4PR06MB362.eurprd06.prod.outlook.com>
2014-03-24 22:27:52 Thread-Index: Ac9H0c5XaqVzF2QQR+mCLbLMZbw1ww==
2014-03-24 22:27:52 Thread-Topic: My email Subject 01
2014-03-24 22:27:52 From: Chikhaoui Vladimir
<SMTP:Vladimir.Chikhaoui@orsyp.com>
2014-03-24 22:27:52 To: Vladimir.Chikhaoui@orsyp.com
2014-03-24 22:27:52 In-Reply-To:
2014-03-24 22:27:52 References:
2014-03-24 22:27:52 Subject: My email Subject 01
2014-03-24 22:27:52 Date: 3/24/2014 10:27:41 PM
2014-03-24 22:27:52 Sender: Chikhaoui Vladimir
<SMTP:Vladimir.Chikhaoui@orsyp.com>
2014-03-24 22:27:52 hasAttachments: False
2014-03-24 22:27:52 Body (256 first char.): My email body 01

2014-03-24 22:27:52 **** Triggers an event to DUAS ****
2014-03-24 22:27:55 DUAS - Login request => success
2014-03-24 22:27:55 token = c571b6e0-b3c5-11e3-8b81-be275f44d211
2014-03-24 22:27:55
2014-03-24 22:27:57 DUAS - Trigger Event request => success
2014-03-24 22:27:57 trigger = TRIG_1
2014-03-24 22:27:57 launch_number = 0000707
2014-03-24 22:27:57
2014-03-24 22:27:57 DUAS - Logout request => success
2014-03-24 22:28:25 **** Service is stopping ... ****
2014-03-24 22:28:25 Service has been stopped.
```

DUAS library usage

Here is a sample of code showing how to use our libraries.
In the example below (from any C# environment):
we first login to the dollar Universe API and automatically retrieve the token from the response then send an event and finally logout:

```
...

// Login to the Dollar Universe API
DUASApiRespObj respObj = DUASApi.loginDUASApi(host, port, login, pwd);
DUASApi.displayResponseConsole(respObj);
Console.WriteLine("\r\n");
```

```
if ("success".Equals(respObj.Status))
{
String token = respObj.Token;
Dictionary<string, string> parameters = new Dictionary<string, string>();
parameters.Add("area", area);
foreach (ParamToSendToDuas paramToSend in params_to_send_to_duas_list)
{
if (paramToSend.IsSend)
{
parameters.Add(paramToSend.Name, paramToSend.Val);
}
}
/////////////////////////////////////////////////////////////////////////////
////
// add your own parameters here (those defined in your DUAS trigger
object)... //
/////////////////////////////////////////////////////////////////////////////
////
// for example
// parameters.Add("MY_TRIGGER_PARAM_1", msg.Subject);
// parameters.Add("MY_TRIGGER_PARAM_2", senderName);
// parameters.Add("MY_TRIGGER_PARAM_3", msg.DateTimeSent.ToString());
// etc ....

// Triggers an event to DUAS via the Dollar Universe API
respObj = DUASApi.triggerEventDUASApi(host, port, token, eventType,
parameters);
DUASApi.displayResponseConsole(respObj);
Console.WriteLine("\r\n");

// Logout from the Dollar Universe API
respObj = DUASApi.logoutDUASApi(host, port, token);
DUASApi.displayResponseConsole(respObj);
}
```

....

Description of the DUAS library

Here's a list of all the functions from DUASApiLibrary_CS.dll that you can use:

```
/// <summary>
/// Logins to the Dollar Universe API with a HTTP request.</summary>
/// <param name="host"> The hostname of your DUAS server</param>
/// <param name="port"> The port number of your DUAS server</param>
/// <param name="login"> login to connect to the Dollar Universe API</param>
/// <param name="pwd"> password to connect to the Dollar Universe API</param>
/// <returns>
/// Return a structure containing all the information of the Dollar Universe
API response.</returns>
public static DUASApiRespObj loginDUASApi(String host, String port, String
login, String pwd)
```

Logs you in to the Dollar Universe API and returns a DUASApiRespObj which contains the return status and the authentication token if status is successfull

```
/// <summary>
/// Triggers an event on DUAS via the Dollar Universe API with an HTTP
request.</summary>
/// <param name="host"> The hostname of your DUAS server</param>
/// <param name="port"> The port number of your DUAS server</param>
/// <param name="token"> The authentication token of your Dollar Universe API
session</param>
/// <param name="eventType"> The event type defined in your trigger object in
DUAS</param>
/// <param name="parameters"> The list of parameters defined in your trigger
object in DUAS</param>
/// <returns>
/// Return a structure containing all the information of the Dollar Universe
API response.</returns>
public static DUASApiRespObj triggerEventDUASApi(String host, String port,
String token, String eventType, IDictionary<string, string> parameters)
```

Sends an event to the Dollar Universe API: you need to provide the authentication token, the event type, and a list of optional parameters defined in your trigger.

```
/// <summary>
/// Logout from the Dollar Universe API with an HTTP request.
/// It basically revokes the authentication token passed as
parameter.</summary>
/// <param name="host"> The hostname of your DUAS server</param>
/// <param name="port"> The port number of your DUAS server</param>
/// <param name="token"> The authentication token of your Dollar Universe API
session</param>
/// <returns>
/// Return a structure containing all the information of the Dollar Universe
API response.</returns>
public static DUASApiRespObj logoutDUASApi(String host, String port, String
token)
```

Logs you out of the Dollar Unvierse API; it basically revokes the authentication token that you give as parameter

```
/// <summary>
/// Displays in the output console the structure containing all the
information
/// of an HTTP response from the Dollar Unvierse API.</summary>
/// <param name="resp"> the response from the Dollar Universe API in JSON
format</param>
public static void displayResponseConsole(DUASApiRespObj resp)
```

Displays in the console output a response object from the Dollar Universe API