


Lab instruction for webhook activity

Last updated by | Ranjith Katukojwala | Mar 7, 2023 at 11:35 AM PST

About CallBackUri:

Data Factory will pass an additional attribute `callBackUri` in the body sent to the URL endpoint. Data Factory expects to call this URI before the specified timeout value. If the URI is not called, the activity will fail with the status "TimedOut". For more information, please refer to: <https://docs.microsoft.com/zh-tw/azure/data-factory/control-flow-webhook-activity> 

Details:

PowerShell Runbook is to capture this URI from the incoming body, and then call a Web POST request against it after all other cmdlets have completed. We can use this code to extract the parameter "callBackUri". This parameter is only provided by the Webhook activity, not by the Web activity. You can distinguish between Webhook and Web activity by the if statement.

EXAMPLE =====

```
##Read and store the callBackUri which is only provided by the Webhook activity
If ($Parameters.callBackUri)
{
    $callBackUri = $Parameters.callBackUri
}
```

The webhook activity waits for feedback that the script is ready. Therefore, we need to add some code at the bottom of the script. If you forget this step, the webhook activity will wait till time out and then fail the pipeline. Therefore, this step is necessary for Webhook.

```
# Let the Webhook activity know that the script is ready
# Otherwise it waits until its timeout
If ($callBackUri)
{
    Invoke-WebRequest -Uri $callBackUri -Method Post -UseBasicParsing
}
```

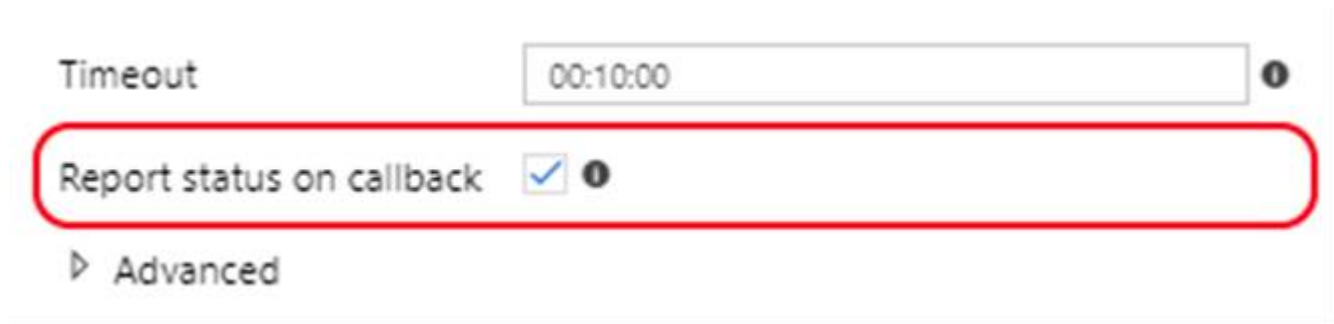
We can also let the runbook provide some more detailed feedback to the Webhook activity. For example, when the script fails.

```
# Let the Webhook activity know that the script is ready
# Otherwise it waits until its timeout
If ($callbackUri)
{
    # Create an error message
    # Message and statuscode will show up in ADF
    $body = [ordered]@{
        error = @{
            ErrorCode = "Errorcode"
            Message = "Runbook failed."
        }
        statusCode = "404"
    }

    # Convert the string into a real JSON-formatted string
    $bodyJson = $body | ConvertTo-Json

    # Call back with error message in body and a JSON contenttype
    Invoke-WebRequest -Uri $callbackUri -Method Post -Body $bodyJson -ContentType "application/json" -UseBasic
}
```

To enable the feedback function, you must turn on the option "Report status on callback" in the ADF Webhook activity. If you do not enable it, ADF will ignore your message. The error message and status code will be displayed in the ADF Pipeline Monitor.



Timeout

Report status on callback ☒

Advanced

EXAMPLE

1. Runbook (Powershell)

```
# Parameters
Param
(
    # Get webhook data
    [Parameter(Mandatory=$False,Position=1)]
    [object] $WebhookData
)

# Get all parameters from body
# (passed from Data Factory Web Activity)
$Parameters = (ConvertFrom-Json -InputObject $WebhookData.RequestBody)

Write-Output "Hello World"

# Read and store the callbackUri which
# is only provided by the Webhook activity
If ($Parameters.callbackUri)
{
    $callbackUri = $Parameters.callbackUri
}

# Let the Webhook activity know that the script is ready
# Otherwise its waits until its timeout
If ($callbackUri)
{
    Invoke-WebRequest -Uri $callbackUri -Method Post -UseBasicParsing
}

You can replace the highlighted part with your own command.
```

2. WebHook JSON

```
{
  "name": "WebHook1",
  "type": "WebHook",
  "dependsOn": [],
  "userProperties": [],
  "typeProperties": {
    "url": "https://7312af8c-fd7a-4304-a22c-953c191166bb.webhook.eus.azure-automation.net/webhooks",
    "method": "POST",
    "body": {
      "callbackUri": "https://PMSoutheastasia.svc.datafactory.azure.com/workflow/callback/##RUNI"
    },
    "timeout": "00:02:00",
    "reportStatusOnCallBack": true
  }
}
```

Timeout is 2 min here, you can modify it based on your requirement. Southeastasia is the region, you can change to other region.

Return error scenario Webhook is the same,

Runbook is like:

```

# Parameters
Param
(
    # Get webhook data
    [Parameter(Mandatory=$False,Position=1)]
    [object] $WebhookData
)

# Get all parameters from body
# (passed from Data Factory Web Activity)
$Parameters = (ConvertFrom-Json -InputObject $WebhookData.RequestBody)

Write-Output "Hello World"

# Read and store the callbackUri which
# is only provided by the Webhook activity
If ($Parameters.callbackUri)
{
    $callbackUri = $Parameters.callbackUri
}

# Let the Webhook activity know that the script is ready
# Otherwise it waits until its timeout
If ($callbackUri)
{
    $int_a = 1
    $int_b = 1
    if ($int_a -eq $int_b)
    {
        # Create an error message
        # Message and statuscode will show up in ADF
        $body = [ordered]@{
            error = @{
                ErrorCode = "Errorcode"
                Message = "Pipeline Failed"
            }
            statusCode = "404"
        }

        # Convert the string into a real JSON-formatted string
        $bodyJson = $body | ConvertTo-Json

        # Call back with error message in body and a JSON contenttype
        Invoke-WebRequest -Uri $callbackUri -Method Post -Body $bodyJson -ContentType "application/json" -UseBasic
    }
    else
    {
        Invoke-WebRequest -Uri $callbackUri -Method Post -UseBasicParsing
    }
}

```

After running pipeline, the error is like:

<input type="checkbox"/> Pipeline name	Run start ↕	Run end	Duration	Triggered by	Status	Run	Parameters	Annotations	Error	Run ID
<input type="checkbox"/> pipeline1	10/22/20, 5:26:32 PM	10/22/20, 5:26:40 PM	00:00:08	Manual trigger	❌ Failed	Original				f941fce5-9110-4f52-94
<input type="checkbox"/> pipeline1	10/22/20, 5:15:23 PM	10/22/20, 5:15:31 PM	00:00:08	Manual trigger	❌ Failed	Original				
<input type="checkbox"/> pipeline1	10/22/20, 4:58:56 PM	10/22/20, 4:59:04 PM	00:00:07	Manual trigger	✅ Succeeded	Original				
<input type="checkbox"/> pipeline1	10/22/20, 4:49:56 PM	10/22/20, 4:50:59 PM	00:01:02	Manual trigger	❌ Failed	Original				
<input type="checkbox"/> pipeline1	10/22/20, 4:40:41 PM	10/22/20, 4:40:57 PM	00:00:15	Manual trigger	❌ Failed	Original				

Error

Operation on target WebHook1 failed: Activity failed because error message is set in callback request body. Error message from callback: Pipeline Failed. Status code from callback: NotFound

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