Web activity Timeout or Task Cancelled Exception

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Contents

Issue

Web activity - Failing intermittently with user error.

The issue is users may see that web activity is failing intermittently with user error. ADF keeps the socket open for 1 min to get a response from the HTTP endpoint (we clearly state this in our documentation: https://docs.microsoft.com/en-us/azure/data-factory/control-flow-web-activity#type-properties ⧉).

If the endpoint failed to respond in 1 min timeframe we fail the activity with user error (as we didn't get a response in 1 min). This timeout is a http connection timeout not the timeout specified in the web activity.

Web activity has a connection time of 1 minute

This means that the endpoint should return a response within in 1 minute. If the endpoint failed to respond in 1 min: ADF fails the web activity as a user error. (as users' service failed to respond in 1 min).

Workaround

Best practice is to use Async/202 Pattern. (For long-running jobs)

- When the endpoint is invoked start the job and immediately respond back to ADF with a status code 202 with location header (URI -> to know the status of the job) and retry-after header.

- ADF from backend keep polling the URL specified in the location-header

- retry-after header: is how often we keep polling in the URI.

Sample Response: response HTTP StatusCode : 202 response headers: {"Content-Type": "application/json", "Location": "www.fabrikam.com/getStatus ⧉", "Retry-After" : "30"}

Sample Execution: Let us assume that user has 2 API's

```
www.fabrikam.com/startJob -> which will start a long-running job.

www.fabrikam.com/getStatus -> which will get the status of the long-running job.
```

Webactivity -> www.fabrikam.com/startJob ⬀ -> returned response (HTTPStatusCode 202: {"Content-Type": "application/json", "Location": "www.fabrikam.com/getStatus ⬀", "Retry-After" : "30"})

sleeps for 30 sec and then

ADF -Backend -> www.fabrikam.com/getStatus ⬀ -> returned response (HTTPStatusCode 202: {"Content-Type": "application/json", "Location": "www.fabrikam.com/getStatus ⬀", "Retry-After" : "30"})

sleeps for 30 sec and then

ADF -Backend -> www.fabrikam.com/getStatus ⬀ -> returned response (HTTPStatusCode 202: {"Content-Type": "application/json", "Location": "www.fabrikam.com/getStatus ⬀", "Retry-After" : "30"})

sleeps for 30 sec and then

ADF -Backend -> www.fabrikam.com/getStatus ⬀ -> returned response (HTTPStatusCode 200)

sets the WebActivity status to SUCCESS.

During this retry-after, if the web activity timeout is expired (User specified timeout for web activity) then we no longer poll the URI for status and set the Web activity status to FAILED.

From our logs, we see that we are failing on getting a response from the endpoint. So, there is nothing from ADF that needs to be done and it is by design.

Resolution

- Check with customer if the web endpoint returns within 1 min when we invoke them. If not they should change their design as the workaround mentioned above.

- If the web endpoint definitely returns within 1 min and the status code is 200 - file a ticket if the web activity failed with user error.

- If the web endpoint definitely returns within 1 min and the status code is 202 -> the response should contain the location header and retry-after header. Get the response from the customer and check if it is something similar to

```
{"Content-Type": "application/json", "Location": "www.fabrikam.com/getStatus", "Retry-After" : "30"}
```

- Here the Location value is to get the status of the job (must be exposed by the customer)
- Retry-After value is delay in seconds (how often does the customer want us to poll the url specified in the location. ADF keeps polling the URI until we get HTTP Status Code OK or the timeout specified in the web activity expires (whichever comes first).

Additional Information:

- **Icm References:**

https://icm.ad.msft.net/imp/v3/incidents/details/101203013/home ⬀

https://icm.ad.msft.net/imp/v3/incidents/details/101272112/home 🗗

https://icm.ad.msft.net/imp/v3/incidents/details/101660088/home 🗗

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