Leveraging the Microsoft Graph API using Azure Logic Apps

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Contents

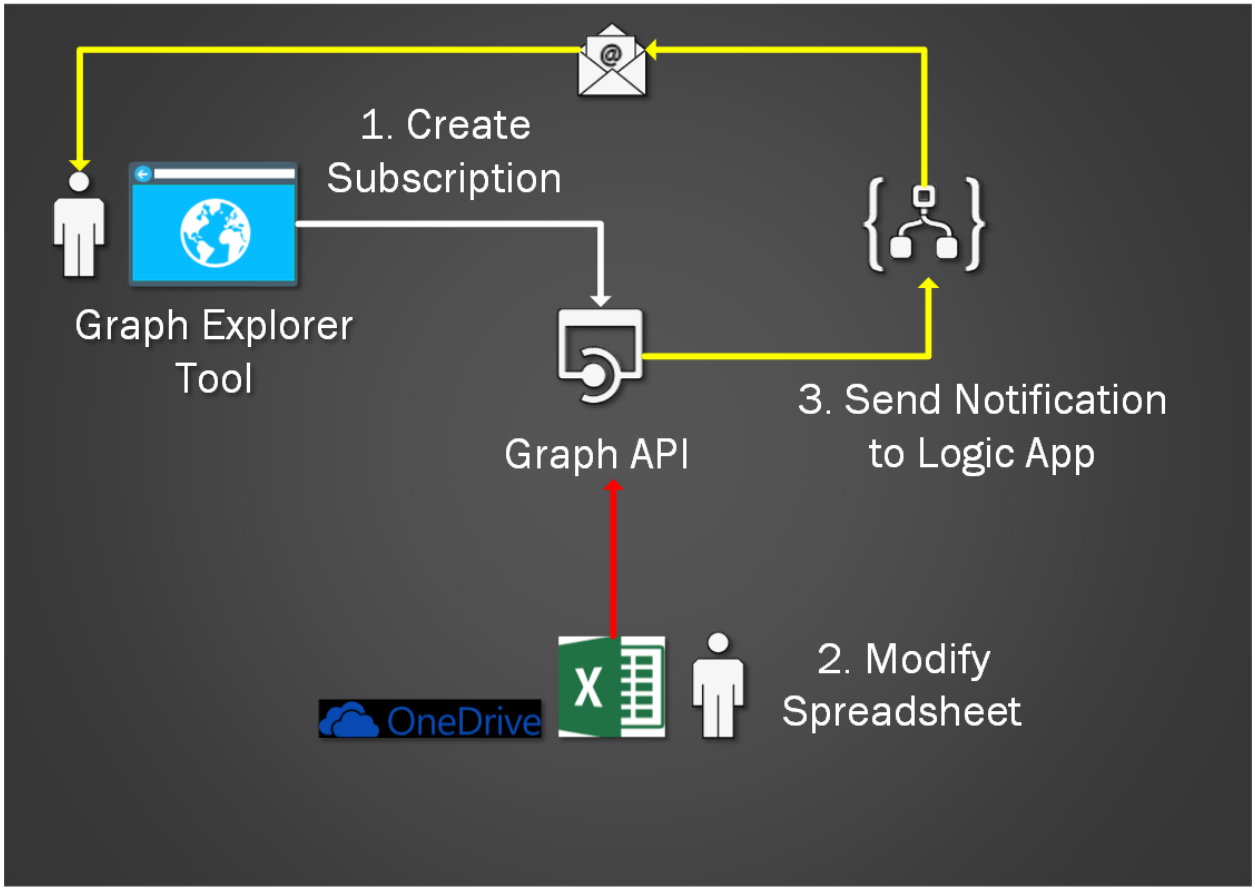
Objective

Receive an email notification when an Excel spreadsheet hosted in OneDrive is modified.

This is achieved via the Graph API which detects when the spreadsheet has been changed. A webhook will be setup via the Graph Explorer tool that indicates the URL listening for changes: a webhook notification will be sent to the subscribing URL, which will be a Logic App endpoint. The Logic App will receive the notification JSON message and use the Outlook connector to send an email alert to the configured email address.

The email will alert the user that the Excel spreadsheet has been modified.

A summary of the flow can be viewed in the diagram below:



Prerequisites

- Azure account - You can Open an Azure account for free or Activate Visual Studio subscriber benefits.
- Office 365 with OneDrive (a limited number of trial Office 365 licenses are available for use for the day, please see James or Abhishek)

Steps

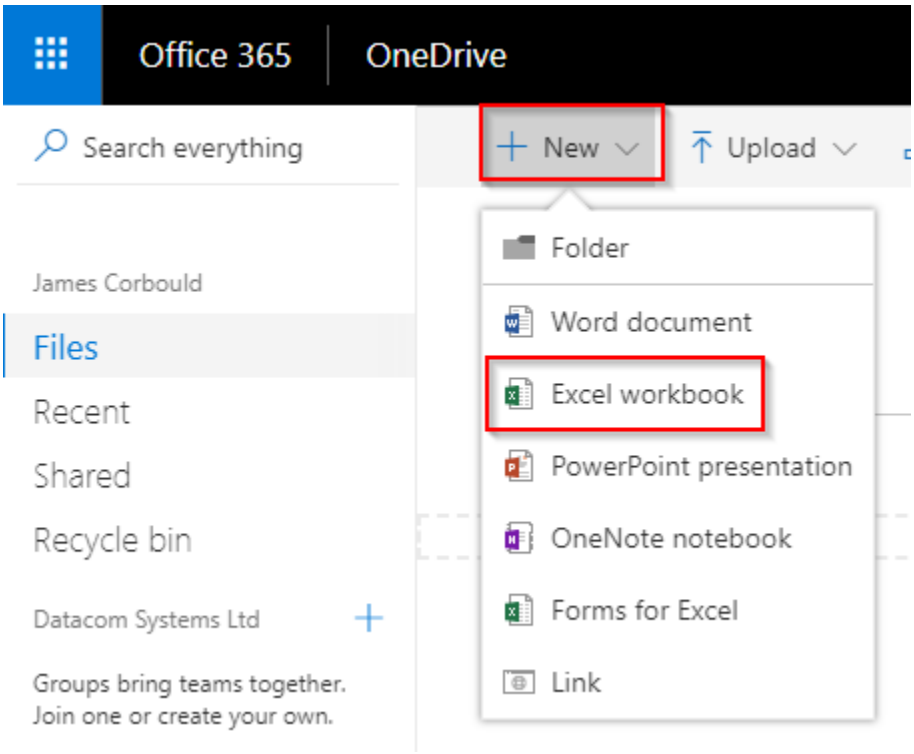
To build the solution in this lab you have to follow the steps described in this section. From a high level view the steps are:

1. Login to OneDrive using your O356 account and create a new folder and a new Excel document.
2. Login into the Azure Portal and create a new Logic App to receive webhook notifications and send an alert email.
3. Login to Graph Explorer using your O365 account and create a new webhook subscription, with the notification URL matching the URL of your newly created Logic App.

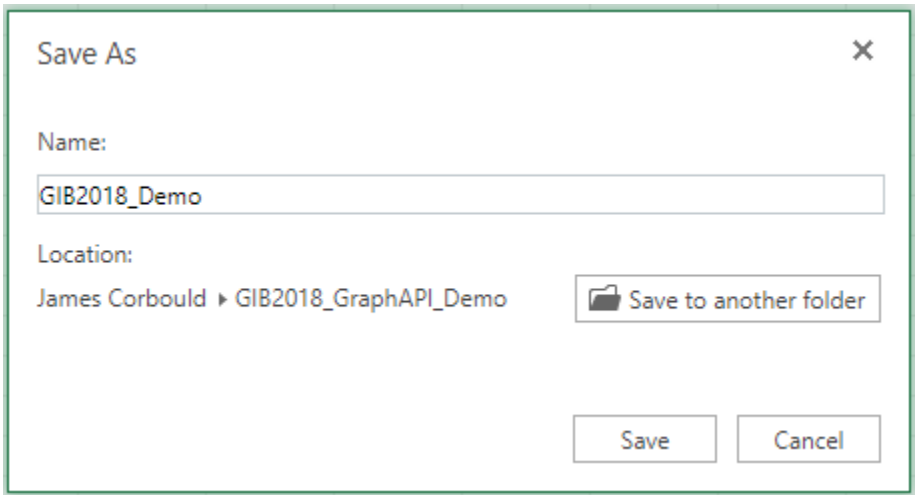
Login to OneDrive and create a new folder and Excel document

Navigate to OneDrive Live using your browser and sign in using your O365 account.

Create a new folder named `GIB2018_GraphAPI_Demo` in the directory root location and also create a new Excel spreadsheet named `GIB2018_Demo.xlsx`, as shown below:



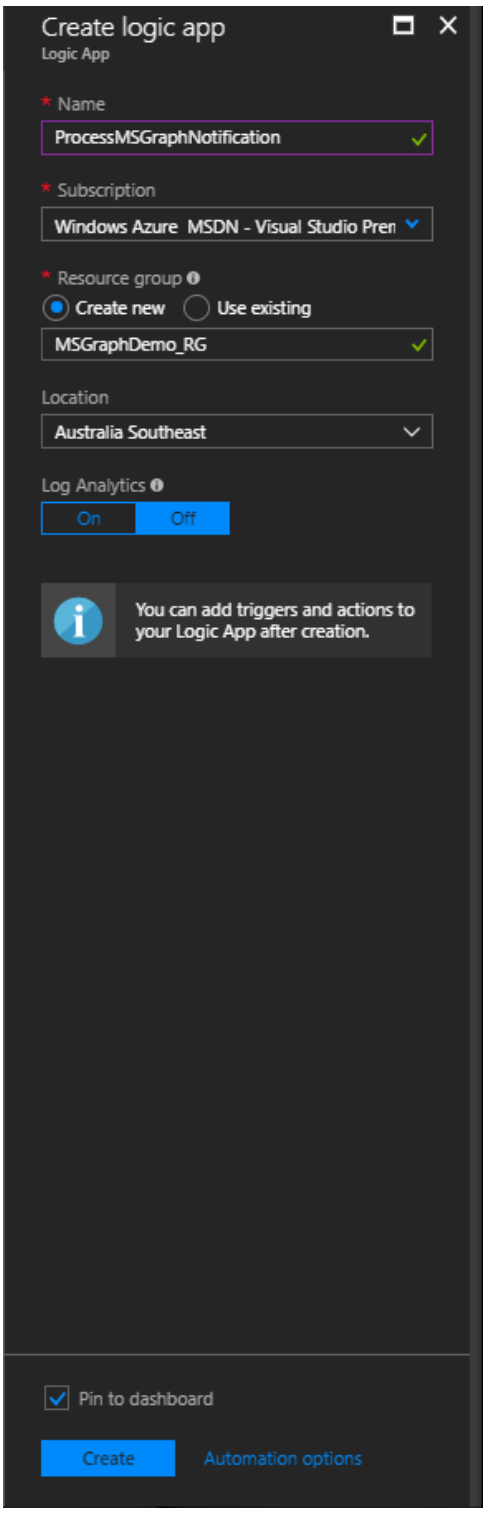
When selecting `New → Excel workbook`, a new Excel document will open in the browser. Click `File → Save As`, choosing the filename `GIB2018_Demo.xlsx`:



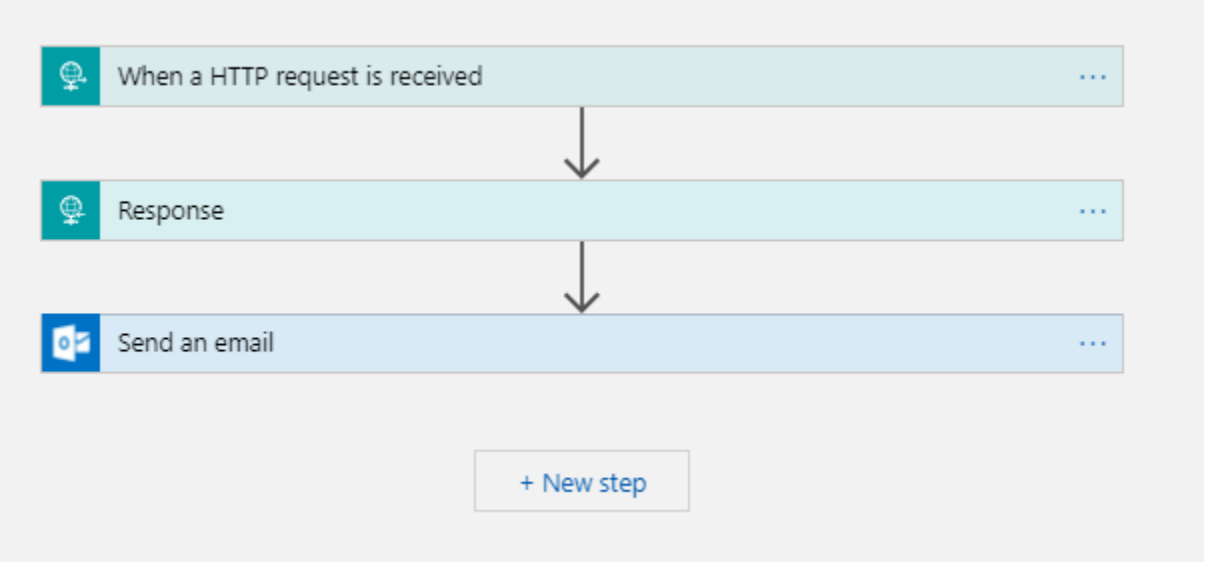
Login to Azure Portal and create new Logic App

Login to the Azure Portal using your Azure account.

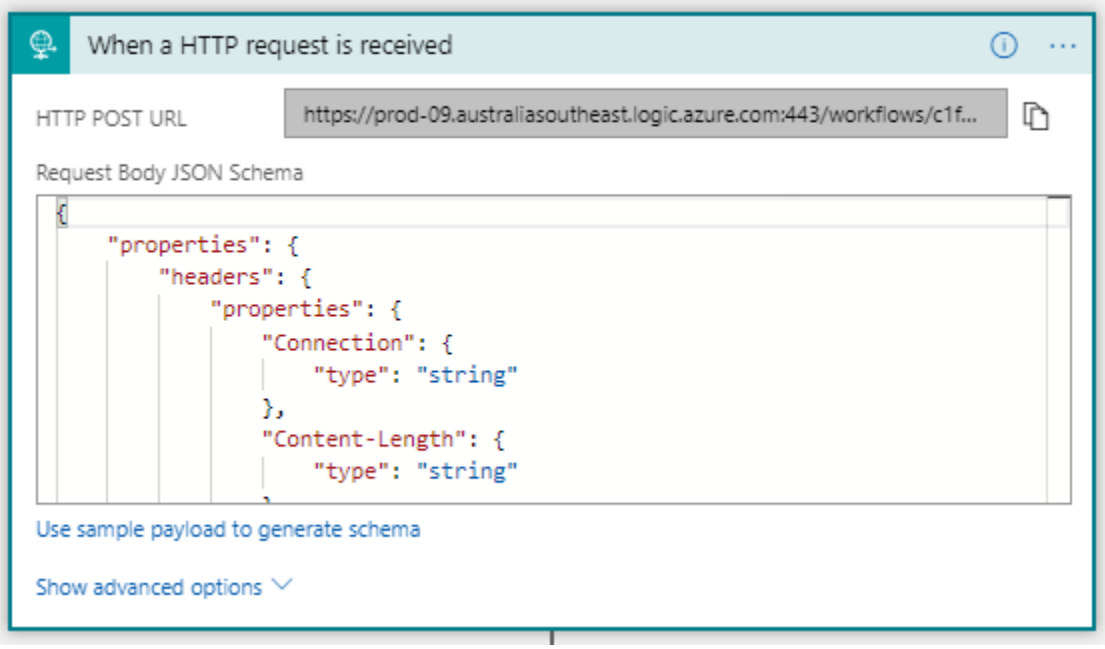
Create a new Logic App called `ProcessMSGraphNotification`:



This will be a very simple Logic App:



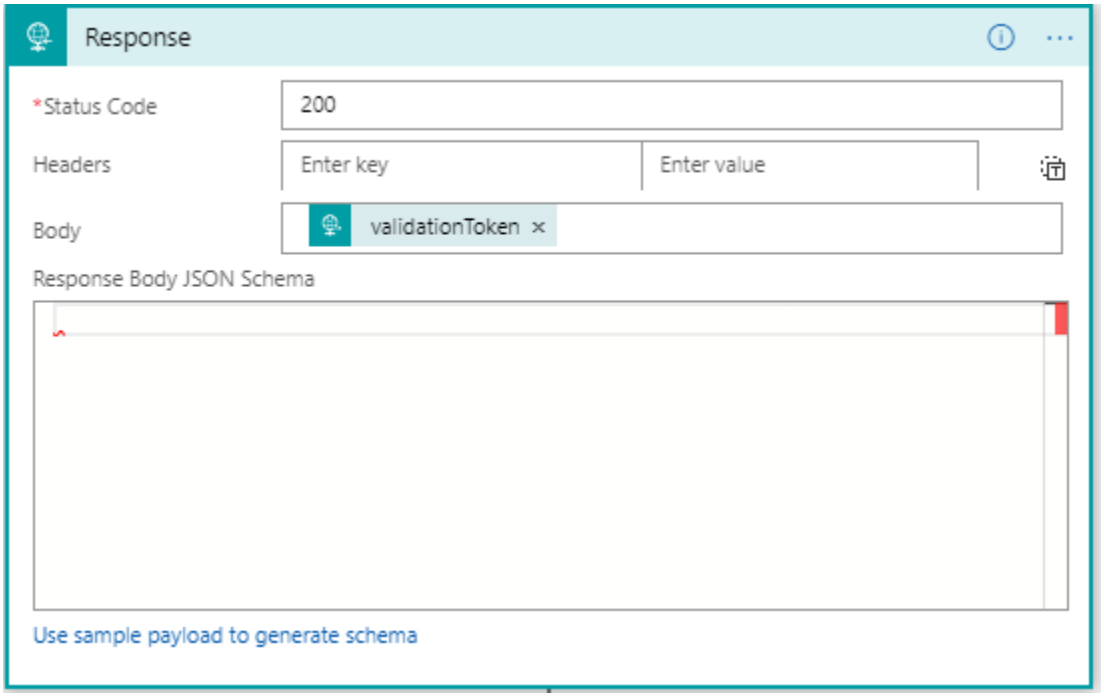
Configure the HTTP request connector as follows:



Cut and paste the following for the request body JSON schema:

```
{
    "properties": {
        "headers": {
            "properties": {
                "Connection": {
                    "type": "string"
                },
                "Content-Length": {
                    "type": "string"
                },
                "Content-Type": {
                    "type": "string"
                },
                "Host": {
                    "type": "string"
                }
            },
            "type": "object"
        },
        "queries": {
            "properties": {
                "validationToken": {
                    "type": "string"
                }
            },
            "type": "object"
        }
    },
    "type": "object"
}
```

Configure the HTTP response connector as follows:



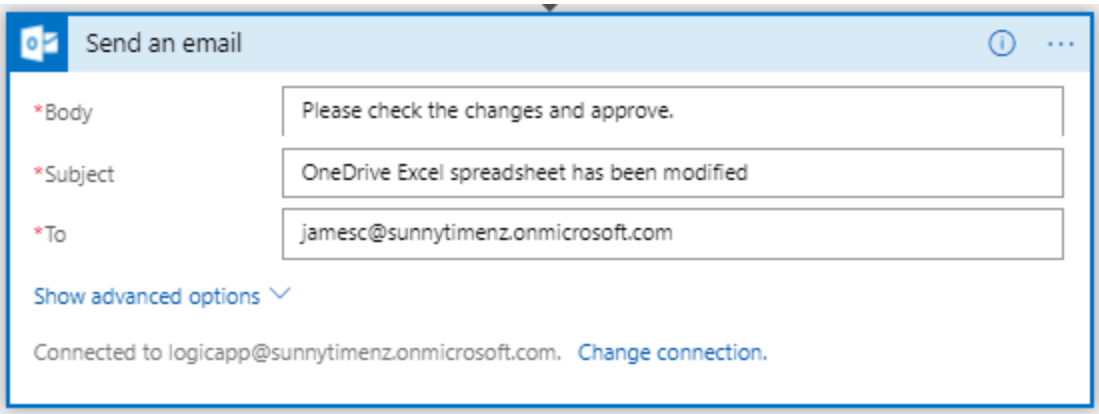
Check in the Logic App Code View that validationToken corresponds to the following dynamic content and change it in the Code View if it is different:

```
"@triggerOutputs()?['queries']?['validationToken']"
```

```
"definition": {
    "$schema": "https://schema.management.azure.com/providers/Microsoft.Logic/s
    "actions": {
        "Response": {
            "inputs": {
                "body": "@triggerOutputs()?['queries']?['validationToken']",
                "statusCode": 200
            },
            "kind": "Http",
            "runAfter": {},
            "type": "Response"
        },
```

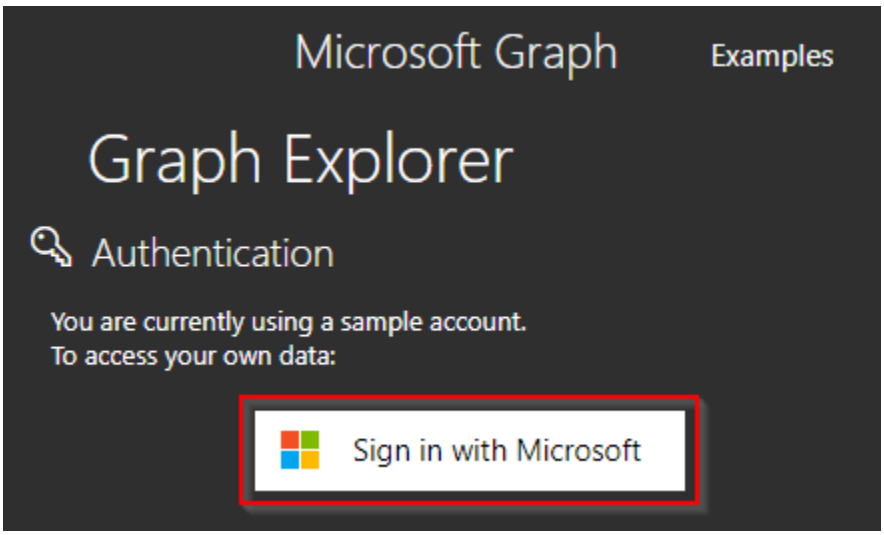
(Note: the validationToken is used to verify to the Graph API that the notification URL exists. It is provided in the first call from the Graph API to the notification URL and returned back by the Logic App).

Configure the Outlook connector:



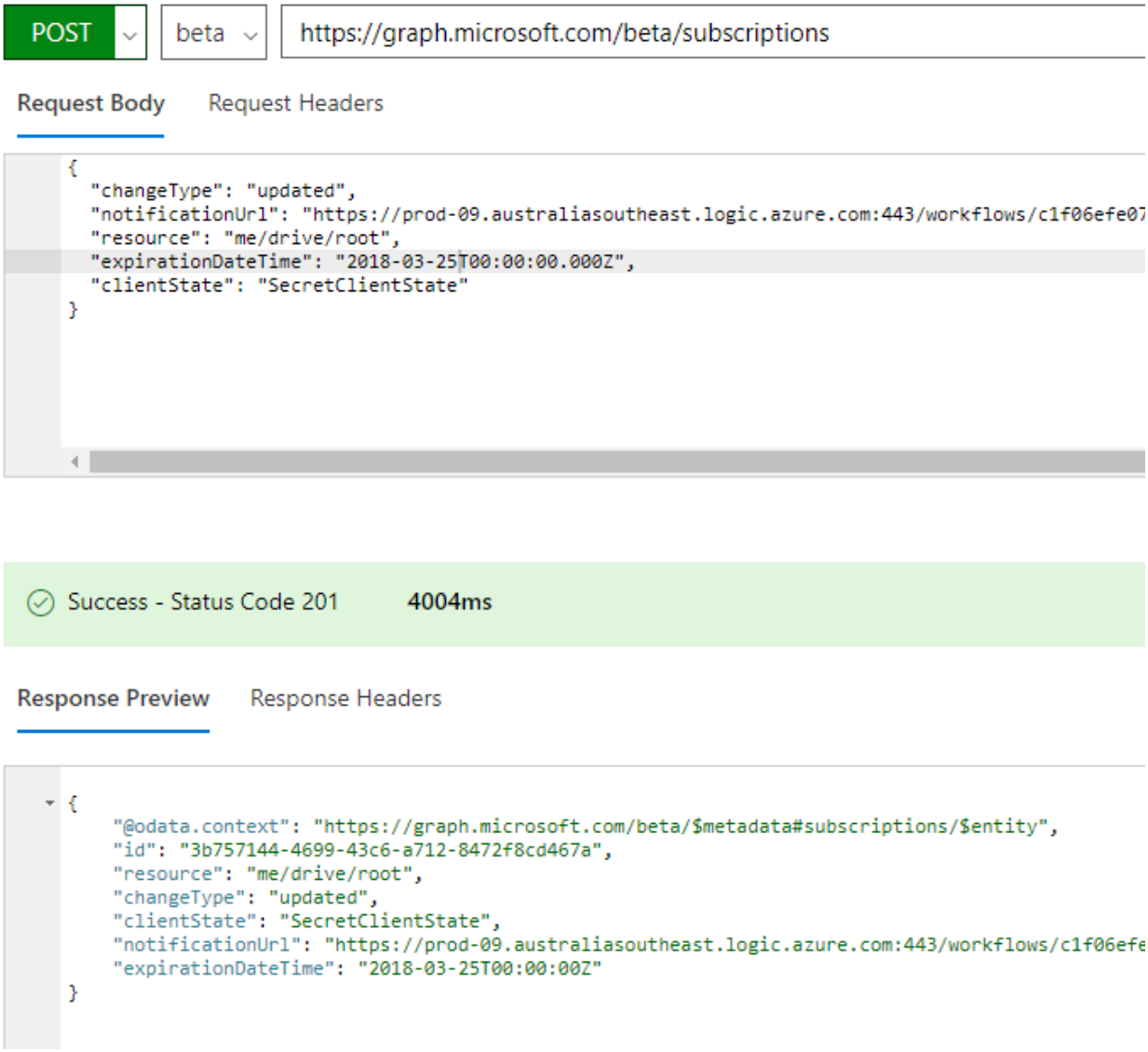
Login to Graph Explorer and create Webhook

Navigate to the Graph Explorer tool and login using your O365 account.



Create a webhook subscription using the beta API endpoint using HTTP POST:

```
https://graph.microsoft.com/beta/subscriptions
```



Specify the request body like the example below in Graph Explorer, using the Logic App HTTP POST URL for the JSON `notificationUrl` parameter:

```
{
  "changeType": "updated",
  "notificationUrl": {Logic App HTTP POST URL here},
  "resource": "me/drive/root",
  "expirationDateTime": "2018-03-25T00:00:00.000Z",
  "clientState": "SecretClientState"
}
```

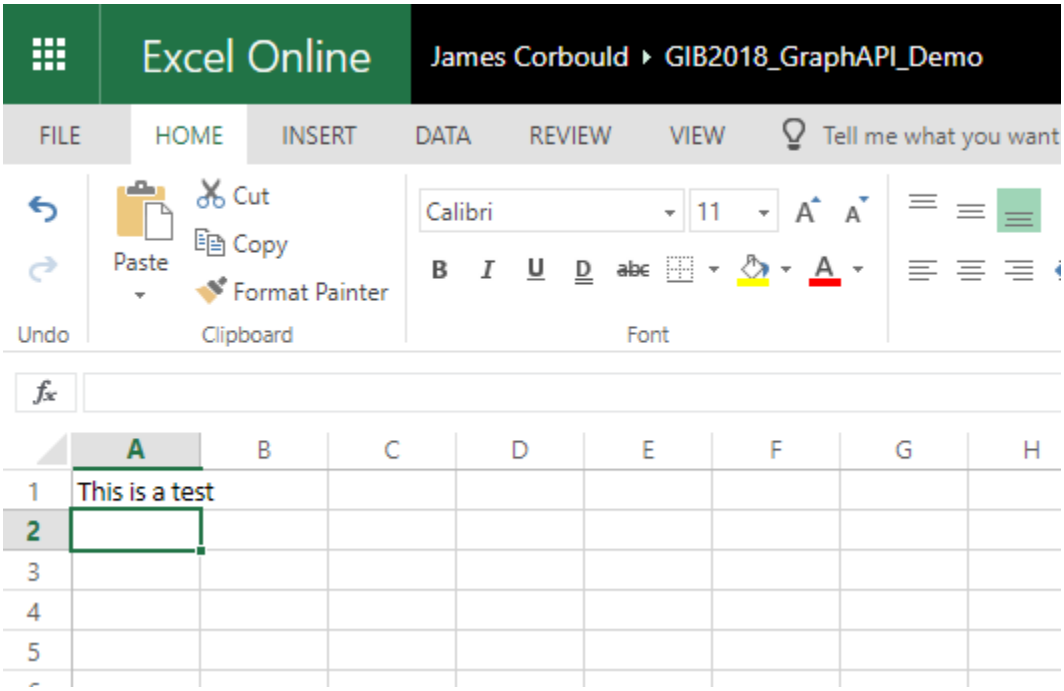
Note:

- Changes to any documents in the root of OneDrive will cause the webhook notification to fire.
- Set the value for `expirationDateTime` to a future date and time, such that it will be last the duration of this demo.

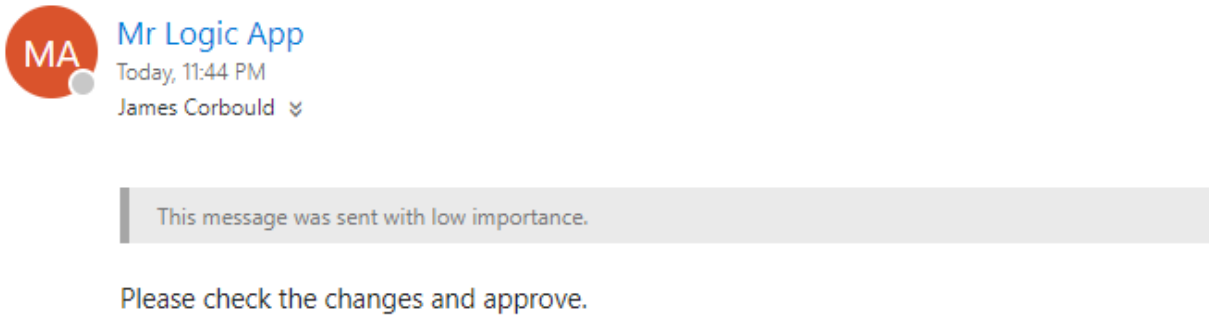
Check that HTTP status code `201 Created` is returned, indicating that the webhook notification has been successfully created in MS Graph.

Modify Excel document to test webhook notification and email alert

To test the webhook notification, modify the spreadsheet located on OneDrive.



The Graph API should send a notification to the Logic App URL and an email should be received in Outlook:


OneDrive Excel spreadsheet has been modified
MA
Mr Logic App
Today, 11:44 PM
James Corbould
This message was sent with low importance.
Please check the changes and approve.