Microsoft Teams Status Light with Power Platform and Azure Services – Mohamed Ashiq Faleel

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Why I built a status light?

To automatically display my teams status on a smart light so that my family members are aware of my day to day teams activity (In a meeting, Do not disturb, busy etc)

Other use cases:

- Display the status of the call center agents so that the call center supervisor understands the state of the agent

- Meeting room status

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Demo

User Presence in Teams & how to get them?

Presence is part of a user's profile in Microsoft Teams (and throughout Microsoft 365). Presence indicates the user's current availability and status to other users.

Presence states in Teams

| User configured	App configured
🟢 Available	🟢 Available
🔴 Busy	🔴 Busy
	🔴 In a call
	🔴 In a meeting
	⭕ On a call, out of office
🔴 Do not disturb	
	🔴 Presenting
	🔴 Focusing. Focus happens when the users schedule focus time in MyAnalytics/Insights in their calendars.
🟡 Away	🟡 Away
	🟡 Away Last Seen *time*
🟡 Be right back	
⊙ Appear offline	⊙ Offline. When users aren't logged in on any of their devices for a few minutes, they appear offline.
	⭕ Status unknown
	⊙ Out of Office. Out of Office is used when an automatic reply is set.

Microsoft Graph – Polling

- Contains information about a user's presence, including their availability and user activity
- Own Presence GET - https://graph.microsoft.com/v1.0/me/presence
- Other users Presence GET - https://graph.microsoft.com/v1.0/users/66825e03-7ef5-42da-9069-724602c31f6b/presence

Microsoft Graph Change Notifications – Webhook

- The Microsoft Graph REST API uses a webhook mechanism to deliver change notifications to clients

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How - Microsoft Teams Status Light Design
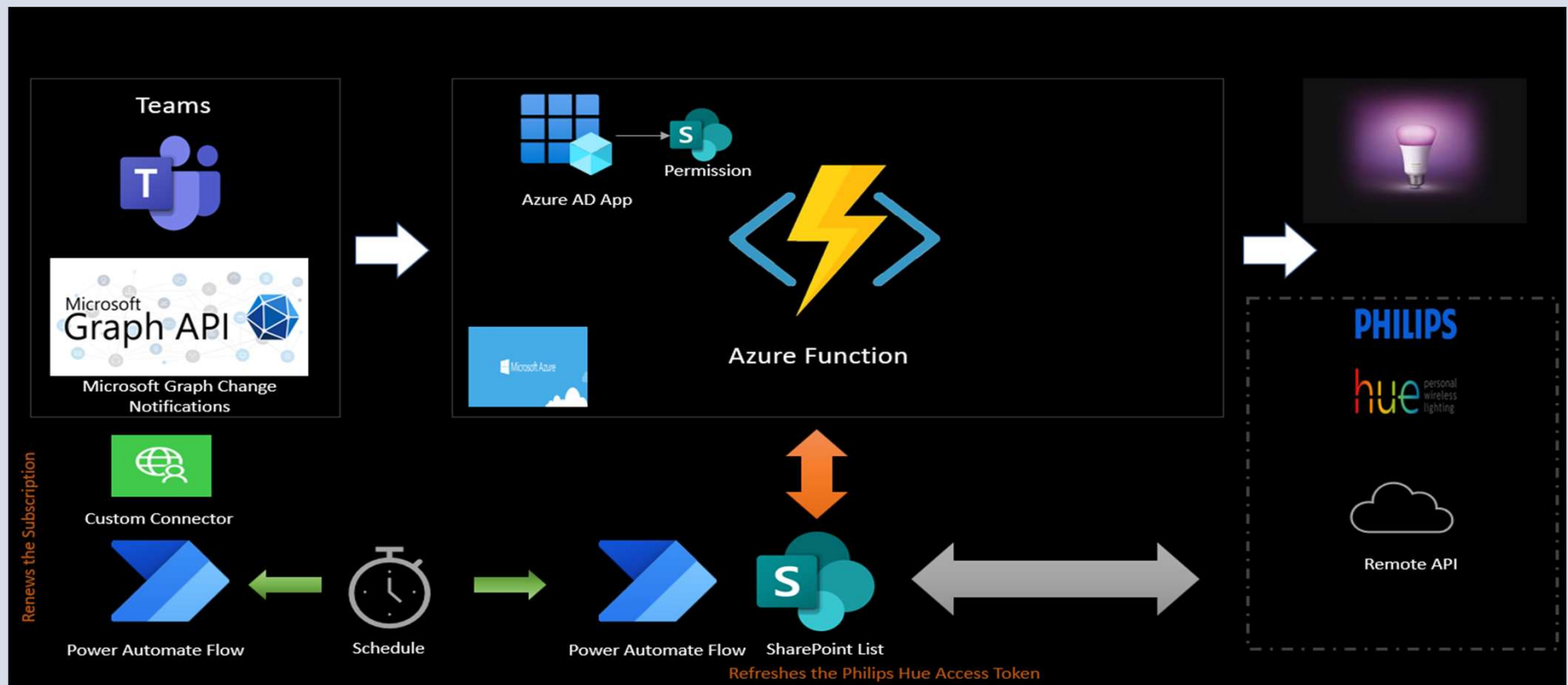
Introduction to Microsoft Graph Change Notifications

- Microsoft Graph allows apps to subscribe to change notifications for resources via webhooks.
- Uses Webhook mechanism to deliver changes to apps or clients
- A client is a webservice that has a own URL to receive change notifications
- Subscriptions have a limited lifetime. Apps need to renew their subscriptions before the expiration time.
- Create subscriptions to include the changed resource data (such as Microsoft Teams presence information or the content of a Microsoft Teams chat message etc) in change notifications

Supported resources

- ✓ group
- ✓ Outlook event
- ✓ Outlook message
- ✓ Security alert
- ✓ SharePoint list
- ✓ Teams chatMessage
- ✓ Teams presence
- ✓ Teams team
- ✓ todoTask
- ✓ User
- ✓ & more

Subscription request example

```
POST https://graph.microsoft.com/v1.0/subscriptions
Content-Type: application/json
{
  "changeType": "created,updated",
  "notificationUrl": "https://webhook.azurewebsites.net/notificationClient",
  "resource": "/me/mailfolders('inbox')/messages",
  "expirationDateTime": "2016-03-20T11:00:00.0000000Z",
  "clientState": "SecretClientState"
}
```

Subscription Lifecycle

- Creation
- Renewal/update
- Deletion

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Philips Hue Remote API

Philips Hue is a smart lighting solution provider with range of smart lights that can be controlled with your smart devices like your
- Mobile phone
- Google Home
- Alexa etc

through the applications developed by Philips.

The Hue system also enables OAuth 2.0 to allow third party integrations to connect to Hue system resources.
- Access Token is valid for 7 days & Refresh token for 100 days

APP   Remote API   Hue Bridge   Philips Hue Light

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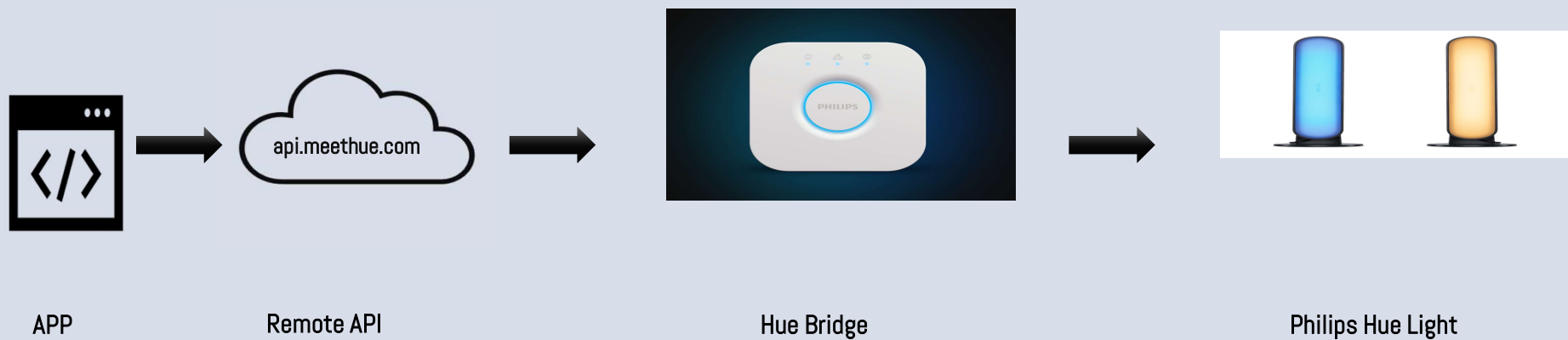
Azure Function & Power Automate

Azure function
• HTTP Trigger - Change Notification URL
• Authentication – Function or Anonymous
• Connect to SharePoint to retrieve access Token for Philips Hue & few other configuration values
• REST API – Philips Hue change colours

Power Automate
• Custom Connector – MS Graph Subscription
• Renew MS Graph change notification subscription – Scheduled Flow
• Renew the Access token for Philips hue using the Refresh token - Scheduled Flow

Note: When an HTTP request is received trigger could also be used

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Code Walkthrough

References

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