Robotic process automation in Microsoft Power Automate

Microsoft announce the preview of UI flows, the new robotic process automation (RPA) capability in Microsoft Power Automate at lgnite 2019.

From 2nd April 2020, UI flows will be generally available worldwide.

# **What is robotic process automation?**

In general, Robotic process automation (RPA) is the use of software bots to automate highly repetitive, routine tasks normally performed by knowledge workers.

## **Why need automate in repetitive tasks?**

Automating repetitive tasks saves time and money. Robotic process automation bots expand the value of an automation platform by completing tasks faster, allowing employees to perform higher-value work.

**UI flows**

UI flows brings Robotic Process Automation (RPA) capabilities to Power Automate. You can use UI flows to automate repetitive tasks in Windows and Web applications. UI flows records and plays back user interface actions (clicks, keyboard input, etc.)

# **Set up UI flows**

## ***Prerequisites***

1. Either a paid or trial Power Automate plan.
2. A work or school account to sign into your Windows device with administrator privileges and Power Automate.
3. A device that runs Windows 10 Pro, Windows Server 2016, or Windows Server 2019.
4. The Microsoft Edge (version 80 or later) or Google Chrome browser.
5. An environment with a Common Data Service database.
6. A supported keyboard attached.

## ***Limitations***

You must have the latest versions of each component to record, test, or run UI flows.

1. Windows 10 Home installations are not supported.
2. Desktop UI Flows :

* Multiple monitors
* Double click, mouse hover, touch/pen input
* Interactions on Windows (File explorer, startup menu, task bar, etc.)

1. Web UI Flows :
   * Right click.
   * User session information (for example: cookies) will not be reused during playback. You will have to edit the script to embed sign in information when required by websites.

# **Install UI flows on your device**

The UI flows installer contains all the components needed to record, edit, and test UI flows for desktop.

Follow these steps to install the UI flows app:

1. [Download the UI flows installer](https://go.microsoft.com/fwlink/?linkid=2102613).
2. Open the Setup.Microsoft.PowerAutomate.UIflow.exe file. This file is likely in your Downloads folder after you downloaded it in the previous step.
3. Follow the instructions in the UI flows setup installer to complete the installation.

## **Activate the UI flows browser extension**

Once the UI flows installer completes, you will be prompted by your browser to activate the extension.

* You must use **Microsoft Edge** (version 80 or later) or Google Chrome.
* You may have to manually enable the extension. For Microsoft Edge, navigate to **edge://extensions** or for Google Chrome, navigate to **chrome://extensions.**
* If Power Automate's UI flows extension does not appear, you can reinstall it with the UI flows installer.

## **Install Selenium IDE to automate Web applications**

The Selenium IDE is an open source tool that lets you record and playback human interactions on Websites.

With UI flows, you can run Selenium IDE scripts from Power Automate and keep them stored securely (with appropriate IT governance) in Common Data Service.

Follow these steps to install Selenium IDE:

1. [Download and install](https://chrome.google.com/webstore/detail/selenium-ide/mooikfkahbdckldjjndioackbalphokd) the Selenium IDE for [Microsoft Edge](https://www.microsoft.com/edge/) (version 80 or later) or Google Chrome.
2. On Microsoft Edge (version 80 or later), select **Allow extensions from other stores**, and then select **Add to Chrome**.

## **Install the on-premises data gateway**

You will need the gateway to trigger your UI flow from an on a remote device.

When you install the gateway, it defaults to the region that Power Automate uses.

**Create UI Flow**

Two types of UI Flow

1. Desktop app
2. Web app

### **Desktop UI Flow**

### ***Unsupported application types***

* Interactions on Windows (File explorer, startup menu, task bar, etc.).
* Java applications.
* Click once applications.
* Applications with a Web view such as Electron applications.
* Microsoft Office 2016 and earlier.
* Microsoft Office online.
* Web browsers (Chrome, IE, Microsoft Edge, Firefox, Mozilla, etc.). Please [Create a Web UI flow](https://docs.microsoft.com/en-us/power-automate/ui-flows/create-web) to automate websites.

### ***Unsupported configurations***

* Multi-screen.
* Recording through a virtual machine client (Remote Desktop, Citrix, etc.).
* Multiple instances of an application where the main window titles are identical.
* Application windows with identical titles, for example, Microsoft Outlook with multiple Untitled – Message (HTML) new mail windows active at the same time.
* Concurrent recording sessions on a given device.
* Concurrent playback sessions on a given device. In case of simultaneous UI flow runs, the first one takes precedence and the subsequent ones fail until the first one completes.
* Playback on a device with a different keyboard layout than the device on which it was recorded.
* Recording on a device or Windows session while the browser with Microsoft Flow is on a different device or Windows session.

### ***Unsupported action types and behaviors***

### The following actions will not be recorded:

* Double click.
* Mouse move.
* Mouse hover.
* Click and drag.
* Touch or pen input.
* Open app before recording.

## **Web UI flows**

## ***Limitations and known issues***

* Passwords in Selenium IDE are stored in plain text.
* Recording desktop applications during a Web recording session. If you need to automate both Web and Desktop applications, you can create a separate UI flows for each type and then combine them in a flow.
* Selenium IDE recordings are done with the current user's profile, but playback is done using a temporary user profile. This means that websites that need authentication may not ask for credentials during a recording session, but the authentication steps will be needed during playback.

To address this, the user needs to manually edit the script to insert the commands needed for the login process.

* Multi-Factor Authentication (MFA) is not supported, use a tenant that doesn't require MFA.
* These Selenium IDE commands are not supported: Run, AnswerOnNextPrompt, ChooseCancelOnNextConfirmation, ChooseCancelOnNextPrompt, ChooseOkOnNextConfirmation, Debugger, ClickAt, DoubleClickAt, Echo, MouseOut, MouseUpAt, and MouseDownAt.
* Right click is not supported.
* UI flows no longer records or plays back Windows applications after installing a new version.