

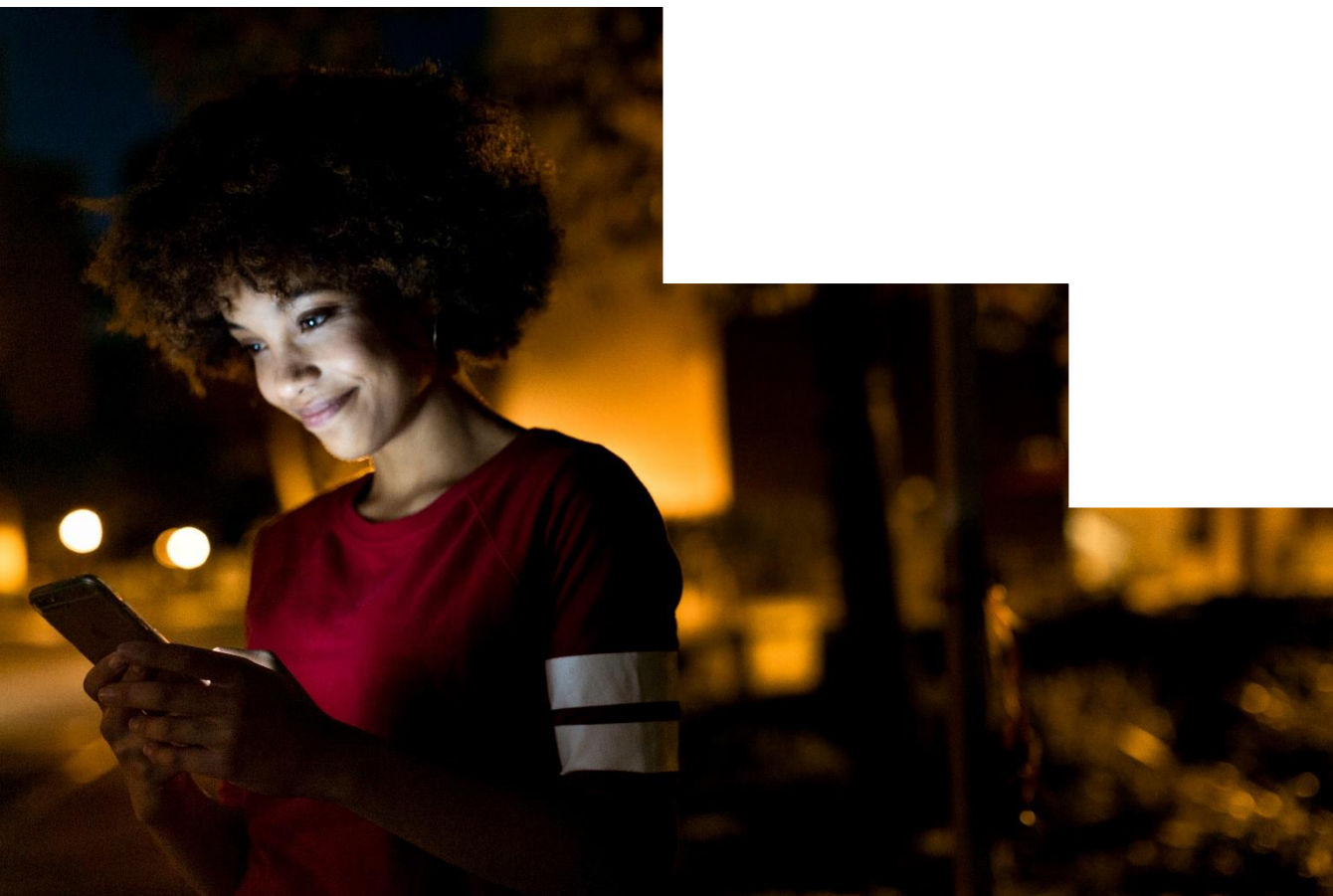


Robotic Process Automation in a Day

Lab 10 – Run the scenario in unattended mode

90 mins

December 2020



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Lab Overview

You will complete the following tasks in this lab:

- **Exercise 1 – Basic Desktop flow in Unattended mode**
 - Configure a data gateway for a new virtual machine
 - Create a new Cloud flow that calls an existing Desktop flow from Lab 4 in unattended mode
 - Perform a test run of this simple unattended Desktop Flow scenario
- **Exercise 2 – Desktop flow + Cloud flow scenario in Unattended mode**
 - Streamline the invoice processing solution to simplify the test scenario
 - Perform a test run of the updated invoice processing solution in unattended mode
- **Exercise 3 – Unattended gateway cluster scenario**
 - Configure a data gateway for a second virtual machine
 - Add the second VM's gateway to a gateway cluster with the first VM's gateway
 - Perform multiple test runs of the updated invoice processing solution in unattended mode, distributing the test runs across the gateway cluster

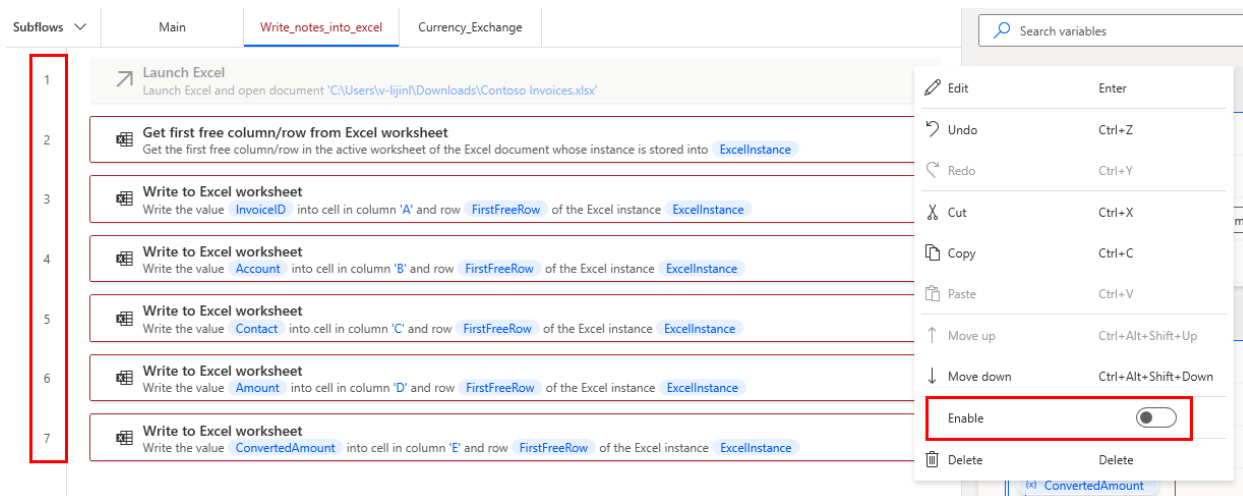
Prerequisites

You will need to have a paid unattended RPA license to do the following exercises. There is no unattended trial licensing. If you do not have a paid unattended license, please just read through this doc as learning materials, without doing the labs.

This lab builds on the initial setup lab (lab 1) and labs 3-9 – ensure these labs are complete.

Exercise 1: Basic Desktop Flow in Unattended mode

1. If your remote VM has no Excel installed, you should disable the following steps from your desktop flow before you run them on the remote VM.



2. Open the test profile in a browser and navigate to: <https://aka.ms/rpa/vm1> [should be provided by the trainer]
3. Start your VM.

Note: It will take a couple minutes to get started.

My virtual machines

RPA in a day VM1



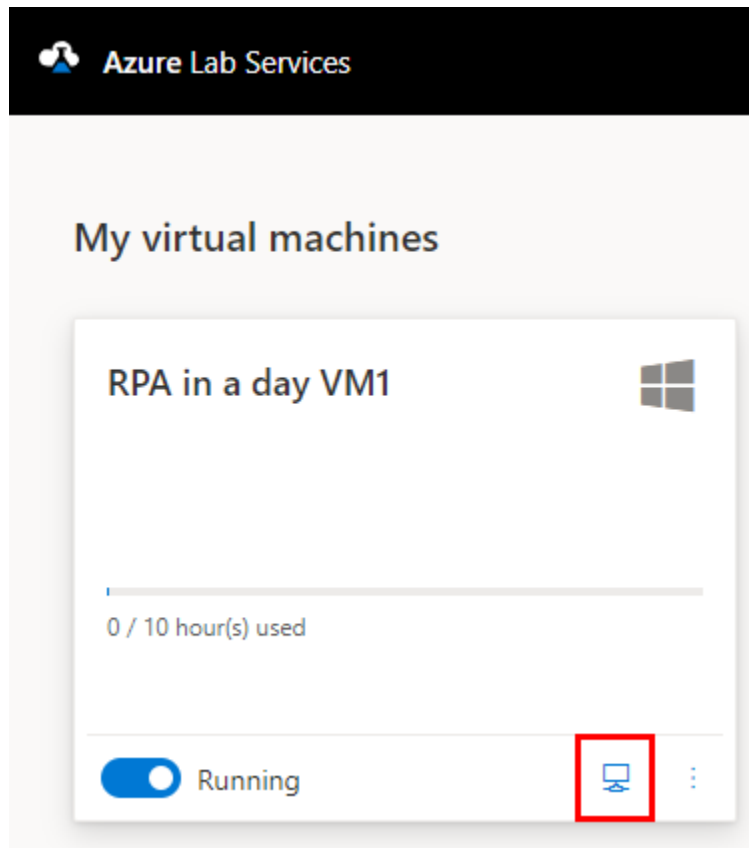
0 / 10 hour(s) used



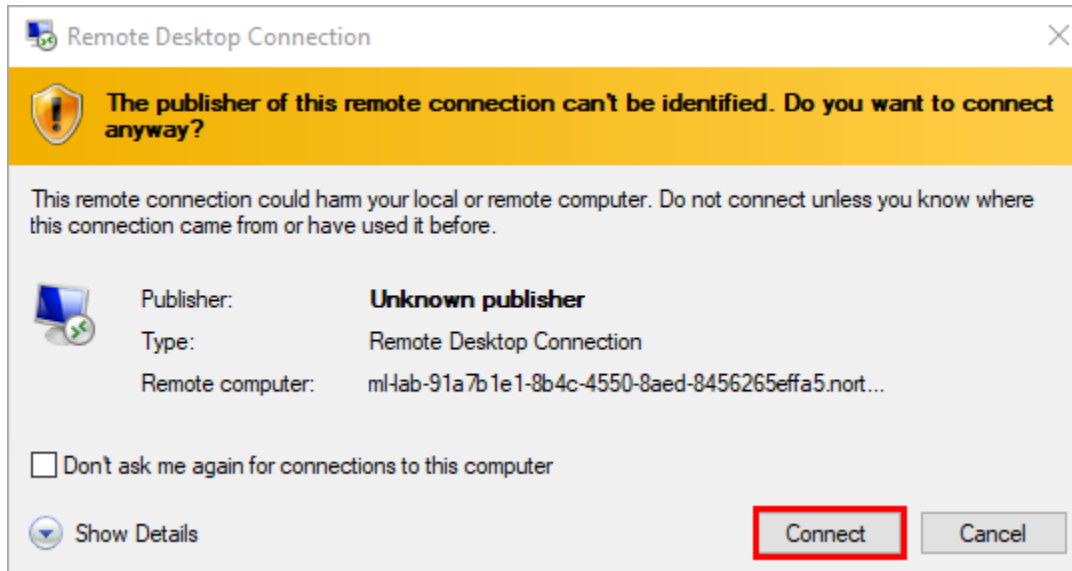
Stopped



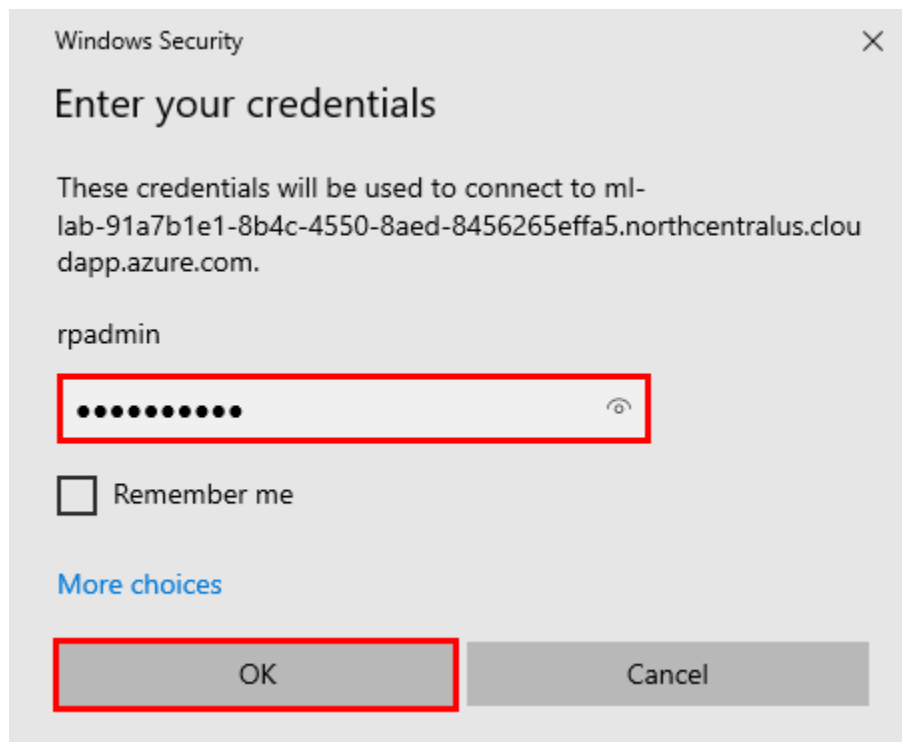
4. Once it's running, click on the **connect to the virtual machine** icon.



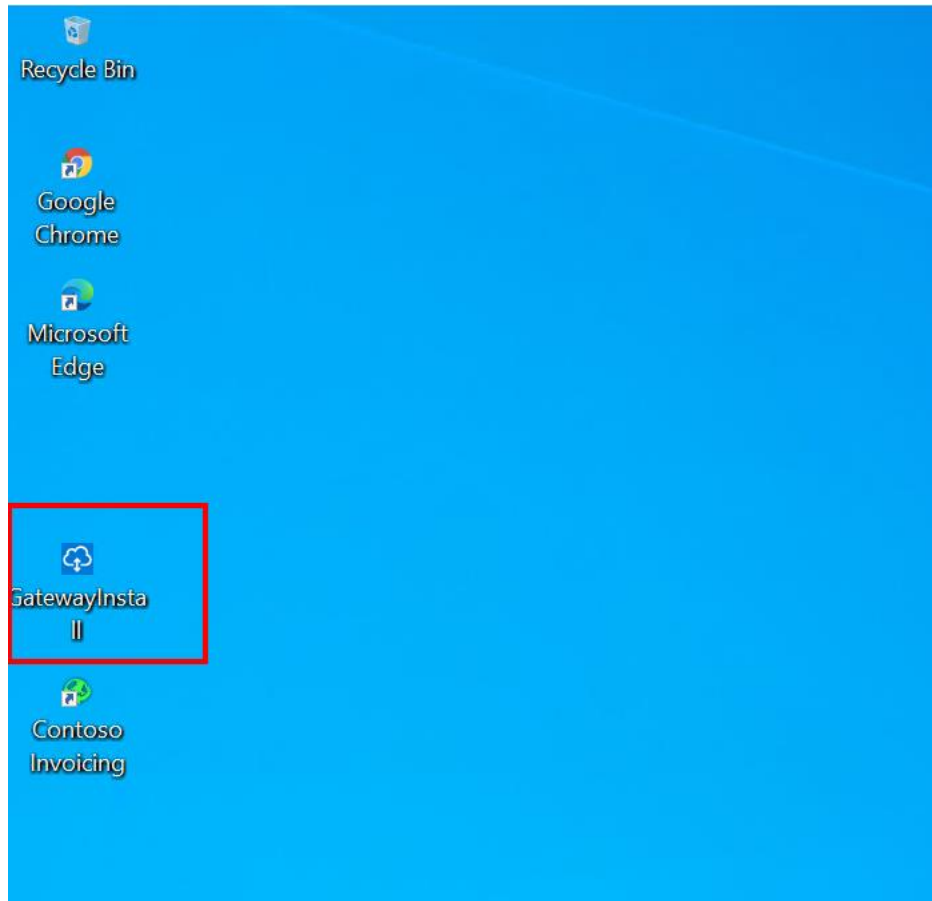
5. This will download the "RPA in a day VM1.rdp" [should be provided by the trainer] file, double click on it to get connected.



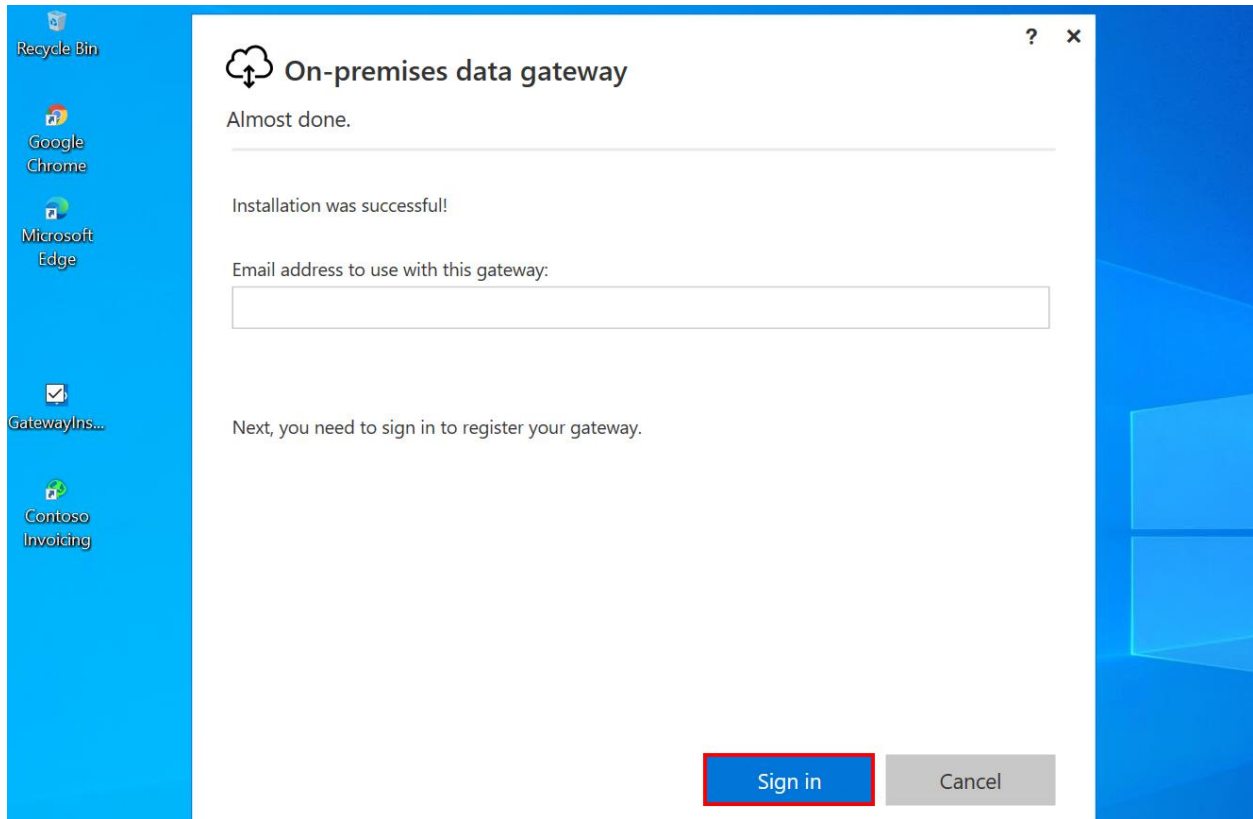
6. Use the following credentials to log in to the VM:
- Username: rpadmin [should be provided by the trainer]
 - Password: Uiflowrpa! [should be provided by the trainer]



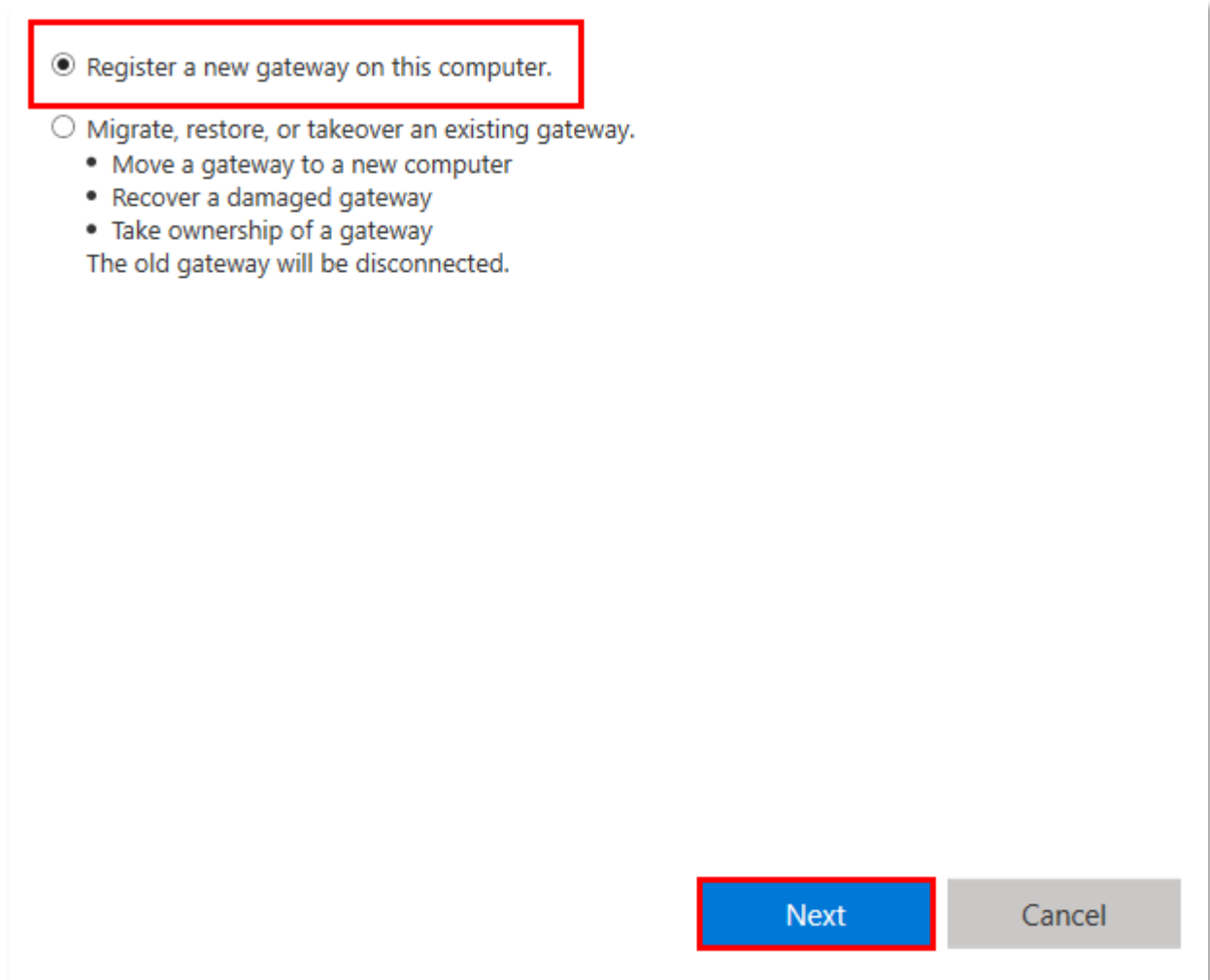
7. If there is no Desktop flows pre-installed on the VM, or it has old version of Desktop flow, you need to upgrade the Desktop flows version.
<https://docs.microsoft.com/en-us/power-automate/ui-flows/upgrade>
8. If it is not yet installed, or it has an old version, install/upgrade to the latest Gateway on the VM. (note, the Gateway region must be the same as your environment region)
<https://docs.microsoft.com/en-us/power-automate/ui-flows/setup#install-the-on-premises-data-gateway>



9. After installing the Gateway, sign into the gateway using the same account that you created in lab 1 (the one you use to sign in Power Automate portal)



10. Select **Register a new gateway on this computer**, then click **Next**.



A screenshot of a software dialog box for gateway registration. The dialog has a white background and a thin gray border. At the top left, there are two radio button options. The first option, "Register a new gateway on this computer.", is selected (indicated by a filled circle) and is enclosed in a red rectangular box. The second option, "Migrate, restore, or takeover an existing gateway.", is unselected (indicated by an empty circle) and is followed by a bulleted list: "Move a gateway to a new computer", "Recover a damaged gateway", and "Take ownership of a gateway". Below the list, it says "The old gateway will be disconnected." At the bottom right of the dialog, there are two buttons: a blue "Next" button and a gray "Cancel" button. The "Next" button is highlighted with a red rectangular box.

☒ Register a new gateway on this computer.

☐ Migrate, restore, or takeover an existing gateway.

- Move a gateway to a new computer
- Recover a damaged gateway
- Take ownership of a gateway

The old gateway will be disconnected.

Next Cancel

11. Name the gateway **Test on VM gateway**. Create a **recovery key**. Then click **Configure**.


New on-premises data gateway name

Test on VM gateway

☐ Add to an existing gateway cluster

Recovery key (8 character minimum)

.....

 This key is needed to restore the gateway and can't be changed. Record it in a safe place.

Confirm recovery key

.....

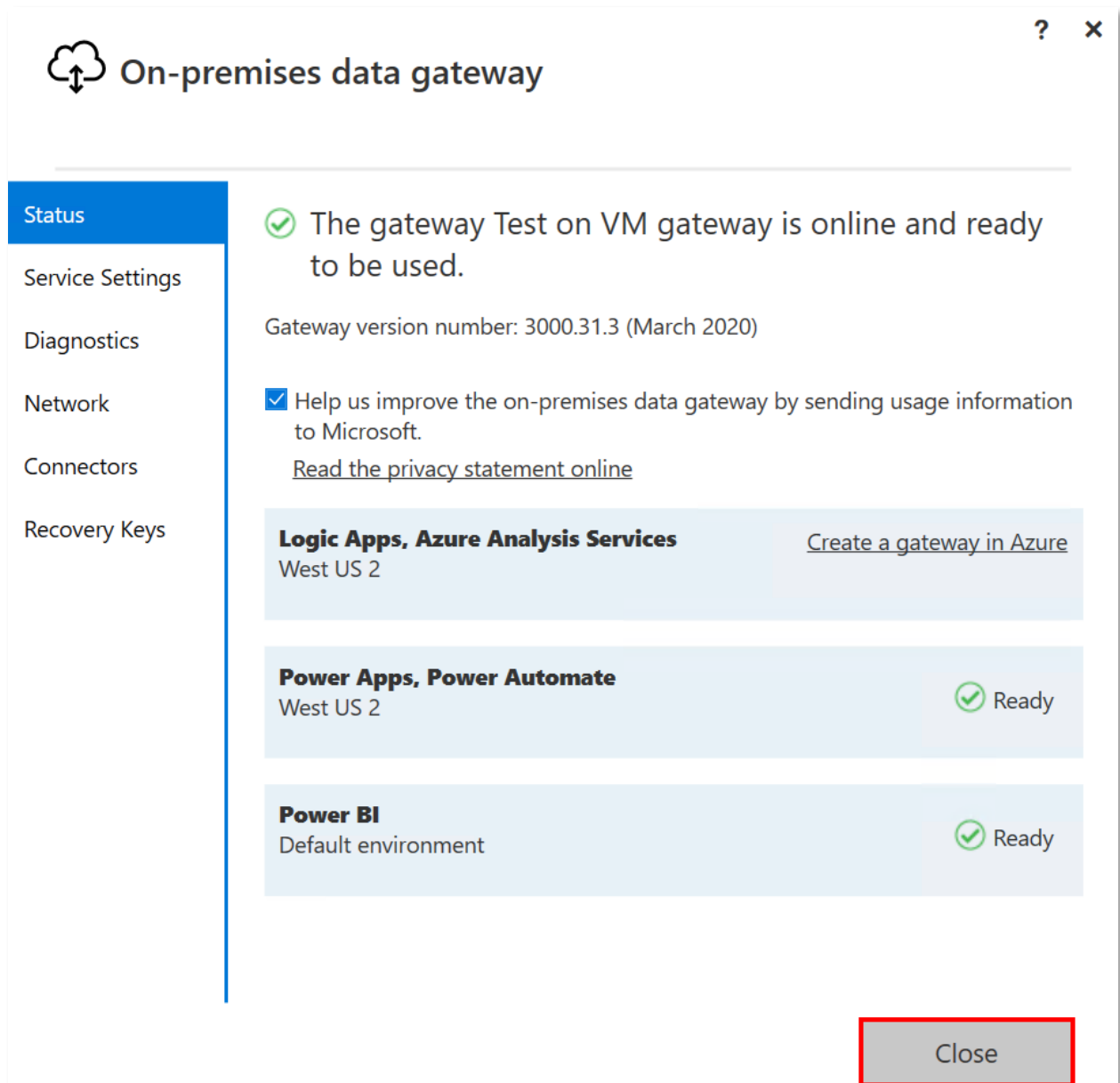
[Learn more about gateway clusters](#)

We'll use this region to connect the gateway to cloud services: West US 2 [Change Region](#)

<< Back

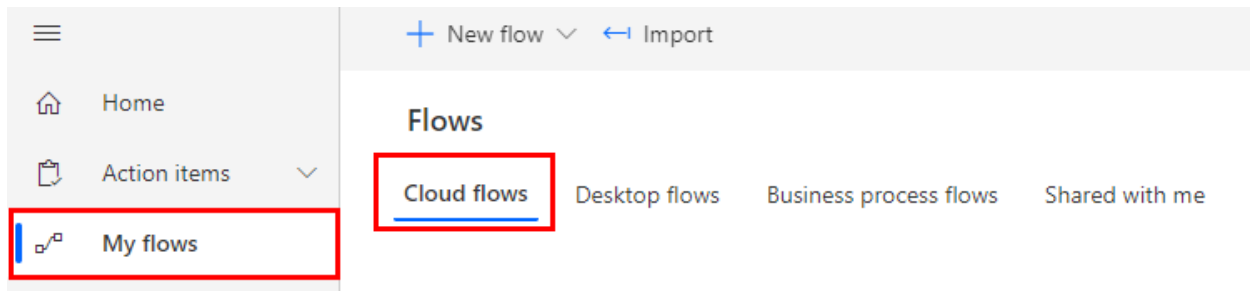
Configure

12. Click Close.

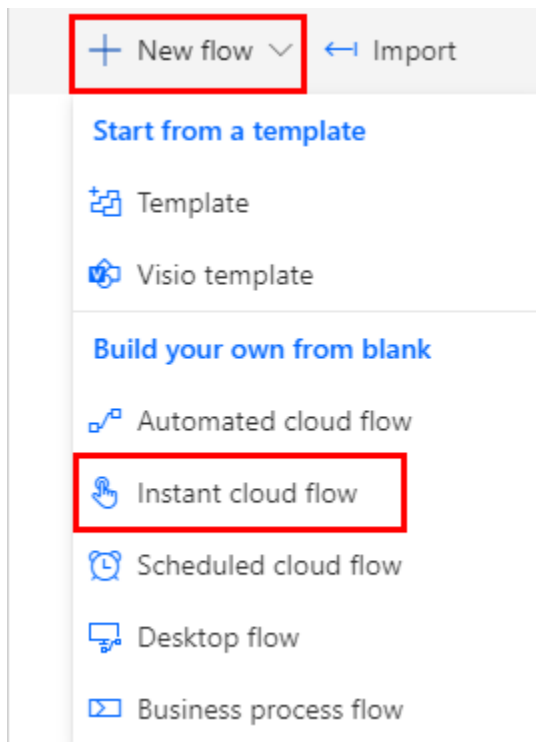


13. If the Contoso app is not pre-installed on the VM, copy and install it on your VM. You can find the latest version under the lab package.

14. Now go back to your own computer (not VM) navigate to flow.microsoft.com. Go to **My flows > Cloud flows**.



15. Click **+New flow > Instant cloud flow**



16. Name the flow as **Manual trigger Desktop flow to enter invoice on VM**, select **Manually trigger a flow**. Then click **Create**.

Build an instant cloud flow

Triggered manually from any device, easy-to-share instant flows automate tasks so you don't have to repeat yourself.

Examples:

- Get an automatic mobile alert whenever a VIP client emails you
- Save all your email attachments to a folder automatically

Flow name

Manual trigger Desktop flow to enter invoice on VM

Choose how to trigger this flow *

- ☒ Manually trigger a flow
Flow button for mobile
- ☐ PowerApps
PowerApps
- ☐ When Power Virtual Agents calls a fl...
Power Virtual Agents
- ☐ When a flow step is executed
Common Data Service (current environment)
- ☐ For a selected message
Microsoft Teams
- ☐ For a selected file
OneDrive for Business
- ☐ For a selected file

Skip Create Cancel

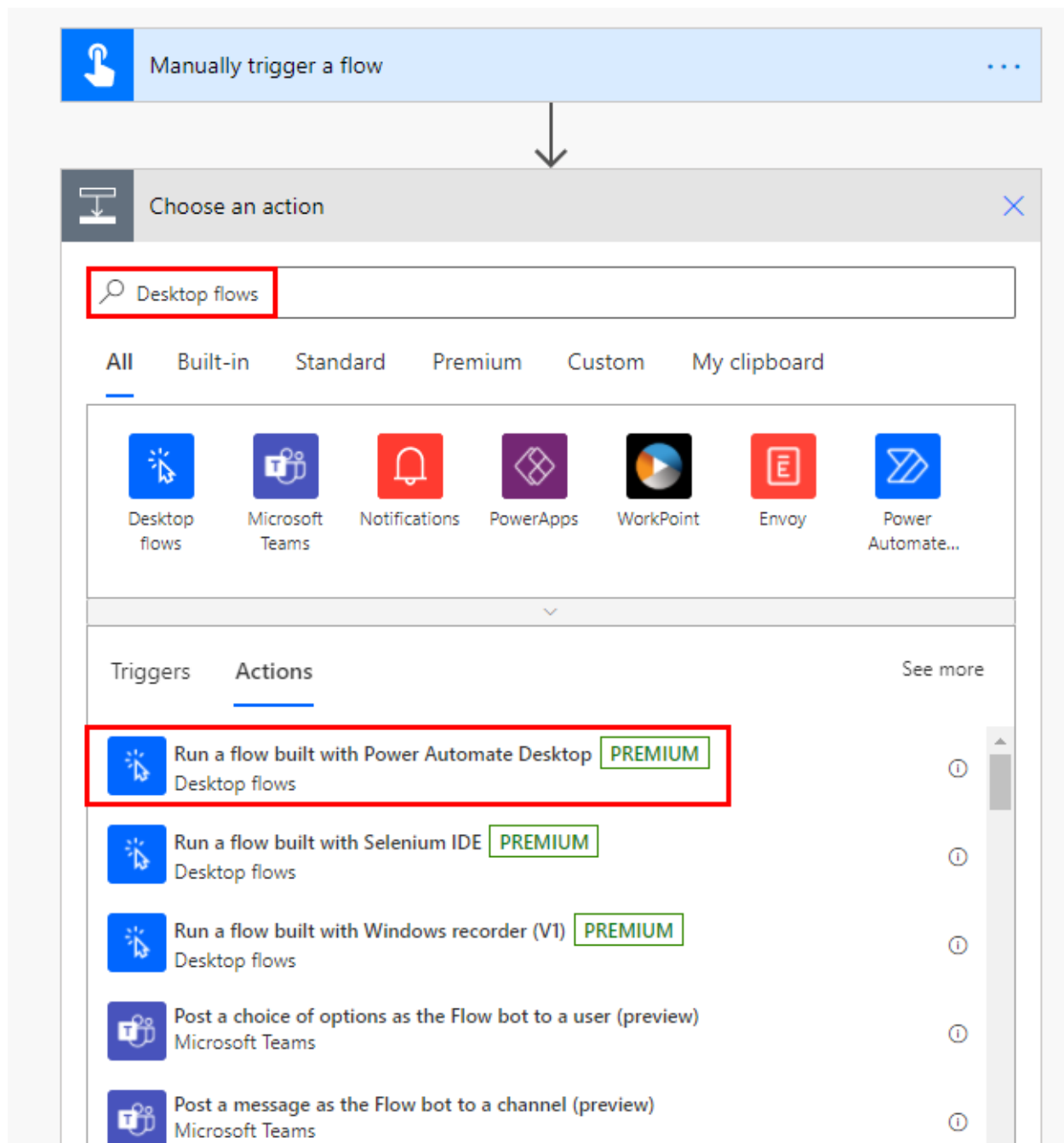
17. Click **+New step**.

Manual trigger Desktop flow to enter invoice on VM

Manually trigger a flow

+ New step Save

18. Search for **Desktop flows** and select **Run a flow built with Power Automate Desktop**.



19. Click on the three dots and select **Add new connection**.

The screenshot shows the Power Automate interface with two steps. The first step is 'Manually trigger a flow'. The second step is 'Run a flow built with Power Automate Desktop', which is highlighted with a red box around its three-dot menu icon. Below this step, there are two required fields: '* Desktop flow' and '* Run Mode'. The '* Desktop flow' field has a dropdown menu with the text 'Choose an option or create your own' and a red error message below it stating '*Desktop flow* is required.'. The '* Run Mode' field has a dropdown menu with the text 'Choose between running while signed in (attended) or in the background' and a red error message below it stating '*Run Mode* is required.'. At the bottom of the configuration panel, there is a link 'Show advanced options' with a downward arrow. Below the configuration panel, there are two buttons: '+ New step' and 'Save'.

Manually trigger a flow

Run a flow built with Power Automate Desktop

* Desktop flow Choose an option or create your own
'Desktop flow' is required.

* Run Mode Choose between running while signed in (attended) or in the background
'Run Mode' is required.

Show advanced options

+ New step Save

20. Select **Test on VM gateway** in the Gateway name field, enter username (e.g. ml-refvm-607426\rpadmin) and **password**. Or the VM log in credential provided by your instructor. Then click **Create**.

The screenshot shows the 'Manually trigger a flow' dialog box in Power Automate. The 'Desktop flows' section is active, and the 'Gateway name' dropdown is set to 'Test on VM gateway'. The 'Domain and username' field contains 'MININT-4PRC061\Administrator'. The 'Password' field is masked with dots. The 'Create' button is highlighted with a red border.

Manually trigger a flow

Desktop flows

Use your credentials to create a connection to an on-premises data gateway and securely connect your locally stored data to Power Automate and other Microsoft services. [Learn more](#)

* Gateway name
Test on VM gateway

+ New gateway

* Domain and username
MININT-4PRC061\Administrator

* Password

Create Cancel

21. Select Enter an invoice Desktop flow.

Manual trigger Desktop flow to enter invoice on VM

Manually trigger a flow

Run a flow built with Power Automate Desktop

* Desktop flow: Enter an invoice Edit

* Run Mode: Choose between running while signed in (attended) or in the background ▼
'Run Mode' is required.

Amount:

Contact:

Account name:

[Show advanced options](#) ▼

+ New step Save

22. Fill the box with these values:

Run Mode: Unattended -Runs in the background without signing in

Amount: \$200

Contact: b.friday@wingtiptoy.com

Account: WingTip Toys

Then click **Save**.

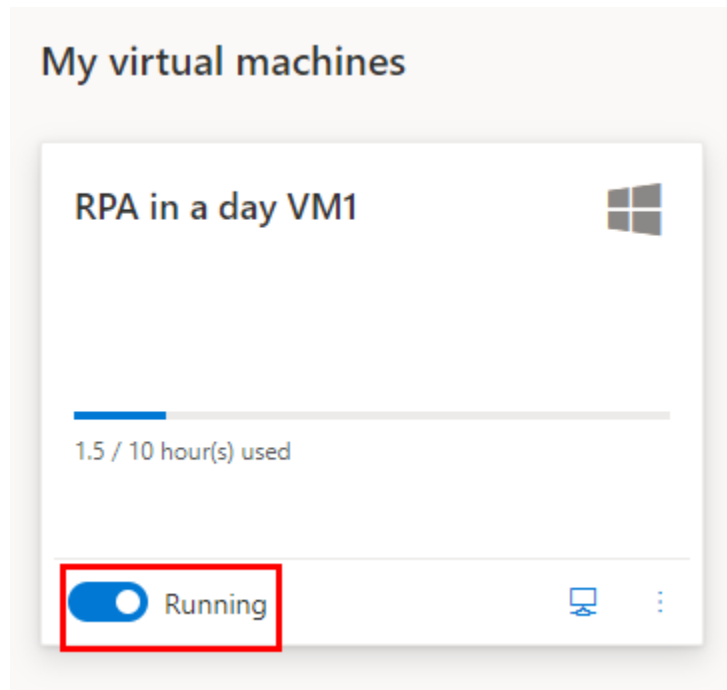
The screenshot shows the Power Automate Desktop interface. At the top, there is a blue bar with a hand icon and the text "Manually trigger a flow". Below this, a plus icon in a circle indicates a new step. The main area shows a configuration box for a step titled "Run a flow built with Power Automate Desktop". Inside this box, the following fields are visible:

- * Desktop flow:** A dropdown menu showing "Enter an invoice" with an "Edit" button to its right.
- * Run Mode:** A dropdown menu showing "Unattended - Runs in the background without signing in".
- Amount:** A text input field containing "\$200".
- Contact:** A text input field containing "b.friday@wingtiptoy.com".
- Account name:** A text input field containing "WingTip Toys".

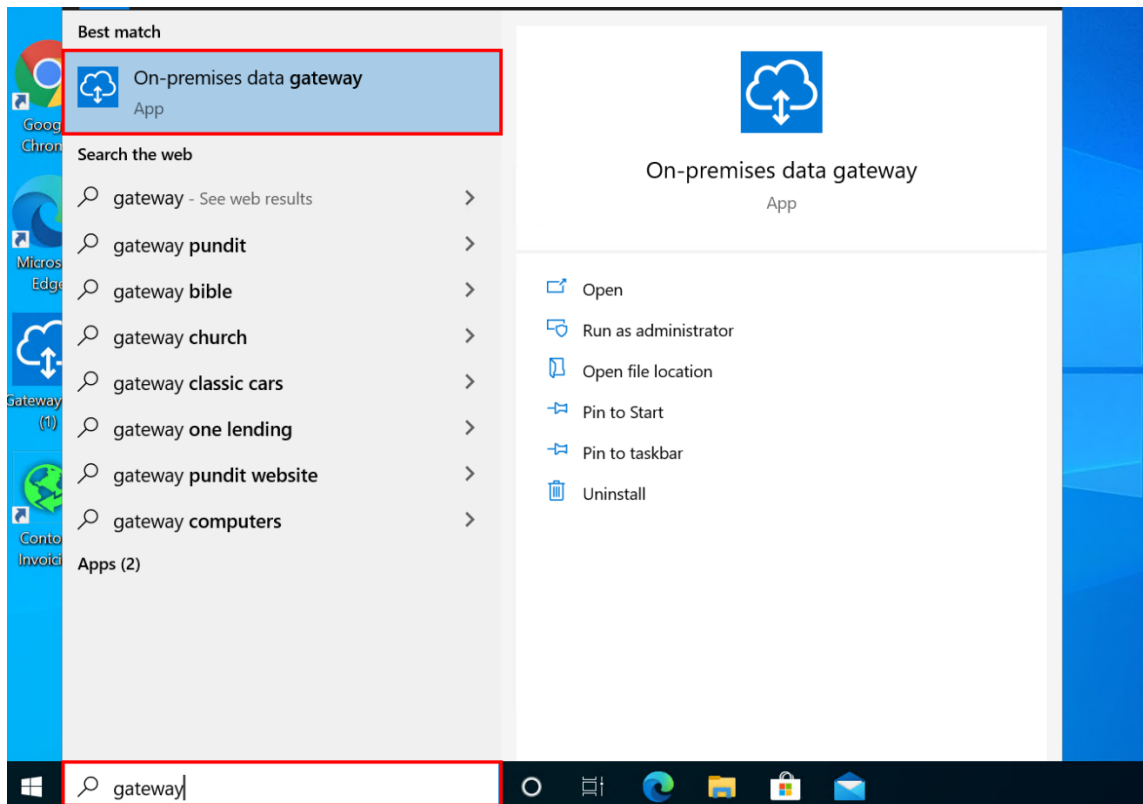
Below these fields is a link "Show advanced options" with a downward arrow. At the bottom of the interface, there are two buttons: "+ New step" and "Save". The "Save" button is highlighted with a red border.

23. Prepare to test unattended flow. Make sure your VM is in good state. Review the steps below:

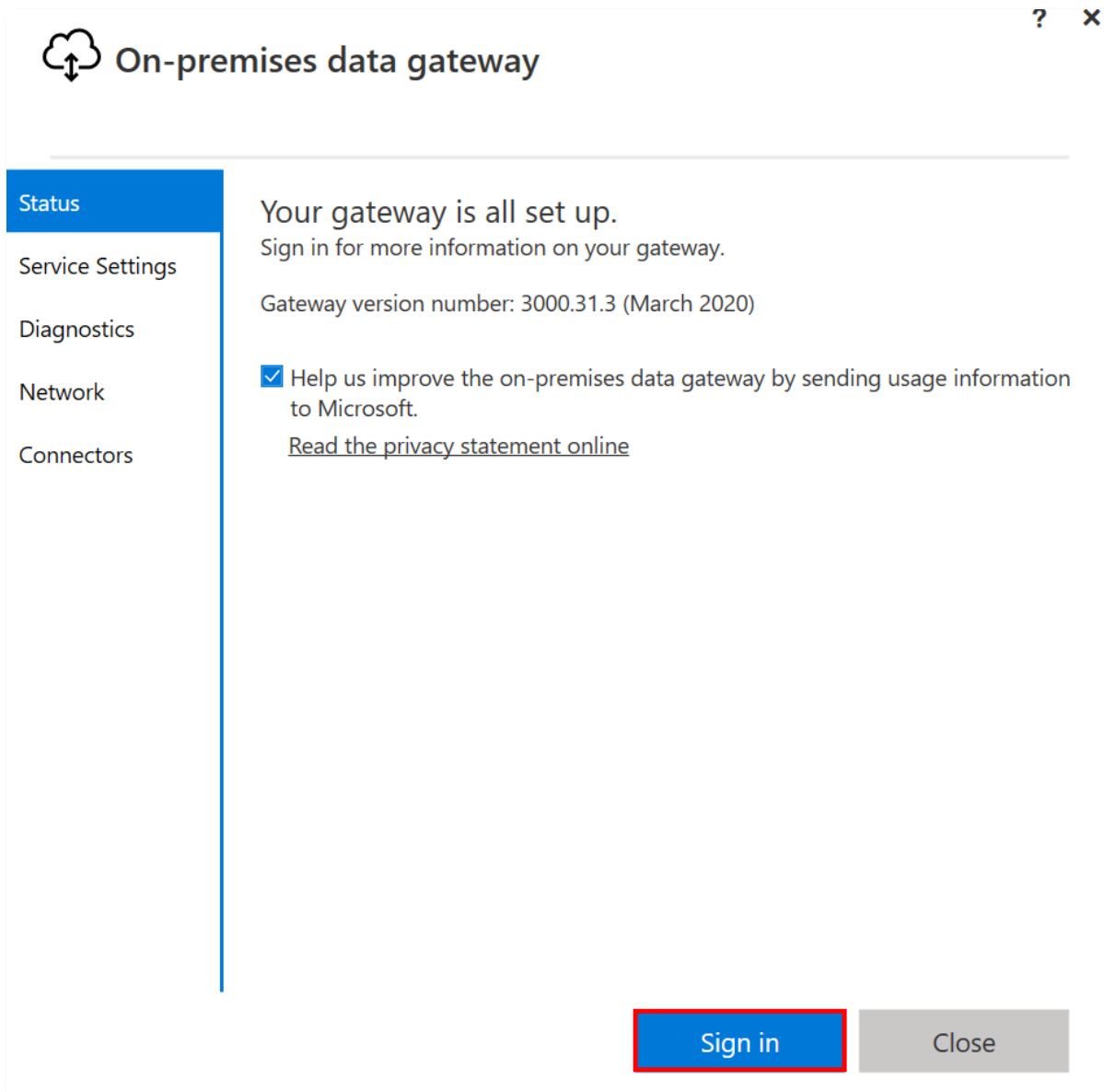
- a) Navigate to <https://labs.azure.com/virtualmachines> to see if your VM is still running. Start the VM if it's stopped.



- b) To sign into the gateway on VM, search gateway in VM windows search bar. Select **On-premises data gateway**.



c) Click Sign in.



d) Enter your email then click **Next**.



On-premises data gateway

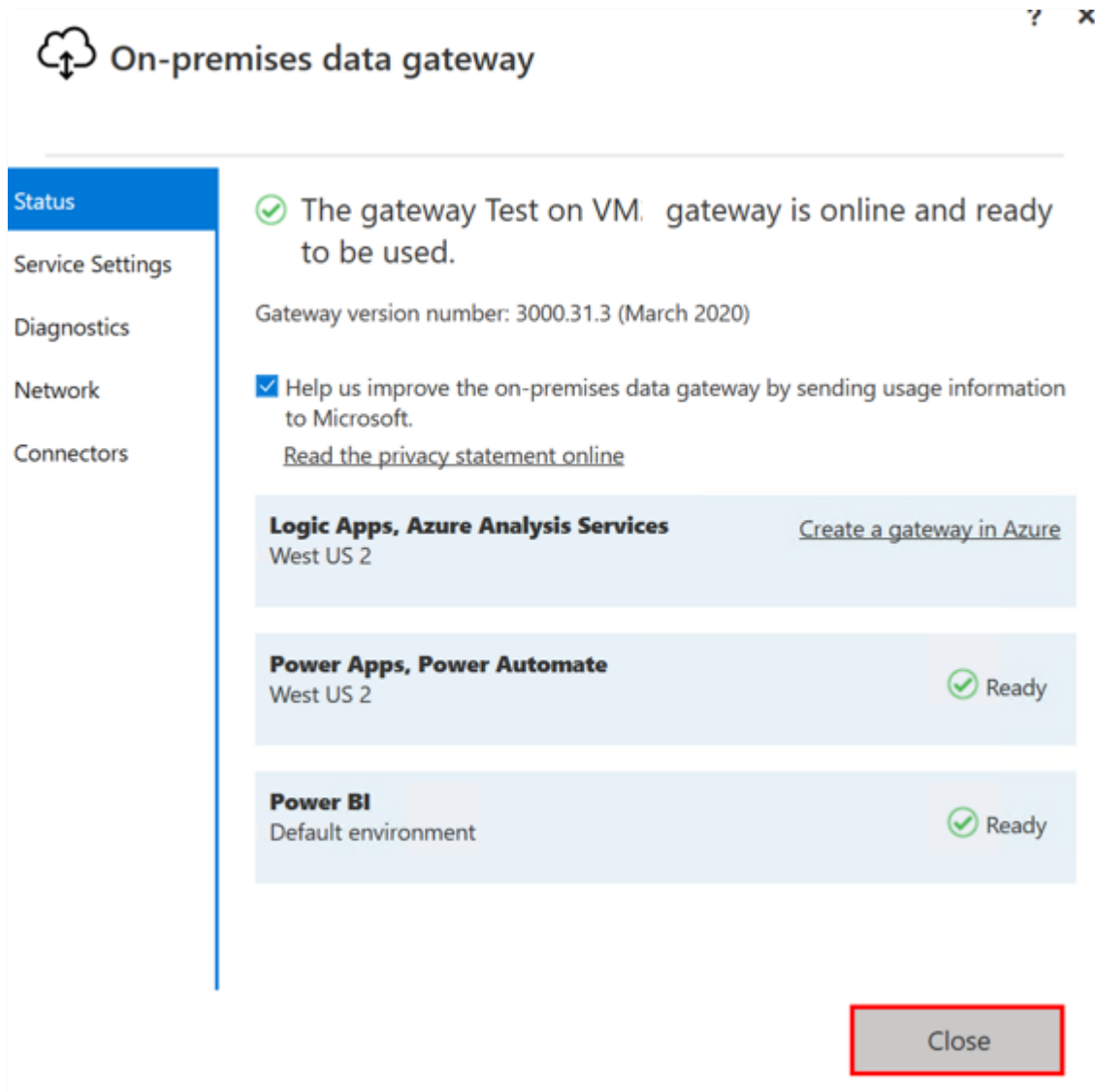
? x

Email address to use with this gateway:

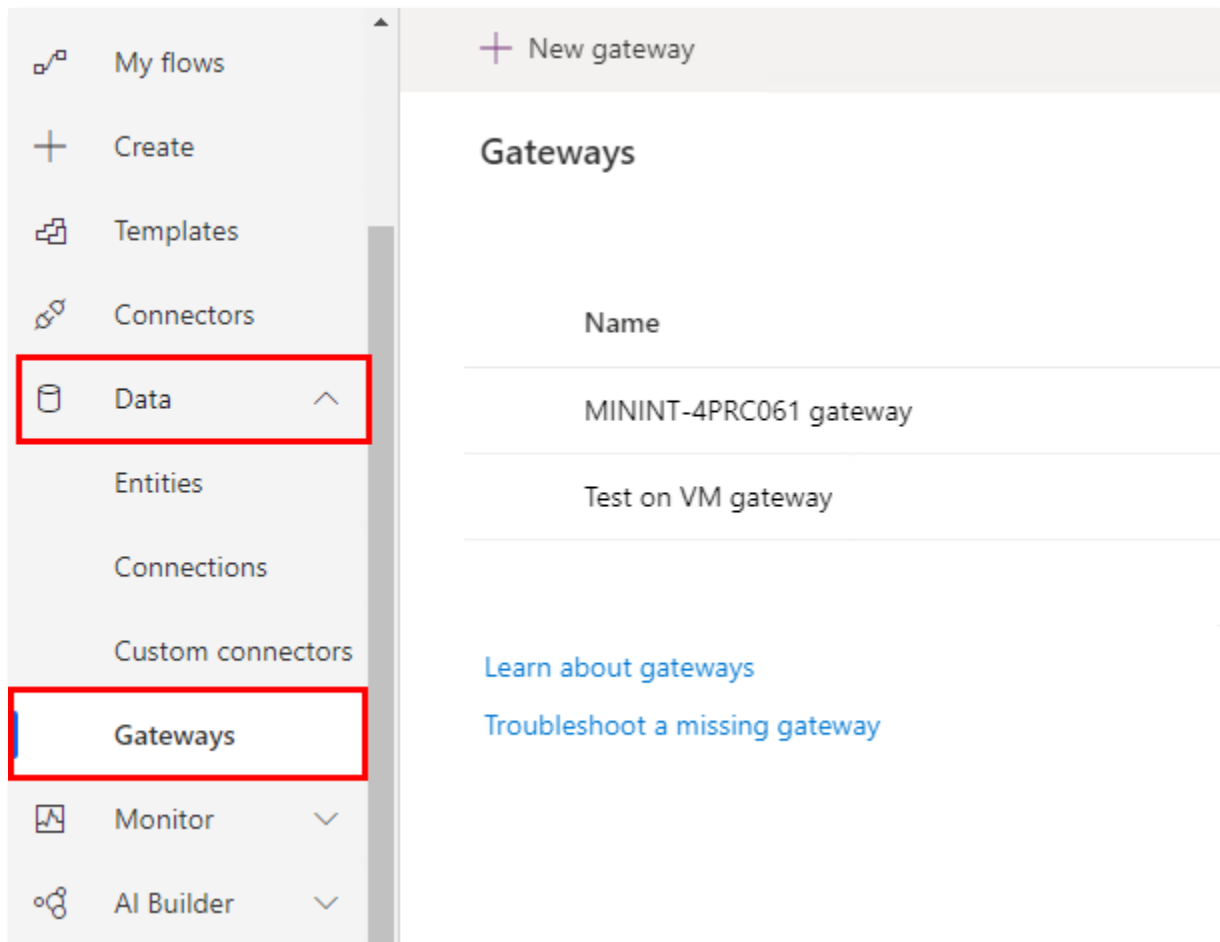
Next

Cancel

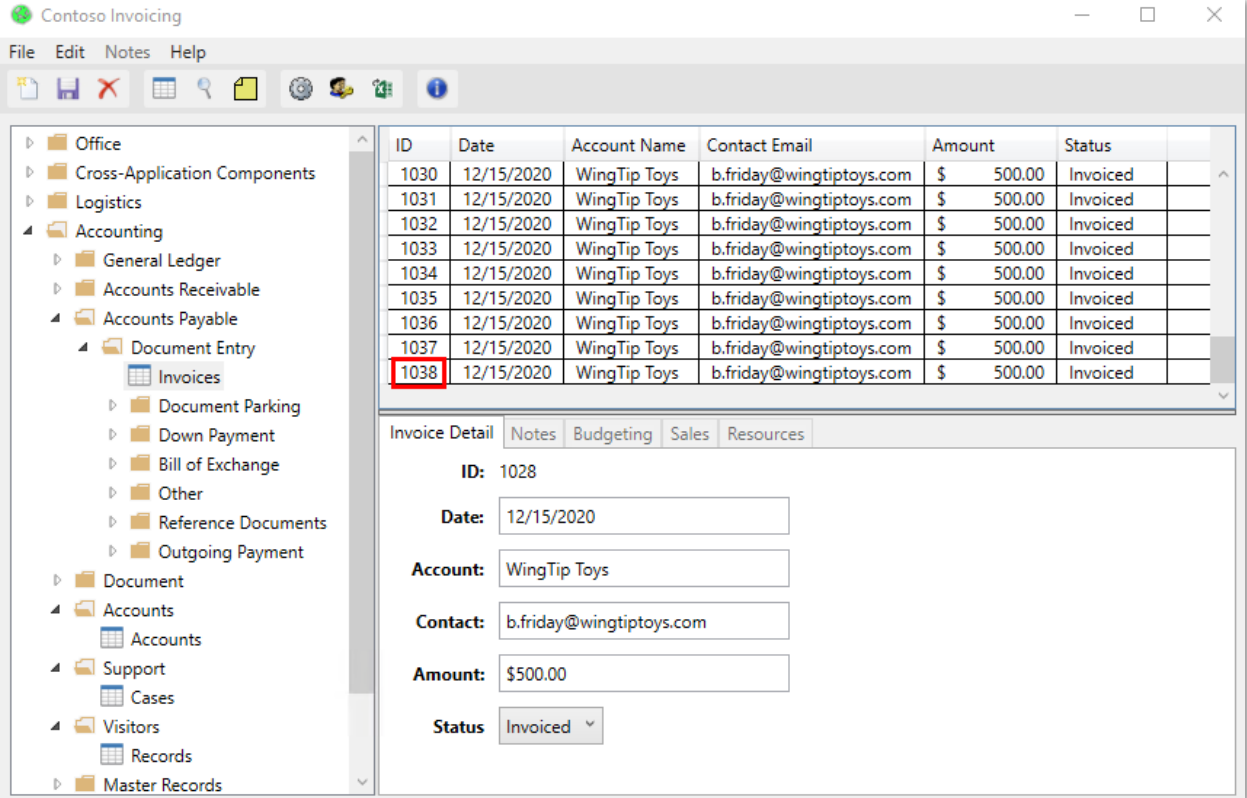
e) Now you can see your gateway is online and ready to be used, click **Close**.



f) On the portal, you will see the gateway is online as well under **Data->Gateway**



- g) Open Contoso invoicing app, go to Invoice tab, and write down what is the current highest invoice ID number. This is to prepare for the comparison with the new IDs after the unattended run.



ID	Date	Account Name	Contact Email	Amount	Status
1030	12/15/2020	WingTip Toys	b.friday@wingtip toys.com	\$ 500.00	Invoiced
1031	12/15/2020	WingTip Toys	b.friday@wingtip toys.com	\$ 500.00	Invoiced
1032	12/15/2020	WingTip Toys	b.friday@wingtip toys.com	\$ 500.00	Invoiced
1033	12/15/2020	WingTip Toys	b.friday@wingtip toys.com	\$ 500.00	Invoiced
1034	12/15/2020	WingTip Toys	b.friday@wingtip toys.com	\$ 500.00	Invoiced
1035	12/15/2020	WingTip Toys	b.friday@wingtip toys.com	\$ 500.00	Invoiced
1036	12/15/2020	WingTip Toys	b.friday@wingtip toys.com	\$ 500.00	Invoiced
1037	12/15/2020	WingTip Toys	b.friday@wingtip toys.com	\$ 500.00	Invoiced
1038	12/15/2020	WingTip Toys	b.friday@wingtip toys.com	\$ 500.00	Invoiced

Invoice Detail | Notes | Budgeting | Sales | Resources

ID: 1028

Date: 12/15/2020

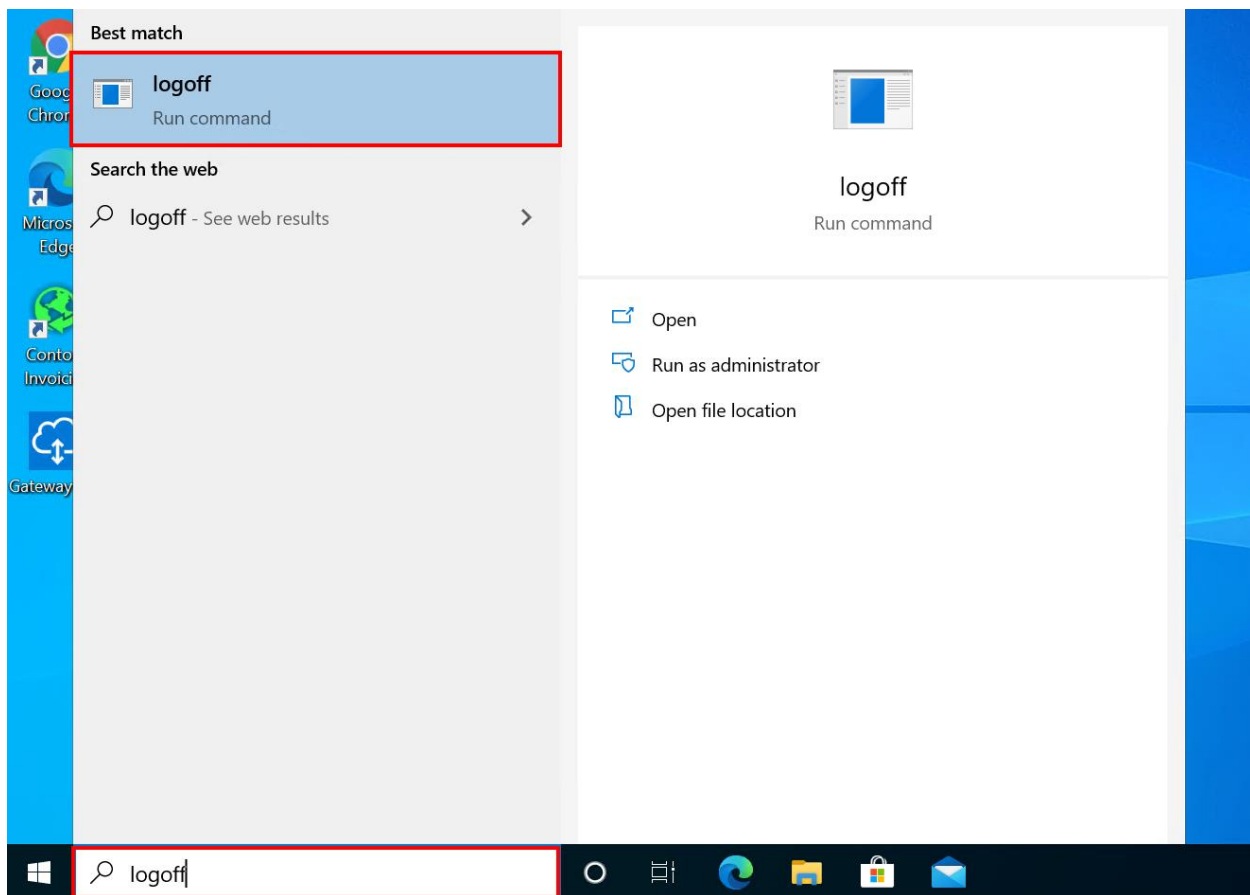
Account: WingTip Toys

Contact: b.friday@wingtip toys.com

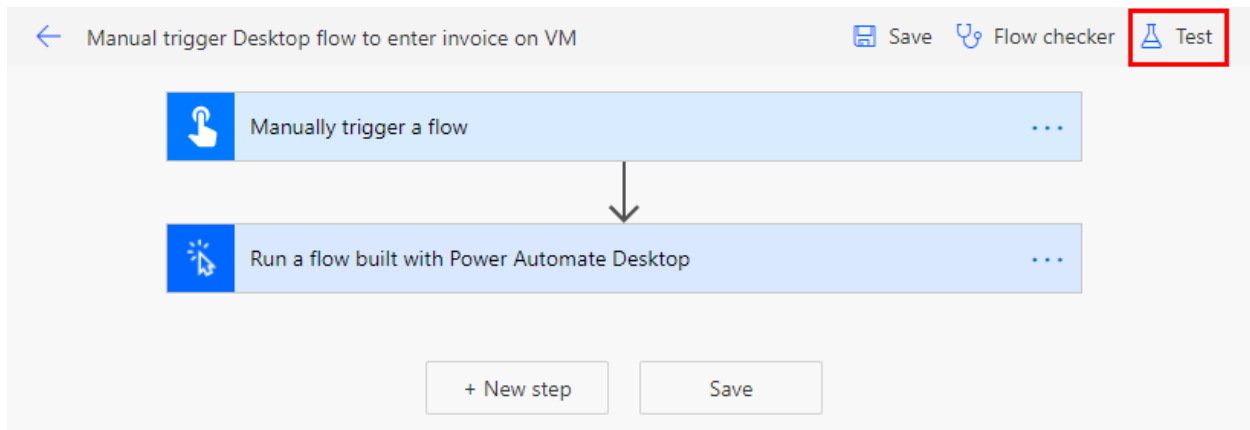
Amount: \$500.00

Status: Invoiced

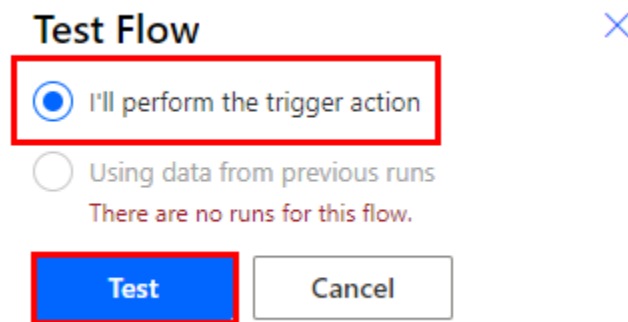
h) Log off your VM.



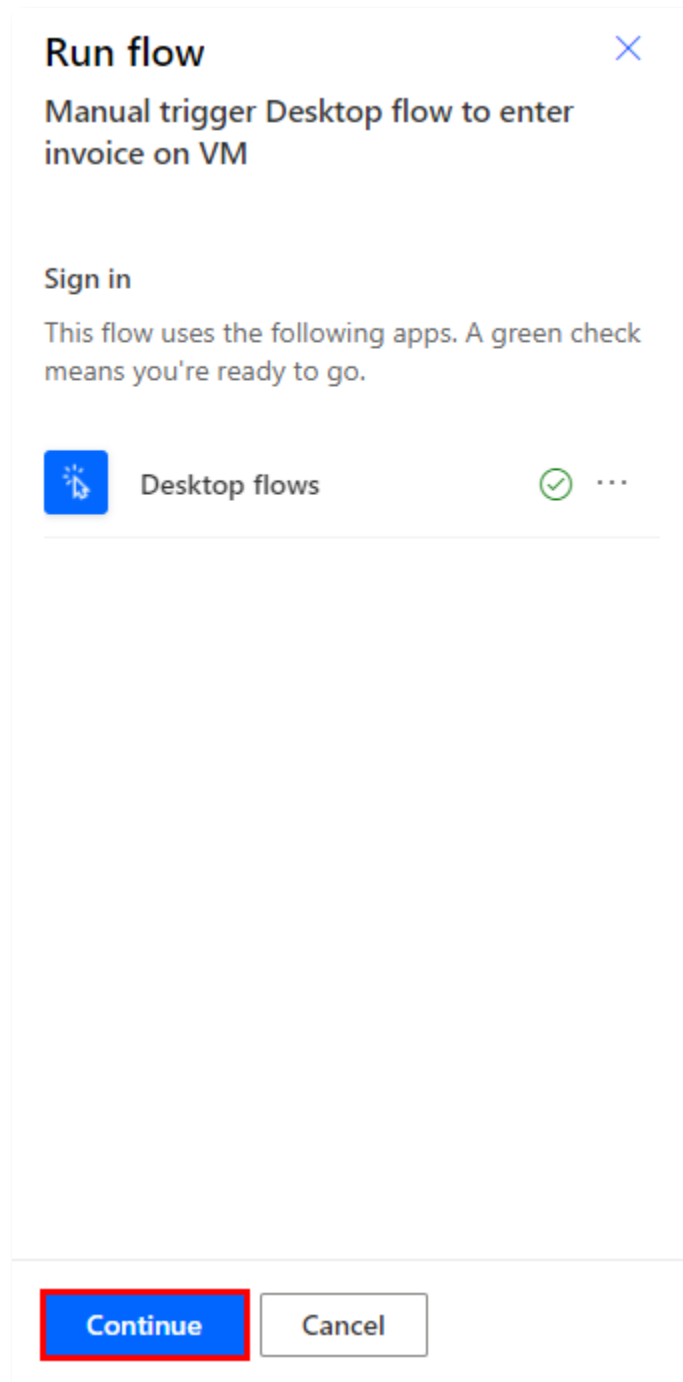
24. Now from the portal in your own computer (not the vm), click **Test**.



25. Select I'll perform the trigger action. Click Test.



26. Click Continue.

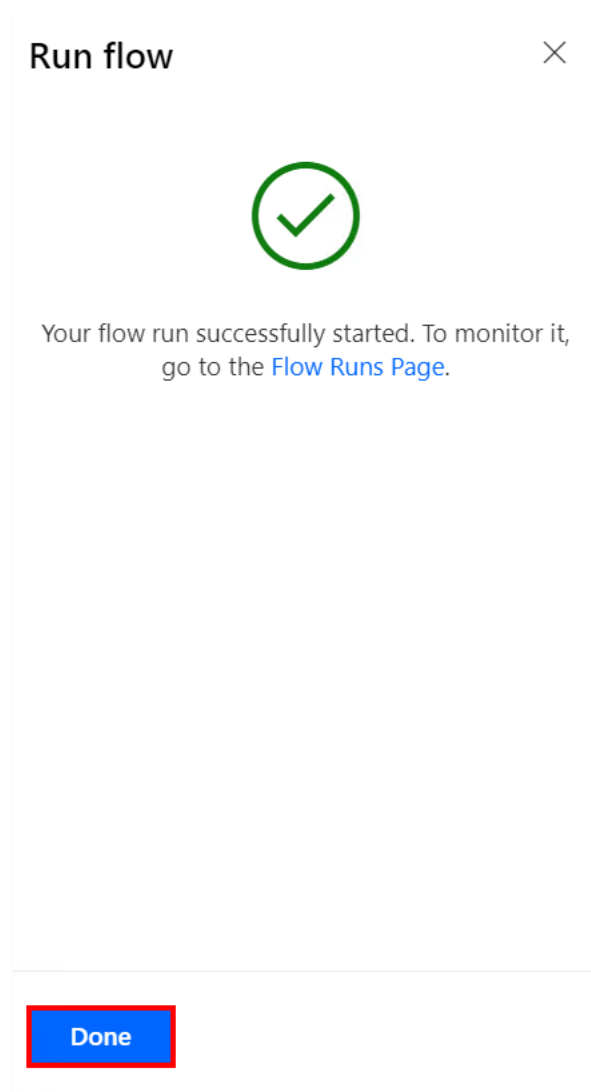


27. Click **Run flow**.

This flow uses Desktop flows.
[Review connections and actions](#)



28. Click **Done**.



29. The flow will be running unattended on the VM that you have logged off. You can monitor the flow run from the portal run history. It should run successfully.

Tip: If the installation location paths (e.g. C:\Program Files (x86)\Contoso, Inc\Contoso Invoicing\LegacyInvoicingApp.exe) are different for the Contoso app on the machine at recording time vs the VM used for playback time, you will have to either modify the path manually from the portal script steps, or uninstall/reinstall the Contoso app on the VM to the same path, or simply delete the script and re-record the Desktop flow on the VM again to pick up the correct path.

30. You can log back into the VM and write down the Contoso app newest invoice ID.

Note: You can simply find your VM rdp file under **File Explorer > Downloads** and use it to connect to the VM.

Exercise 2: End-to-end Invoice Processing Scenario in Unattended mode

1. Now we will update the E2E invoicing process flow to be run unattended. Go to Solutions. Select Invoice processing solution (the one you created in lab 7)

The screenshot shows the Microsoft Power Automate interface. On the left is a sidebar with navigation options: Home, Action items, My flows, Create, Templates, Connectors, Data, Monitor, AI Builder, Process advisor (preview), **Solutions** (highlighted with a red box), and Learn. The main area is titled 'Solutions' and contains a table of available solutions.

Display name
Invoice processing solution (highlighted with a red box)
RPA in a day - Process Advisor
Process Mining Anchor
Process Mining
Power Apps Checker Base
Power Apps Checker
Contextual Help Base
Contextual Help
Common Data Services Default Solution
Default Solution







2. Open Enter invoice information flow (the one you created in lab 7).

Solutions > Invoice processing solution

Display name ▼

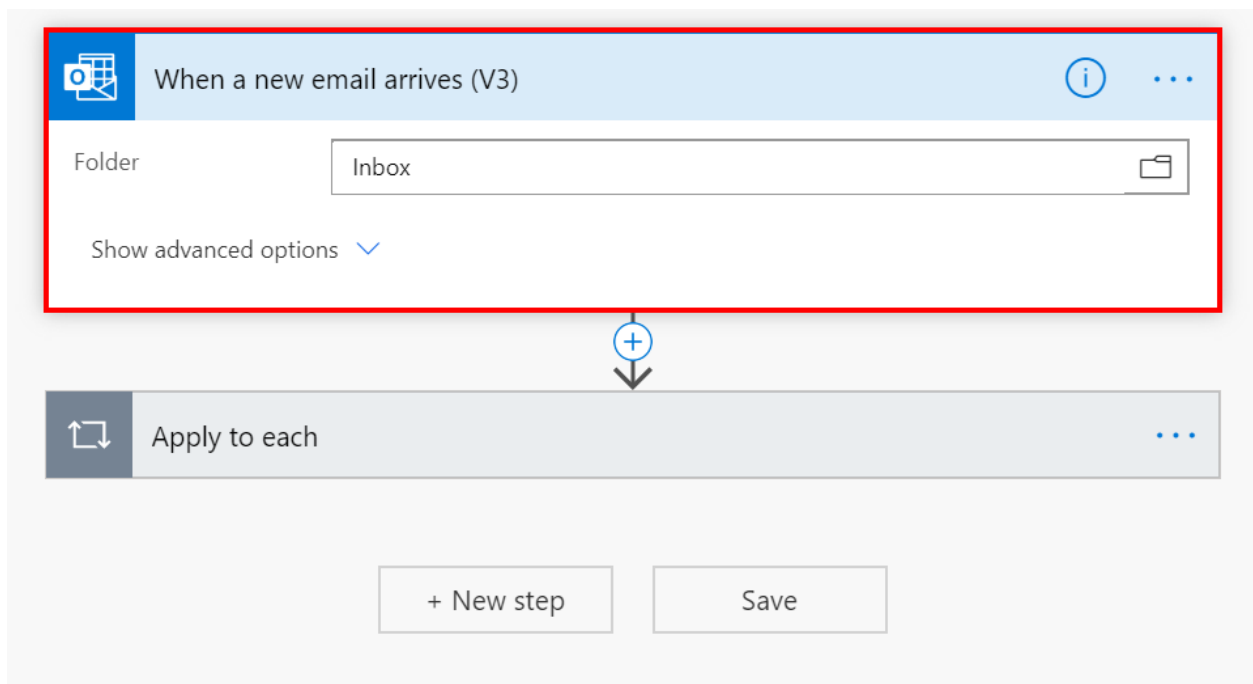
Enter invoice information flow 

3. Click Edit.

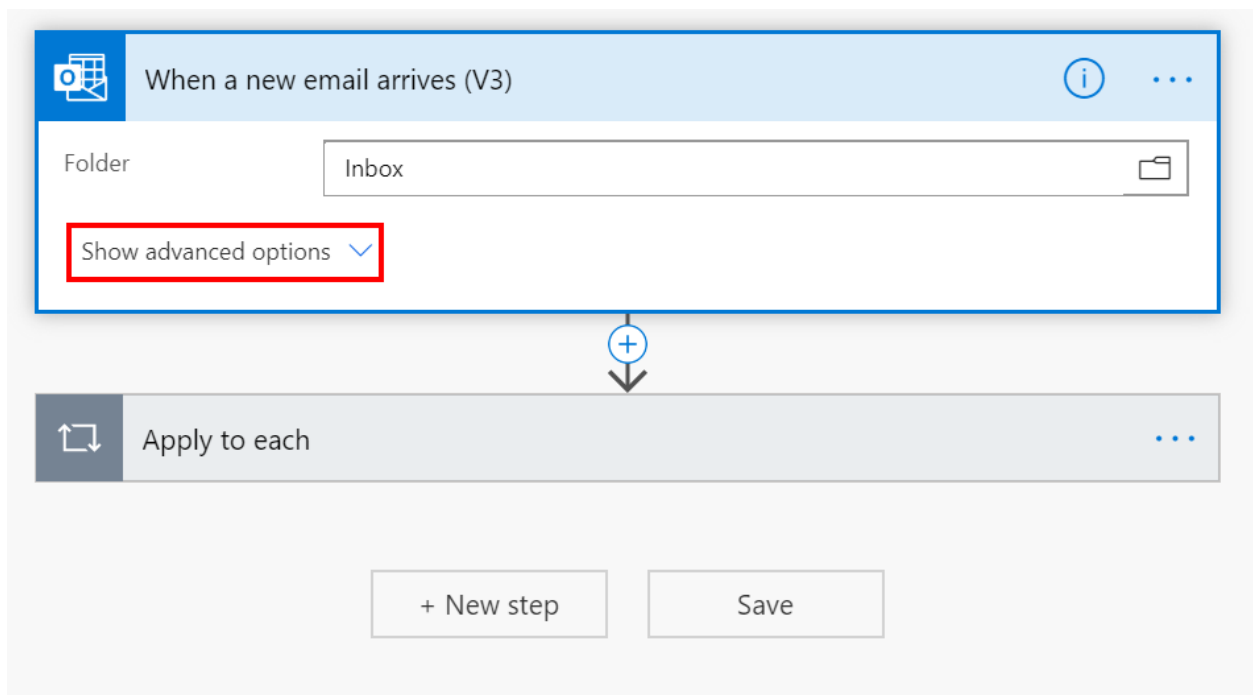
 Edit  Share  Save As  Delete  Send a copy 

Flows > Enter invoice information flow

4. Expand **When a new email arrives** step.



5. Click **Show advanced options**.



6. Type in **unattended** in Subject Filter field.


The screenshot shows the configuration window for the 'When a new email arrives (V3)' trigger in Microsoft Power Automate. The window has a blue header bar with the trigger icon and title. Below the header, there are several configuration fields. The 'Subject Filter' field is highlighted with a red rectangle and contains the text 'unattended'. The other fields are: Folder (Inbox), To (Recipient email addresses separated by semicolons), CC (CC recipient email addresses separated by semicolons), To or CC (To or CC recipient email addresses separated by semicolons), From (Sender email addresses separated by semicolons), Include Attachments (Yes), Importance (Any), and Only with Attachments (Yes). At the bottom, there is a link to 'Hide advanced options'.

Field	Value
Folder	Inbox
To	Recipient email addresses separated by semicolons (If any match, the
CC	CC recipient email addresses separated by semicolons (If any match, '
To or CC	To or CC recipient email addresses separated by semicolons (If any m
From	Sender email addresses separated by semicolons (If any match, the tr
Include Attachments	Yes
Subject Filter	unattended
Importance	Any
Only with Attachments	Yes

[Hide advanced options](#) ^

- Expand **Run a flow built with Power Automate Desktop**.

✓ If yes

 Run a flow built with Power Automate Desktop ? ...


* Desktop flow

Enter an invoice ▼ Edit


* Run Mode

Attended - Runs when you're signed in ▼


Amount

 Total value ×


Contact


 Contact value ×

Account name

 Bill to value ×

Show advanced options ▼



 Reply to email (V3) ...

- Select the ellipsis icon (...) for **Run a flow built with Power Automate Desktop** action and select the correct unattended connection that you created in exercise 1 of lab 10.

9. Select **Unattended** – Runs in the background without signing in in Run Mode field.

Run a flow built with Power Automate Desktop

* Desktop flow: Enter an invoice [Edit]

* Run Mode: **Unattended - Runs in the background without signing in** [v]

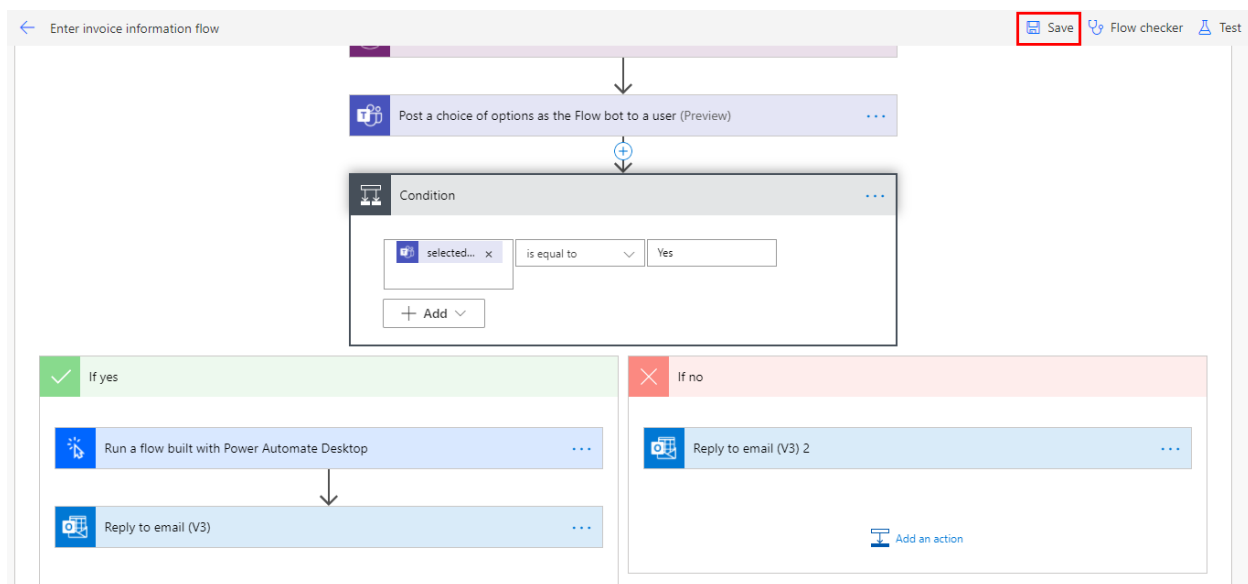
Amount: [Total value x]

Contact: [Contact value x]

Account name: [Bill to value x]

Show advanced options [v]

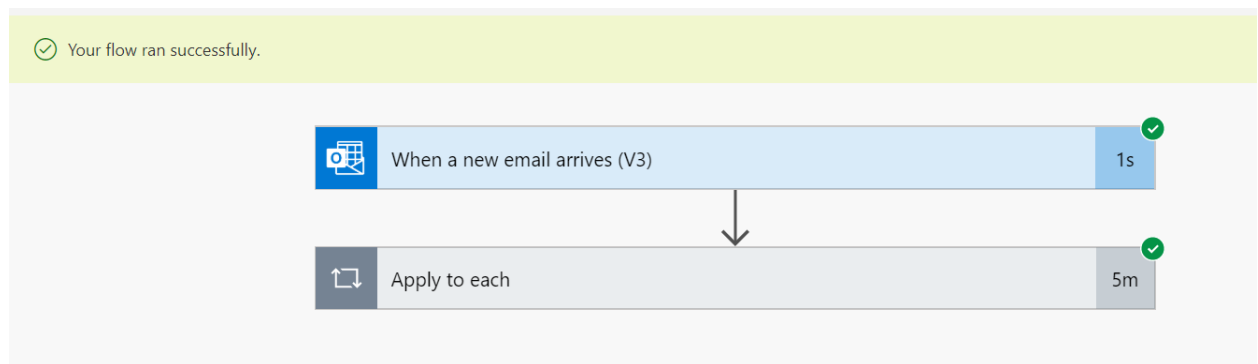
10. Click **Save**.



11. Make sure your VM is ready for unattended run. E.g. make sure VM is running, gateway on VM is online (by checking on the portal under Data->gateway), write down the highest invoice ID number, logged off the VM using logoff command.

12. Now prepare to trigger this flow. In a separate tab, open the Teams app (open it in the browser, not the app).

13. In another separate tab, open the Office 365 Outlook app.
14. Compose a new email with the following settings:
 - a. To: {email address of the user identity you are using in this lab}
 - b. Subject: **unattended**
 - c. Attachments: **newinvoice.jpg** (from the lab resource files)
15. Send the email and wait for the flow to be triggered to run.
16. Wait for an approval request message to you in the Teams tab - approve the invoice.
17. In the Outlook tab, wait for a confirmation email that indicates the approval is complete.



18. Log in back to VM to check the new added entry after your flow ran successfully.

Note: You can simply find your VM rdp file under **File Explorer > Downloads** and use it to connect to the VM.

19. Open Contoso Invoicing app on VM.



20. Click **Invoices**. And you can find the new entries here from the unattended runs. Notice the ID increased compared to the number you write down earlier.

The screenshot shows the 'Contoso Invoicing' application window. The left sidebar contains a tree view with the following structure:

- Office
- Cross-Application Components
- Logistics
- Accounting
 - General Ledger
 - Accounts Receivable
 - Accounts Payable
 - Document Entry
 - Invoices** (highlighted with a red box)
 - Document Parking
 - Down Payment
 - Bill of Exchange
 - Other
 - Reference Documents
 - Outgoing Payment
 - Document
 - Accounts
 - Accounts
 - Support
 - Cases
 - Visitors
 - Records
 - Master Records

The main area displays a table of invoices:

ID	Date	Account Name	Contact Email	Amount	Status
1031	12/15/2020	WingTip Toys	b.friday@wingtip toys.com	\$ 500.00	Invoiced
1032	12/15/2020	WingTip Toys	b.friday@wingtip toys.com	\$ 500.00	Invoiced
1033	12/15/2020	WingTip Toys	b.friday@wingtip toys.com	\$ 500.00	Invoiced
1034	12/15/2020	WingTip Toys	b.friday@wingtip toys.com	\$ 500.00	Invoiced
1035	12/15/2020	WingTip Toys	b.friday@wingtip toys.com	\$ 500.00	Invoiced
1036	12/15/2020	WingTip Toys	b.friday@wingtip toys.com	\$ 500.00	Invoiced
1037	12/15/2020	WingTip Toys	b.friday@wingtip toys.com	\$ 500.00	Invoiced
1038	12/15/2020	WingTip Toys	b.friday@wingtip toys.com	\$ 500.00	Invoiced
1039	12/15/2020	Litware Inc.	adixon@litware.com	\$ 6,743.12	Invoiced

Below the table, the 'Invoice Detail' tab is selected, showing the following information for ID: 1039:

ID: 1039

Date: 12/15/2020

Account: Litware Inc.

Contact: adixon@litware.com

Amount: \$6,743.12

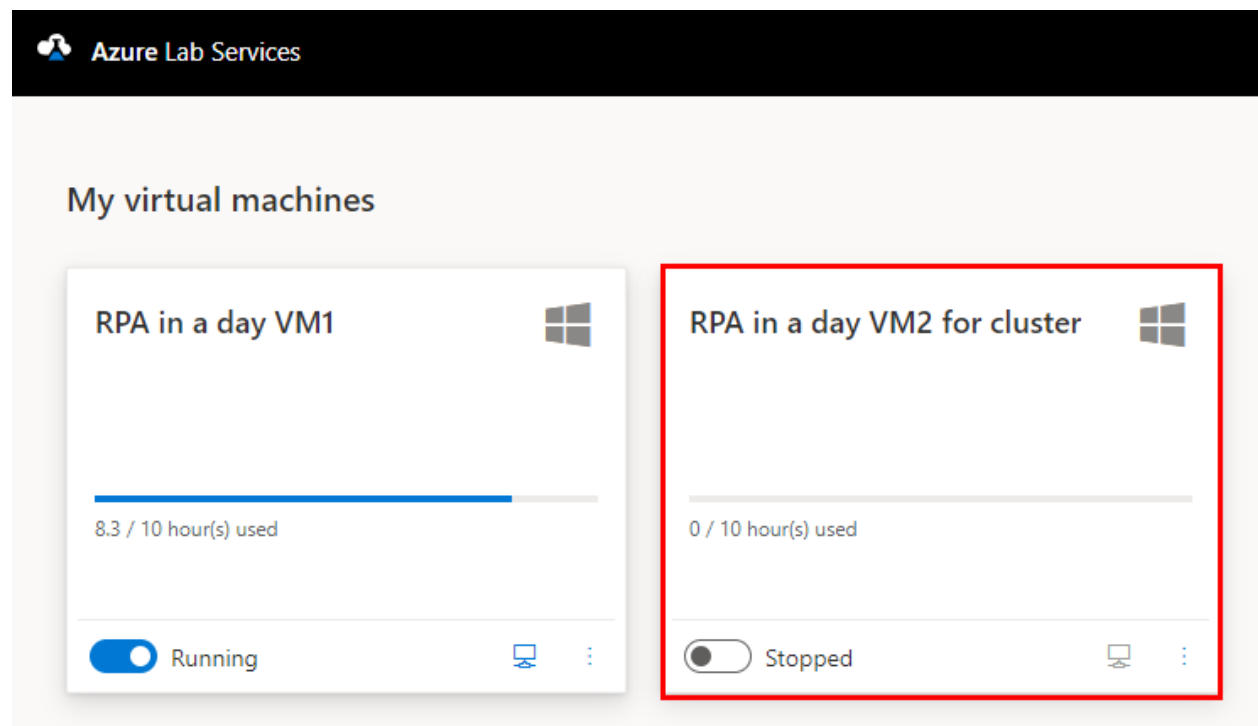
Status: Invoiced

Exercise 3: Run unattended on a cluster of 2 VMs

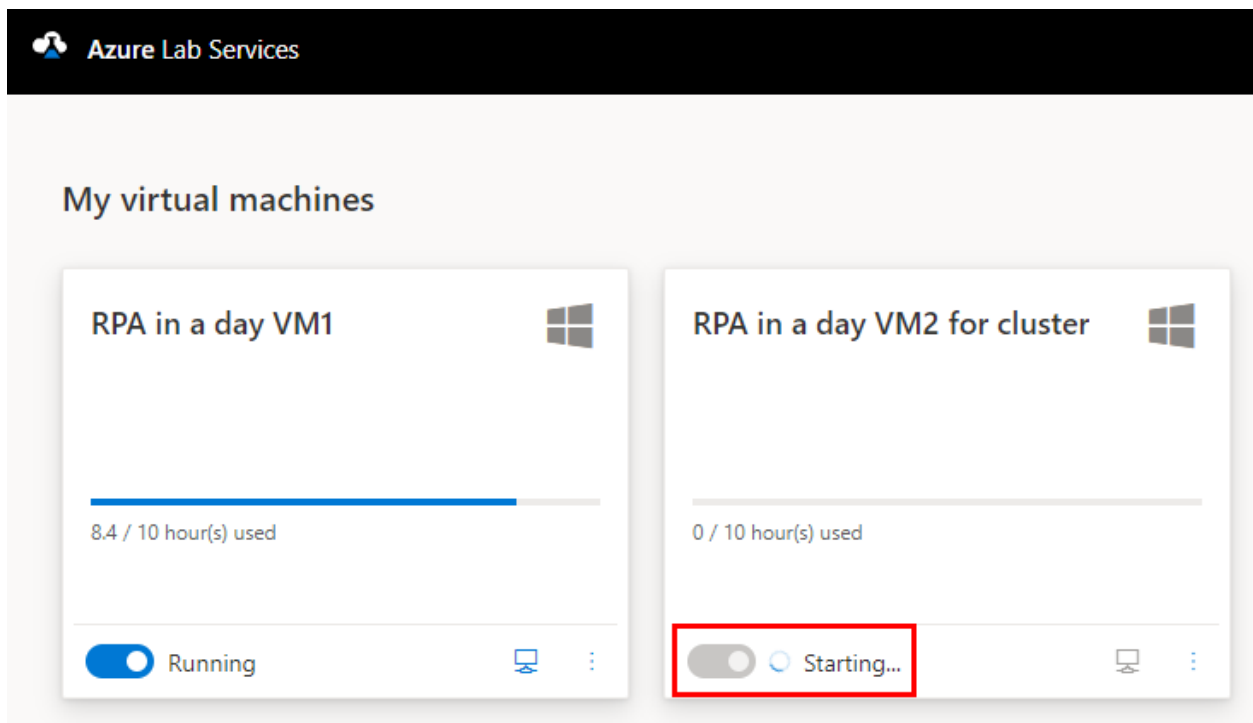
1. We already have 1 VM used in exercise 1 and 2 in this lab 10. Now we will add one more VM to make these 2 VMs to form a cluster.

Note, All VMs need to have the same machine login credential to be joined to a cluster. Otherwise, you will not be able to create a connection that can log in and run Desktop flow on all of the VMs within this cluster.

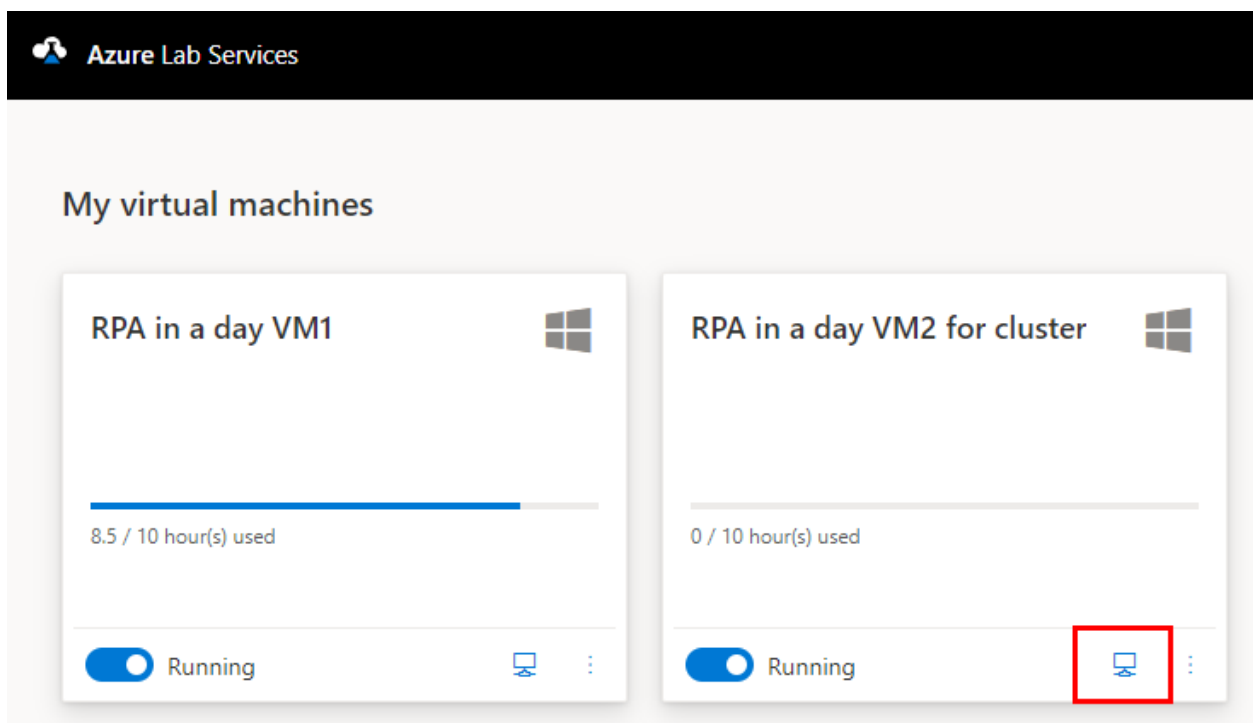
2. Navigate to <http://aka.ms/rpa/vm2> [should be provided by the trainer] to get the second VM "RPA in a day VM2 for cluster" [should be provided by the trainer]



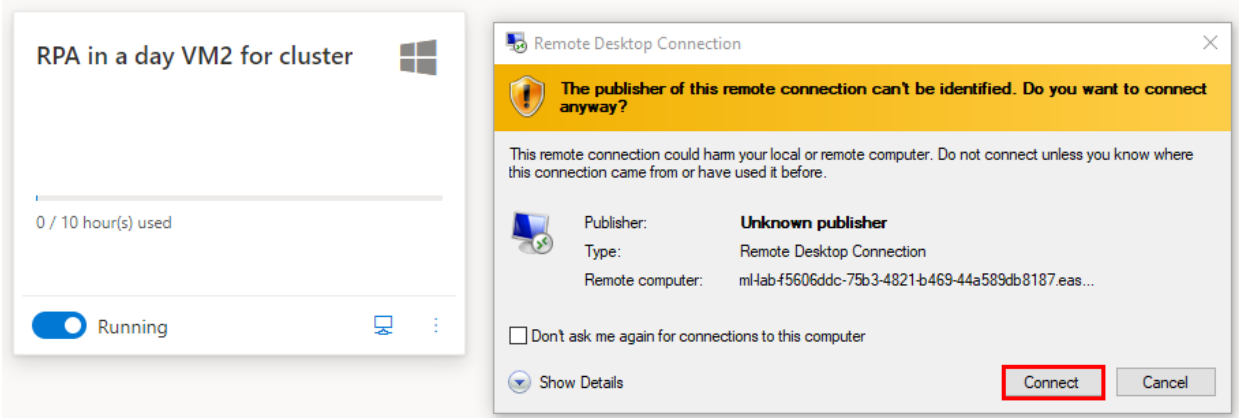
3. Ensure your first VM is running (if not, start it), and start your second VM.



4. Click on the **connect to the virtual machine** icon.



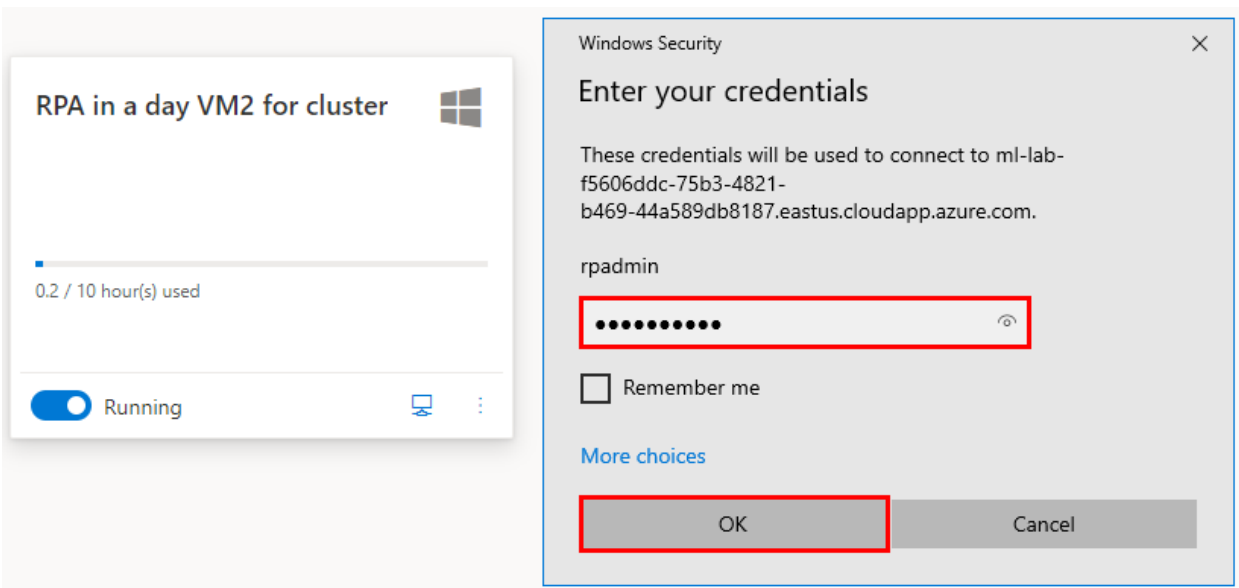
5. Click **Connect**.



6. Use the following credentials to log in to the VM which is the same as your first VM:

- **Username:** rpadmin [should be provided by the trainer]
- **Password:** Uiflowrpa! [should be provided by the trainer]

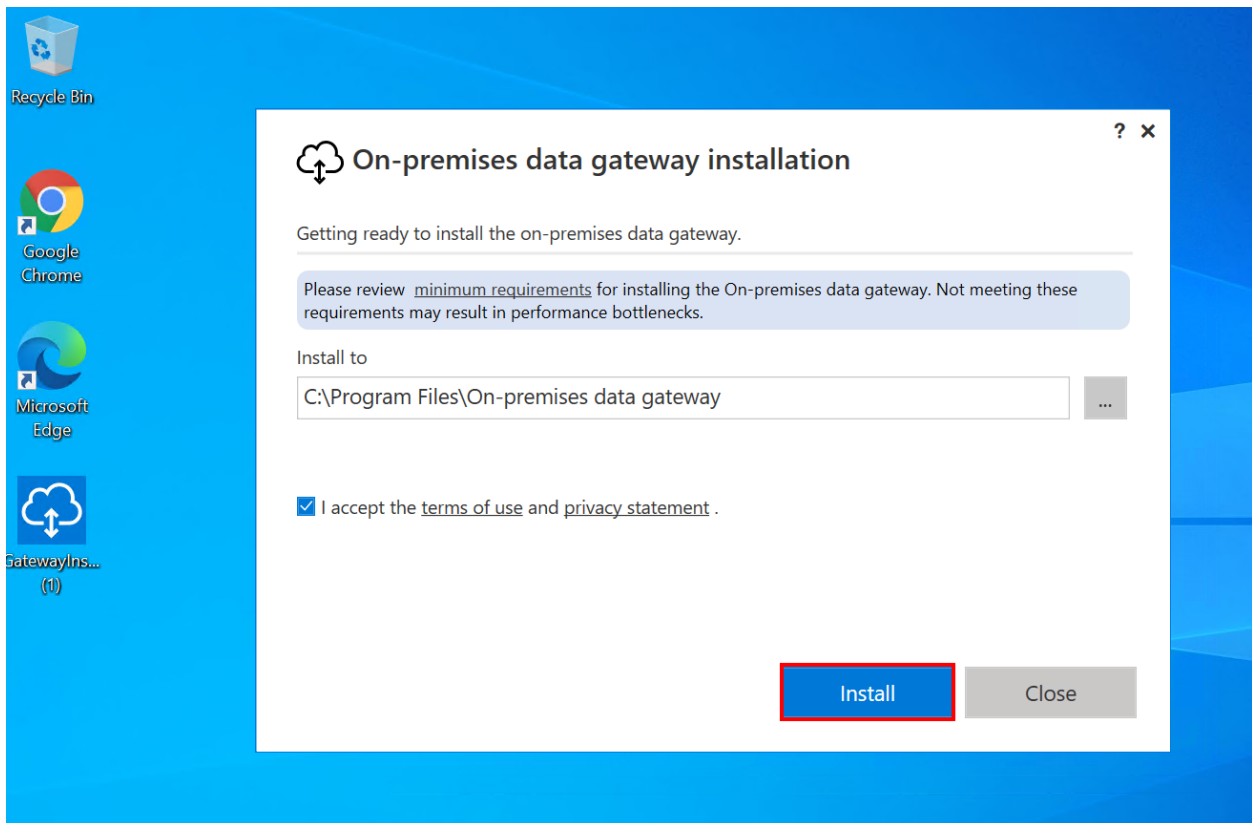
Then click **OK**.



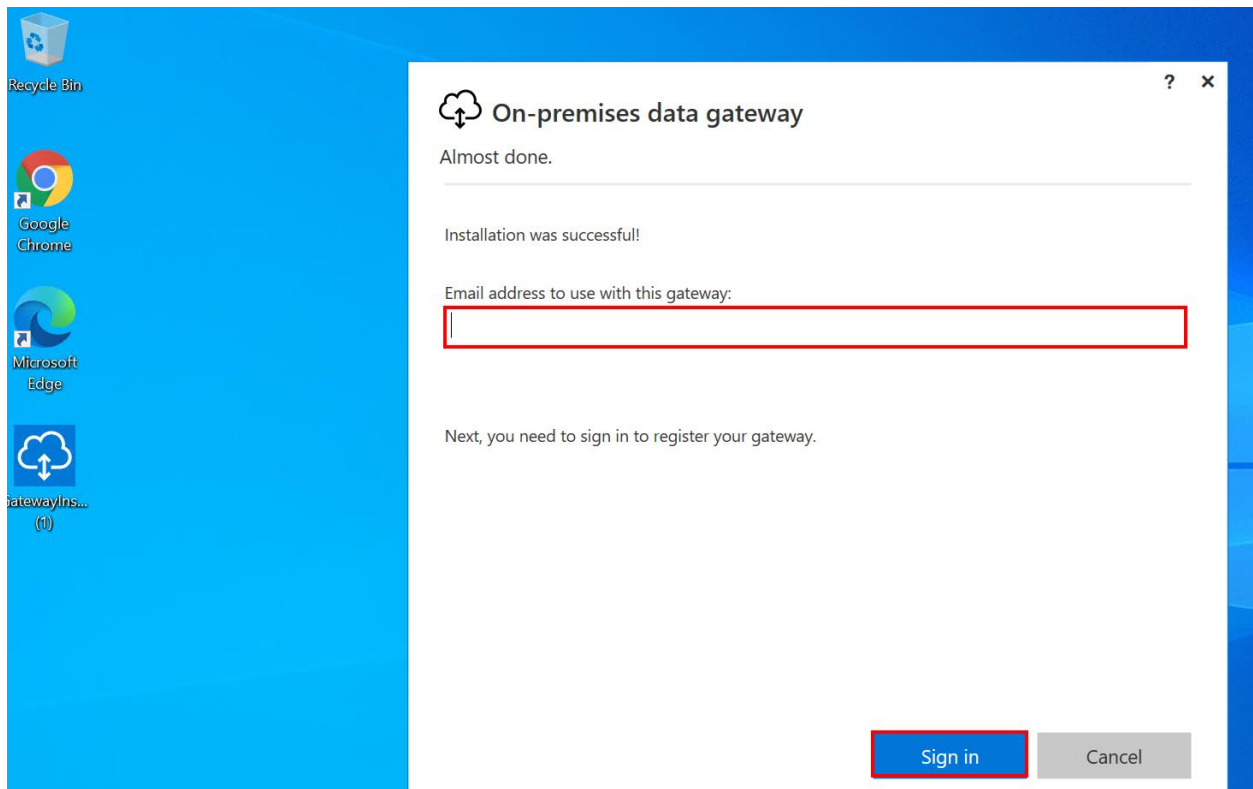
7. Install the gateway on the second VM.



8. Click Install.



9. Sign in with the UPN for the tenant admin for the tenant you created in the setup lab.



10. Select **Register a new gateway on this computer** then click **Next**.

☒ Register a new gateway on this computer.

☐ Migrate, restore, or takeover an existing gateway.

- Move a gateway to a new computer
- Recover a damaged gateway
- Take ownership of a gateway


The old gateway will be disconnected.

Next Cancel

11. **Note: Make sure you check the Add to an existing gateway cluster box.**

New on-premises data gateway name

☐ Add to an existing gateway cluster
Recovery key (8 character minimum)

 This key is needed to restore the gateway and can't be changed. Record it in a safe place.

Confirm recovery key

[Learn more about gateway clusters](#)

We'll use this region to connect the gateway to cloud services: West US 2 [Change Region](#)

<< Back Configure

12. In the “Available gateway cluster” dropdown menu, please select the gateway name that you have created on your 1st VM. By selecting this, the new gateway you are configuring now will be added into the same cluster as the gateway from the 1st VM.

New on-premises data gateway name

☒ Add to an existing gateway cluster

Available gateway clusters

Test on VM gateway

MININT-4PRC061 gateway

Test on VM gateway

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Configure

13. Name the gateway as **Test on VM2 gateway**. Enter your **Recovery key** that you used when you set up the gateway on the 1st VM. Then click **Configure**.

Note: To add new gateway instances to this cluster, this primary gateway instance needs to be online.

New on-premises data gateway name

Test on VM2 gateway

☒ Add to an existing gateway cluster

Available gateway clusters

Test on VM gateway

Recovery key (8 character minimum)

••••••••

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Configure

14. Now your 2nd gateway is configured into the same cluster and ready to be used, now you can click **Close**.

On-premises data gateway

Status

Service Settings

Diagnostics

Network

Connectors

✓ The gateway Test on VM2 gateway is online and ready to be used.

Gateway version number: 3000.31.3 (March 2020)

✓ Help us improve the on-premises data gateway by sending usage information to Microsoft.
[Read the privacy statement online](#)

Logic Apps, Azure Analysis Services [Create a gateway in Azure](#)
West US 2

Power Apps, Power Automate ✓ Ready
West US 2

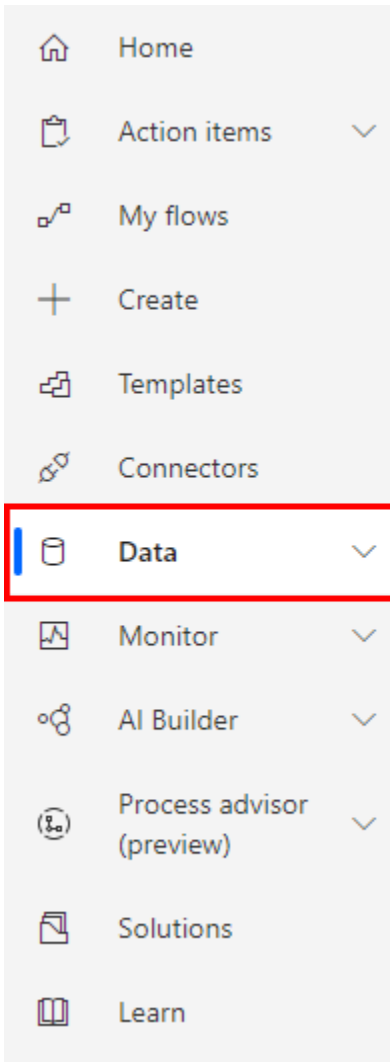
Power BI ✓ Ready
Default environment

Close

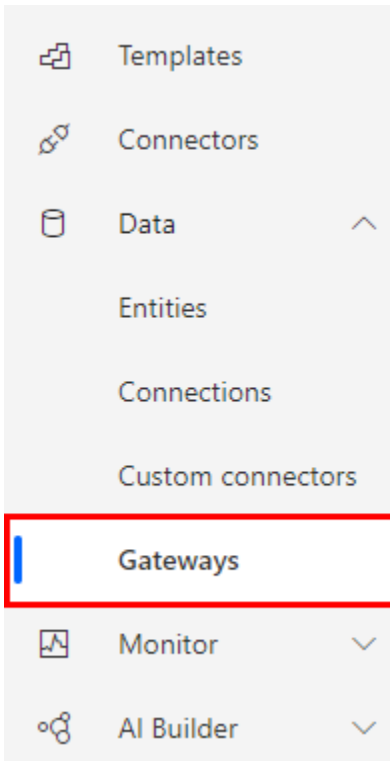
15. If it is not pre-installed, you need to copy and install the **Contoso Invoicing** app on your VM.

16. If it is not pre-installed, you also need to install the latest **Desktop flow**

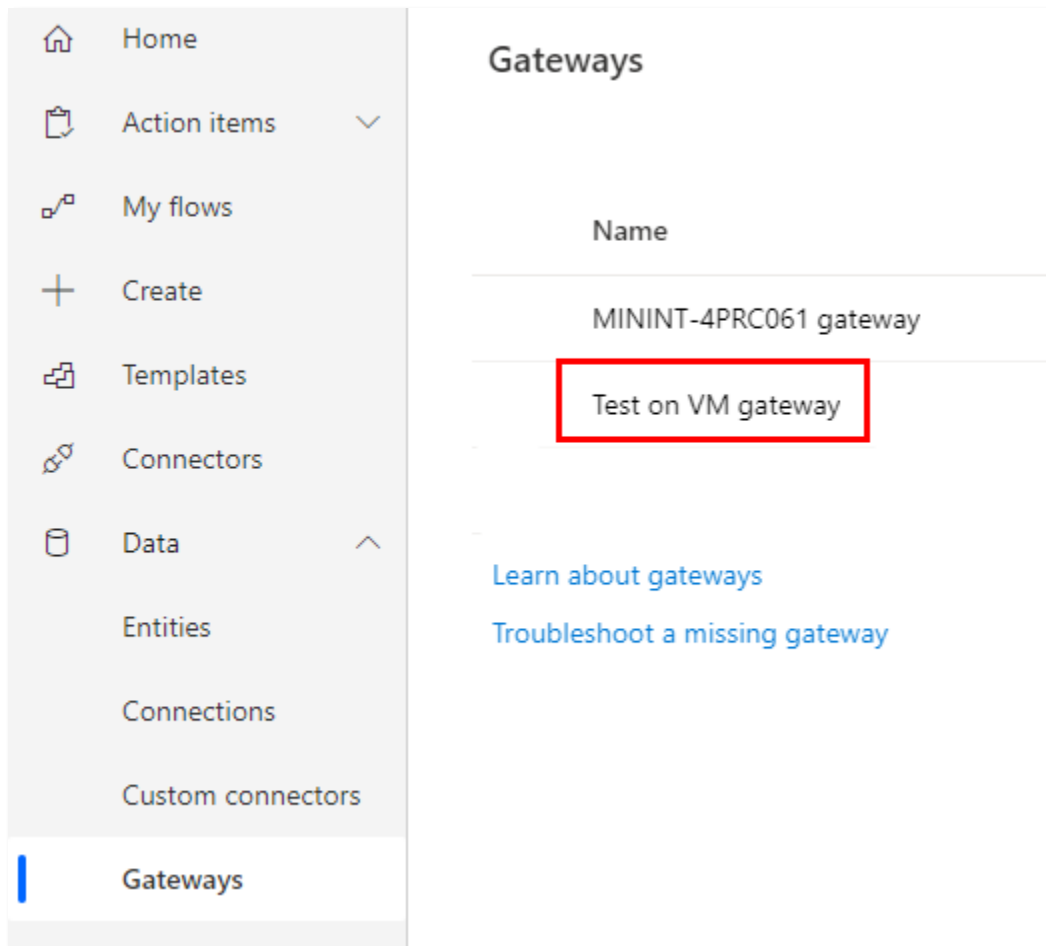
17. Now on your own computer, **not the VMs**, navigate to powerautomate.microsoft.com
Sign in using your tenant account and Go to **Data**.



18. Click **Gateways**.



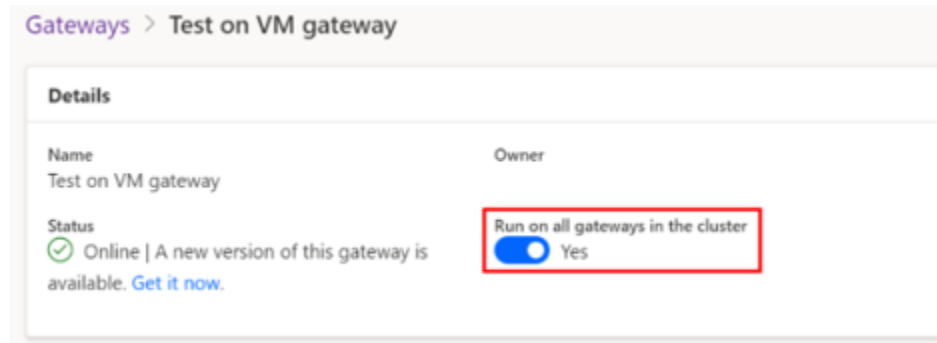
19. Select Test on VM gateway.



Note: you can see there are 2 Gateways in this cluster now. Select **Yes** on “Run on all gateways in the cluster”.

Note: When the run on all gateways is enabled, the cluster will perform load balancing during runtime, which means all queued tasks will be distribute to the next VM that becomes available. Once the task is assigned, it will not be taken back to the queue anymore.

Note: the cluster will use the first VM as the name of the cluster.



20. Ensure your both VMs are ready for unattended run. E.g. make sure VMs are running, gateways on VMs are online, write down the highest invoice ID numbers on each VM, logged off the VMs using logoff command.
21. Now send yourself four emails with different attachments (you can find those files under the Unattended lab folder under lab data packages. Each of these 4 emails should have “unattended” in the email titles.
22. Monitor 4 flows are kicked off in parallel. Approve any Teams requests and monitor all the run results.
23. After all runs completed, log in back to both VMs to open the Contoso Invoicing app and check the newly added entries with the new invoice IDs. In most of the cases, 2 new entries should be added to each VM. Some cases due to network delay, the results could be different.

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