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# UiPath High-Density Robots

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## 1. About

High-Density Robots is a feature that ensures a full utilization of each machine at your disposal at its maximum potential. As a result, regardless of the Windows version a machine is running on, if you have multiple users on it, you can register a Robot on each of the users.

Any type of Robot, be it an Attended, Unattended or Non-Production one can be configured in a High-Density environment.

## 2. Benefits

On a machine with a Windows Server (2012 R2, 2016 and 2019) or Azure Windows 10 Enterprise Multi-session operating system:

- You can run the same process with all Robots in the same time.
- You can run different processes with all Robots in the same time.

**Note:** On the same machine, you have to connect all users as Robots to Orchestrator, with the same Machine Name and Key. Meaning that all robots from one machine must be connected to the same Orchestrator tenant, and in the same environment.

## 3. Requirements

-> Windows Server (2012 R2, 2016 and 2019) VM

-> UiPath Enterprise Version

## 4. Setting Up Windows Server for High-Density Robots

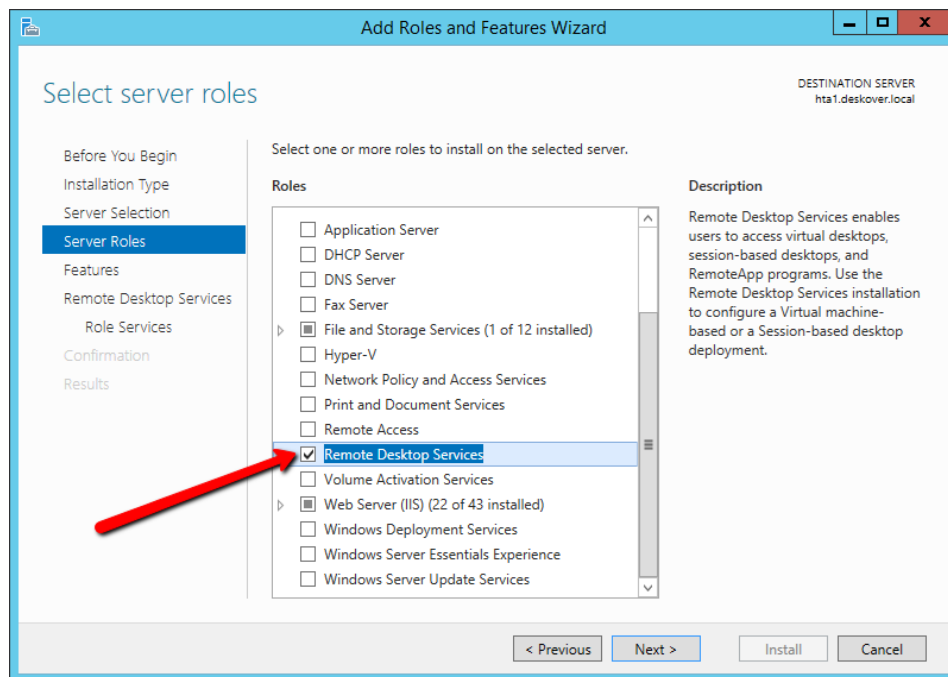
Using robots in a High-Density Robot deployment allows you to make use of a single Windows Server Machine to run multiple automations at the same time in separate user sessions. For this, some configurations have to be done on the Windows Server Machine first, then you need to set up the environment in Orchestrator.

## Important Steps to set up High-Density Robots

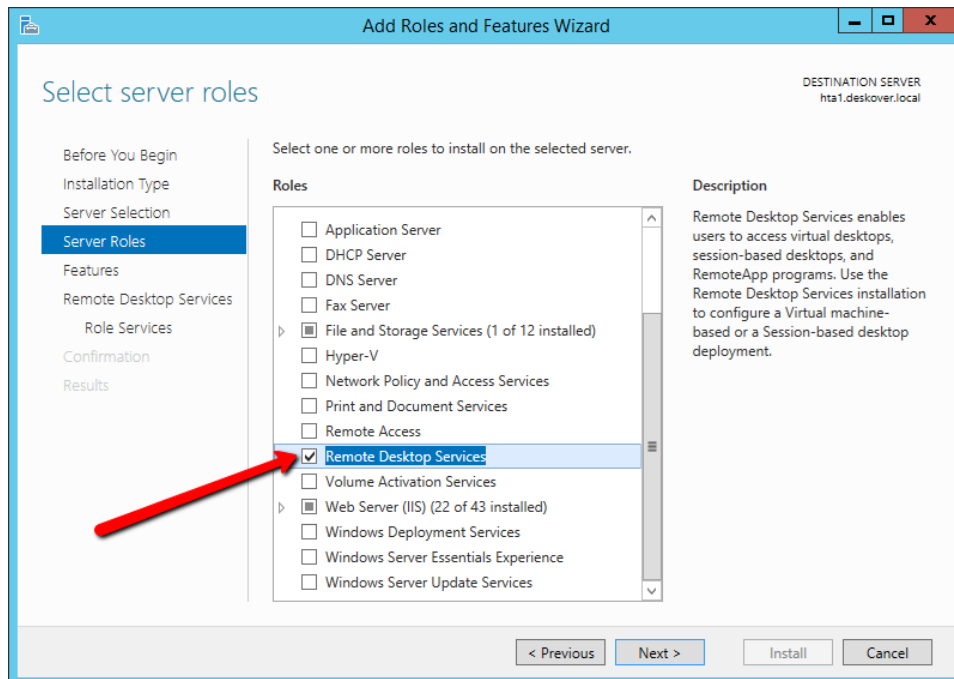
- ✓ **Install Remote Desktop Session Host** to enable the Windows Server machine users to access virtual desktops, session-based desktops, and RemoteApp programs.
- ✓ **Add the users** that are going to use the machine (and are going to be used as Robots).
- ✓ **Enable the High-Density Robots feature** in UiPath.

### 4.1. Install Remote Desktop Session Host.

1. Open **Server Manager**.
2. In the **Dashboard panel**, click **Add roles and features**. The Add Roles and Features Wizard is displayed.
3. Follow the wizard (click Next) until you reach the **Select Server Roles** step.
4. In the **Roles** section, select the **Remote Desktop Services** option and click **Next**.

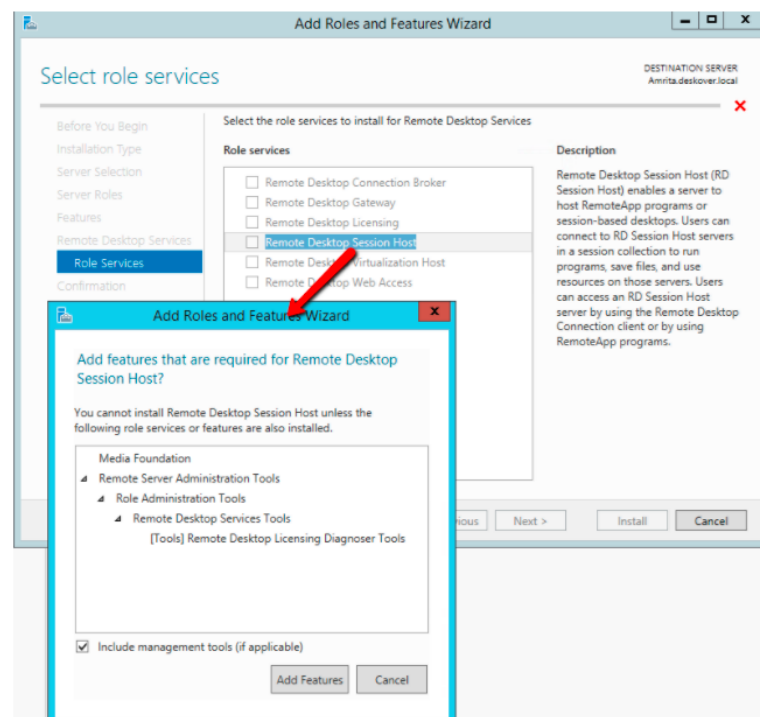


**Fig.1** Add roles and features wizard



**Fig.2** Select Remote Desktop Services

5. Follow the wizard until you reach the **Select Role Services** step, without changing the displayed settings.
6. In the **Role Services** section, select the **Remote Desktop Session Host** option. A **dialog box** is displayed prompting you regarding some required features.



**Fig 3:** Adding features

7. Click **Add Features**. You are returned to the wizard.
8. Follow the wizard until the **Confirm Installation Selections** step and click **Install**. The feature is installed (restarting the server might be required).

## 4.2. Adding Users

You need to add the users that can connect to that machine (they do not need administrator rights). These users are the ones that are also going to be used as Robots.

1. Open **Computer Management**.
2. In the left panel, navigate to **Computer Management (Local) > Local Users and Groups > Groups**. The right panels are updated accordingly.
3. Double-click **Remote Desktop Users**. The **Remote Desktop Users Properties** window is displayed.
4. Click **Add**. The **Select Users, Computers, Service Accounts, or Groups** window is displayed.
5. In the **Enter the object name to select** field, add users from your domain, under which the Robots will be able to access the machine.
6. Click **OK**. The configuration is saved and the **Select Users, Computers, Service Accounts, or Groups** window closes.
7. In the **Remote Desktop Users Properties** window, click **Apply** and **OK**. Your settings are saved and the users you just added will now be able to login to the Windows Server machine.

## 4.3. High-Density Robots Feature in UiPath

1. Create a machine template.

- Assign the necessary runtimes to the template. A template with X number of runtimes sets aside X licenses from the tenant's pool of licenses for each workstation connected to Orchestrator using that template. This allows you to execute X processes concurrently on each such a workstation. Say you assigned 2 unattended and 3 nonproduction runtimes to a machine template.
- Three workstations connected to Orchestrator using that machine template withhold 6 (2 unattended X 3 workstations) unattended and 9 (3 nonproduction x 3 workstation) nonproduction licenses from the tenant's pool of licenses.
- This enables you to execute a number of 2 unattended, respectively 3 nonproduction processes, concurrently on each such workstation.

2. Connect your machines to Orchestrator using the key generated by a machine template.

3. Configure the user entity: set its role at the tenant level, enable automatic robot creation, set the username and password used to log on to the machine such that the Robot can authenticate, select the credential store, and configure the execution settings of the Robot.

**Tenant > Users**

4. Assign the user and machine template to one or multiple folders while choosing the user's roles at the folder level.

#### **Tenant > Folders**

5. Start a job, configuring its priority and runtime type. You can specify the user under which it gets executed, or you can leave it undefined.

#### **Folder context > Automations > Jobs**

### **5. References:**

- <https://docs.uipath.com/robot/docs/high-density-robots>
- <https://docs.uipath.com/installation-and-upgrade/docs/setting-up-windows-server-for-high-density-robots>