

Setting up On-Prem UiPath Orchestrator in AWS EC2

This section outlines the step-by-step guide to set up a single node UiPath orchestrator in AWS EC2. This installation does not cover elastic search and cyber ark credential management.

Before we get started, please refer to the software requirements in the official links: <https://docs.uipath.com/installation-and-upgrade/docs/orchestrator-software-requirements>

This chapter will provide an overview of UiPath RPA's advanced support areas like the UiPath Self-service catalog. Then it will introduce how different custom UiPath support and monitoring utilities can be built and utilized to add value to the setup.

Getting Started with EC2 and RDMS

1. Login to the AWS console and set up an EC2 Virtual machine – Windows 2019 Server in AWS. Make sure disk space and security groups are configured as recommended in the UiPath orchestrator installation guidelines.

Server OS


Software	Compatible Versions
Windows Server 	<ul style="list-style-type: none">▶ 2012 R2▶ 2016▶ 2019

Figure A.01

2 Setting up On-Prem UiPath Orchestrator in AWS EC2

2. Log in to the newly setup EC2 and check to download the UiPath platform installer on-prem by signing up here: <https://www.uipath.com/developers/enterprise-edition-download>

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Job Title*

Tell us what you're interested in* Welcome back! Ready to get in touch with an expert to take the next step in your automation journey?

Figure A.02

3. The next important step is to set up a database in AWS for the UiPath Orchestrator.

Databases

Software	Compatible Versions
SQL Server	<ul style="list-style-type: none">▶ 2012 Standard or Enterprise Edition▶ 2014 Standard or Enterprise Edition▶ 2016 Standard or Enterprise Edition▶ 2017 Standard or Enterprise Edition▶ 2019 Standard or Enterprise Edition▶ Azure SQL Database▶ Amazon RDS for SQL Server▶ Google Cloud SQL for SQL Server
UiPath High Availability Add-on	<ul style="list-style-type: none">▶ All Versions <p>Note: Required only for supported HA installations.</p>

Figure A.03

AWS RDS setup and DB creation

1. Choose a supported SQL server and install a Database to install the Orchestrator. Log in to the AWS console and search for RDS.

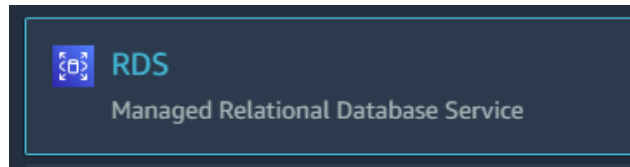


Figure A.04

2. Create a Microsoft SQL Server and a Database

Choose a database creation method [Info](#)


1


☒ **Standard create**
You set all of the configuration options, including ones for availability, security, backups, and maintenance.


☐ **Easy create**
Use recommended best-practice configurations. Some configuration options can be changed after the database is created.


Engine options


Engine type [Info](#)

☐ Amazon Aurora


☐ MySQL


☐ MariaDB


☐ PostgreSQL


☐ Oracle


☒ Microsoft SQL Server 2




Figure A.05

Edition 1

☒ **SQL Server Express Edition**
Affordable database management system that supports database sizes up to 10 GB.

☐ **SQL Server Web Edition**
In accordance with Microsoft's licensing policies, it can only be used to support public and Internet-accessible webpages, websites, web applications, and web services.

☐ **SQL Server Standard Edition**
Core data management and business intelligence capabilities for mission-critical applications and mixed workloads.

☐ **SQL Server Enterprise Edition**
Comprehensive high-end capabilities for mission-critical applications with demanding database workloads and business intelligence requirements.

License
license-included

Version 2

SQL Server 2017 14.00.3381.3.v1 ▼

Templates
Choose a sample template to meet your use case. 3

☐ **Dev/Test**
This instance is intended for development use outside of a production environment.

☒ **Free tier**
Use RDS Free Tier to develop new applications, test existing applications, or gain hands-on experience with Amazon RDS. [Info](#)

Figure A.06

DB instance class [Info](#) 1

☒ **Burstable classes (includes t classes)**

db.t2.micro
1 vCPUs 1 GiB RAM Not EBS Optimized ▼

☐ Include previous generation classes

Storage

Storage type [Info](#)

General Purpose SSD (gp2) 2
Baseline performance determined by volume size ▼

Allocated storage 3

30 GiB
(Minimum: 20 GiB, Maximum: 16,384 GiB) Higher allocated storage [may improve](#) IOPS performance.

Storage autoscaling [Info](#)

Provides dynamic scaling support for your database's storage based on your application's needs.

☐ **Enable storage autoscaling**

4 Enabling this feature will allow the storage to increase once the specified threshold is exceeded.

Figure A.07

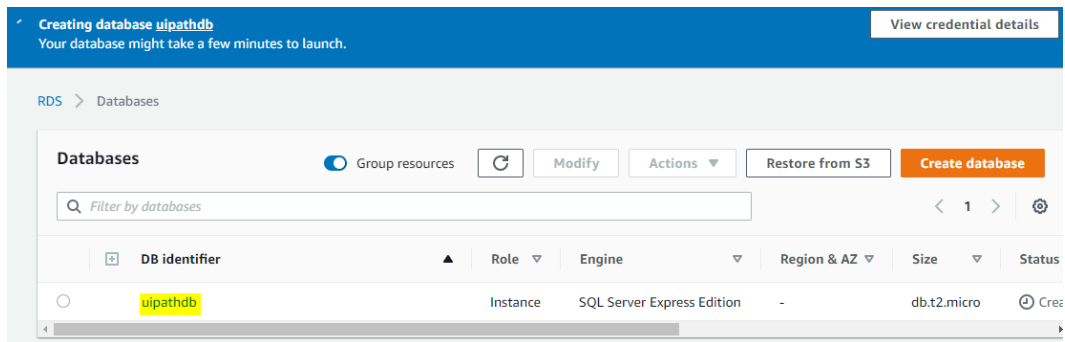


Figure A.08

The next step is to create a database on this new SQL server which will be used later for installation.

3. RDS Endpoint can be retrieved from the database's information. Use the RDS endpoint to configure the DB.

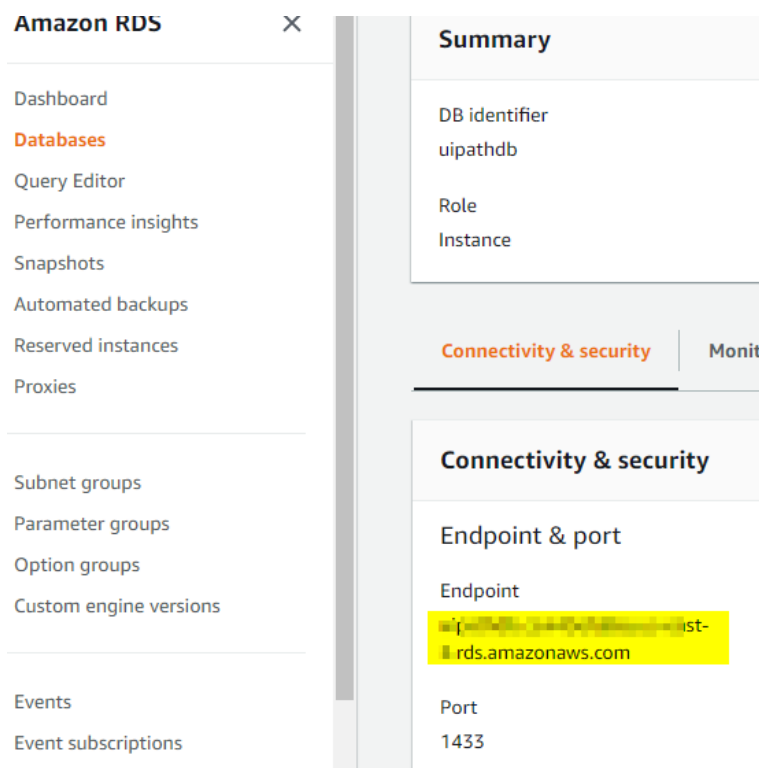


Figure A.09

SQL Server Management Studio (SSMS) is needed for the installation. Let's download and install the SSMS.

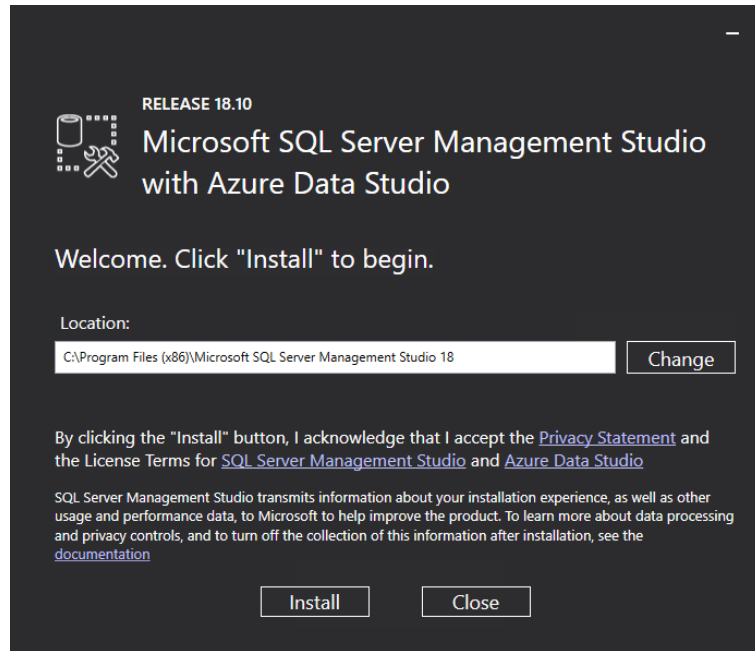


Figure A.10

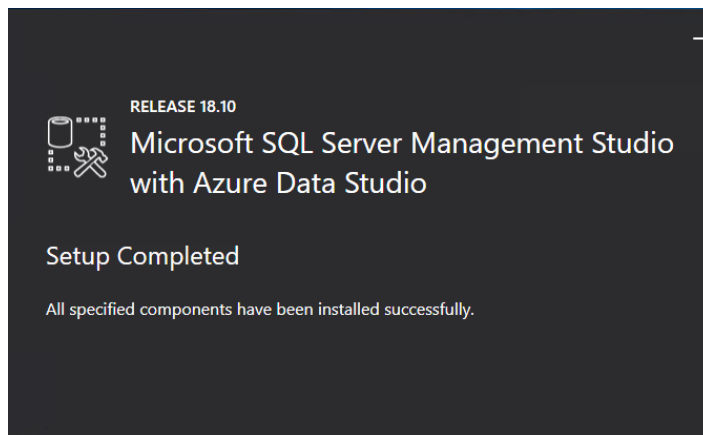


Figure A.11

4. Open MS SQL Server Manager and create a new DB called **UiPath_PROD**

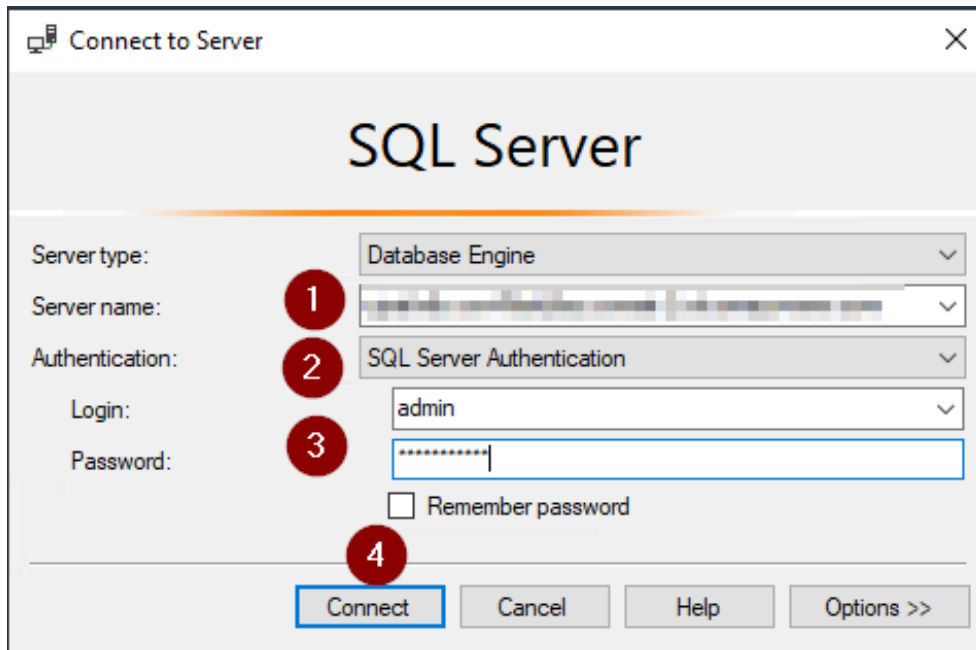


Figure A.12

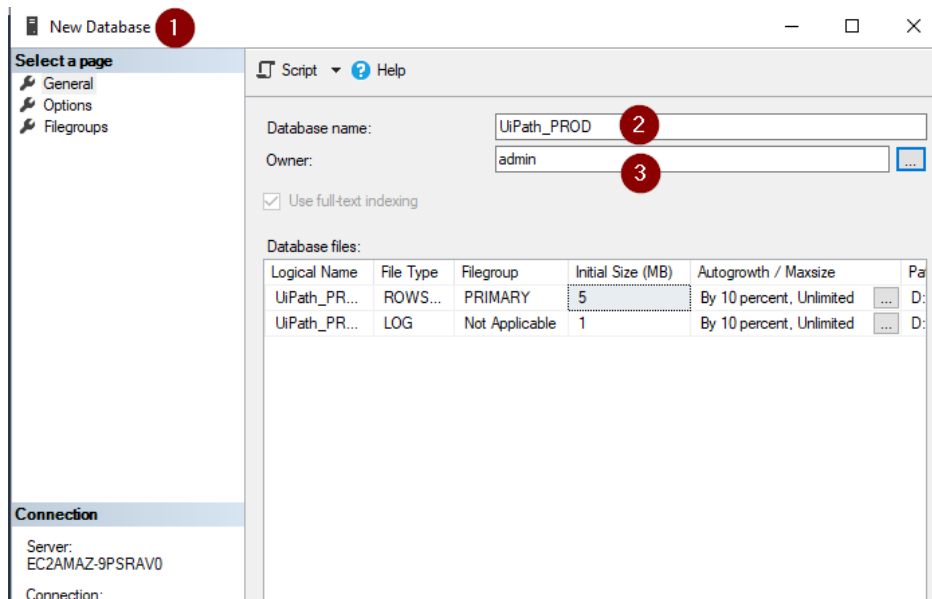


Figure A.13

This database will act as the UiPath Orchestrator application DB during installation.

Pre-requisite for Orchestrator Installation

Let's try to install other prerequisites needed before we start the installation:

URL Rewrite module installation

Open and install URL Rewrite from this URL: <https://www.iis.net/downloads/microsoft/url-rewrite>

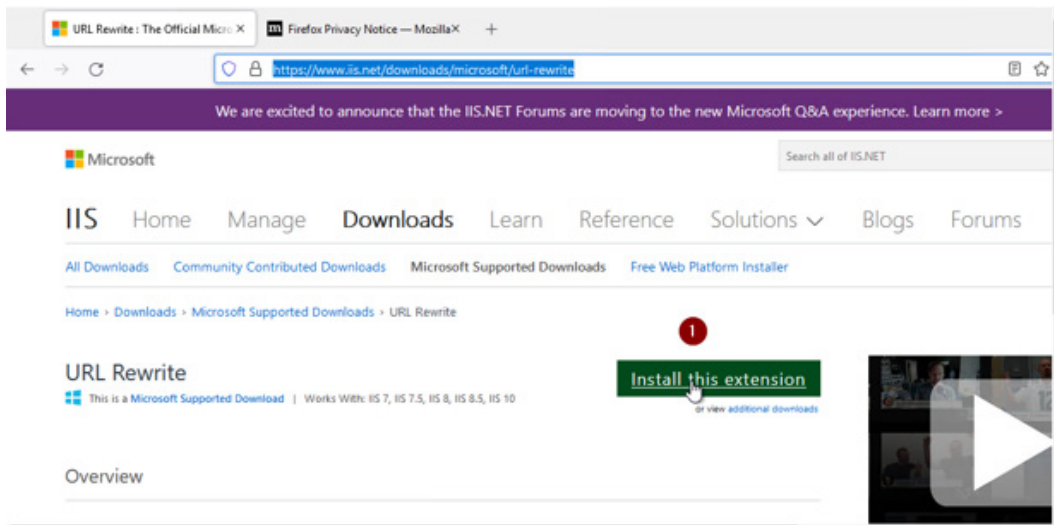


Figure A.14

Note

This will require a restart.

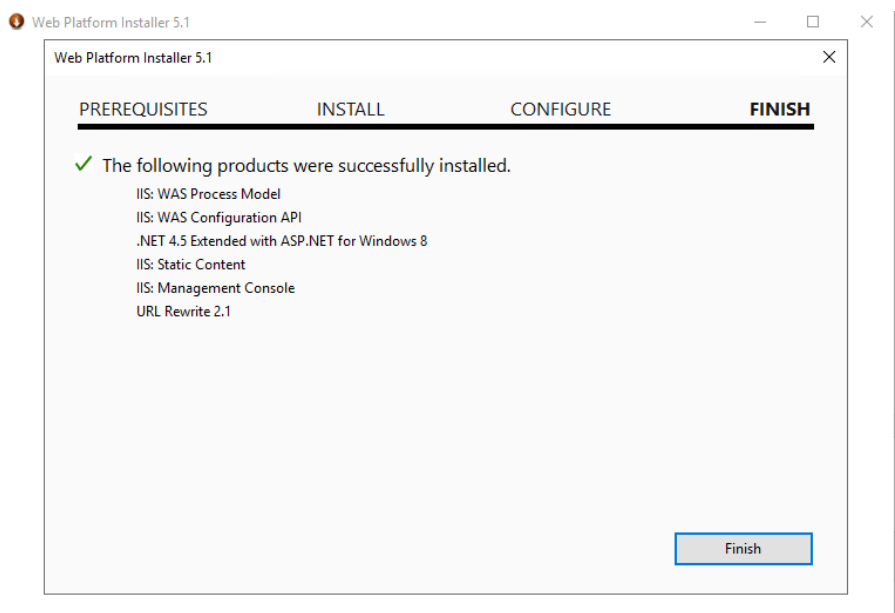


Figure A.15

Dot net installation- IIS Hosting bundle setup

Open and install the .NET Core runtime 3.1.x from this URL: <https://dotnet.microsoft.com/en-us/download/dotnet>.

Run apps - Runtime ⓘ

ASP.NET Core Runtime 3.1.5 1

The ASP.NET Core Runtime enables you to run existing web/server applications. **On Windows, we recommend installing the Hosting Bundle, which includes the .NET Runtime and IIS support.**

IIS runtime support (ASP.NET Core Module v2)
13.1.20142.5

OS	Installers	Binaries
Linux	Package manager instructions	Arm32 Arm64 Arm64 Alpine x64 x64 Alpine
macOS	2	x64
Windows	Hosting Bundle x64 x86	Arm32 x64 x86

Figure A.16

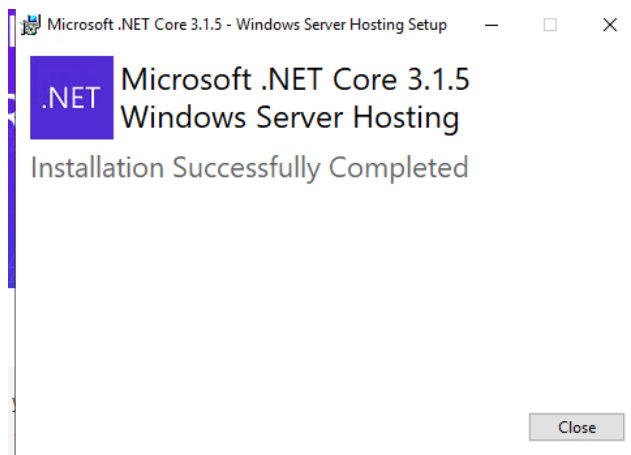


Figure A.17

IIS – Enable roles and features enablement

Next, we need to refer to this URL: <https://docs.uipath.com/installation-and-upgrade/docs/server-roles-and-features> and make a change to the existing IIS by opening the Server Manager.

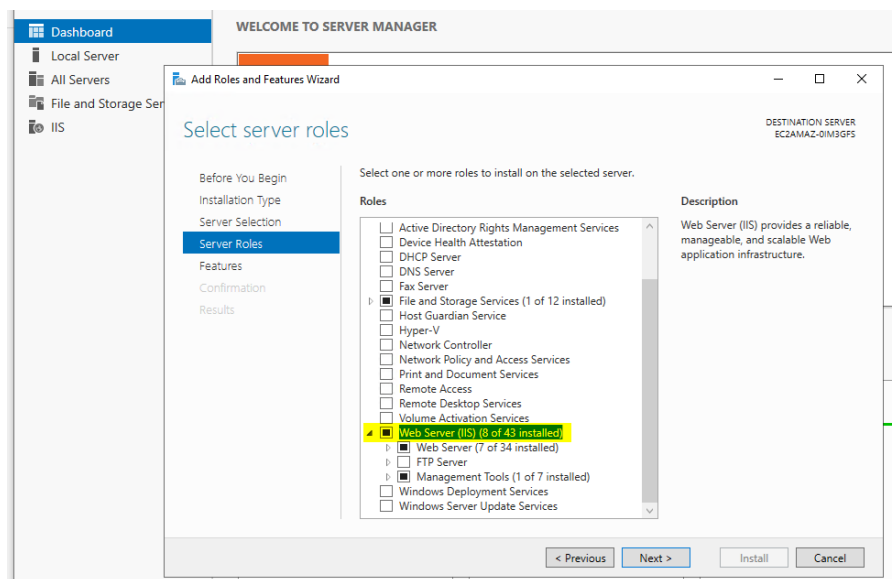


Figure A.18

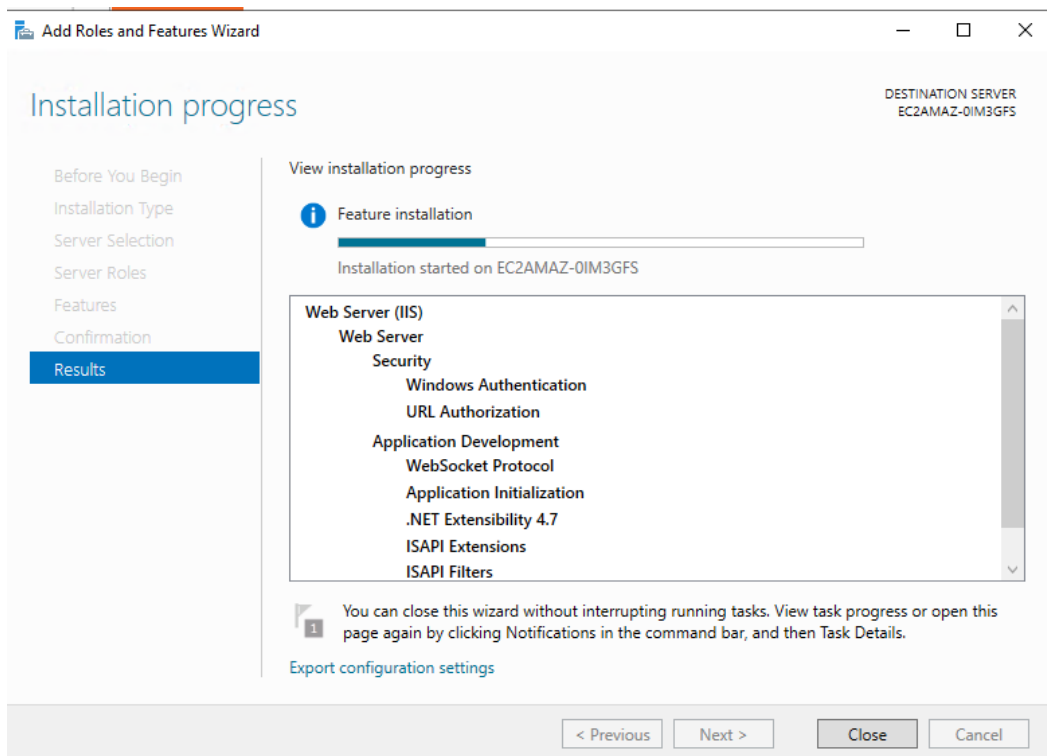


Figure A.19

Once successfully installed, close the Server manager

Web certificates setup

Web server certificates are needed to certify the connection to the web server is secure from the browser. There are 3 types of web certificates accepted by the IIS Manager

- Trusted certificates – e.g. Go Daddy, Verizon etc.
- Domain Certification – Valid in an environment e.g. ABC bank
- Self-sign – for Non-domain users.

Self-signed certificates can be used for our trial setup purposes as we are not connected to the domain. For enterprise installation, trusted certificates are recommended.

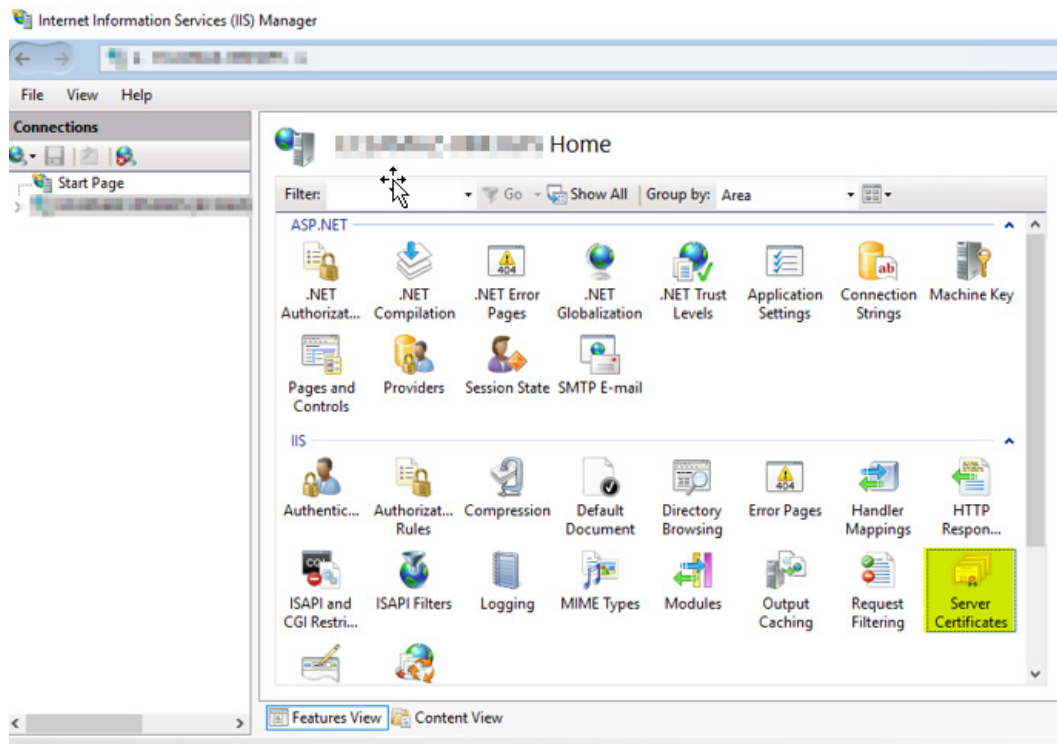


Figure A.20

To create the Self-sign certificates, open **IIS Manager | Server Certificates** and click on **Create Self-Signed Certificate**.

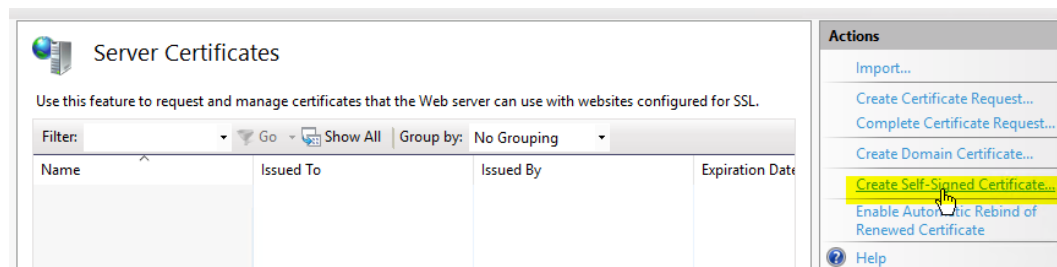


Figure A.21

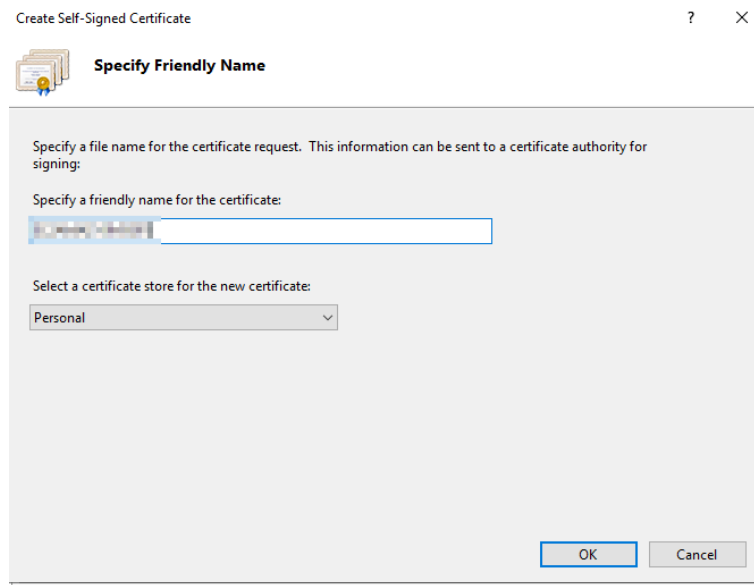


Figure A.22

Now the self-signed certificate is visible in the certificates tab. This concluded the prerequisite setup for the UiPath orchestrator installation.

Begin actual Orchestrator Installation

1. To Install the UiPath Orchestrator, please run the downloaded installer in the AWS EC2 machine where all the prerequisites are installed.

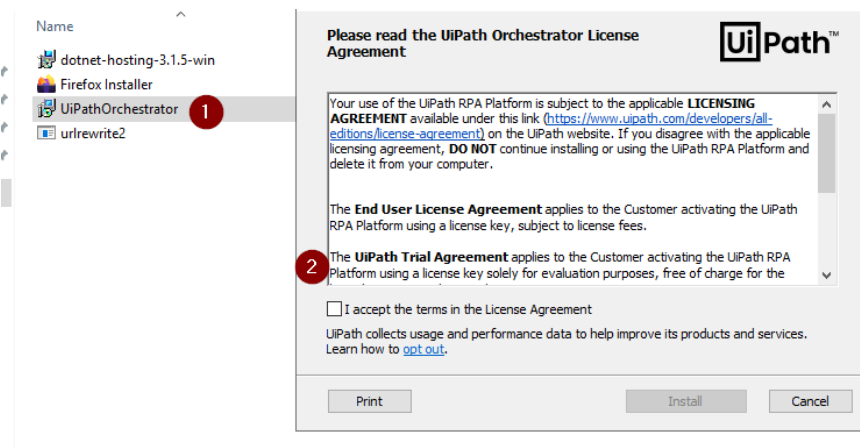


Figure A.23

2. Insights and test automation are also part of the bundle, but we can install them later by rerunning the installer.

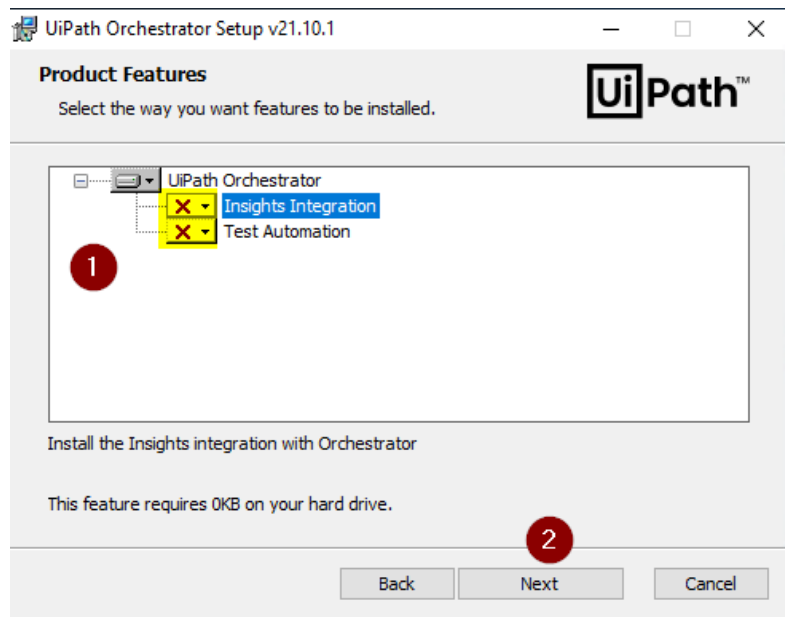


Figure A.24

3. Use the AWS RDS endpoint and credentials setup previously in the below dialog.

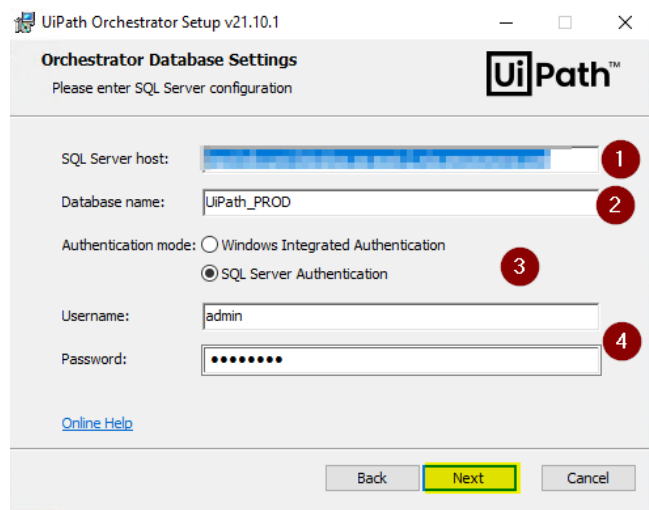
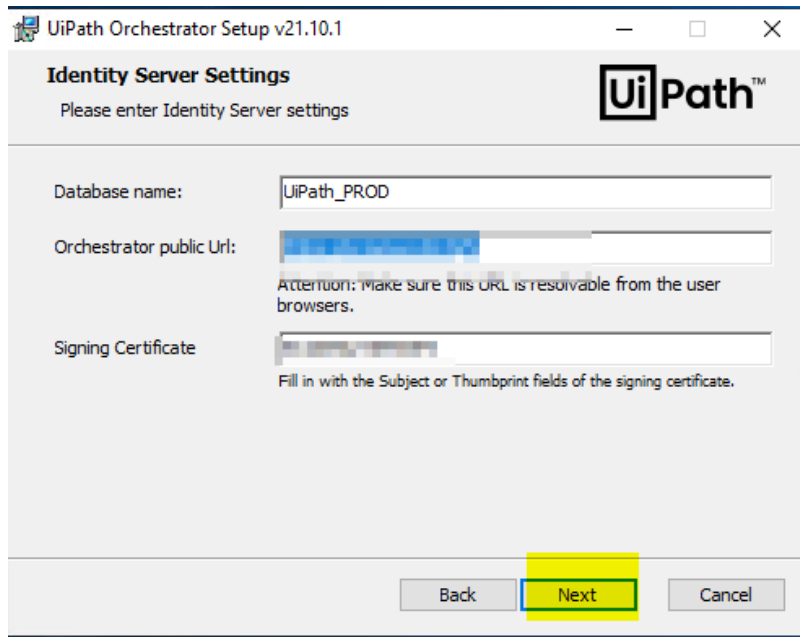


Figure A.25

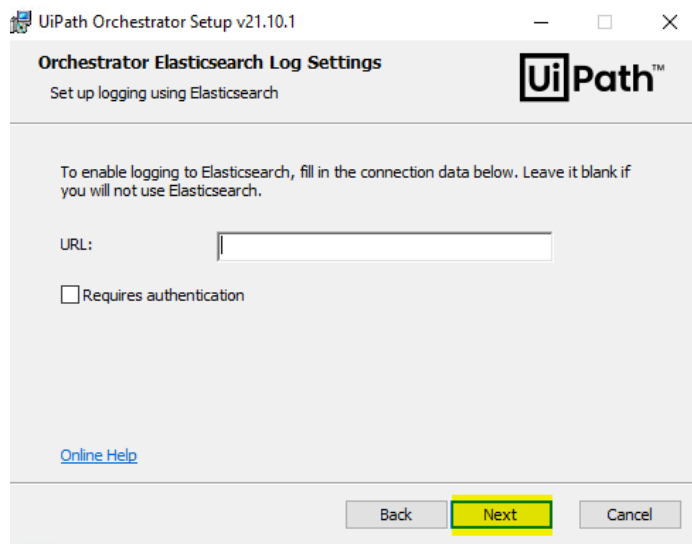
4. Update the certificate name and validate the Database name too.



The screenshot shows the 'Identity Server Settings' window of the UiPath Orchestrator Setup v21.10.1. The window title is 'UiPath Orchestrator Setup v21.10.1'. The main heading is 'Identity Server Settings' with the subtitle 'Please enter Identity Server settings'. The UiPath logo is in the top right corner. There are three input fields: 'Database name:' with the value 'UiPath_PROD', 'Orchestrator public Url:' with a blue placeholder, and 'Signing Certificate:' with a grey placeholder. Below the 'Orchestrator public Url:' field, there is a note: 'Attention: Make sure this URL is resolvable from the user browsers.' Below the 'Signing Certificate:' field, there is a note: 'Fill in with the Subject or Thumbprint fields of the signing certificate.' At the bottom, there are three buttons: 'Back', 'Next' (highlighted in yellow), and 'Cancel'.

Figure A.26

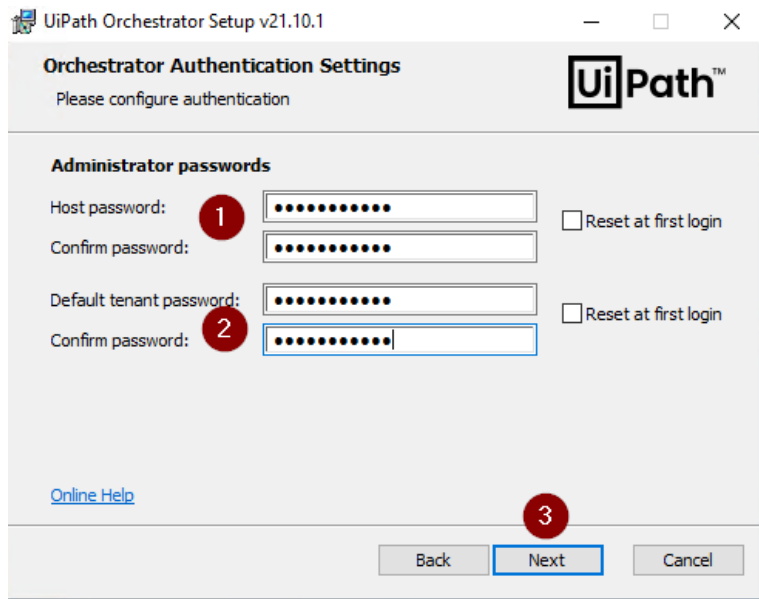
5. Elastic search configuration is optional and we can set up this one at a later point.



The screenshot shows the 'Orchestrator Elasticsearch Log Settings' window of the UiPath Orchestrator Setup v21.10.1. The window title is 'UiPath Orchestrator Setup v21.10.1'. The main heading is 'Orchestrator Elasticsearch Log Settings' with the subtitle 'Set up logging using Elasticsearch'. The UiPath logo is in the top right corner. Below the heading, there is a note: 'To enable logging to Elasticsearch, fill in the connection data below. Leave it blank if you will not use Elasticsearch.' There is a 'URL:' label followed by an empty text input field. Below the input field, there is a checkbox labeled 'Requires authentication' which is currently unchecked. At the bottom left, there is a link 'Online Help'. At the bottom, there are three buttons: 'Back', 'Next' (highlighted in yellow), and 'Cancel'.

Figure A.27

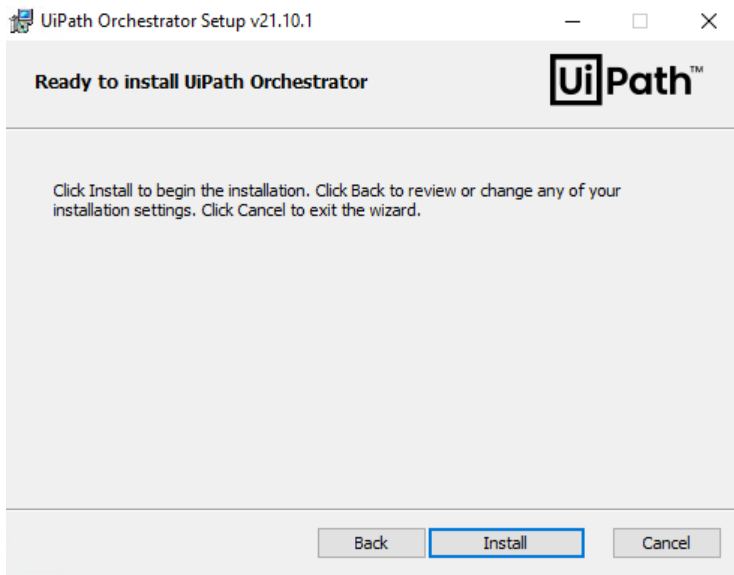
6. Note down the host and default tenant credentials for the first time login and setup later.



The screenshot shows the 'Orchestrator Authentication Settings' window. It has a title bar 'UiPath Orchestrator Setup v21.10.1' and a close button. The main heading is 'Orchestrator Authentication Settings' with a subtext 'Please configure authentication' and the UiPath logo. Under the heading 'Administrator passwords', there are four password fields: 'Host password:' (marked with a red circle 1), 'Confirm password:', 'Default tenant password:', and 'Confirm password:' (marked with a red circle 2). To the right of the 'Confirm password' fields are two checkboxes, both labeled 'Reset at first login'. At the bottom left is a link 'Online Help'. At the bottom right are three buttons: 'Back', 'Next' (marked with a red circle 3), and 'Cancel'.

Figure A.28

7. Begin the installation.



The screenshot shows the 'Ready to install UiPath Orchestrator' window. It has a title bar 'UiPath Orchestrator Setup v21.10.1' and a close button. The main heading is 'Ready to install UiPath Orchestrator' with the UiPath logo. Below the heading is a text block: 'Click Install to begin the installation. Click Back to review or change any of your installation settings. Click Cancel to exit the wizard.' At the bottom are three buttons: 'Back', 'Install' (highlighted with a blue border), and 'Cancel'.

Figure A.29

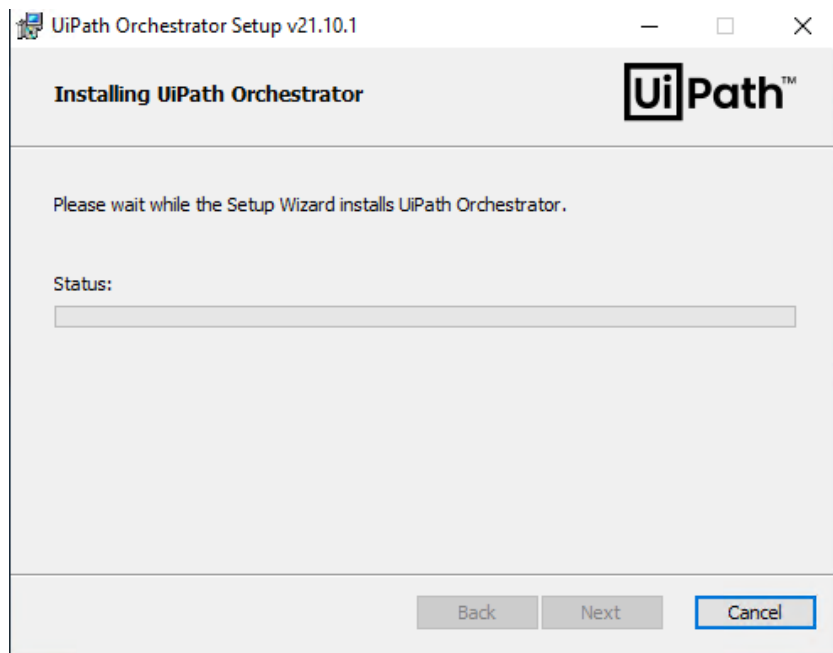


Figure A.30

Note:

For installation logs, use the cmd line prompt to execute the following:

```
msiexec.exe /i "C:\Users\Administrator\Downloads\
UiPathOrchestrator.msi" /lv* "C:\Users\Administrator\Desktop\
Log.txt"
```

Once the installation is successfully completed, verify the application before using.

Verify the Orchestrator installation

We can check the MS SQL Server Manager DB and check for all the tables being created as shown here:

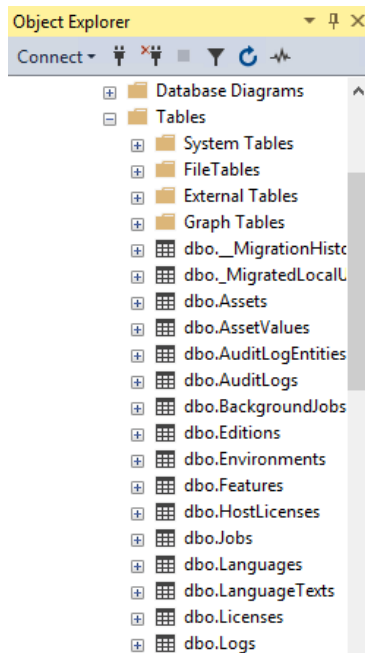


Figure A.31

Let's try to use the login using the Orchestrator URL and use the default tenant credential to login.

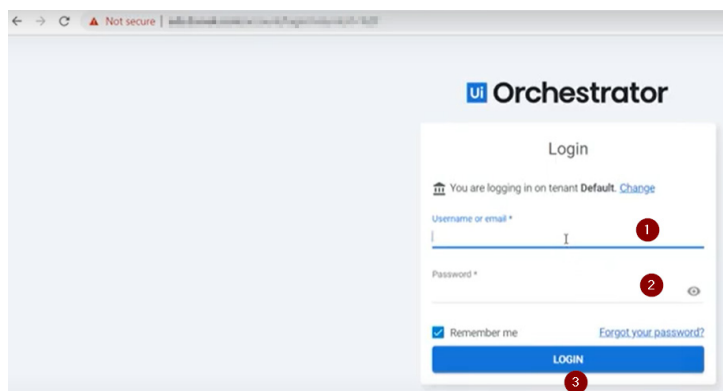


Figure A.32

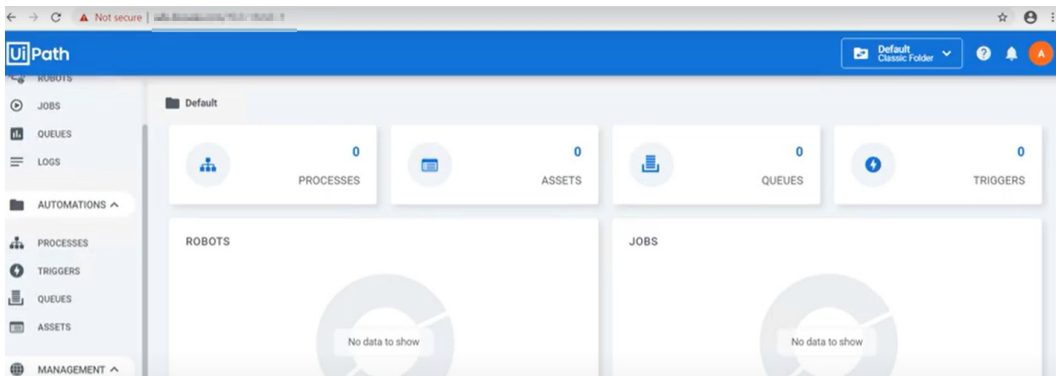


Figure A.33

Activate the license online to continue using it.

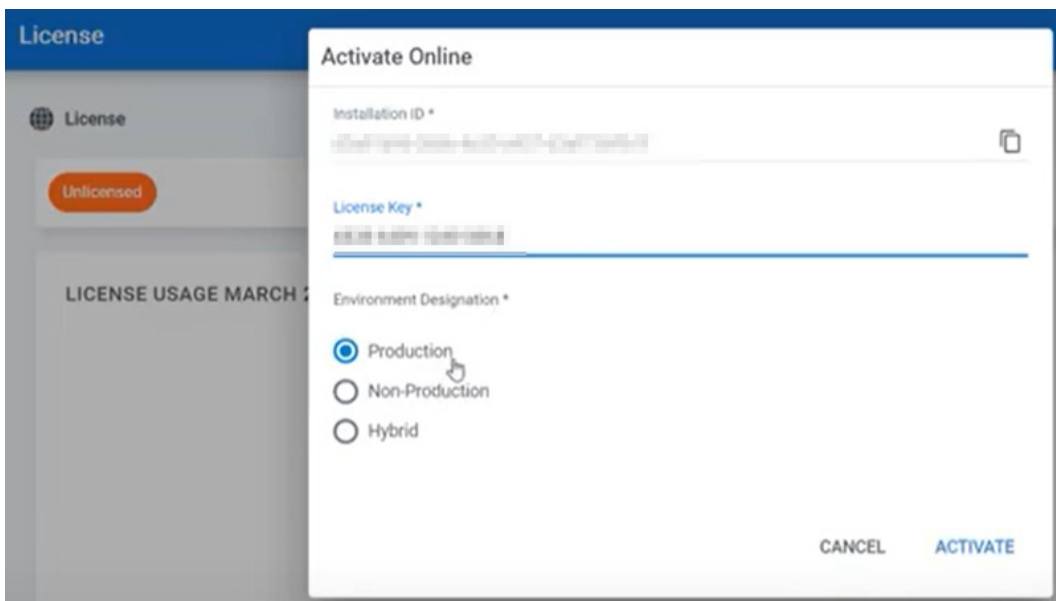


Figure A.34

In addition to this, check for `UiPath.Orchestrator.dll.config` file (`C:\Program Files (x86)\UiPath\Orchestrator`) in the installation folder. For more details on this, please refer to <https://docs.uipath.com/installation-and-upgrade/docs/uipath-orchestrator-dll-config>

This concludes the on-prem single node UiPath Orchestrator setup.

