

Windows Upgrade Guide

Quest Data Quality V3.1.3

Prepared by



Introduction	1
System Requirements	1
Pre-requisites	1
Software Requirements (Auto Install)	2
Details about the config file	3
Server Configuration	3
DQLabs Access Information	3
Post-Installation Procedure	6
Airflow Auto Start Setup Instructions (Task Scheduler):	
Follow the steps below only if it has not been done in DQLabs version 2.4.6 or 3.1.0	6
Verification	8

Introduction

This document provides a comprehensive, step-by-step process for upgrading DQLabs from V2.4.6 to V3.1.3 or V3.1.0 to V3.1.3 in a Windows environment. It is designed for personnel with technical knowledge of Windows Operating Systems.

This guide provides step-by-step instructions, ensuring you understand the process and any Windows-specific prerequisites. By following it, you can successfully upgrade the DQLabs application and utilize its features in your environment.

System Requirements

This section outlines the minimum system and mandatory requirements necessary to successfully install the DQLabs application in a Windows environment.

Category	Recommended
Operating system	Windows Server 2022 64-bit
Processor	64-bit processor
Disk Space	Minimum 100 GB (C drive is not recommended, and ensure the disk is dedicated only to DQLabs)
Nested Virtualization	Enabled

Package	Core and RAM Specifications
Bronze	4 Core 8 GB RAM
Silver	4 Core 8 GB RAM
Gold	8 Core 16 GB RAM
Platinum	16 Cores 32 GB RAM
Titanium	32 Cores 64 GB RAM

Postgres Server Prerequisites (Only in case of DB Isolated Deployments)

Operating System	Windows Server 2022 64-bit
CPU Core	4 Cores or more
RAM	8GB or more

Pre-requisites

1. **Dedicated Server:** DQLabs needs a dedicated server for installation(Windows OS should be up to date).
2. **Internet Access:**

URL	Purpose	Required during
https://license-qa.dqlabs.cloud	This URL must be whitelisted to activate and manage the validity of the license key. In case of an Offline license, raise a request with the MAC ID of the server	Required after Installation.
https://s3.us-east-1.amazonaws.com/erwin-2.0/code/windows/application-code/3.1.3/on-premise/packages_3.1.3/Erwin-Windows-Packages/Dqlabs-offline-installer-py-3.1.3-upgrade-bundle.zip	This URL must be whitelisted to allow binaries to be downloaded from the DQLabs repository.	Required only before installation. The file can be downloaded externally and moved to the server if needed

- 3. **User:** The DQLabs application must be maintained under the same service account that was used in the previous versions. All services must be restarted only from the installed user account. Additionally, any upgrade must be performed using the same application installed user account.
- 4. **Administrator Privileges:** The user should be able to run Windows PowerShell ISE with administrator privileges
- 5. **Dedicated Drive:** Any drive other than C
- 6. **Ports to be opened:** Ports Used for Internal Communication within the Application:

PostgreSQL	5432 (Mandatory)
Airflow	8080
HTTP	80
HTTPS	443

Software Requirements (Auto Install)

The requirements are auto-installed with the script; the user should not manually install any of the software requirements in the DQServer. Manually installed software may conflict with the script, leading to failure.

Services	Version
PostgreSQL	15.11
Python	3.11.9
IIS Server	NA
Airflow	2.8.1
Drivers	MSSQL, Oracle, PostgreSQL, MySQL ODBC/JDBC
Java	11 Open JDK 64-bit
Spark	3.5.1

Before proceeding with the upgrade, ensure the following:

- 1. No third-party or external applications should be present on the server.

Pre-Installation Setup

Step 1: Log in to the Server and ensure the user account is the same as the installed account provided with the necessary privileges.

Step 2: Download the binary and extract the zip file

Details about the config file

Step 3: Open the CONFIG-upgrade.txt file with administrator access and update the following:

Ensure that the CONFIG-upgrade.txt and Erwin-installer.sh are in the same directory

Server Configuration

- A. **drive=** Define the drive letter where the application has to be installed
Example - (F)
- B. **dqlabsserverip=** Define the DQLabs application server private IP for communications
Example - (10.10.10.2)
- C. **PSQL_Host=** Define the Postgres database server private IP (If Postgres is installed on the same server, provide the same server IP, else provide the private IP of your Postgres server)
- D. **DQL_VERSION=** In case of DQLabs version 2.4.6, enter **2** as the input. If the version is 3.1.0, enter **3** as the input.

DQLabs Access Information

- E. **DNS_NAME:** nodns or dns name
- F. **ACCESS_MODE:** public or private
 - a. Public: When the server is connected to the internet, it is public. Here, the user will be able to connect to the DQLabs application outside the network.
 - b. Private: When the server is connected to the intranet, it is private. Here, the user will be able to connect to the DQLabs application using the organization network.

Note: If the DNS_name is provided, ACCESS_MODE should remain empty

- G. **SSL_PROTOCOL:** http or https
If the server is SSL-certified, provide the input as https, else http
- H. **Postgres database credentials:**

Upgrade from V2.4.6 to V3.1.3

- a. **PostgresMasterusername=**postgres
- b. **PostgresMasterPassword=**postgres
- c. **PG_USERNAME=**postgres
- d. **PG_PASSWORD=**postgres
- e. **PG_DB_NAME=**dqlabs
- f. **AIRFLOW_USERNAME=**airflow_user
- g. **AIRFLOW_PASSWORD=**airflowuser
- h. **AIRFLOW_DB_NAME=**airflow_db

Upgrade from V3.1.0 to V3.1.3

- i. **PostgresMasterusername=**postgres
- j. **PostgresMasterPassword=**<Same as PG_Password>
- k. **PG_USERNAME=**<Same provisioned during V3.1.0>
- l. **PG_PASSWORD=**<Same provisioned during V3.1.0>
- m. **PG_DB_NAME=**<Same provisioned during V3.1.0>
- n. **AIRFLOW_USERNAME=**<Same provisioned during V3.1.0>
- o. **AIRFLOW_PASSWORD=**<Same provisioned during V3.1.0>
- p. **AIRFLOW_DB_NAME=**<Same provisioned during V3.1.0>

I. DATABASE_ONLY_INSTALLATION=<Same provisioned during V3.1.0>

```
CONFIG-upgarde - Notepad
File Edit Format View Help
# 1. Please provide drive letter where DQLabs has been installed(Do not provide colon, Example F)

drive=D

# 2. Please provide DQLabs installed server private ip(Example: 10.0.0.4)

dqlabsserverip=10.10.10.2

# 3. Please provide Postgres database server private ip(Example: 10.0.0.5)

PSQL_Host=10.10.10.2

#please provide dqlabs current version (2 0r 3)
DQL_VERSION=2

# 4. DQLabs access information
# If dns name is available, replace nodns with dns value (Example: foo.foo.com)
# If the user has provided the DNS_name, ACCESS_MODE needs to be empty

DNS_NAME=nodns

# 5. Run DQLabs in public ip or private ip (Please consider point 4, also ACCESS_MODE input should be public/private)

ACCESS_MODE=private

# 6. Run DQLabs in http or https (mandatory)

SSL_PROTOCOL=http

##### Please don't change the below values if upgrading from 2.x to 3.x #####
# 7. Postgres database credentials
PostgresMasterusername=postgres
PostgresMasterPassword=postgres
PG_USERNAME=postgres
PG_PASSWORD=postgres
PG_DB_NAME=dqlabs
AIRFLOW_USERNAME=airflow_user
AIRFLOW_PASSWORD=airflowuser
AIRFLOW_DB_NAME=airflow_db
DATABASE_ONLY_INSTALLATION=dqlabs
```

Step 4: Open PowerShell ISE as an administrator. (Press the Win key and search for PowerShell ISE > Right Click on Windows PowerShell ISE and click on “Run as administrator”)

Step 5: In the PowerShell ISE window, click on File > Open. Locate the dqlabs-upgrade-script

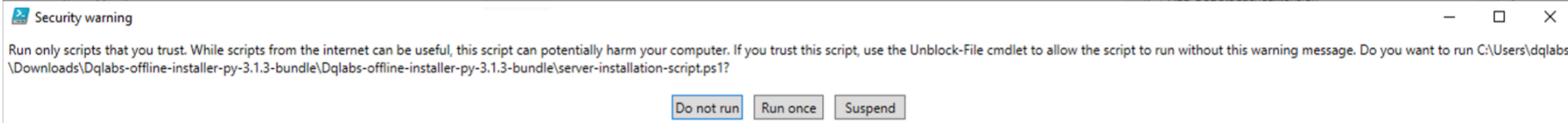
Step 6: Click the “Run Script” button in PowerShell (as shown in the reference image below). If the script throws a digitally not signed error, run the following command and select yes to all.

```
None
Set-ExecutionPolicy -Scope Process -ExecutionPolicy Bypass
```

```
PS C:\Users\dqlabs> F:\prerequisites-installation-script.ps1
File F:\prerequisites-installation-script.ps1 cannot be loaded. The file F:\prerequisites-installation-script.ps1 is not digitally signed. You
cannot run this script on the current system. For more information about running scripts and setting execution policy, see
about_Execution_Policies at https://go.microsoft.com/fwlink/?LinkID=135170.
+ CategoryInfo          : SecurityError: (:) [], ParentContainsErrorRecordException
+ FullyQualifiedErrorId : UnauthorizedAccess

PS C:\Users\dqlabs> Set-ExecutionPolicy -Scope Process -ExecutionPolicy Bypass
```

Step 7: Run the script. When the pop-up below appears while executing the script, click Run Once.



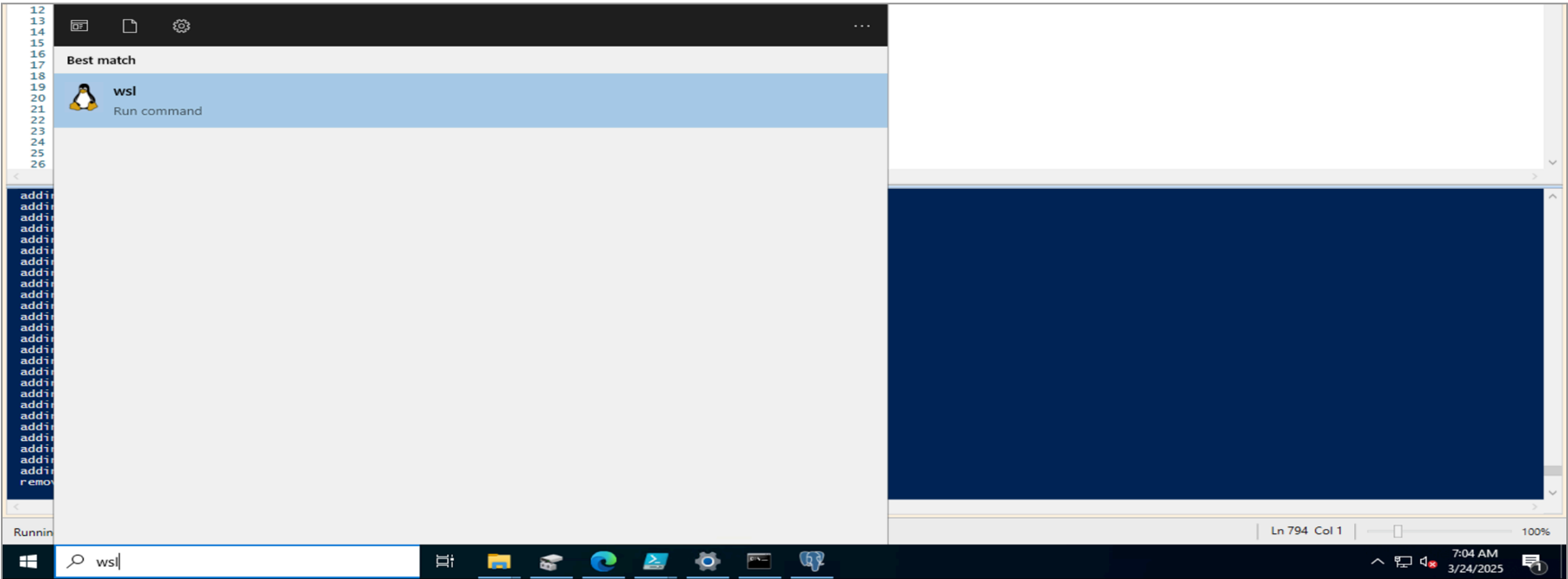
Step 8: Once the script execution is successful, the following status message will appear.

```
/usr/local/lib/python3.11/dist-packages/airflow/models/base.py:71 DeprecationWarning: The sql_alchemy_conn option in [core] has been moved to
the sql_alchemy_conn option in [database] - the old setting has been used, but please update your config.
/usr/local/lib/python3.11/dist-packages/airflow/utis/retries.py:30 DeprecationWarning: The max_db_retries option in [core] has been moved to
the max_db_retries option in [database] - the old setting has been used, but please update your config.
/usr/local/lib/python3.11/dist-packages/flask_limiter/extension.py:336 UserWarning: Using the in-memory storage for tracking rate limits as no
storage was explicitly specified. This is not recommended for production use. See:
https://flask-limiter.readthedocs.io#configuring-a-storage-backend for documentation about configuring the storage backend.
admin already exist in the db
starting /usr/lib/jvm/java-17-openjdk-amd64/bin/java -cp /opt/livy/jars/*:/opt/livy/conf: org.apache.livy.server.LivyServer, logging to /var/log
/livy/livy-root-server.out
wsl : your 131072x1 screen size is bogus. expect trouble
At C:\Users\dqlabs\Downloads\Dqlabs-offline-installer-py-3.11-patch\dqlabs-upgrade-script.ps1:663 char:1
+ wsl bash -i -c "/root/airflow/start_airflow.sh"
+ ~~~~~
+ CategoryInfo          : NotSpecified: (your 131072x1 s... expect trouble:String) [], RemoteException
+ FullyQualifiedErrorId : NativeCommandError

Airflow webserver and scheduler are started.
***** Airflow Token *** YWRtaW46YWRtaW4=
default:
***** Migration failed for the database default *****
HTTPConnectionPool(host='localhost', port=8080): Max retries exceeded with url: /api/v1/dags/manage_connections/dagRuns (Caused by NewConnectionE
rror('<urllib3.connection.HTTPConnection object at 0x000002AD1D6E6010>: Failed to establish a new connection: [WinError 10061] No connection coul
d be made because the target machine actively refused it'))

PS F:\DQLabs-Server\src>
```

Step 9: Search and open wsl window.



Step 10: Open PowerShell ISE with administrator access and run the following commands:
(Ensure to replace the <DQ_Drive> Example: cd “F:\DQLabs-Server\src”).

None

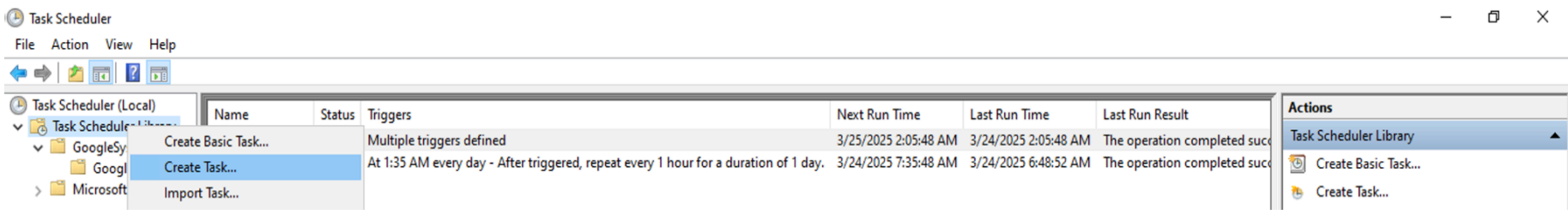
```
cd "<DQ_Drive>:\DQLabs-Server\src"  
python manage.py migrate_airflow_connection
```

Post-Installation Procedure

Airflow Auto Start Setup Instructions (Task Scheduler):

Follow the steps below only if it has not been done in DQLabs version 2.4.6 or 3.1.0

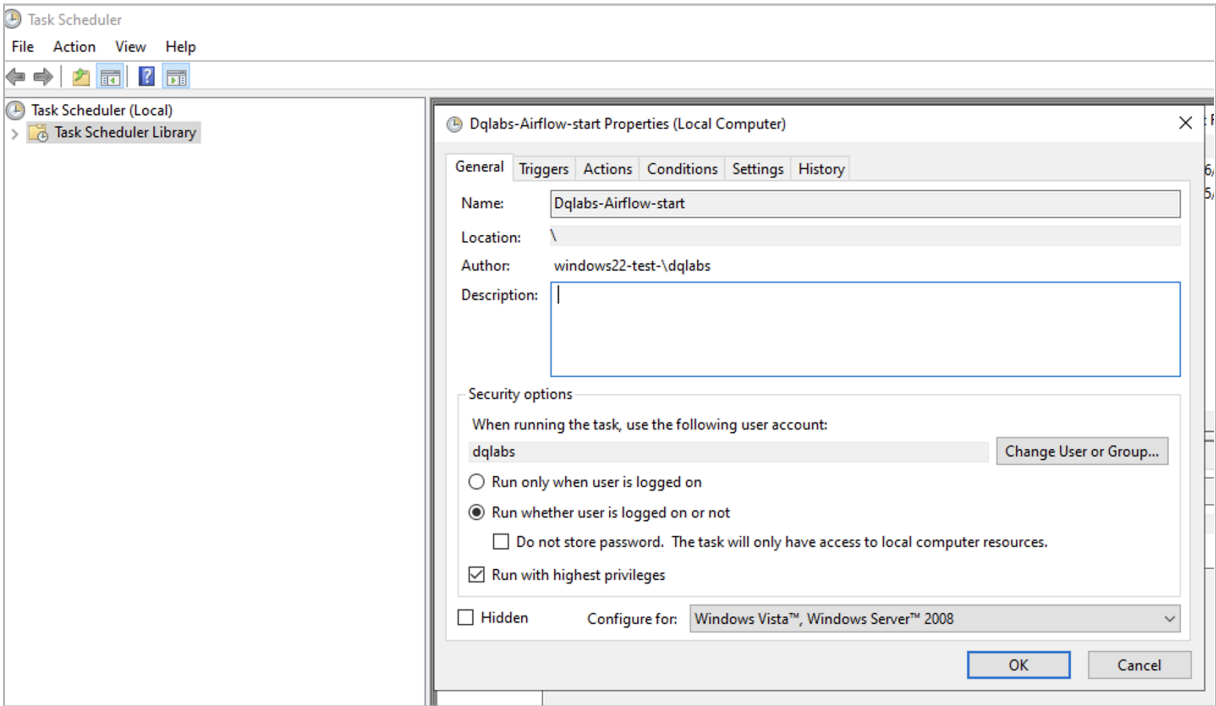
Step 1: Search for “Task Scheduler” in your Windows Server and open the application



Step 2: Right-click on the Task Scheduler Library on the left pane and click Create Task

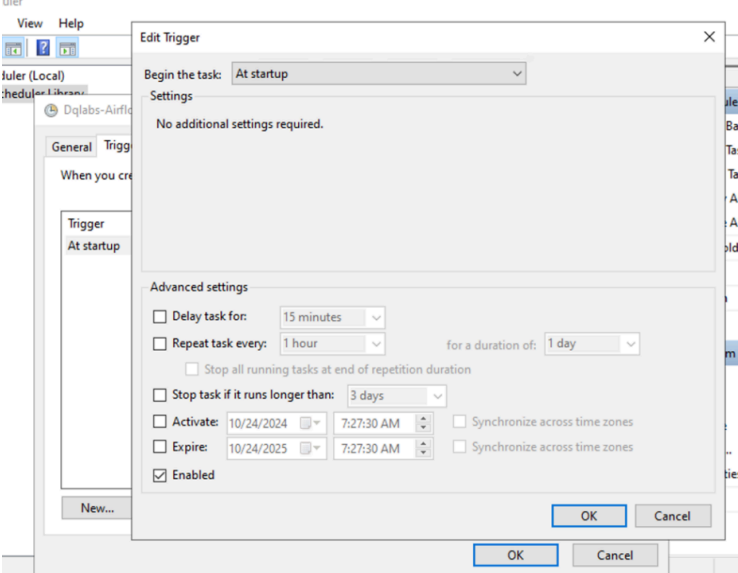
Step 3: On the pop-up window, carry out the following actions:

- Provide the Task a name
- Choose Run whether the user is logged on or not
- Check the box for Run with the highest privileges
- Click OK



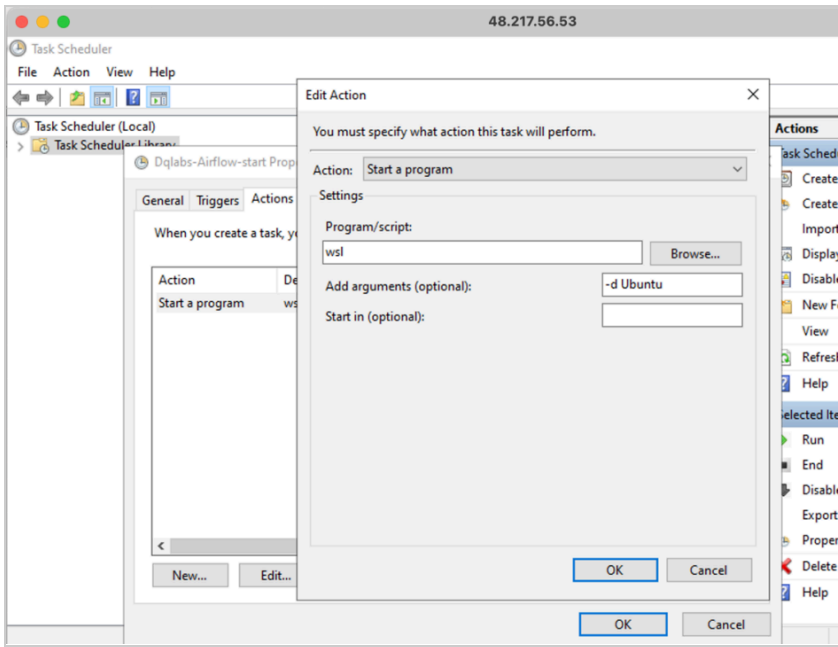
Step 4: Switch to the Triggers tab and perform the following actions:

- Click New
- Begin the task: At startup
- Click **Ok**



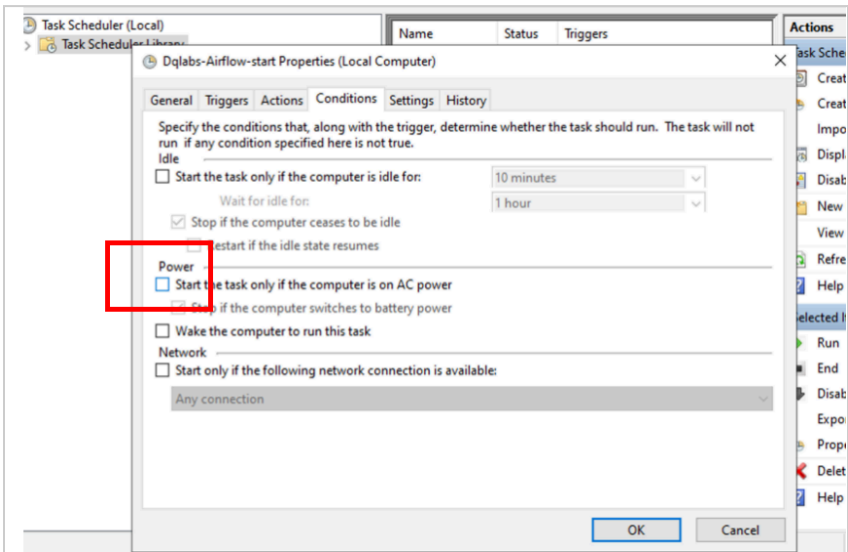
Step 5: Switch to the Actions tab and perform the following actions:

- Click New
- Under Program/script, enter wsl
- Under Add arguments, enter -d Ubuntu
- Click Ok



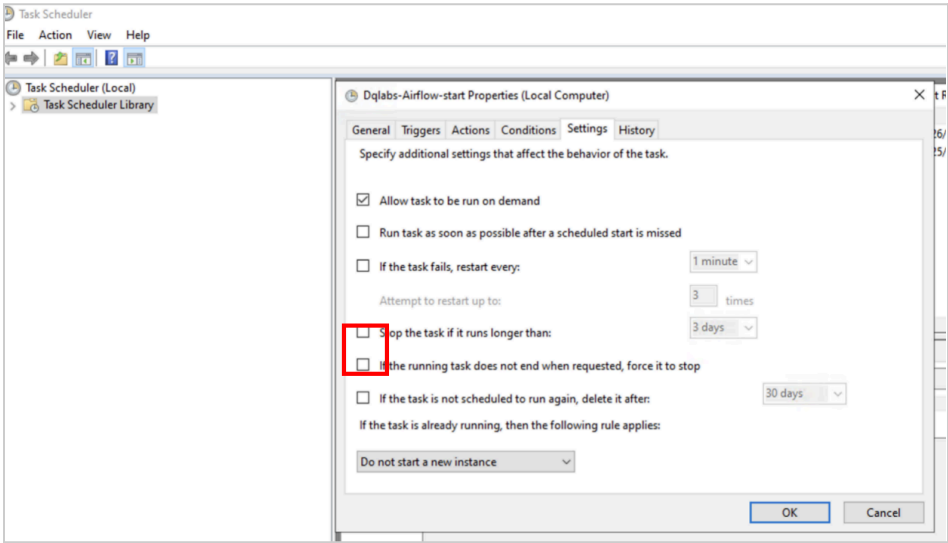
Step 6: Switch to the Conditions tab and perform the following actions:

- Click New
- Uncheck the box - Start the task only if the computer is on AC power
- Click Ok



Step 7: Switch to the Settings tab and perform the following actions:

- Uncheck the box - Stop the task if it runs longer than
- Uncheck the box - if the running task does not end when requested, force it to stop
- Click Ok



Step 8: Follow the steps below to autostart Airflow through WSL:

1. Open Command Prompt as an administrator and run the following commands one after the other:

```
None
wsl

cd /root/airflow/

chmod 777 start_airflow.sh

echo sh /root/airflow/start_airflow.sh >> ~/.bashrc
```

```
root@windows22-test: ~/airflow
Microsoft Windows [Version 10.0.20348.2762]
(c) Microsoft Corporation. All rights reserved.

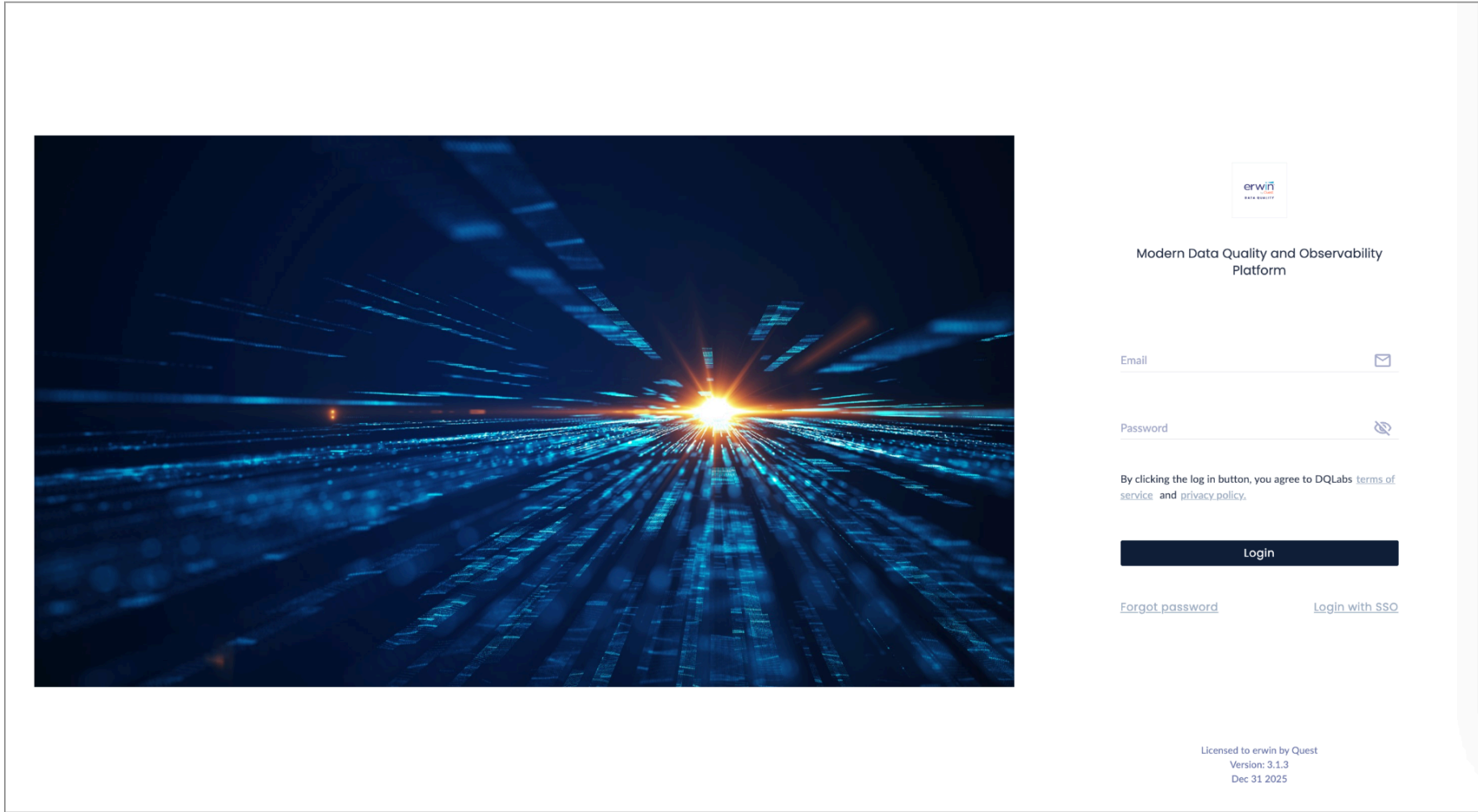
C:\Users\dqlabs>wsl
root@windows22-test-:/mnt/c/Users/dqlabs# cd /root/airflow/
root@windows22-test-:/airflow# chmod 777 start_airflow.sh
root@windows22-test-:/airflow# echo sh /root/airflow/start_airflow.sh >> ~/.bashrc
root@windows22-test-:/airflow#
```

- 2. Now, reboot the Windows server and test if airflow starts automatically with a time delay of 2 minutes. To test if airflow has started:
 - a. After reboot, run localhost:8080 on the server browser to check if the Aiflow UI appears
 - b. Execute jobs from the Application UI. Running jobs/tasks implies that Airflow has started.

Verification

After completing the installation and verifying the successful setup of DQLabs on your Windows machine, you can now log in to the application and proceed with the final steps. Follow the instructions below:

- Step 1:** Launch any supported web browser on your machine
- Step 2:** In the address bar of the browser, enter the IP address or DNS name used during installation
- Step 3:** The browser will load the DQLabs application, and you will be presented with the login page



- Step 4:** Log in to the application with the same password used in the previous version.