

Lab Work 5: Automating Application Launch and Service Management Using Batch Scripting

Objectives:

This lab aims to automate the launch of essential applications and manage the MSSQL\$SQLEXPRESS service using batch scripting, ensuring efficient workflow setup. Additionally, it focuses on scheduling tasks via Windows Task Scheduler to enable automatic execution of the script at specified times.

Steps:

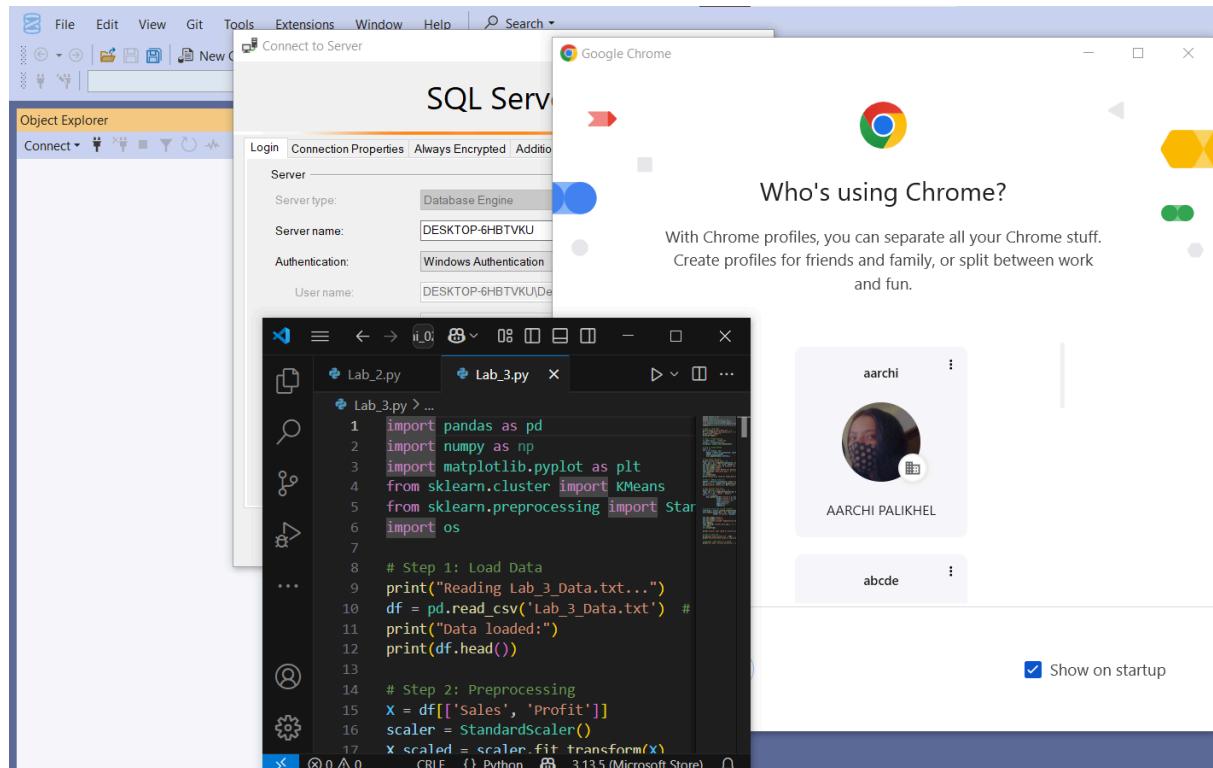
1. Create a batch script to automate the launch of essential applications like Google Chrome, SQL Server tools, and Visual Studio Code.
2. Check the status of the MSSQL\$SQLEXPRESS service and display a message if the service is already running, or start it if it is not.
3. Navigate and open two lab Python files:
4. Lab 2: Linear Regression
5. Lab 3: K-Means Clustering
6. Incorporate feedback and error handling for service management and file opening to ensure smooth execution.
7. Highlight the use of batch scripting to automate tasks and facilitate the accessibility of machine learning lab files.
8. Create a schedule to open the automation batch file in a specific time period.
9. Also Manage to create a widow scheduler and add this batch job for automatic execution.

Outcomes:

```
C:\> C:\WINDOWS\system32\cmd.exe
=====
Starting Lab Automation...
=====
Launching Google Chrome...
Launching Visual Studio Code...
Launching SQL Server Management Studio...

Checking SQL Server (MSSQLSERVER) status...
    STATE          : 4  RUNNING
MSSQLSERVER is already running.
Opening Python Lab Files...
Lab 2 opened successfully.

Lab 3 opened successfully.
=====
Automation Script Finished.
=====
Press any key to continue . . .
[main 2025-08-01T13:13:05.178Z] update#setState idle
```



General Triggers Actions Conditions Settings History (disabled)

Name: AutomationTask

Location: \

Author: DESKTOP-6HBTVKU\Dell's

Description:

General Triggers Actions Conditions Settings History (disabled)

When you create a task, you can specify the conditions that will trigger the task. To change these triggers, o

Trigger	Details	Status
One time	At 7:08 PM on 8/1/2025	Enabled

General Triggers Actions Conditions Settings History (disabled)

When you create a task, you must specify the action that will occur when you

Action	Details
Start a program	C:\Users\Dell's\Desktop\Aarchi_022bim003\Lab5.bat

In this lab assignment, a batch script was developed to automate the startup of key applications, including Google Chrome, Visual Studio Code, and SQL Server Management Studio. The script was scheduled via Windows Task Scheduler to execute automatically at 7:08 PM on August 1, 2025. It verifies the status of the MSSQLSERVER service using the `sc query` command and incorporates error handling to either confirm its active status or initiate the service if needed, providing clear success or failure notifications. Furthermore, the script locates and opens two Python lab files, 'Lab_2.py' and 'Lab_3.py', while checking for their existence beforehand—displaying error messages if they are missing. This implementation showcases how batch scripting can streamline repetitive tasks, minimize setup time, and ensure reliable access to essential resources.

By automating these routine processes, the script eliminates manual intervention and enhances operational efficiency. Integrating it with Windows Task Scheduler ensures a seamless, repeatable workflow, guaranteeing that all required applications and files are prepared in advance for lab sessions. This method underscores the value of batch scripting in automating repetitive workflows, particularly in educational or technical environments where consistent setup procedures are crucial. The solution not only saves time but also improves reliability, demonstrating the practical benefits of automation in daily computing tasks.

Conclusion:

This lab successfully demonstrated how batch scripting can automate routine tasks, improving efficiency and consistency in launching applications and managing services. By integrating with Windows Task Scheduler, the solution ensures a seamless, hands-free setup, highlighting the power of automation in streamlining workflows.