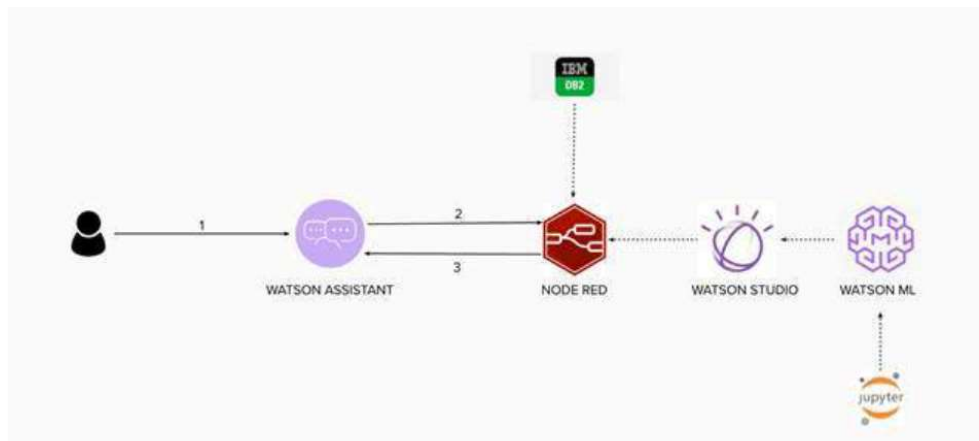


Mini Project: Introduction

The movie recommender system has the following architecture:



1. The user asks the chatbot (Watson Assistant) for movie recommendations to watch.
2. Watson Assistant sends the request to Node-RED.
3. Node-RED pulls the data from the Db2 database and provides it to Watson Studio.
4. Watson Studio invokes the Watson Machine Learning Service to get the top 20 movies.
5. The Watson Machine Learning Service runs the trained model and returns a list of the top 20 movies based on the user's previous choices.
6. The chatbot shows the result to user.

Overview

Today, recommender systems are widely used in various industries such as video streaming services, online shopping, and content creation and sharing. Thanks to the development of deep learning and artificial intelligence (AI), recommender systems can use the large amount of data that is generated by users' everyday selections and make high-quality recommendations.

This lab introduces a method that is now widely used and performs well in the industry, which is deep learning-based collaborative filtering. Deep learning-based recommenders proved better performance than classic machine learning methods because deep learning models can use the power of big data. Because collaborative filtering makes recommendations base on similar users, the more user feedback and purchase data you have, the more accurate recommendations the machine learning model can make.

This lab provides a step-by-step guide to build a movie recommender system with a simple virtual assistant user interface: train, deploy, and integrate a model by using IBM Watson Studio, a Db2 database, IBM Watson Assistant, and Node-RED.

This lab is based on the tutorial “Build a low-code chatbot and movie recommender solution using Watson Services and Node-RED“ (<https://developer.ibm.com/tutorials/build-a-low-code-chatbot-and-movie-recommender-solution-using-watson-services-and-node-red/>).

Duration

This lab can be completed on average on **120 minutes**.

Objectives

After completing this lab, you should be able to:

- bullet

Train and deploy a neural collaborative filtering model for movie recommendations by using Watson Studio.

- bullet

Build a virtual assistant as the user interface by using Watson Assistant.

- bullet

Integrate the deployed model, Db2 database, and the virtual assistant by using Node-RED.

Requirements

- IBM Cloud account.
- Complete Lab 4. Getting started with IBM Watson Machine Learning.
- Complete Lab 8. Getting Started with IBM Watson Assistant.

Lab instructions

In this lab, you complete the following tasks:

1. Create a Kubernetes cluster on which to deploy the Node-RED app.
2. Create and deploy the Node-RED app.
3. Create a Db2 service and load movies data.
4. Create a Watson Assistant and configure it.
5. Train and deploy the recommender model.
6. Integrate the solution components by using node-RED.
7. Test the entire movie recommender system.

In order to complete this Lab activity, you need to follow the instructions on the lab guide and perform the activities within: **(see Lab 12: Section 1- Section 2 –Section 3 and write a detailed lab report).**