This chapter will analyse what one can learn from artificial intelligence course of the learning factory. The focus will only be on the software tools and their application. The overall goal is to set up a system that is capable of monitoring and controlling the factory. The course is showing all the steps which are necessary for implementation. In the following paragraphs each step will be analysed.

To monitor the factory, the artificial intelligence system needs to fetch the available data. Most of the available data are sensor signals. The first step is to collect all data and store them into a cloud. The data communication is done by MQTT. The first thing that is taught is a way to read the incoming data and write it into a database. For that purpose, the software tool Apache Nifi is used. The programming is done by a kind of block programming. The course is providing a sample code. As user the task is to control and change the source URI. The sample code enables the user to understand the modus operandi of the tool.

For the next step a python script is introduced. Its purpose is to request current states and to place orders, that get executed by the factory. The script will be accessed via Jupyter Hub. Basic understanding about python scripts and the python programming language are of advantage. The user should also be familiar with command language as the execution is performed via the Python Hub.

As a next step, sensor data is put into graphs. This step is not essential for the factory control, but interesting for factory analysation. Therefore, the data is put into the Amazon could. This enables the user to use the AWS Redshift tool. The course is accessing to the Redshift tool via another python script.

A second possibility of communication is introduced in the next step. The tool to establish the communication is Node-RED. The communication standard is UPC-UA. Node-RED is a tool that is using block coding. The course is providing sample code. The tool is used to read form the factory, put the data into the Microsoft SQL database and control the learning factory. With that the course introduced the two most common used communication standards and useful tools to work with.

In the penultimate step the preparation for the artificial intelligence is done. Therefore, data editing is performed to have it neuronal network ready. The course is teaching how to use Node-RED and Python for that purpose. In the final step the neuronal network is fitted to the purpose of the factory. The course is also using a Python script.