IBM ILOG CPLEX Optimization Studio
Version 12.8.0

IBM ®

Quick Start Guide

This guide describes a quick and easy way to install the product.

National Language Version: To obtain the Quick Start Guide in other languages, print the language-specific PDF from the installation media.

Product overview

IBM® ILOG® CPLEX® Optimization Studio offers rapid development and deployment of optimization models through debugging, testing, tuning and application generation.

CPLEX Optimization Studio provides the most efficient way to build optimization and constraint programming models for planning and scheduling. With its integrated development environment (IDE), descriptive modeling language, and solving algorithms, it supports the entire model development process.
- The OPL modeling language and the IDE enable you to develop, debug, test, and tune optimization models.
- CPLEX Optimizers offer C, C++, Java™, .NET, and Python libraries that solve mathematical programming (MP) problems. CPLEX also includes a MATLAB connector.
- CP Optimizer offers C++, Java, and .NET libraries that solve constraint programming (CP) problems.
- DOcplex, a Python modeling layer for both CPLEX and CP Optimizers.
- Data and run management: Model/data separation allows a model to switch between data sources facilitating migration through test and deployment phases.
- Conflict detection/display and recommended conflict resolution: Detect and display conflicting constraints in infeasible models using the CPLEX or CP Optimizer conflict refiner.
- Relax constraints based on user defined priorities.
- Execution tracing and profiling in the IDE: Full access to CPLEX and CP Optimizer log files allows tracking of the solve progress. Use the profiler to understand use of memory and time by different phases of the execution process.
- Automatic performance tuning: Use the CPLEX tuning tool to automatically tune mathematical programming model performance.
- Application Programming Interfaces: Access the CPLEX Simplex, Barrier, MIP and CP Optimizers through the CPLEX Studio IDE, through the Concert Technology API in C++, Java, or Microsoft .NET. Additionally, access the CPLEX Simplex, Barrier and MIP Optimizers through the CPLEX Callable Library, Python and MATLAB.
- Operating systems supported: AIX®, Linux, macOS, Windows.

1 Step 1: Access your software

If you download your product from IBM Passport Advantage®, follow the directions on this page:

http://www-01.ibm.com/support/docview.wss?uid=swg21437813

When CPLEX Optimization Studio is installed on Microsoft Windows platforms, the Microsoft Visual C++ 2015 Redistributable Package (x64) must also be installed. This package installs runtime components of Visual C++ Libraries required to run applications developed with Visual C++ 2015 on a computer that does not have Visual C++ 2015 installed. If the installer detects that this package is not already installed, it explains what you need to do to download it manually.

The installer contains a README.html file with information on how to get started using the product.

2 Step 2: Evaluate your hardware and system configuration

To find details of the hardware and software configurations required for the installation of IBM ILOG CPLEX Optimization Studio, you can access the detailed system requirements from the product page:

http://www-01.ibm.com/support/docview.wss?uid=swg27019100

3 Step 3: Access the documentation

A local copy of the product documentation is available after the product has been installed.

An online version of the product documentation is available at:

http://www-01.ibm.com/support/knowledgecenter/SSSA5P_12.8.0/ilog.odms.studio.help/ Optimization_Studio/topics/COS_home.html

4 Step 4: Install the product on your system

To install the product follow the detailed step-by-step instructions provided in the installer specific to the platform on which you are installing IBM ILOG CPLEX Optimization Studio.

The AIX and Linux installers are executable files and, to launch an installation, the file should have execute permission and should be executed from the command line. For example, issue the command `./<installname>.bin`, where `<installname>` is the name of the installer. You can give a file execute permission with the command `chmod u+x <installname>.bin`.

On macOS, CPLEX Optimization Studio requires Java SE Development Kit 8 for Mac OS X.

Click the link below for installation instructions.

JDK 8 Installation for OS X
Click the link below to access the Java SE Development Kit 8 Downloads.
Java SE Development Kit 8 - Mac OS X
If the instructions are not displayed, check whether a default web browser has been set.

More information

For more product information, see the IBM ILOG CPLEX Optimization Studio home page at:

https://www.ibm.com/us-en/marketplace/ibm-ilog-cplex