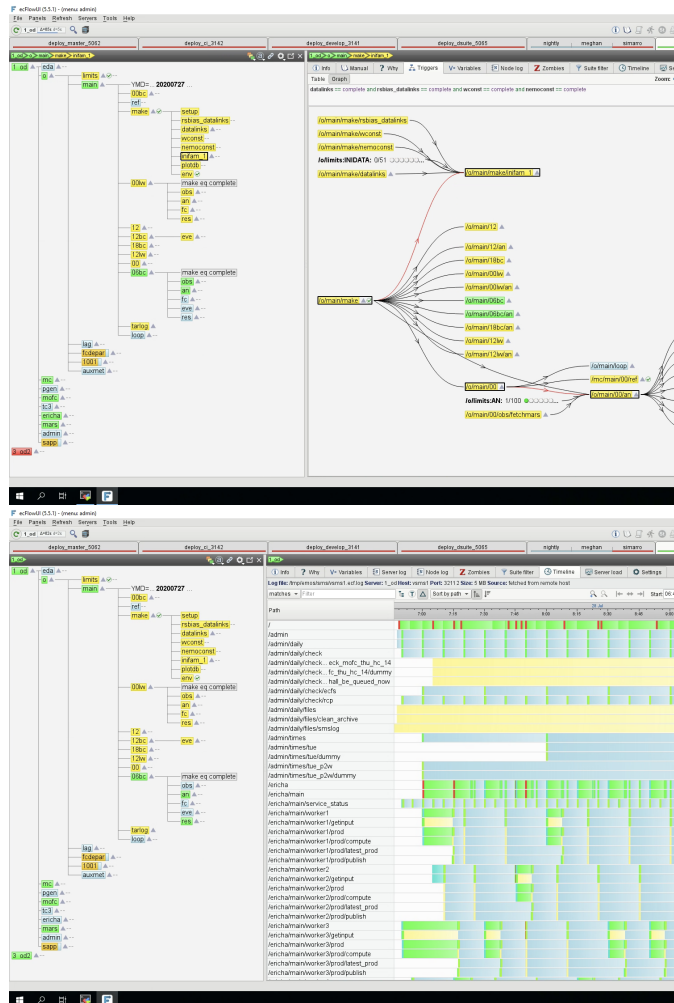


ecflow home

What is ecFlow



ecFlow is a client/server workflow package that enables users to run a large number of programs (with dependencies on each other and on time) in a controlled environment. It provides reasonable tolerance for hardware and software failures, combined with restart capabilities. It is used at ECMWF to run all our operational suites across a range of platforms.

ecFlow submits **tasks** (jobs) and receives acknowledgments from the tasks when they change **status** and when they send **events**, using **child** commands embedded in your scripts. ecFlow stores the relationships between tasks, and is able to submit tasks dependant on triggers, such as when a given task changes its status, for example when it finishes.

ecFlow functionality is provided by the following executables and shared libraries

- [ecflow_client](#): This executable is a command-line program; it is used for all communication with the server. This executable implements the Command Level Interface (CLI). The bulk of this functionality is also provided by the python API
- [ecflow_ui](#): This is a specialized GUI client that monitors and visualizes the node tree hierarchy. Based on QT.
- [ecflow_server](#): This executable is the server. It is responsible for scheduling the jobs and responding to ecflow_client requests.
- [ecflow.so](#): [Python interface](#) These shared libraries provide the python API for creating the suite definition and communication with the server.

ecFlow runs as a server receiving requests from clients. CLI, GUI, and suite jobs are clients. Communication is based on TCP/IP. Note that ecFlow is a scheduler and is not a queuing system such as NQS, SGE, Load leveler, or PBS. However, it can submit to queuing systems.

History

For almost three decades ECMWF used SMS (Supervisor Monitoring Scheduler) package to control the workflow for the Centre's operational models and systems. Written at ECMWF, it allows the design, submission, and monitoring of jobs both in the Research and Operations Departments, and provides common tools for scientists, analysts, and operators to cooperate. A large number of organizations also use SMS (from both Member and non-Member States). Development and support of SMS has now stopped.

The replacement, ecFlow 4, has superseded SMS. It has been used for over a decade. It is a complete rewrite using an object-oriented methodology and modern standardized components; it acts as a comprehensive replacement for SMS. The rewrite helps improve maintainability, allows easier modification, and introduces object orientated features. The proprietary script language used by SMS, CDP, has been replaced by Python.

The development of ecflow 4 has now stopped. But support is still provided. It has been replaced by [ecflow 5](#)

You can find an introduction to ecFlow in the [ECMWF Newsletter article](#) (Autumn 2011), starting on page 30.

Latest News

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Report a bug or issue

Please send an email to software.support@ecmwf.int or go to [Issues](#) if you have any suggestions for improvements or have discovered a bug with this software package.

Blog Posts

- Blog: [ecflow standalone GUIs](#) created by [Axel Bonet](#)
Jan 22, 2014
[ecFlow](#)
- Blog: [ecflow watchdogs](#) created by [Axel Bonet](#)
Jan 21, 2014
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Releases

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ZIP Archive ecFlow-5.12.0-Source.tar.gz	Feb 13, 2024 by Marcos Bento
ZIP Archive ecFlow-5.11.4-Source.tar.gz	Oct 12, 2023 by Iain Russell
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