

## FORCES PRO 3.1 Release

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# FORCESPRO

## Offering a new easy-to-use Python API for solver generation

- **Python Interface:** The FORCESPRO 3.1 release comes with a new Python interface for tackling real-time optimization problems as arising in Model Predictive Control. The new interface enables users to formulate the optimization problem and generate a solver with the Python API. This way the great flexibility that comes along with this language can be exploited. All Embotech solvers, such as the Sequential Quadratic Programming solver, the Nonlinear Interior Point solver, the Quadratic Programming solver and the Mixed-Integer solver can be generated.

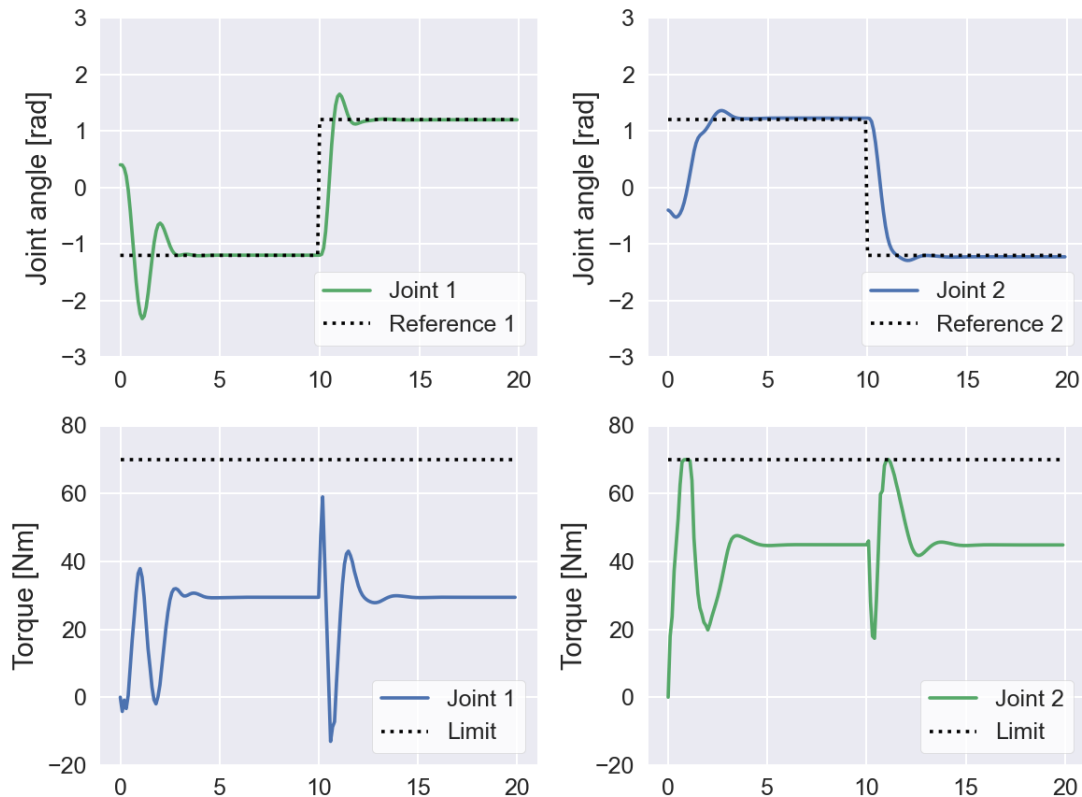
The API is compatible with Python 3.

Find further information on how to use the interface in the [docu](#).



- **Python Interface Example:** For quick hands-on testing, users can find several examples in the [docu](#). One example deals with a robotic arm manipulator that consists of two links and two revolute joints.

The positions of the joints are controlled with the FORCESPRO SQP solver to follow a predefined trajectory while considering the constraints on the actuated values. The system model and the closed-loop simulation are all written in Python and the solver is generated via the Python NLP API. The generated solver can be executed in 0.7 msec.



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Several **algorithmic improvements** can be found in the [Release Notes of FORCESPRO 3.1](#)

Existing users can **easily switch to the new version** by using our [auto-update function](#).

Alternatively, you can use the **new server** at:

<https://forces-3-1-0.embotech.com/>

**Note:** Version 1.9.1 will go offline as of August 31, 2020.

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