



NTNU

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Introduction to Julia

Presentation and Workshop

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Overview

What is Julia?

Installation & REPL

Main features

Packages

Pluto Notebooks

Workshop: Let's get you started with Julia!

What is Julia?

Goal: Scientific Computing & Fast Prototyping

A short history

Resources

Main homepage <https://julialang.org>

Documentation <https://docs.julialang.org/en/v1/>

Modern Julia Workflows <https://modernjuliaworkflows.org/>

Discourse <https://discourse.julialang.org>

JuliaHub A webfrontend for the General Registry of Julia packages
<https://juliahub.com/ui/Packages>

These slides

<https://github.com/Julia-Users-Trondheim/Intro-to-Julia/blob/main/presentation/introduction-to-julia.pdf>

Installation & REPL

Installation

Read-Eval-Print Loop (REPL)

The Julia command line is called **REPL**.

Quick commands

^ D Quit

^ L Clear console screen

Up Arrow last command

REPL modes

Starting with special characters on REPL enters specific modes

? help mode

quick access to the documentation of a function

Example:

? sqrt displays the help for the sqrt function on REPL,
see also the (HTML) documentation

<https://docs.julialang.org/en/v1/base/math/#Base.sqrt-Tuple{Number}>

] package mode

quick access to manage packages

; shell mode

quick access to shell without exiting Julia,
e.g. to change folders

Main features

General philosophy

General code format

For-loops, while and such

Functions

structs – Data structures

Multiple Dispatch

Scripts

Packages

Installing & Using Pacakges

Package versions & Updating

Package environments

Pluto Notebooks

Pluto.jl – Motivation

Similarities & differences to Jupyter

Live Demo

Workshop: Let's get you started with Julia!