Background

This thesis illustrates an approach of implementing a language server for the Nickel language which communicates with its clients, i.e. editors, over the open Language Server Protocol (in the following abbreviated as *LSP*). The current chapter provides the backgrounds on the technological details of the project. As the work presented aims to be transferable to other languages using the same methods, this chapter will provide the means to distinguish the nickel specific implementation details.

The primary technology built upon in this thesis is the language server protocol. The first part of this chapter introduces the LSP, its rationale and improvements over classical approaches, technical capabilities and protocol details. The second part is dedicated to Nickel, elaborating on the context and use-cases of the language followed by an inspection of the technical features Nickel is based on.

Language Server Protocol

Rationale

Commands and Notifications

File Notification

Diagnostics

Hover

Completion

Go-To-*

Symbols

code lenses

Shortcomings

Infrastructure as Code

Software defined Networks

Data oriented languages

Nickel

Gradual typing

Row types

Contracts