

MPS User's Guide

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Welcome to MPS. This User Guide will navigate you through the many concepts and usage patterns that MPS offers and will give you a hand whenever you need to know more details about any particular aspect of the system.

First, the **Introduction** section will offer a high-level overview of the basic notions and their roles. In the second section, named **Using MPS**, you'll get familiar with the interface through which you'll communicate with MPS. Although very small, there still are some differences between how you interact with MPS and how you typically use other common programming tools.

In the third section, called **Defining Languages**, we'll get to the meat of MPS. We'll show details on how to define the many aspects of your custom languages - their structure, editors, generators and type systems rules. The **IDE integration** section will then provide some additional context necessary to help you improve the IDE aspect of your languages and integrate them nicely into MPS.

The **Platform languages** section gives you details on all languages bundled with MPS including the corner stone language of MPS - the *BaseLanguage*. Whatever didn't fit the mentioned scheme was placed into the last **Miscellaneous** section.

1. **Introduction to MPS**
 - Basic notions of MPS: nodes, concepts, and languages
 - MPS project structure
2. **Using MPS**
 - Commanding the editor
3. **Defining Language in MPS**
 - Structure
 - Constraints
 - Behavior
 - SModel language
 - Pattern
 - Editor
 - Editor Actions
 - Generator
 - Typesystem
 - Using the typesystem
 - Data flow
 - TextGen
4. **IDE Integration**
 - Plugin
 - Run Configurations
 - Intentions
 - Find Usages
 - Stubs
 - Debugger
 - Changes highlighting
5. **Platform Languages**
 - Base Language
 - Base Language Extensions
 - Style Guide
 - Closures
 - Collections language
 - Tuples
 - Dates language
 - Regexp language
 - GText language
 - Unit test language
 - Type Extension Methods
 - Builders

- XML language
 - Other languages
6. **Miscellaneous**
- Language tests language
 - Build languages
 - Build Language
 - Packaging Language
 - Custom MPS language
 - Generating MPS models from Ant
 - GWT Support
7. Tutorials
- JetBrains MPS tutorial
 - Markus Voelter's tutorial
 - Mirko Richter's tutorials
 - Extending MPS BaseLanguage by Example - created by Mirko Richter
8. Copyrights



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