# SPECADOR
## Documentation Generator

■ For SystemVerilog, Verilog, Verilog-AMS, e, and VHDL

## Well organized documentation in no time

### Sub-Modules ⌄

wb_interface : uart_wb
regs : uart_regs
↳transmitter : uart_transmitter
  ↳fifo_tx : uart_tfifo
    ↳tfifo : raminfr#(fifo_pointer_w, fifo_width, fifo_depth)
↳i_uart_sync_flops : uart_sync_flops
↳receiver : uart_receiver
  ↳fifo_rx : uart_rfifo#(11)
    ↳rfifo : raminfr#(fifo_pointer_w, 8, fifo_depth)
dbg : uart_debug_if

### Instances ⌄

apb_subsystem_top : apb_subsystem_top
↳i_apb_subsystem : apb_subsystem_0
  ↳i_oc_uart0 : uart_top
  ↳i_oc_uart1 : uart_top

### Flow Diagram ❯



## BENEFITS

→ Generates well organized and effective documentation, even from limited source code comments

→ Integrates easily into existing development flows, allowing design and verification groups to automate the documentation process

→ Keeps the generated documentation in sync with the source code, saving time and reducing maintenance costs

→ Enhances IP packaging

→ Simplifies and encourages documenting the source code

## OVERVIEW

Specador is a tool that automatically generates accurate HTML documentation from comments inserted in the source code. It works in batch mode (command line) and uses dedicated language parsers.

The tool enables your design and verification engineers to effortlessly generate and maintain proper and well-organized documentation. Users can generate meaningful documentation of a design or verification environment even from poorly documented source code, because Specador compiles the code and generates cross-linked class inheritance trees, design hierarchies, and diagrams.

This documentation generator can be integrated easily into existing development flows. The documentation is always in sync with the source code, thus eliminating meticulous and problematic tasks such as maintaining diagrams or updating lists of ports or functions to reflect the current revision number.

Specador is especially useful for packaging IPs, either for the IP providers or for those using an IP-oriented flow in their company.

Specador recognizes both Javadoc and Natural Docs syntax, which can be used to write the documentation comments as desired, in order to enhance the readability of the HTML output.



Users have the ability to search in the documentation generated with Specador

Documentation generated with Specador

## FEATURES

- **Language awareness** – the documentation is organized by language-specific concepts, including both relationship and structural information. For example, there are dedicated categories for packages, classes, entities, or structs and one can easily explore the class inheritance, design hierarchy, or entity architectures

- **Cross-linked documentation** – allows users to easily jump from the function documentation to one of its arguments

- **Hyperlinked diagrams** – Specador includes diagrams such as Schematic and State Machine HDL Diagrams and Inheritance and Collaboration UML Class Diagrams in the HTML output, hyperlinked so that users click on a class in a diagram and jump to the chapter where it is documented

- **Register bitfield diagrams** – Specador exports bitfield diagrams by parsing the UVM register configurations methods

- **Waveform diagrams** – Specador generates waveforms specified using the popular open-source WaveDrom format

- **Customized diagrams** – Specador can take directives in comments, feed them to an external script/tool for processing, and include the generated results in the documentation

- **Review-oriented sections** – Specador generates sections that aggregate information, for example coverage and checking aspects

- **Quick search** – users can search the documentation by class or module name

- **Enhanced readability of the HTML output** – because Specador recognizes the Javadoc and Natural Docs syntax, users can beautify the HTML output by using attributes such as bold, italic, and lists

- **Documentation control** – allows users to control what documentation they generate, for example, by filtering out entire packages or private APIs

- **Additional embedded or linked documentation** – users can easily embed other HTML documentation, add additional menus in the table of contents, add links to MS Word and PDF documents and extra screenshots, and integrate with external Doxygen documentation

- **Scalability** – Specador automatically creates cross-links to pre-generated documentation of other IPs or projects

## INTEGRATED SOLUTION

**Specador Documentation Generator** is closely integrated with the other design and verification products available from AMIQ EDA, including **DVT Eclipse IDE, DVT IDE for VS Code, DVT Debugger, and Verissimo SystemVerilog Linter.**

## TECHNICAL SUPPORT

The technical support team is available to promptly answer your questions, provide you with training, and work with you to determine your needs.

Your requirements and feedback are important. Whether you are looking for technical support or new features to improve your design and verification flow, AMIQ's technical support team strives to answer your requests in a timely manner.

## CONTACT AMIQ

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