



Design, Analyse, Dokumentation

BSc Psychologie SoSe 2023

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(7) Quarto

VSCoDe

Quarto

Referenzmanager

Berichte und Präsentationen mit Quarto

VSCode

Quarto

Referenzmanager

Berichte und Präsentationen mit Quarto

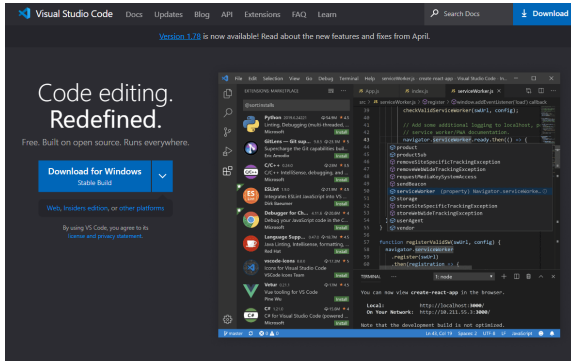
Was ist VSCode?

- Visual Studio Code (VSCode) ist ein kostenloser Quelltext-Editor von Microsoft.
- Grob gesagt ist VSCode so etwas wie RStudio *für alle Programmiersprachen*.
- VSCode ist seit 2015 für Windows, macOS und Linux verfügbar.
- Seit 2018 ist VSCode der beliebteste Editor laut jährlicher stackoverflow Umfragen.
- Ein Microsoftprodukt ist damit auch der beliebteste Editor der Linuxwelt.
- Über Extensions kann VSCode als IDE für beliebige Sprachen genutzt werden.
- Zum Beispiel funktioniert VSCode als IDE für R, Python, Julia, Shell, Quarto, etc.
- VSCode ist Community-based und sehr konfigurierbar.
- VSCode ist über Microsoft's GitHub über Endgeräte synchronisierbar.

VSCode

Wie bekomme ich VSCode?

www.code.visualstudio.com



Wie benutze ich VSCode?

www.code.visualstudio.com/docs

The screenshot shows the Visual Studio Code documentation website. At the top, there is a navigation bar with links for Docs, Updates, Blog, API, Extensions, FAQ, and Learn. A search bar and a 'Down' button are also present. Below the navigation bar, a banner for 'Visual Studio Code 1.78' is visible. The main content area is titled 'Getting Started' and includes a brief introduction to the editor. A sidebar on the left lists various documentation categories. On the right, there is a 'GETTING STARTED' section with links to 'VS Code in Action', 'Top Extensions', 'First Steps', 'Keyboard Shortcuts', 'Downloads', and 'Privacy'. Below this, there are social media links for Twitter, YouTube, GitHub, and a 'Watch video' link. The central focus is a code editor window showing an Express.js server file with an autocomplete dropdown menu for the `server.get` method. The dropdown lists several options, with `get (property) Application.get: ((name: string),` selected. Below the code editor, there is a section titled 'Intelligent Code Completion' with a sub-heading 'Code smarter with IntelliSense - completions for variables, methods, and imported modules.' and a progress indicator consisting of five dots, with the first one filled.

Visual Studio Code

Docs Updates Blog API Extensions FAQ Learn

Visual Studio Code 1.78 is now available! Read about the new features and fixes from April.

Overview

SETUP

GET STARTED

USER GUIDE

SOURCE CONTROL

TERMINAL

LANGUAGES

NODEJS / JAVASCRIPT

TYPESCRIPT

PYTHON

JAVA

C++

DOCKER

DATA SCIENCE

AZURE

REMOTE

DEV CONTAINERS

Getting Started

Visual Studio Code is a lightweight but powerful source code editor which runs on your desktop and is available for Windows, macOS and Linux. It comes with built-in support for JavaScript, TypeScript and Node.js and has a rich ecosystem of extensions for other languages and runtimes (such as C++, C#, Java, Python, PHP, Go, .NET). Begin your journey with VS Code with these [introductory videos](#).

Visual Studio Code in Action

```
4 var server = express();
5 server.use(bodyParser.json);
6
7 server.get
8
9
10
11
12
13
14
15
16
17
18
```

get (property) Application.get: ((name: string),
getMaxListeners
arguments
engine
length
merge
purge
settings
toString
defaultConfiguration

Intelligent Code Completion

Code smarter with [IntelliSense](#) - completions for variables, methods, and imported modules.

● ○ ○ ○ ○

GETTING STARTED

VS Code in Action

Top Extensions

First Steps

Keyboard Shortcuts

Downloads

Privacy

Tweet this link

Subscribe

Ask questions

Follow @code

Request features

Report issues

Watch video

VSCode

Quarto

Referenzmanager

Berichte und Präsentationen mit Quarto

Was ist Quarto?

Welcome to Quarto

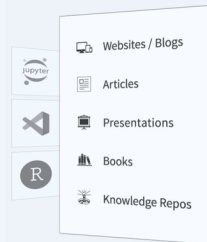
An open-source scientific and technical publishing system

- Author using [Jupyter](#) notebooks or with plain text markdown in your favorite editor.
- Create dynamic content with [Python](#), [R](#), [Julia](#), and [Observable](#).
- Publish reproducible, production quality articles, presentations, websites, blogs, and books in HTML, PDF, MS Word, ePub, and more.
- Share knowledge and insights organization-wide by publishing to [Posit Connect](#), [Confluence](#), or other publishing systems.
- Write using [Pandoc](#) markdown, including equations, citations, crossrefs, figure panels, callouts, advanced layout, and more.

Analyze. Share. Reproduce. You have a story to tell with data—tell it with Quarto.

Get Started

Guide



Was ist Quarto?

- Ein seit 2022 verfügbares freies wissenschaftlich-technisches Publikationssystem
- Eine Weiterentwicklung von [RMarkdown](#) und [RBookdown](#) durch [Posit](#)
- RMarkdown/RBookdown sind RStudio Adaptationen von [Markdown](#) und [Jupyter Notebooks](#)
- Allgemeines Ziel ist hier die einfache Integration von ausführbarem Programmiercode in ein ansprechendes Text-, Tabellen- und Abbildungslayout für Web- und Printdokumente.
- Quarto nutzt [Markdown](#) und [Latex](#) für Layoutprozesse.
- Quarto nutzt [Pandoc](#) für multiple Outputformate (.html, .docx, .pdf, etc.)
- Quarto läuft smoother und schneller als RMarkdown und RBookdown.

Wie bekomme ich Quarto?

Get Started

Install Quarto, then check out the tutorials to learn the basics.

Step 1

Install Quarto



Platform	Download	Size	SHA-256
Ubuntu 18+/Debian 10+	quarto-1.3.353-linux-amd64.deb	84.57 MB	b58cc87
Linux Arm64	quarto-1.3.353-linux-arm64.deb	84.41 MB	f6d2499
Mac OS	quarto-1.3.353-macos.pkg	105.27 MB	c64ecb1
Windows	quarto-1.3.353-win.msi	77.83 MB	5556add

[Release notes and more downloads...](#)

Step 2

Choose your tool and get started



Wie benutze ich Quarto in VSCode?

Get Started

Tutorial: Hello, Quarto

Tutorial: Computations

Tutorial: Authoring

Tutorial: Hello, Quarto

Choose
your
tool



Overview

In this tutorial we'll show you how to use Quarto with VS Code. Before getting started, you should install the [Quarto VS Code Extension](#), which includes many tools that enhance working with Quarto, including:

- Integrated render and preview for Quarto documents.
- Syntax highlighting for markdown and embedded languages
- Completion and diagnostics for YAML options
- Completion for embedded languages (e.g. Python, R, Julia, etc.)
- Commands and key-bindings for running cells and selected lines.

You can install the Quarto extension from within the **Extensions** tab in VS Code, from the [Extension Marketplace](#), the [Open VSX Registry](#) or directly from a [VIXX extension file](#).



This tutorial focuses on editing plain text Quarto `.qmd` files in VS Code. Depending on your preferences and the task at hand there are two other editing modes available for Quarto documents: the [Visual Editor](#) and the [Notebook Editor](#). For the purposes of learning we recommend you work through this tutorial using the VS Code text editor, then after you've mastered the basics explore using the other editing modes.

On this page

Overview

Basic Workflow

Render and Preview

YAML Options

Markdown

Code Cells

External Preview

Next Up

Edit this page

Report an issue

Was ist Markdown?

- Eine Markup Language (Auszeichnungssprache) zur Erzeugung formatierten Texts
- Eine HTML Alternative zur Erstellung von Webseiten etc. mithilfe einfacher Texteditoren
- Von John Gruber und Aaron Swartz 2004 mit dem Ziel hoher Lesbarkeit entwickelt

Text using Markdown syntax	Corresponding HTML produced by a Markdown processor	Text viewed in a browser
<pre>Heading ===== Sub-heading ----- # Alternative heading ## Alternative sub-heading Paragraphs are separated by a blank line. Two spaces at the end of a line produce a line break.</pre>	<pre><h1>Heading</h1> <h2>Sub-heading</h2> <h1>Alternative heading</h1> <h2>Alternative sub-heading</h2> <p>Paragraphs are separated by a blank line.</p> <p>Two spaces at the end of a line
 produce a line break.</p></pre>	<p>Heading</p> <hr/> <p>Sub-heading</p> <hr/> <p>Alternative heading</p> <hr/> <p>Alternative sub-heading</p> <hr/> <p>Paragraphs are separated by a blank line.</p> <p>Two spaces at the end of a line produce a line break.</p>
<pre>Text attributes <i>_itali{c_</i>, **bold**, 'monospace'. Horizontal rule: ---</pre>	<pre><p>Text attributes italic, bold, <code>monospace</code>.</p> <p>Horizontal rule:</p> <hr /></pre>	<p>Text attributes <i>italic</i>, bold, monospace .</p> <hr/> <p>Horizontal rule:</p> <hr/>

Was ist LaTeX?

- Ein Softwarepaket zur Vereinfachung von TeX
- TeX ist ein von Donald E. Knuth ab 1977 entwickeltes Textsatzsystem mit Makrosprache
- LaTeX wurde von Leslie Lamport Anfang 1984 entwickelt
- LaTeX ist insbesondere für mathematische Berichte und Präsentationen (Beamer) nützlich

```
\footnotesize
\begin{theorem}[Datenverteilung des Allgemeinen Linearen Modells]
\justifying
\normalfont
Es sei
\begin{equation}
\upsilon = X\beta + \varepsilon \text{ mit } \varepsilon \sim N(0_n, \sigma^2 I_n)
\end{equation}
das ALM. Dann gilt
\begin{equation}
\upsilon \sim N(\mu, \sigma^2 I_n) \text{ mit } \mu := X\beta \in \mathbb{R}^n.
\end{equation}
\end{theorem}
```



Theorem (Datenverteilung des Allgemeinen Linearen Modells)

Es sei

$$v = X\beta + \varepsilon \text{ mit } \varepsilon \sim N(0_n, \sigma^2 I_n) \quad (7)$$

das ALM. Dann gilt

$$v \sim N(\mu, \sigma^2 I_n) \text{ mit } \mu := X\beta \in \mathbb{R}^n. \quad (8)$$

Was ist Pandoc?

- **Pandoc** ist eine kostenlose Document Conversion Software von John MacFarlane
- **Pandoc** ist in die Quarto Engine integriert
- Einige von **Pandocs** Konvertierungsoptionen sind im Folgenden aufgeführt

(← = conversion from; → = conversion to; ↔ = conversion from and to)

Lightweight markup formats

↔ Markdown (including CommonMark and GitHub-flavored Markdown)
↔ reStructuredText
→ AsciiDoc
↔ Emacs Org-Mode
↔ Emacs Muse
→ Textile
→ Markup
→ txt2tags

HTML formats

↔ XHTML 4
↔ HTML5
→ Chunked HTML

Ebooks

↔ EPUB version 2 or 3
↔ FictionBook2

Documentation formats

→ GNU TexInfo
↔ Haddock markup

Roff formats

↔ roff man
→ roff ms

TeX formats

↔ LaTeX
→ ConTeXt

Word processor formats

↔ Microsoft Word docx
↔ Rich Text Format RTF
↔ OpenOffice/LibreOffice ODT

Interactive notebook formats

↔ Jupyter notebook (ipynb)

Page layout formats

→ InDesign ICML
→ Typst

Wiki markup formats

↔ MediaWiki markup
↔ DokuWiki markup
↔ TikiWiki markup
→ TWiki markup
→ Vimwiki markup
→ XWiki markup
→ ZimWiki markup
↔ Jira wiki markup
→ Creole

Slide show formats

→ LaTeX Beamer
→ Microsoft PowerPoint
→ Slidy
→ reveal.js
→ Slideshow
→ S5
→ DZSlides

Wie benutze ich Quarto?

- Guide
- Authoring
- Computations
- Tools
- Documents
- Presentations
- Websites
- Books
- Interactivity
- Publishing
- Projects
- Advanced

Guide

Comprehensive guide to using Quarto. If you are just starting out, you may want to explore the tutorials to learn the basics.

Authoring

- Create content with markdown
- Markdown Basics
- Figures
- Tables
- Diagrams
- Citations & Footnotes
- Cross References
- Article Layout

Presentations

- Present code and technical content
- Presentation Basics
- Reveal.js (HTML)
- PowerPoint (Office)
- Beamer (PDF)

Publishing

- Publishing documents and sites
- Publishing Basics
- Quarto Pub
- GitHub Pages
- Post Connect
- Netlify
- Confluence

Computations

- Execute code and display its output
- Using Python
- Using R
- Using Julia
- Using Observable
- Execution Options
- Parameters

Websites

- Create websites and blogs
- Creating a Website
- Website Navigation
- Creating a Blog
- Website Search
- Website Listings

Projects

- Scale up your work with projects
- Project Basics
- Managing Execution
- Project Profiles
- Environment Variables
- Project Scripts
- Virtual Environments

Tools

- Use your favorite tools with Quarto
- JupyterLab
- RStudio IDE
- VS Code
- Neovim
- Text Editors
- Visual Editor

Books

- Create books and manuscripts
- Creating a Book
- Book Structure
- Book Crossrefs
- Customizing Output

Advanced

- Refine documents with advanced tools
- Includes
- Variables
- Page Layout
- Document Language
- Conditional Content
- Notebook Filters

Documents

- Generate output in many formats
- HTML
- PDF
- MS Word
- Markdown
- All Formats

Interactivity

- Engage readers with interactivity
- Overview
- Observable JS
- Shiny
- Widgets
- Component Layout

VSCode

Quarto

Referenzmanager

Berichte und Präsentationen mit Quarto

Was ist ein Reference Manager?

- Reference Manager sind Literaturverwaltungsprogramme
- Reference Manager unterstützen Zitationen und das Erstellen von Literaturverzeichnissen
- Zitierstile können automatisch auf bestimmte Spezifikationen (z.B. APA) eingestellt werden
- Reference Manager dienen auch als digitale Bibliotheken
- Kommerzielle Reference Manager sind z.B. EndNote, Citavi, Mendeley und Papers
- Kostenlose/Freemium Reference Manager sind z.B. [JabRef](#) und [Zotero](#)
- Eine Integration in Quarto erlaubt z.B. der Export der eigenen Library in das [BibTex](#) Format.

VSCode

Quarto

Referenzmanager

Berichte und Präsentationen mit Quarto

Beispielbericht

Beispielpräsentation

VSCoDe

Quarto

Referenzmanager

Berichte und Präsentationen mit Quarto