

A silhouette of a person standing next to a child on a bicycle, positioned on a grassy hill. The background is a vibrant sunset sky with shades of purple, pink, and orange. A thin yellow arc curves across the top of the image, framing the scene.

Introducing Regular Expressions

JavaScript and TypeScript

Jörg Krause

Apress®

Introducing Regular Expressions

JavaScript and TypeScript



Jörg Krause

Apress®

Introducing Regular Expressions

Jörg Krause
Berlin, Germany

ISBN-13 (pbk): 978-1-4842-2507-3
DOI 10.1007/978-1-4842-2508-0

ISBN-13 (electronic): 978-1-4842-2508-0

Library of Congress Control Number: 2016962076

Copyright © 2017 by Jörg Krause

This work is subject to copyright. All rights are reserved by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed. Exempted from this legal reservation are brief excerpts in connection with reviews or scholarly analysis or material supplied specifically for the purpose of being entered and executed on a computer system, for exclusive use by the purchaser of the work. Duplication of this publication or parts thereof is permitted only under the provisions of the Copyright Law of the Publisher's location, in its current version, and permission for use must always be obtained from Springer. Permissions for use may be obtained through RightsLink at the Copyright Clearance Center. Violations are liable to prosecution under the respective Copyright Law.

Trademarked names, logos, and images may appear in this book. Rather than use a trademark symbol with every occurrence of a trademarked name, logo, or image we use the names, logos, and images only in an editorial fashion and to the benefit of the trademark owner, with no intention of infringement of the trademark.

The use in this publication of trade names, trademarks, service marks, and similar terms, even if they are not identified as such, is not to be taken as an expression of opinion as to whether or not they are subject to proprietary rights.

While the advice and information in this book are believed to be true and accurate at the date of publication, neither the authors nor the editors nor the publisher can accept any legal responsibility for any errors or omissions that may be made. The publisher makes no warranty, express or implied, with respect to the material contained herein.

Managing Director: Welmoed Spahr

Acquisitions Editor: Louise Corrigan

Development Editor: James Markham

Technical Reviewer: Massimo Nardone

Editorial Board: Steve Anglin, Pramila Balan, Laura Berendson, Aaron Black, Louise Corrigan,

Jonathan Gennick, Todd Green, Celestin Suresh John, Nikhil Karkal, Robert Hutchinson,

James Markham, Matthew Moodie, Natalie Pao, Gwenan Spearing

Coordinating Editor: Nancy Chen

Copy Editor: Kim Burton-Weisman

Compositor: SPi Global

Indexer: SPi Global

Artist: SPi Global

Distributed to the book trade worldwide by Springer Science+Business Media New York, 233 Spring Street, 6th Floor, New York, NY 10013. Phone 1-800-SPRINGER, fax (201) 348-4505, e-mail orders-ny@springer-sbm.com, or visit www.springer.com. Apress Media, LLC is a California LLC and the sole member (owner) is Springer Science + Business Media Finance Inc (SSBM Finance Inc). SSBM Finance Inc is a **Delaware** corporation.

For information on translations, please e-mail rights@apress.com, or visit www.apress.com.

Apress and friends of ED books may be purchased in bulk for academic, corporate, or promotional use. eBook versions and licenses are also available for most titles. For more information, reference our Special Bulk Sales–eBook Licensing web page at www.apress.com/bulk-sales.

Any source code or other supplementary materials referenced by the author in this text is available to readers at www.apress.com. For detailed information about how to locate your book's source code, go to www.apress.com/source-code/.

Printed on acid-free paper

Contents at a Glance

About the Author ix

Introduction xi

■ Chapter 1: Introducing Regular Expressions 1

■ Chapter 2: Recognizing Patterns 5

■ Chapter 3: The JavaScript Functions..... 19

■ Chapter 4: Examples of Patterns 25

■ Appendix..... 43

Index..... 47

Contents

About the Author	ix
Introduction	xi
■ Chapter 1: Introducing Regular Expressions	1
Copy or Scaffold?	2
How Does It Work?	3
Resolving Expressions.....	4
■ Chapter 2: Recognizing Patterns	5
Basics.....	5
Characters, Lines, and Text.....	5
Terms for Regular Expressions.....	6
Metacharacters.....	6
Literals.....	6
Character Classes.....	6
References.....	7
Metacharacters Overview	7
Start, End, and Boundaries	7
Any Character	8
No Characters.....	9
Character Classes	9
One out of Many	9
Negations	10
Digits	10

Date and Time	11
Strings	11
Abbreviations	12
Repetition Operators	12
Common Operators.....	13
Summary	14
Special Operators	14
References	14
Groups	15
Simple Groups	15
Enclosing Characters.....	16
Non-Counting Groups	17
Lookahead References.....	17
■ Chapter 3: The JavaScript Functions.....	19
The RegExp Object	19
Methods.....	19
Properties	20
Dynamic Properties	21
The Literal Form	22
Execution Options.....	22
String Functions	22
Overview.....	23
■ Chapter 4: Examples of Patterns	25
Web and Network.....	25
HTML Tags	25
IP Addresses	26
Mac Addresses	27
URL	28