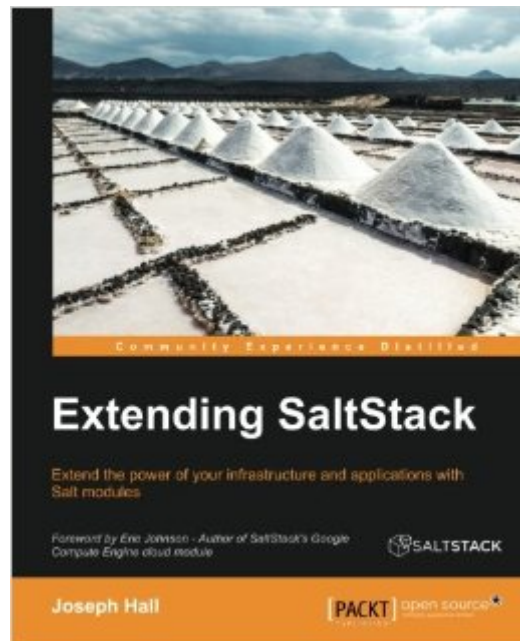


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# Extending SaltStack



## Synopsis

**Key Features** Get the most up-to-date practical resource on writing new Salt modules and extending Salt. Learn through use cases and encounter both commonly-used modules as well as advanced ones. Effectively troubleshoot problems and hiccups encountered while building and putting modules to work.

**Book Description** Salt already ships with a very powerful set of tools, but that doesn't mean that they all suit your needs perfectly. By adding your own modules and enhancing existing ones, you can bring the functionality that you need to increase your productivity. Extending SaltStack follows a tutorial-based approach to explain different types of modules, from fundamentals to complete and full-functioning modules. Starting with the Loader system that drives Salt, this book will guide you through the most common types of modules. First you will learn how to write execution modules. Then you will extend the configuration using the grain, pillar, and SDB modules. Next up will be state modules and then the renderers that can be used with them. This will be followed with returner and output modules, which increase your options to manage return data. After that, there will be modules for external file servers, clouds, beacons, and finally external authentication and wheel modules to manage the master. With this guide in hand, you will be prepared to create, troubleshoot, and manage the most common types of Salt modules and take your infrastructure to new heights!

**What you will learn** Understand the working of Salt's Loader system. Write several of the most common types of Salt modules. Interact between different kinds of modules and build new ones. Submit open source modules upstream to the Salt project. Make Salt interact with third-party services and applications.

**About the Author** Joseph Hall has been working with SaltStack for a very long time. His first commit was on March 14, 2011, making him the second contributor to the Salt codebase. At the time his Python skills weren't very good, but writing Salt modules made them better. He has written a number of Salt modules and is planning to write many more. He has also written *Mastering SaltStack*, Packt Publishing.

**Table of Contents** Starting with the Basics. Writing Execution Modules. Extending Salt Configuration. Wrapping States Around Execution Modules. Rendering Data. Handling Return Data. Scripting with Runners. Adding External File Servers. Connecting to the Cloud. Monitoring with Beacons. Extending the Master. Connecting Different Modules. Contributing Code Upstream.

## Book Information

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## Customer Reviews

Extending SaltStack by Joseph Hall is a fantastic resource if you have gotten your feet wet with SaltStack and would like to do more complex management, and extend the power of SaltStack to fully automate management of your infrastructure and manage the more complex use cases possible with SaltStack. Building on his previous work which will give you a strong basis in the overall platform, SaltStack covers the more complex use cases and capabilities that can help you fully realize the extensible power of this flexible management platform. From building custom modules, to using runners to move data or using beacons to build a custom monitoring system, Hall ties the various functions of Salt together and explains very well how they all work together to build the exact functionality you need. The book is intended for people with moderate to advanced knowledge of the Salt System but also does a good job of reminding you of the basics where necessary to illustrate how a particular function works or should work to accomplish your end goal. If you are looking to increase your knowledge of the Salt system or if you are looking to build a customized, automated management and automation platform, this book is perfect, and will serve as both a teacher and a reference as you move forward. The examples for each section provide real world code and use cases to help you learn the system's intricacies and master the Salt Management platform. As someone who's worked with Salt for the last several years, I was asked to review this book and provided a copy of the book for the review.

I was provided a free copy of this book in exchange for a truthful and honest review. I am a SaltStack Certified engineer and have been working with Salt for about 2 years. I'm a sys admin by trade, not a programmer, and haven't previously tried writing my own Salt modules beyond the simple "hello world" type tutorial in the Salt documentation. That said, this book provides

excellent guidance on how to approach creating your own modules of nearly all types. As a relative Python novice, at no point was I confused about conventions or what the example code was doing. This will be a very useful reference as I continue to develop our configuration management infrastructure and further bend Salt to my will and needs. Every environment is different and having the ability to add functionality to your tools is important. The book has a few minor rough edges where examples appear to have been revised and are obviously inconsistent (reference to sshd vs mysqld and vice versa in one of the first examples) but it doesn't detract from the point. There are also some stray pylint references that I assume are leftover from a proofreading process. Overall, this is a solid reference that speaks from experience, provides relevant examples, warns of pitfalls, and provides troubleshooting tips for when you get started on your own.

Extending Saltstack is written by one of the core and earliest contributors to Salt. Joseph Hall has spearheaded the development of several sub-systems including (most notably) Salt Cloud and is an authority on many of the subjects presented here. This book does a great job of explaining the many different sub-systems and parts of Salt. I was happy to see that it talks about not just the what but the whys of Salt. For instance the author has done a good job of explaining what Virtual modules are and why they do what they do. It is great to have all this information in one place with examples to reinforce learning of concepts. If you've ever wondered what Salt is, this is definitely the book for you! Readers with intermediate knowledge of Salt, or knowledge of a few parts of Salt will find this book to be a comprehensive resource. People looking to contribute code to open source Salt will also find this book useful. Readers experienced with Salt will also find that this book is useful to go back to for quickly looking up concepts. This book focuses on providing a breadth of information but also does a good job of explaining many Salt related concepts in detail. Disclosure: I work for Saltstack and got a free copy of Extending Saltstack for review.

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