# Test-Driven Approaches to Documentation with Gradle, Asciidoctor, and Exemplar

Jenn Strater (@codeJENNerator) - Developer Advocate - Gradle Inc.

# Follow Along

jlstrater.github.io/testdriven-docs-microxhg | pdf

# Outline

- Background
- Documentation in General
- Intro to Asciidoc (and Asciidoctor)
- Test-Driven Approaches and Exemplar

# Who am I?

```
speaker {
    name 'Jennifer "Jenn" Strater'
    company 'Gradle Inc'
    ossContributions 'Codenarc, Spring REST Docs, and more',
    communityWork 'Groovy Community Slack owner',
                  'GR8DI board',
                  'GR8Conf crew',
    twitter '@codeJENNerator',
    github 'jlstrater',
    extraDescription '''always looking for more time
    to contribute to Open Source'''
}
```

# Before Gradle

- Groovy (and Grails) dev in the US and Germany
- Experience in Microservice and Monolithic Architectures
- Spring REST Docs contributor and advocate

# What is Gradle?

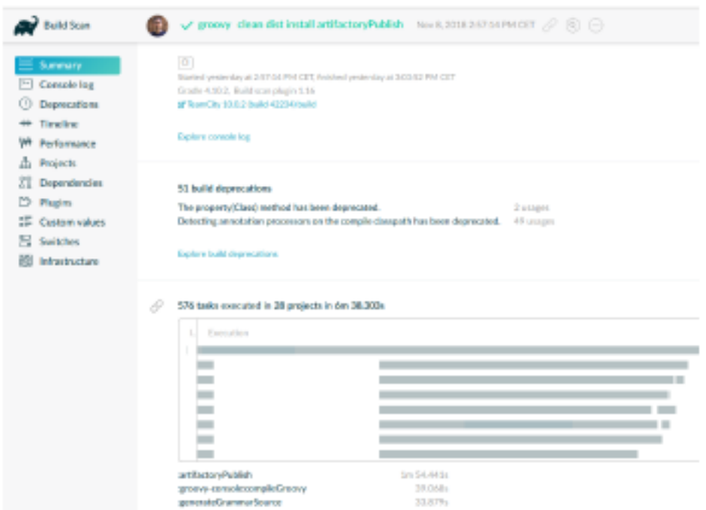
# Gradle Build Tool

Gradle is a build and automation tool.

- JVM based
- Implemented in Java
- 100% Free Open Source - Apache Standard License 2.0
- Supports Java (inc. Groovy, Kotlin, Scala), Native (C, C++, Swift), Android, Go, Asciidoctor, and more

# Gradle Inc.

- Build Happiness
- Employs full time engineers
- Provide Gradle build scans and build caching in Gradle Enterprise for both Gradle *AND* Maven.
- Try it for free at scans.gradle.com




- On premise build cache and build scan solution
- Out of the box solution for distributed build cache
- Improved build scan feature set
  - Searchable build history
  - Build comparison

# Gradle is hiring!

- Fully distributed development team
- Exciting project used by millions
- Build tool team and Gradle enterprise positions

If anything you hear from now on sounds like a great problem to solve,

gradle.com/careers

# Talk to me!

- About Gradle
- About Gradle Enterprise
- About Careers at Gradle GmbH
- If you just want a Gradlephant sticker

# About you

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- Ecosystem (Java, Android, JS, etc)

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- Monolith, Microservice architecture

# About you

- Ecosystem (Java, Android, JS, etc)
- Monolith, Microservice architecture
- Role in Documentation (writer, maintainer)

microxchg 2019


I hate writing documentation!*

# Documentation

# Type of information being conveyed

- Is this a reference document?
- Does it belongs in the user manual?
- Can it be a separate, independent document like a tutorial?

# Who owns the process?

# Who owns the process?

- Developers

# Who owns the process?

- Developers
- Product teams

# Who owns the process?

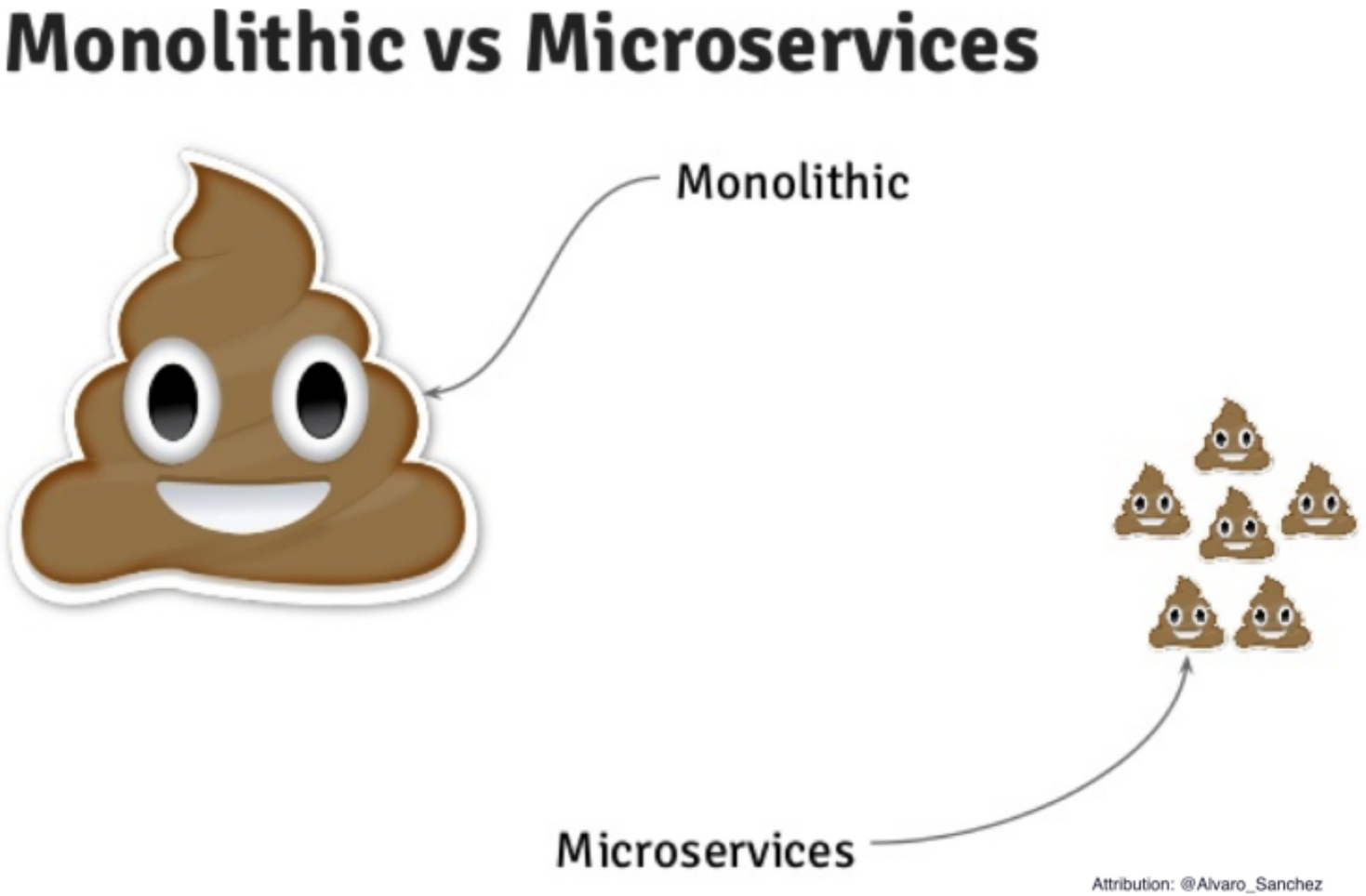
- Developers
- Product teams
- Writers

# Versioning

- Same as product or separate/"current"
- They need to be versioned just like the source code so they refer to historical features/implementations.
- Docs cannot be updated dynamically

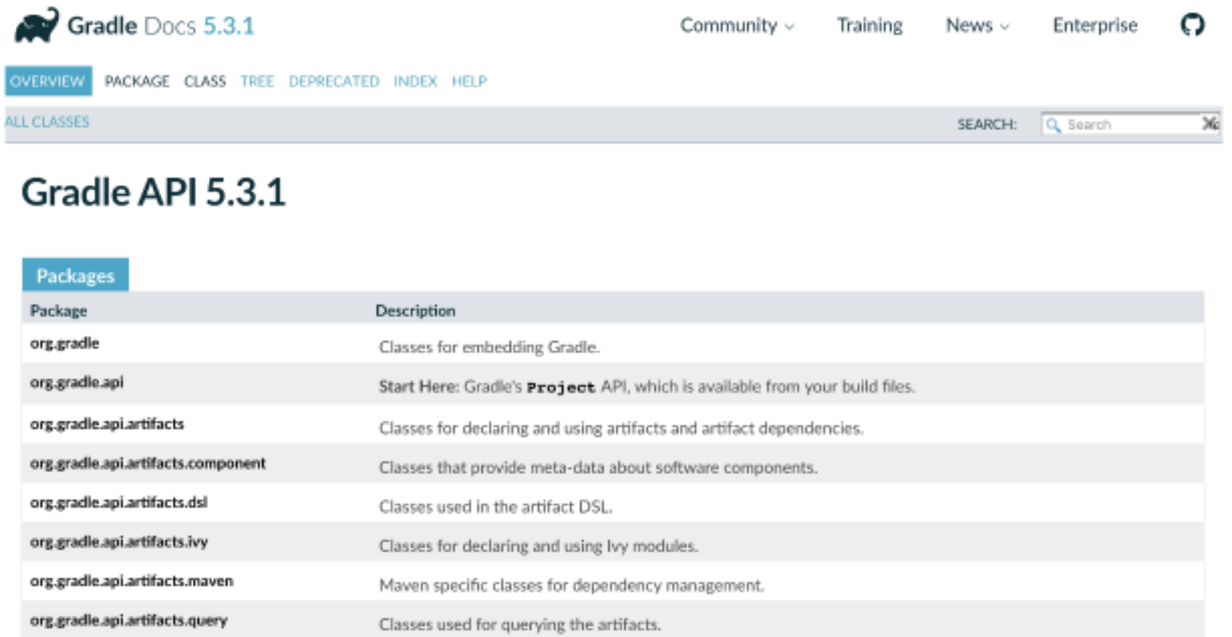
Out of date docs are worse than no docs at all.

# Solve your problems now!



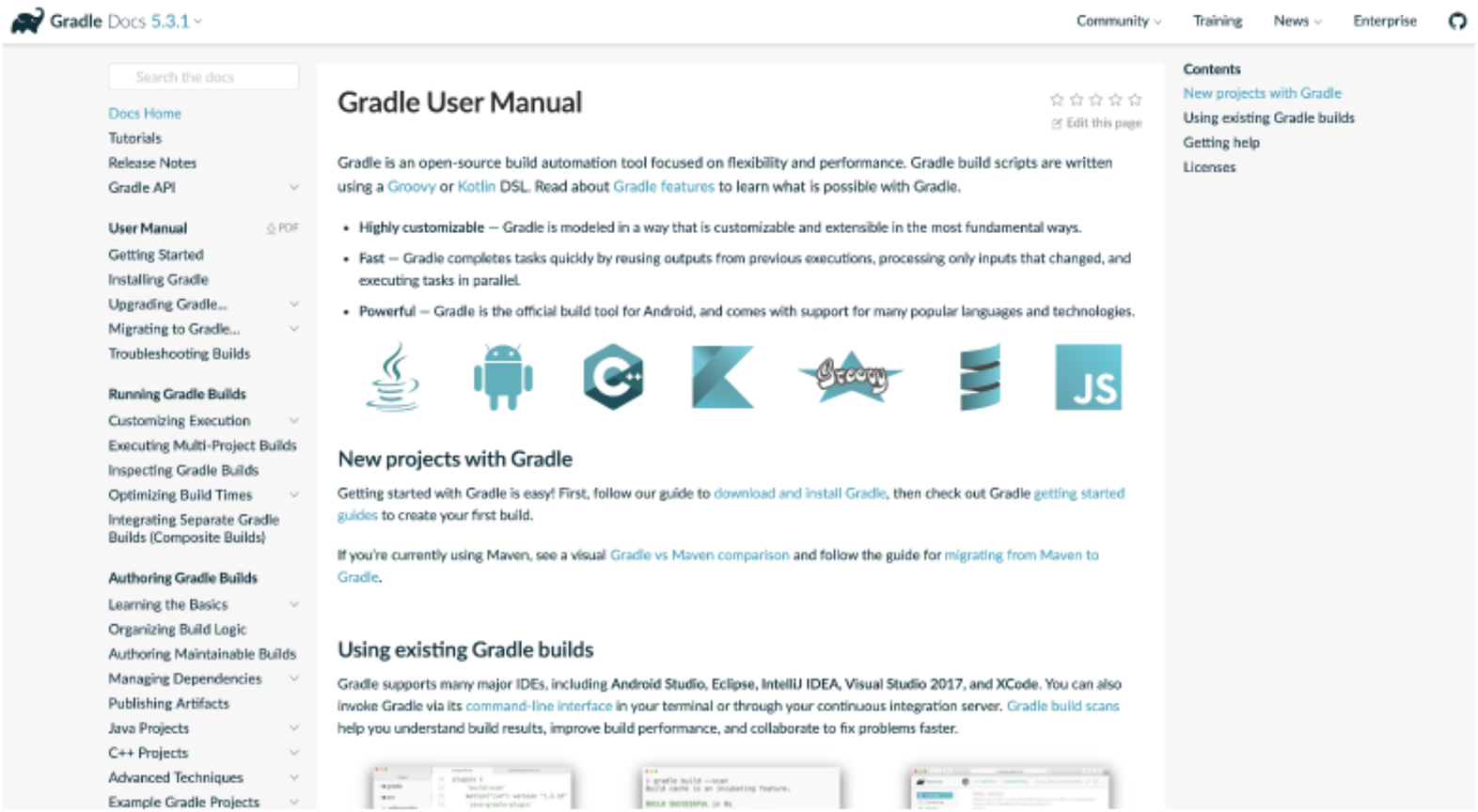
# Types of documentation at Gradle

# Reference

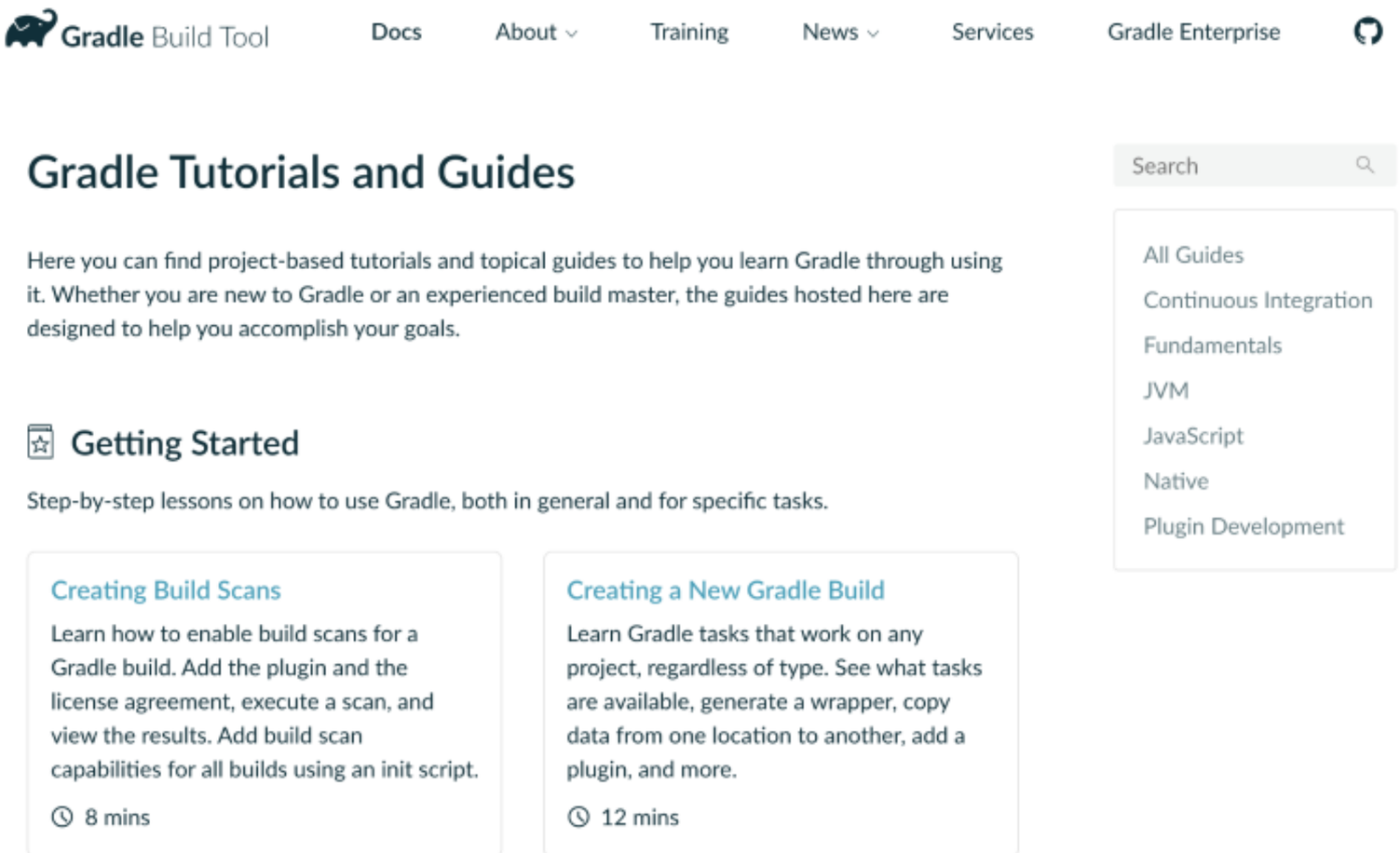



- Javadoc https://docs.gradle.org/current/javadoc/index.html?overview-summary.html
- Groovy DSL https://docs.gradle.org/current/dsl/index.html
- Kotlin DSL https://gradle.github.io/kotlin-dsl-docs/api/

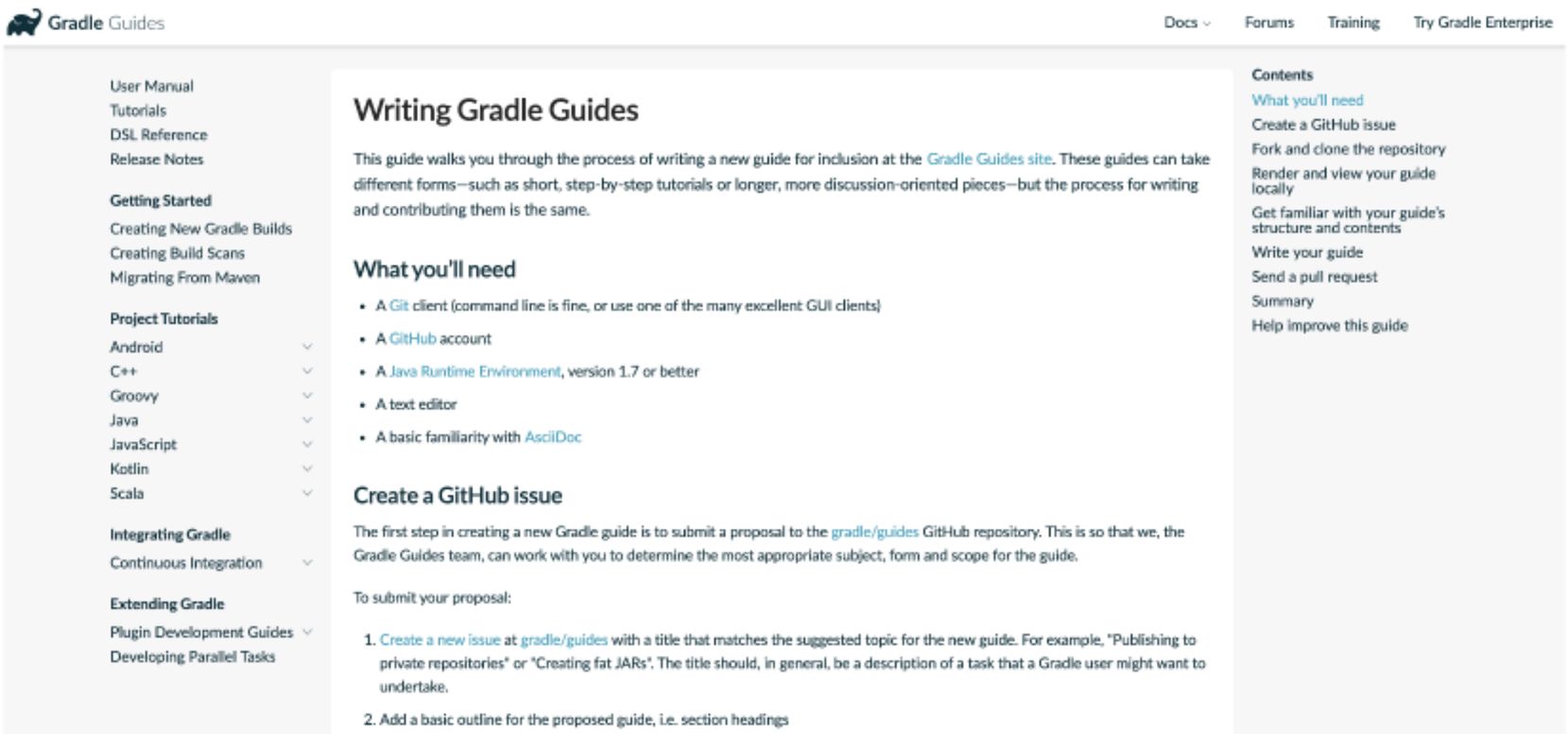
# User guide


Gradle Docs 5.3.1
Community
Training
News
Enterprise
Search the docs
Docs Home
Tutorials
Release Notes
Gradle API
User Manual
PDF
Getting Started
Installing Gradle
Upgrading Gradle...
Migrating to Gradle...
Troubleshooting Builds
Running Gradle Builds
Customizing Execution
Executing Multi-Project Builds
Inspecting Gradle Builds
Optimizing Build Times
Integrating Separate Gradle Builds (Composite Builds)
Authoring Gradle Builds
Learning the Basics
Organizing Build Logic
Authoring Maintainable Builds
Managing Dependencies
Publishing Artifacts
Java Projects
C++ Projects
Advanced Techniques
Example Gradle Projects
Gradle User Manual
Edit this page
Gradle is an open-source build automation tool focused on flexibility and performance. Gradle build scripts are written using a Groovy or Kotlin DSL. Read about Gradle features to learn what is possible with Gradle.
Highly customizable — Gradle is modeled in a way that is customizable and extensible in the most fundamental ways.
Fast — Gradle completes tasks quickly by reusing outputs from previous executions, processing only inputs that changed, and executing tasks in parallel.
Powerful — Gradle is the official build tool for Android, and comes with support for many popular languages and technologies.
New projects with Gradle
Getting started with Gradle is easy! First, follow our guide to download and install Gradle, then check out Gradle getting started guides to create your first build.
If you're currently using Maven, see a visual Gradle vs Maven comparison and follow the guide for migrating from Maven to Gradle.
Using existing Gradle builds
Gradle supports many major IDEs, including Android Studio, Eclipse, IntelliJ IDEA, Visual Studio 2017, and XCode. You can also invoke Gradle via its command-line interface in your terminal or through your continuous integration server. Gradle build scans help you understand build results, improve build performance, and collaborate to fix problems faster.
Contents
New projects with Gradle
Using existing Gradle builds
Getting help
Licenses

# guides.gradle.org



# Gradle guides



# Tooling

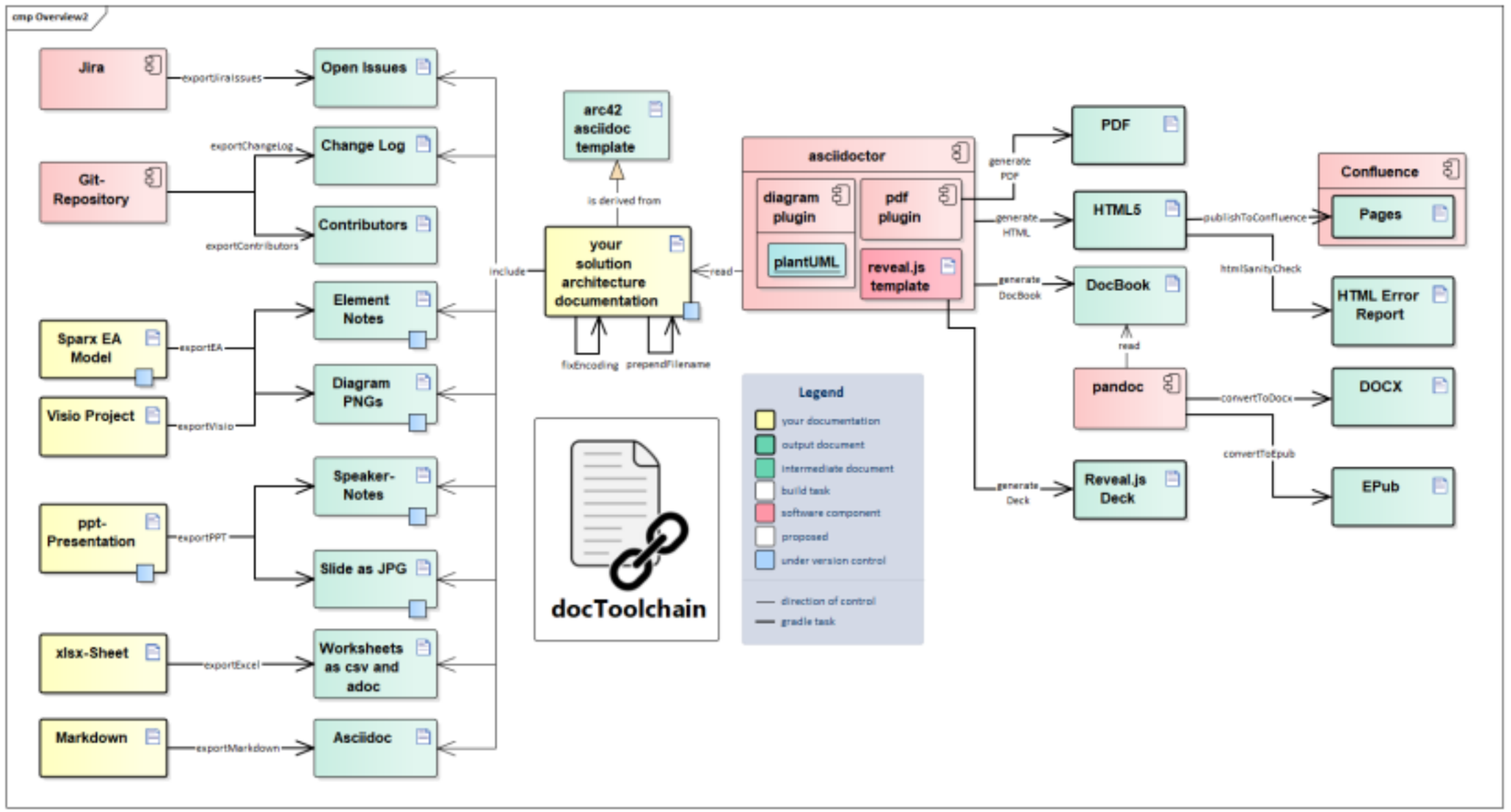
# Writing

- Plain Text
  - WYSIWYG Wiki Pages, Word Documents, Confluence, etc
- Markup
  - Asciidoc, Markdown, LaTeX
- Automated
  - Swagger / RAML [1]

# Publishing

- Statics sites
- PDFs
- Asciidoctor (for both … and more!)

# Docs as Code

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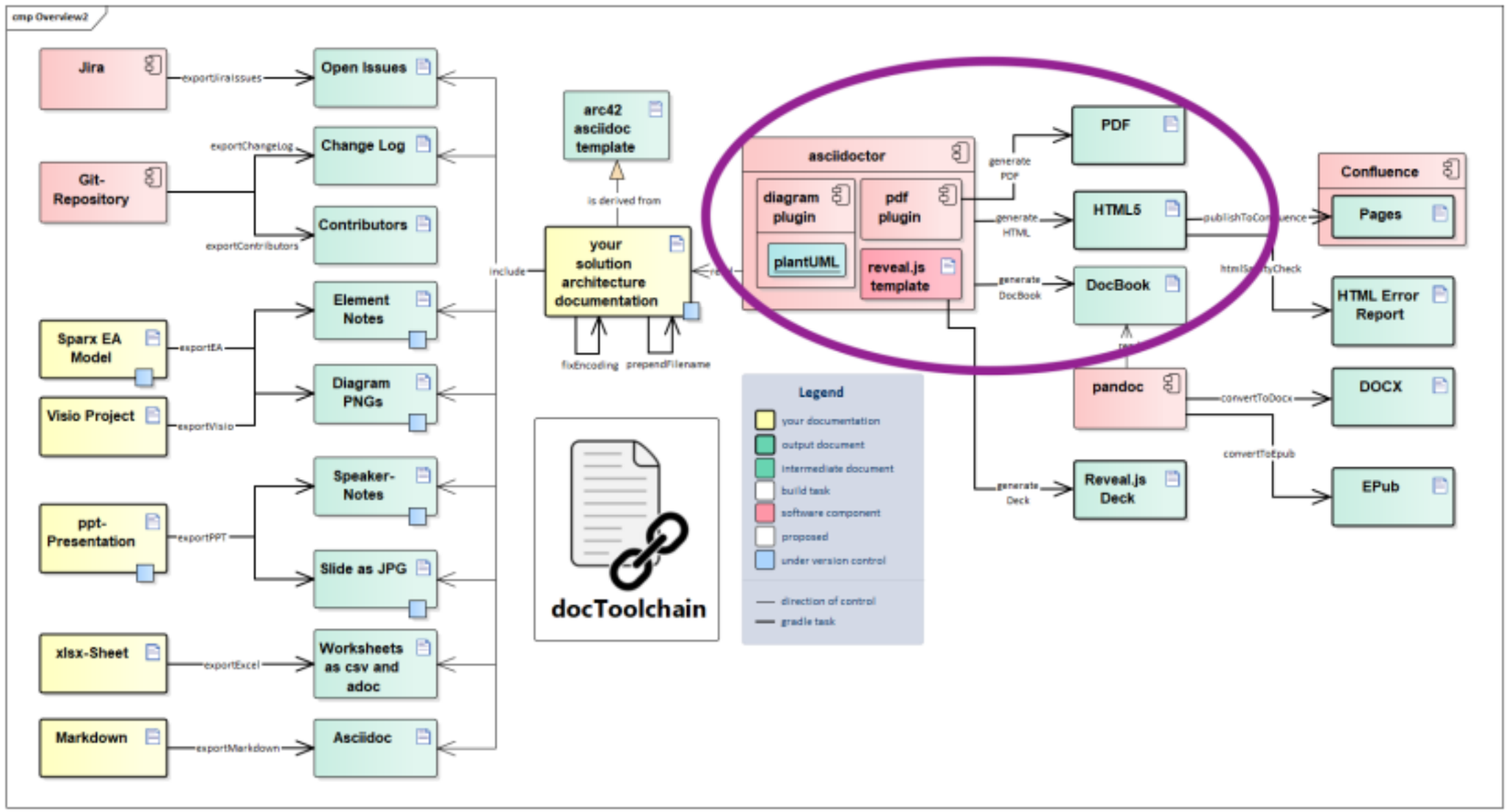
# Docs as Code

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# Asciidoc (and Asciidoctor)

# What is Asciidoc?

- a format
- easily convertible to html, pdf, book formats, etc
- similar to markdown/latex
- recognized by GitHub as a readme format

# What is Asciidoctor?

- a tool to convert asciidoc files into other formats (called backends)
- written in ruby, but also has Gradle and Maven plugins
- easily extensible

asciidoctor.org

# Let’s Get Meta!

# Basic Format

```
:revnumber: {project-version}
:example-caption!:
:navigation:
:menu:
:status:
:title-slide-background-image: title.jpeg
:title-slide-transition: zoom
:title-slide-transition-speed: fast
:icons: font

= : Test-Driven Approaches to Documentation

+++<h2>+++
with Gradle, Asciidoctor, and Exemplar
+++</h2>+++
```

# Extensions

- Samples Macro
- Multi-Language Support

# Samples Macro

```
[source,groovy]
----
include::sample[dir="groovy-dsl/code", files="build.gradle[tags=init]'
----
```

as a GitHub gist

# Multi-Language Support

Groovy | Kotlin

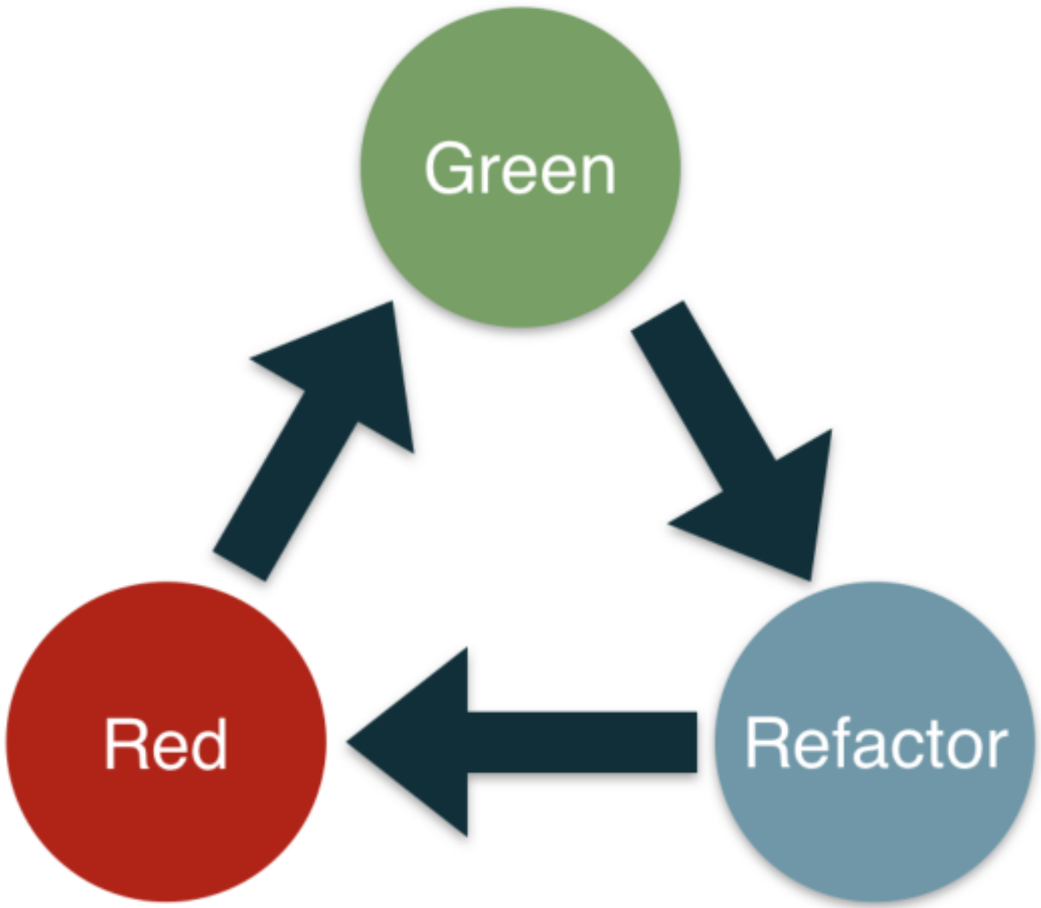
**build.gradle.kts**

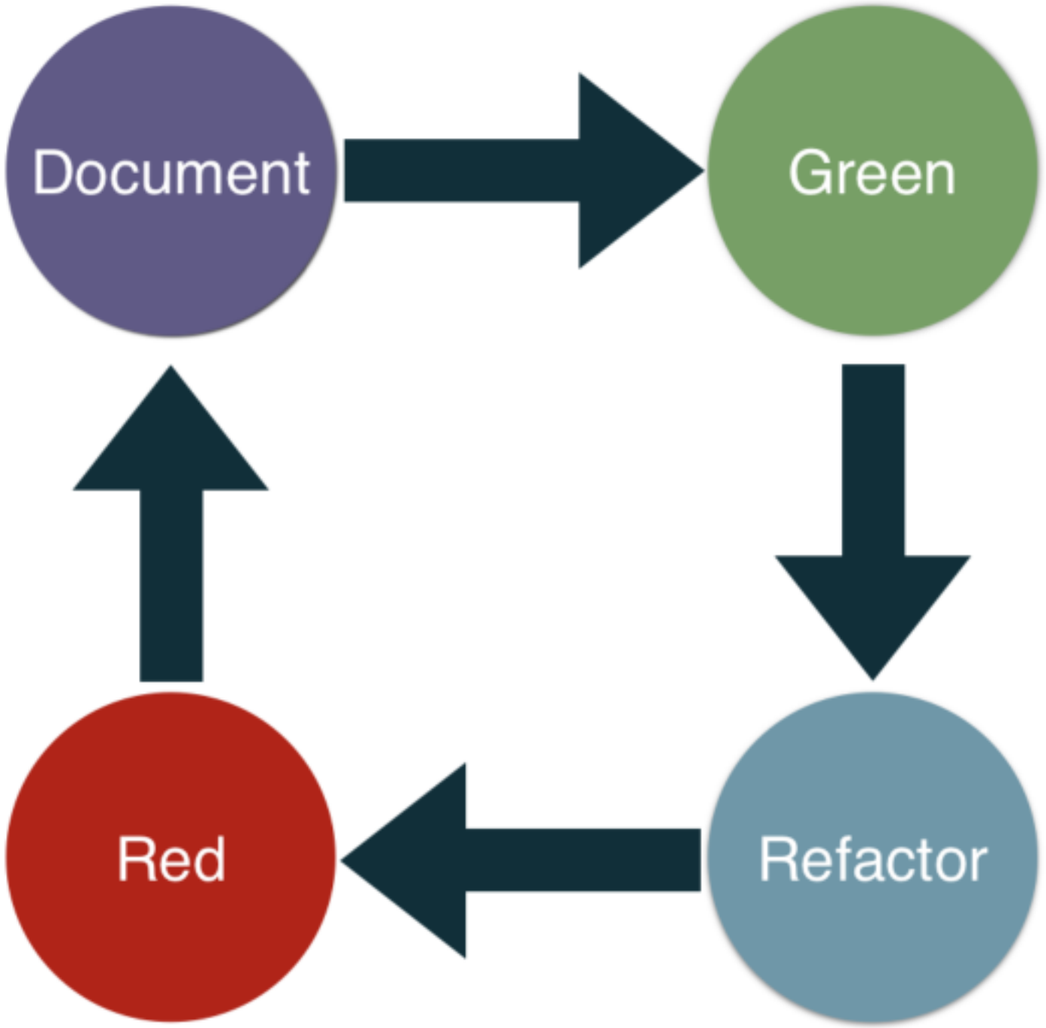
```
plugins {
    id("com.gradle.build-scan") version "2.1" (1)
}
```

```
====
include::sample[dir="groovy-dsl/code", files="build.gradle[tags=init]'
include::sample[dir="kotlin-dsl/code", files="build.gradle.kts[tags=ir
----
```

as a GitHub gist

# Test Driven Documentation


Green
Refactor
Red


Document
Green
Refactor
Red

# Introducing Exemplar

- Gradle/Exemplar on GitHub
- Finds samples, executes them, and verifies their outputs
- Project Lead
  - Eric Wendelin (@eriwen), Head of Developer Experience at Gradle

# Quickstart

```
repositories {
    maven {
        url = uri("https://repo.gradle.org/gradle/libs")
    }
}

dependencies {
    testImplementation("org.gradle:sample-check:0.7.0")
}
```

# Example Gradle Project

build.gradle

```
plugins {
    // Apply the java-library plugin to add support for Java Library
    id 'java-library'
}

repositories {
    // Use jcenter for resolving your dependencies.
    // You can declare any Maven/Ivy/file repository here.
    jcenter() 1
}

dependencies {
    // This dependency is exported to consumers, that is to say foun
    api 'org.apache.commons:commons-math3:3.6.1'

    // This dependency is used internally, and not exposed to consum
```

1 repository information

# Example Embedded Snippets

Sample title
hello.groovy

```
println "Hello, World!"
```

```
$ groovy hello.groovy
Hello, World!
```

# Publishing

- make sure to run the tests

# Contributions Welcome

- **Idea:** Add markdown support
- help triage issues and PRs

Gradle/Exemplar on GitHub

# Other Testing Tools

# Gradle Test Kit

## Test Kit

(mostly for Gradle Plugins)

## Gradle Guides Plugin

- Gradle Runner
  - Still present in some older guides
  - Good for cross-version testing
  - Really complex config
- CheckLinks
  - HEAD request to check all absolute links on the page are valid.

# Conclusion

- Documentation isn't always fun, but automation makes it easier!
- The only constant is change.

# Thank you!

# Talk to me!

- About Gradle
- About Gradle Enterprise
- About Careers at Gradle GmbH
- If you just want a Gradlephant sticker

# Resources

- Asciidoc
- Asciidoctor
- docToolchain
- Exemplar Documentation
- Gradle on GitHub