devonfw getting started guide

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Part I: Getting Started with devonfw

1. Resource Overview

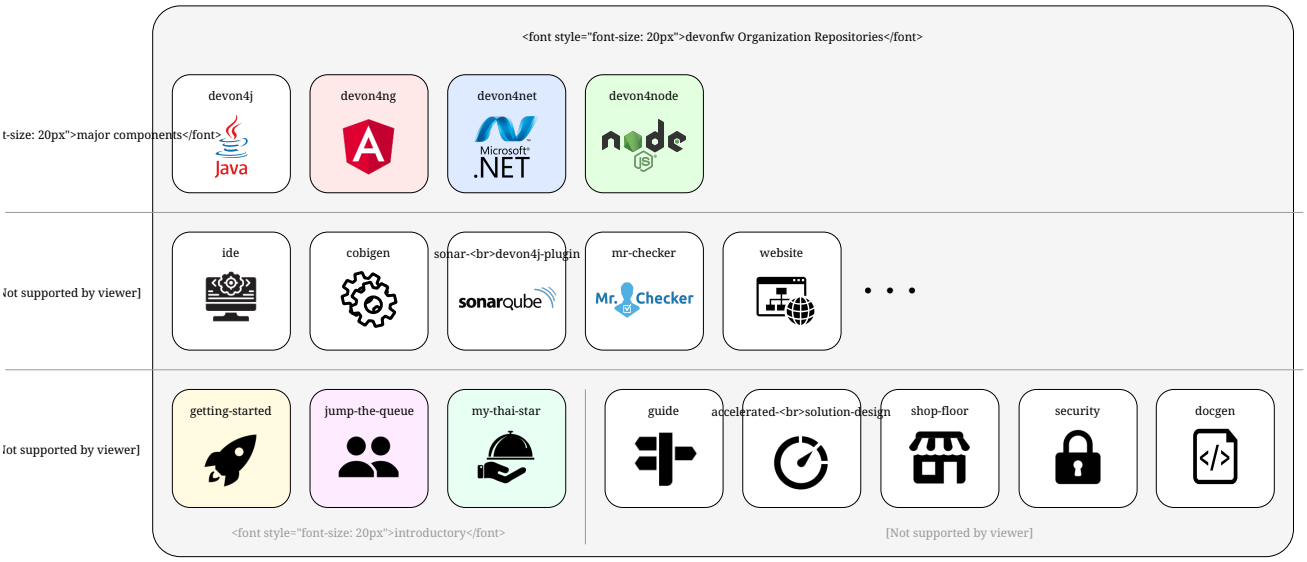
Listed below are the major **devonfw** resources. They're explained in more detail in the following section.

- Repositories
- Distribution
- Guide
- Community
- Homepage

You don't need to follow every link in this section right away. These links mainly exist to provide more in-depth information for a second read-through or if you want to create a bookmark collection.

1.1. Repositories

The GitHub repositories within the devonfw organization contain the source code, documentation and wikis of individual devonfw projects. Projects in early development and prototypes are located in the devonfw forge. They usually remain there until they are ready for a broader release or for use in production.



An overview of the devonfw Organization Repositories.

1.2. Distribution

The devon distribution contains the complete collection of software used by devonfw. It is provided in the form of an archive (`.zip` for Windows / `.tar.gz` for Linux/macOS). The distribution contains all tools you'll need to develop fully fledged devonfw applications.

1.3. Guide

The devonfw guide is a PDF document with over 900 (!) pages. It represents the totality of devonfw's documentation. It is always up-to-date (due to being automatically generated) and included in each release of the distribution.

1.4. Community

The devon community is active on Microsoft Teams and Yammer. If you run into any problems with devonfw, have general questions, feedback or suggestions, please feel free to post them in the respective sections there.

1.5. Homepage

The official homepage represents a major public presence for devonfw and is meant to attract new users and customers. It also hosts video tutorials for new developers.

2. Framework Introduction

To gain a better understanding of what devonfw is all about and why it was initially developed, please read the framework introduction in the devonfw guide:

What is devonfw?

In the following section, we will only offer a brief overview over the main stacks and tools included in devonfw and provide you with links for further reading:

2.1. devon4j

The *backend* of most devonfw applications is built with Java. To speed up the development process, the devon4j stack provides pre-selected frameworks and tools that ensure a secure backend-design which conforms with current standards.

To learn more about devon4j, please refer to the devon4j wiki.

2.2. devon4ng

The *frontend* of most devonfw applications is based on the Angular framework. To speed up frontend development, devon4ng provides several Angular application templates as a starting point for new projects. Furthermore it contains code samples that demonstrate important frontend aspects like routing, theming and internationalization.

To learn more about devon4ng, please refer to the devon4ng wiki.

2.3. CobiGen

"The *Code-based Incremental Generator* CobiGen is build as an extensible framework for incremental code generation." New devonfw users will most likely interact with the CobiGen Eclipse plugin to automatically generate Java classes based on certain database structures and their respective entity classes (as demonstrated in the JumpTheQueue tutorial app).

To learn more about CobiGen, please refer to the CobiGen wiki.

3. The devonfw IDE

First we have to clarify what we are talking about, when we mention the **devonfw IDE**:
The devonfw IDE isn't one program that can be installed with a traditional executable; rather it's a collection of scripts which are invoked via command line to automate several, repetetive development processes. These scripts then interact with other tools (e.g. Maven, Jenkins), frameworks (Spring, Angular) or third party IDEs (Eclipse, VS Code, IntelliJ IDEA) to streamline the development workflow.

As such, the package size for the IDE scripts is kept small, the is setup simple and the complete development environment is lightweight and unobtrusive for your system.

3.1. Setup

Please refer to the setup guide in the documentation to learn where to download and how to setup the devonfw IDE.

3.2. Usage

Please refer to the usage section in the documentation to learn about how to manage workspaces and create launch scripts.

3.3. Commands

Please refer to the commandlets section in the documentation to learn more about the available devonfw commands.

3.4. Further Reading

To gain more insight into the motivation behind the devonfw IDE, you should read the feature section of the documentation.

4. JumpTheQueue Tutorial App

JumpTheQueue is a small application, which you can build yourself by following a step-by-step tutorial. This will teach you more about the components, layers and workflow of devonfw.

The tutorial is located in the documentation of the JumpTheQueue repository. Your entry point will be the the wiki home page.

The tutorial assumes you have successfully completed the IDE setup previously.

5. MyThaiStar Sample App

MyThaiStar is a more complex sample app, that demonstrates the full capabilities of the devonfw stack and framework.

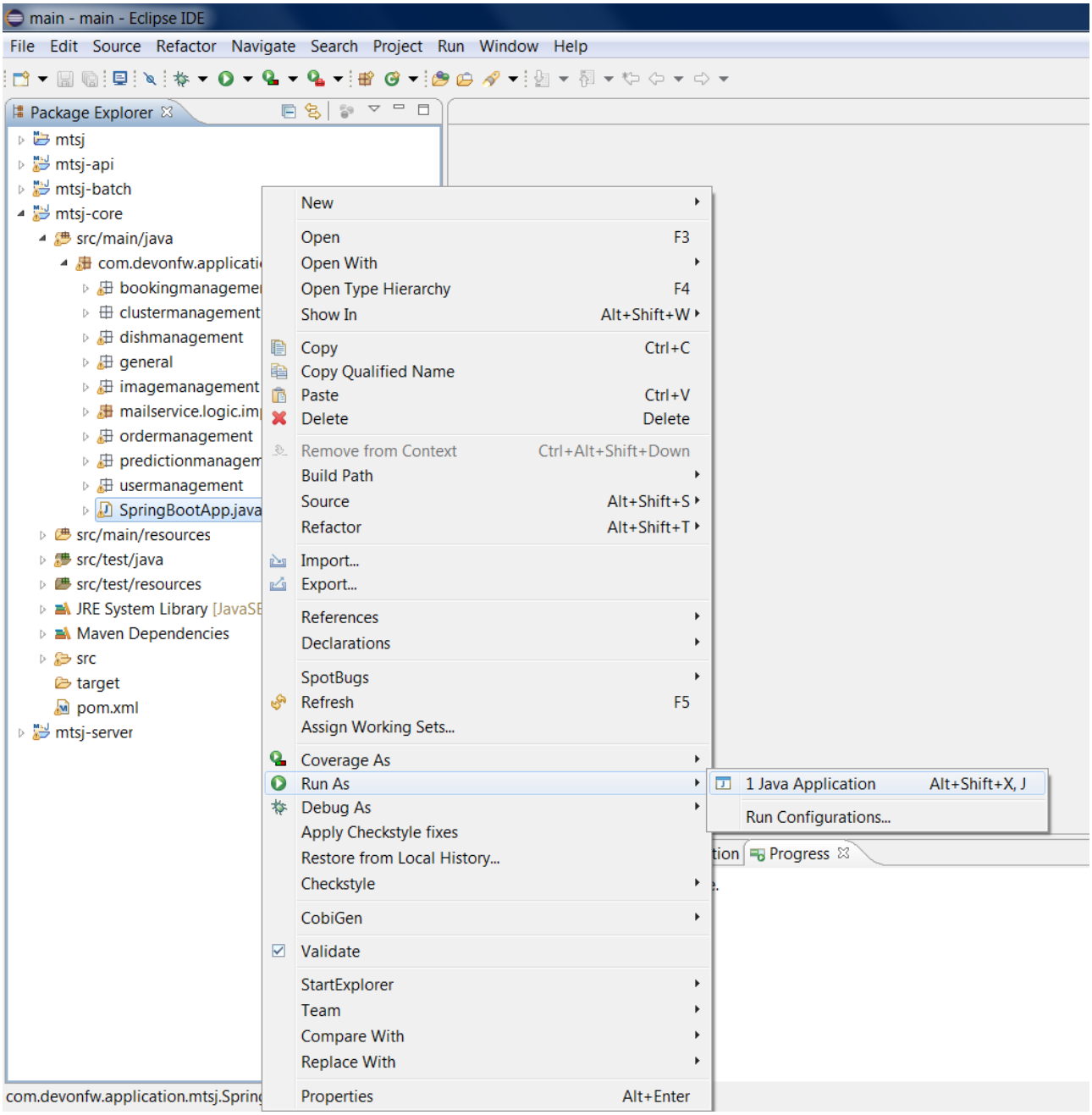
You should take a look at the project structure and familiarize yourself with it, since most devonfw projects follow this exemplary implementation. On this page we will describe how to launch the app on your system, so you can explore the different functionalities it offers.

We assume you have successfully completed the IDE setup previously.

1. In the root directory of the devonfw distribution, right click and select "**Open Devon CMD shell here**" from the Windows Explorer context menu. Then navigate to the main workspace and checkout the MyThaiStar Git repository like this:

```
cd workspaces/main
git clone https://github.com/devonfw/my-thai-star.git
```

2. Perform: `cd my-thai-star`
3. Execute: `devon eclipse ws-up`
4. Execute: `devon eclipse create-script`
5. Go to the root folder of the distribution and run `eclipse-main.bat`
6. In Eclipse navigate to `File > Import > Maven > Existing Maven Projects`, then import the cloned project from your workspace by clicking the "Browse" button and selecting `/workspaces/my-thai-star/java/mtsj/`.
7. Run the backend by right-clicking `SpringBootApp.java` and selecting `Run as > Java Application` in the context menu. The backend will start up and create log entries in the Eclipse Console tab.



8. Return to your command shell and perform: `cd angular`
9. Execute: `yarn install`
10. Execute: `yarn start`
11. Once started, the frontend will be available at localhost:4200/restaurant. Login with the username and password "**waiter**" and take a look at the different functionalities provided by MyThaiStar.

6. Further Information

6.1. VS Code Extension Pack

The devonfw Platform Extension Pack is a collection of useful Extensions for Visual Studio Code that support the development of devonfw applications. You can get it here.

Please be aware that the Extension Pack is quite 'extensive' and will take a while to download and install. It might also slow down VS Code depending on your system. To avoid this you can take a look at the included extensions and install them individually if needed.

6.2. SonarQube Plug-in (Architecture Validation)

The devon plug-in for SonarQube can be used to validate if a certain project follows the devonfw architecture blueprint. Please refer to the setup guide in the respective repository, if you want to start using this plug-in.

6.3. MrChecker Framework (E2E Testing)

The MrChecker framework for end-to-end testing is supplied in the form of a Maven project which you can extend with your own test cases. It supports the classic JUnit as well as the Cucumber test structure. Please visit the MrChecker wiki to learn more.

You did it! This is the final page of the *getting started* guide.
We reccomend, you bookmark the links you found useful during reading in your browser.