


# OR2019 Getting Started with DSpace 7 Workshops

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Join us at the DuraSpace reception

 On Monday, June 10 from 7:00pm-9:00pm DuraSpace is holding a reception for all OR2019 attendees at the Pony Bar (near the University of Hamburg). All OR2019 attendees are welcome, you need not be a DuraSpace member or user. Drinks and snacks will be provided. For more details see: <https://duraspace.org/invitation-please-come-to-a-duraspace-reception-in-hamburg-germany/>

This page is for attendees of the [OR2019](#) "Getting Started with DSpace 7" workshops. It provides links to resources, workshop preparation, etc.

## Slides :

- Basic Workshop Slides: <https://tinyurl.com/or2019-dspace7-basics>
- Advanced Workshop Slides: <https://tinyurl.com/or2019-dspace7-advanced>

## Learning Objectives

- Basic Workshop (Monday, June 10 from 9:00am - 12:30am)
  - Learn about upcoming DSpace 7 release
  - Overview of the Install & Upgrade processes
  - Understand new features of this release, including demos of the new User Interface and REST API
  - Learn the basics of branding / theming the new User Interface (hands-on)
- Advanced Workshop (Monday, June 10 from 1:30pm - 5pm). This workshop builds on what is learned in the Basic Workshop.
  - Learn about the Angular framework, and its main elements (templates, components, services, modules)
  - Learn about the TypeScript language and its syntax
  - Learn more advanced DSpace 7 User Interface changes, using Angular
  - Deeper dive on the new REST API, and hands-on experience
  - How you can get involved in finishing up the DSpace 7 release

## Workshop Organizers

- [Tim Donohue](#) - DSpace Tech Lead at DuraSpace
- [Art Lowel \(Atmire\)](#) - Angular UI lead for DSpace 7
- [Andrea Bollini \(4Science\)](#) - REST lead for DSpace 7

## Preparing for the workshop

There are no installation requirements for either workshop. However, if you wish to be active in the "hands-on" portions

- **Angular:** you may wish to install the DSpace 7 UI locally (and perform "hands-on" changes on your own laptop);
- **REST:** you may wish to install the Postman REST Client <https://www.getpostman.com/downloads/>

Please be aware that, as we have over 40 workshop attendees, we unfortunately cannot promise any "hands-on" support on an individual basis. But, we still welcome you to turn use this as an opportunity to try some "hands-on" changes.

## Handons on the new DSpace UI

### Optional Installation

During the code walkthrough, we will be working directly with the [dspace-angular](#) project (this is the DSpace 7 UI, built on [Angular](#)). However, don't worry. It's rather easy to install, and you **do not need to install the DSpace backend** (as we will be using the [public, demo REST API](#) as our backend).

### Installing the DSpace 7 UI locally

(These instructions are based on the [dspace-angular README](#))

- **Git** :You'll want to have Git to simply clone and install our [dSPACE-angular](#) project (this is the in-development Angular UI for DSpace 7). If you don't have Git, you can choose to install either [GitHub Desktop](#) (which includes a GUI) or [just plain Git](#). Any version of Git is fine.
- **Node.js** (version 8.x recommended) : Required to build/run the Angular UI.
  - Note: Node.js will also automatically install [npm \(Node Package Manager\)](#). You shouldn't need to install that separately
- **Yarn** (version 1.3.x or above) : This is an easier to use, speedier package manager that works similar to npm (Node's package manager). It's currently required to build Angular UI.
- **dSPACE-angular**: You can now install [dSPACE-angular](#) (the DSpace 7 UI) using the command line.
  1. `git clone https://github.com/DSpace/dspace-angular.git` (Pulls down the code into a dspace-angular folder on your local computer)
  2. `cd dspace-angular` (Move into the newly created dspace-angular folder)
  3. `yarn install` (Install all local dependencies via yarn)
  4. `yarn run watch` (Build and startup the DSpace Angular UI, while watching code for new changes.)
    - a. Alternatively, you can also run "`yarn start`", but that command requires you restart to pick up local code changes.
  5. Assuming all went well, you should be able to go to <http://localhost:3000> in your web browser and see the DSpace 7 UI homepage.
- Now, to easily follow along with the workshop code changes step-by-step, you may wish to [create a branch for the workshop exercises](#)

That's it! Again, there is *no need* to have the DSpace backend running or install a database, Java, Tomcat or any of the other usual DSpace prerequisites.

## Creating a branch for the exercises

To follow along with the exercises run the following git commands in the project directory to get the correct starting point

1. `git remote add workshop https://github.com/DSpace-Labs/dspace-angular-workshops.git`
2. `git fetch --tags workshop` (Pulls down the dspace-angular-workshops code locally, including tags)
3. For the Basic Training workshop
  - a. `git checkout or2019-basic-start` (Checks out the starting point of the workshop, the "or2019-basic-start" tag)
  - b. `git checkout -b or2019-basic` (Creates a local branch named "or2019-basic" for you, based on that "or2019-basic-start" tag)
4. For the Advanced Training workshop
  - a. `git checkout or2019-advanced-start` (Checks out the starting point of the workshop, the "or2019-advanced-start" tag)
  - b. `git checkout -b or2019-advanced` (Creates a local branch named "or2019-advanced" for you, based on that "or2019-advanced-start" tag)

At certain points during the hands-on part we'll show a git tag that corresponds to the solution so far. If you'd like to sync up to that point, run the following:

1. Revert all existing files to their state at the start:
  - `git reset or2019-basic-start --hard`
2. Remove any newly created files
  - `git clean -f -d`
3. Sync with the solution
  - `git merge $TAG_NAME`

## Optional Development Tools

While not required, the following tools may make it easier to do basic development with the Angular UI.

- **Chrome web browser** : When developing an Angular application, all web browsers are *not* created equal. While you obviously should use other browsers to help test your application, Chrome has built in debugging/visualization tools that come in handy when doing Angular development. **Make sure you disable cache in your network tab and keep the inspect element open.**
- **An IDE** : If you wish to do much Angular development (especially for the "Advanced Workshop"), you may want an IDE (Integrated Development Environment) or an editor that understands the [TypeScript language](#). Here's a few we prefer. **Just choose ONE.** *If you have no strong preference, you may want to start with Visual Studio Code.*
  - **Visual Studio Code (Free)** : This is a TypeScript IDE from Microsoft (the makers of TypeScript). It's frequently used for Angular development, even by some of the main Angular developers, and provides an excellent [debugger for Chrome](#) (which you may also wish to install for easier debugging)
  - **IntelliJ (Requires a license)** : If you use IntelliJ already for other development work, [IntelliJ IDEA Ultimate](#) has TypeScript support. You could also use [WebStorm](#), IntelliJ's Javascript IDE
  - **Atom.io (Free)** : This is an advanced text editor from the makers of GitHub. If you install the [TypeScript language plugin](#), it acts a little more like a basic IDE for TypeScript / Angular (providing autocomplete and highlighting). However, be forewarned that it doesn't have the debugging capabilities of Visual Studio Code or IntelliJ.
  - Any other editor or IDE that provides either TypeScript or Angular 2 support.

## Solution tags

Click on the commit hashes for each of the tags in the "releases" to see all code changes for each of the steps of the workshop:

<https://github.com/DSpace-Labs/dspace-angular-workshops/releases>

## Handons on the new REST API

We will experiment with the public demo using the HAL browser and the Postman REST Client. The Postman REST Client can be [downloaded from here](#) the free version is all you need. During the code walkthrough, we will be looking directly to the [dspace-spring-rest](#) project (this is the DSpace 7 maven module providing the REST API). However, don't worry. We will not perform any real JAVA coding or compilation, and you *do not need to install the DSpace backend* (as we will be using the [public, demo REST API](#)).

Hands-on exercises will be based on the [REST 7 Tutorial](#)

## Additional Resources

- [DSpace 7 UI Technology Stack](#) : Technology overview with link to tutorials on Angular, etc
- [DSpace 7 - Angular UI Development](#) : How to contribute to Angular UI
- [DSpace 7 REST Contract](#) : Details about available and planned endpoints, request and response format, error codes, etc.
- [DSpace 7 REST Coding practice](#) : Key classes and source code organisation of the JAVA REST API Backend
- [DSpace Release 7.0 Status](#) : Status of the release, demo sites, etc.
- Get more involved!
  - [DSpace 7 Working Group \(2016-2023\)](#) : The DSpace 7 development team. Anyone is welcome to attend meetings, even just to lurk & listen in.
  - [DSpace 7 Entities Working Group \(2018-19\)](#): The sub-team working on the Configurable Entities feature for DSpace 7. Anyone is welcome to attend meetings, even just to lurk & listen in.