Basic information about Dirigible

Dirigible is a cloud development toolkit providing both development tools and runtime environment. It is an open source project that provides capabilities for end-to-end development process from database modeling and management, through restful services authoring using various dynamic languages, to pattern-based user interface generation, role-based security, external services integration, testing, debugging, operations, and monitoring. The environment itself runs directly in browser and therefore does not require additional downloads and installations. It packs all the needed components, which makes it self-contained and well integrated software bundle that can be deployed on any Java based Web Server.

Motivation for using Eclipse Dirigible

Nowadays, providing a full-stack application development platform is not enough. Building and running on top of it has to be fast and smooth! Having that in mind, slow and cumbersome “Build”, “CI”, and “Deployment” processes have a direct impact on development productivity. In this line of thought, it isn’t hard to imagine that the Java development model for web applications doesn’t fit in the cloud world. Luckily, one of the strongest advantages of Dirigible comes at hand - the In-System Development model. Right from the early days of Dirigible, it was clear that it is going to be the platform for Business Applications Development in the cloud and not just another general purpose IDE in the browser. The reason for that decision is pretty simple - “One size doesn’t fit all”! Making a choice between providing “In-System Development” in the cloud and adding support for a new language (Java, C#, PHP, …), is really easy. The new language doesn’t really add much to the uniqueness and usability of the platform, as the In-System development model does!

You can use Dirigible for:

Education - You can develop student projects, test different technologies and scenarios, learn popular programming languages.

Developers - Eclipse Dirigible provides everything you need for your development project:

- Web IDE - Eclipse Dirigible provides full-fledged Web IDE with variety of Editors, Views, Wizards and Preference pages grouped in Perspectives - the same user experience that you are already familiar with.
- App Server - Eclipse Dirigible integrates a collection of execution engines covering all the aspects of a modern cloud application - database models, scripting RESTful services, user interfaces, work-flows, scheduled jobs, security definitions, and even template engines.
- Content Repository - Projects artifacts, which are authored via the Web IDE and executed by the engines of the App Server at runtime, are stored in the Content Repository. This simplifies the life-cycle management, governance, scaling, and other mission critical aspects of the cloud applications built with Eclipse Dirigible.

Business - You can easily develop, document, and monitor your business applications, taking full advantage of the diverse selection of features and services offered by Eclipse Dirigible.

An example of what can be developed on this platform

Let's say that our example is database for educational purposes.

Link with video tutorial: https://www.youtube.com/watch?v=0a1t2BsO8XA

Steps:

1. We go into the Eclipse Dirigible Web IDE. We'll start off by creating an empty project.
2. We click on New in the workspace explorer on the left and from the dropdown menu select Project.
3. In the new project wizard we give our project the name "nameday" as that's what we're going to use it for. Click next.
4. We can select one of the predefined project templates, but as we won't be needing that, we select Black application and click Finish.

5. In the left under the workspace explorer you see the basic structure of one Eclipse Dirigible Project. You have the DataStructures, MobileApplications, ScriptingServices and so on.
6. Right click on the project and under New select Data Structure.
7. We want to crate a Relational Database Table so we select it and click next.
8. The first column of the table will be the id: Click add to add a new column. For the column name type ID, give it an INTEGER type and check the not null and primary key boxes. The second column is the name of the person who's going to register for the party. Again, click Add and for the column name type NAME, select VARCHAR type and set it's length to 255. This time select only the not null checkbox. The last column we want to add is the age. Click Add and for name type AGE, select INTEGER type and again select the not null checkbox.
9. Give the table a name – we'll call it nameday.table
10. Now you see in the workspace explorer under DataStructures we have our table defined and in the editor in the right you can see it's definition in JSON format.
11. For this data structure we want to generate a scripting service providing CRUD database operations. For this purpose, right click on the project and under New select ScriptingService. From the available templates select JavaScript Entity Service on Table. On the next page we select our table that we created. It's called nameday. Give the service a name – we'll call it nameday.js and click finish.
12. As you can see in the workspace explorer, under ScriptingServices Eclipse Dirigible generated for us an entity based on the table, a RESTfull on the endpoint nameday.js, a swagger API documentation and a library providing CRUD database operations.
13. Okay, now we want to create the application, people are going to use to register for the nameday. Right click on the entity and under Generate select User Interface for Entity Service. From the predefined templates select Mobile Create Entities as this is the most appropriate template for our case where we want to register people. Click next and we have all the fields defined for this entity. We select the ones we want to be visible during registration and change the text of the labels that are displayed. For name we'll put "Your name" and for age – "Your age". Click next. Now we specify the main file that tabris.js is going to load our application from. We'll give it the name register.js and we'll put in under the package register. Click next and give the application the title "Register for nameday". Click on finish and now under MobileApplications in the workspace explorer we have the package register and a basic tabris.js project created for us. Now for this to be more personalized we'll open the register.js file and change the message displayed when successfully created a new entity. On line 80 change the text to "You have successfully registered for the nameday" and click save.
14. I want a separate application in which I can view who's registered for the nameday. Again, right click on the nameday entity and under Generate select User Interface for Entity Service. Now from the predefined templates select Mobile List and Manage

Entities. Select the columns that I want to view, click next and give the main file the name “manage.js” and put in under the package manage. Click next and give the application the title “View who’s coming”. When we select Finish, we have another application generated for us under the MobileApplications directory. This one is generated under the manage package.

15. Now we take out our phones, open Tabris.js and go to the URL tab. Enter the URL that I’ve typed here (MAKE SHORT-URL FOR REGISTRATION AND MANAGEMENT) and click Connect. You’re prompted with the registration application. As you can see the labels and the title are the ones we’ve put. We’ll register a fake user with the name George and we’ll set his age to be 23. Click Save and as you can see we have the confirmation message we put a while ago.
16. Swipe from the right to the left end of the screen, click on the home icon and this time go into the manage application. Now in the URL we substitute ‘register’ with ‘manage’ and click connect. Now we see the people who’ve registered for the nameday. You see the id of the record on the top right of the row, George’s name and his age. If we click on the row, we can edit this record, for example, we can change his age if we know he lied. Click save and the data is updated. We can pull to refresh if anyone has registered in the meantime and the new records will be displayed. You can swipe left or right to delete a record by pressing the Remove button.