



Red Hat Mobile Application Platform 4.7

Drag and Drop Apps Guide

For Red Hat Mobile Application Platform 4.7

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Abstract

This document provides tutorials for creating and managing Forms-based apps in Red Hat Mobile Application Platform 4.7.

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CHAPTER 1. GETTING STARTED: DRAG & DROP APPS

1.1. OVERVIEW

The Red Hat Mobile Application Platform (RHMAP) Studio provides you with all the tools you need to quickly create mobile apps for capturing data submissions using a powerful drag and drop UI. Throughout this guide, these apps will be referred to as "Drag & Drop Apps".

This Quickstart walks you through the steps from creating a simple form through building an app and finally viewing the data submitted by that form from a mobile device.

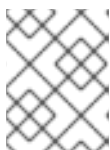
The summary steps are:

- Create a form, including rules
- Create a group of users who can work with that form in the Studio
- Define who will be notified of data submissions
- Create a theme for your Forms
- Create an app for the form
- Generate and install a binary of that app on your phone
- Submit data from the app
- View and print those submissions

1.2. CREATE A FORM

Forms are used to capture data from the end users of your solution. To create a new form:

1. Click **Drag & Drop Apps** button.
2. Click on the **Forms Builder** menu.
3. Click **New Form**.
4. Choose a template to bootstrap your development, or simply select the **Blank Form** template to create your own from scratch.
5. The Form dashboard is displayed on the screen once the Form is created. Click **Edit Form**.
6. Add a text field to the form by clicking the **Text** field.
An untitled text field will be added to the form.



NOTE

Clicking a field will add it to the end of a form. Dragging allows you to position a field anywhere in the form.

7. Click on the newly added field.
A new menu will appear at the right hand side of the page. This menu allows us to further configure the selected field.

8. Rename the textfield 'name', and ensure that the 'Required' check box is ticked.
Having this box checked means that a user can not submit the form unless they have entered a value for this field.

A preview of what the form looks like can be seen by clicking the **Preview** tab, located at the right hand side of the page. Here you can get a preview of what the current form looks like on a device.

Forms can easily be created with multiple pages and fields can have specific validation rules associated to them.

Advanced fields such as photo capture and signature capture are just as easy to use as simple fields and can also be repeated in a form as many times as you wish.

9. Click **Save**. This will save the form in its current state and cause the browser to return to the Forms Screen.

[Read More](#)

1.3. CREATE RULES

The powerful **Rules** section of a form enables you to create both field and page based rules. Field rules let you enable or disable the display of certain fields based on the contents of other fields. Page rules let you enable or disable the display of certain pages based on the contents of specific fields. In both cases, multiple rules and criteria can be created.

[Read More](#)

1.4. DEFINE WHO WILL BE NOTIFIED OF DATA SUBMISSIONS

E-mail notifications can be set on a per-form basis. Different users or sets of users can be notified of each new submission with the content of that submission attached as a PDF.

1.5. CREATE A THEME FOR YOUR FORMS

Themes are used to control the look and feel of your Drag and Drop App. You can just use the default theme if you wish to get started quickly. It's unlikely that you'll create many themes for your apps but at a minimum, you may just wish to set your logo.

1. Go to **Drag & Drop Apps > Forms Themes > New Theme**
2. Select a template
3. Give your theme a name and a description
4. Click **Create Theme** and you'll be brought to the **Edit Theme** page
5. Select your form in the preview window if it's not already selected
6. Make any changes you wish to colours, fonts, spacing or the main logo
7. When you are finished making changes, click **Save**

[Read More](#)

1.6. CREATE AN APP FOR THE FORM

Whilst projects in the Studio can contain multiple apps, Forms projects generally only contain one. In order to create an app with your form, you must first create a project.

1. Navigate to the **Forms Projects** sub-section of the **Drag & Drop Apps** area.
You will see a list of the Apps that you have sufficient privileges to see.
2. Click **New Forms Project**.
3. Click **Create New Project**.
You will be prompted to enter a name for the project.
4. Click **Next**.
This will cause Studio to start generating all the necessary code for your app. When the project has successfully been created, you will be prompted to pick a theme and pick the form(s) that should be included in the App. You can now choose the theme and form you created above.



NOTE

Multiple forms can be associated with a Project.

5. Click **Finish**.

[Read More](#)

1.7. GENERATE AND INSTALL A BINARY OF THE APP ON YOUR PHONE

Building an application enables you to install it on a mobile device.

1. In the specific Forms project area for your app, scroll down and click the **Build this App** button.
2. In the resulting **Build a Binary** screen, pick your target mobile platform (for example, Android), pick **Debug** build type, and pick a **Cloud App Connection**.
If you are building an Android Debug app, you don't need any credentials. If you are building a Production Android App or any type of iOS App, you will be prompted to upload the various credentials needed.
3. Click **Build**.

Once the App has been built you will be presented with a QR code, a short link and a download link.

1.8. DEPLOY CLOUD APP

The Cloud App must be deployed if you want to receive data sent by the Client App.

1. Navigate to **Drag & Drop Apps > Forms Projects > your project**.
2. In the *Developer Navigation* screen, click **Jump to this app** (located under the Cloud App heading).
3. Select **Deploy** on the left navigation bar and click **Deploy Cloud App**.

The progress bar turns green upon successful deployment.

1.9. SUBMIT DATA FROM THE APP

Install the app on the device using the QR code or short-URL. Run the app and then start creating submissions in the forms that you included in your App.

1.10. VIEW AND PRINT THOSE SUBMISSIONS

Once submissions have been created, you can go to **Drag & Drop Apps > Forms Projects > your project > Submissions** (in left hand sidebar). You should be able to see all of the data you submitted from the app. Click on any one of them.

Each submission shows text fields, photos, signatures, and any other fields that have been submitted. Depending on your Group permissions you can download PDF, print, delete or edit each submission.

[Read More](#)

1.11. FURTHER READING

You have now used all of the Core functionality around forms. There are many other advanced features you can use. [Read More](#)

CHAPTER 2. CREATE A SIMPLE FORM

Overview

This tutorial will cover how to:

- Create a form
- Add fields to a form

Requirements

- App Studio Account

2.1. TUTORIAL

2.2. STEP 1: LOGIN

Log in to the Studio with your credentials.

2.3. STEP 2: CREATING A FORM

1. Navigate to *Drag & Drop Apps*.
2. Click the **Forms Builder** tab to display the *Forms* screen.

If there are existing forms, they are displayed. If no forms exist, or the user does not have sufficient privileges to view the existing forms, a message displaying *No Forms Found* is displayed. If multiple forms exist, the search box can be used to search for a form, or the listing format can be changed to a format that displays multiple forms at once.

Selecting a form will cause the Forms Dashboard to be displayed. From the Dashboard, more information regarding the selected form can be accessed. This information includes:

- Projects Using This Form
- Submissions Today
- Total Submissions
- Pages
- Subscribers

To create a new form, click the 'New Form' button.

The form creation window will now be displayed. Here you will be prompted to select a Form Template, and enter a Form Name. The inclusion of a Form Description is optional.

There are a number of Form Templates available for selection. Clicking on any of the templates will cause a preview of the form to be displayed. If you do not wish to use any of the pre-made forms, select the 'Blank Form' template.

**NOTE**

Selecting a template does not mean you have to use the form exactly as it is. Templates are used as a starting point for a form, and can be edited.

2.4. STEP 3: EDITING A FORM

To edit a form, first select the form from the list. After the form has been selected, a preview of the form will be displayed on screen along with the Form Menu.

**NOTE**

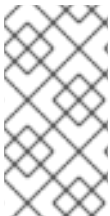
If a newly created form has been selected, the form preview will appear blank, showing only the title of the form. This is because fields have not yet been added to the form.

Select **Edit Form** from the sidebar. This displays the Edit Form screen. From here, fields can be added to a form. Fields can be added to a form in two ways, either via a drag and drop mechanism, or by simply clicking on the field you wish to add.

**NOTE**

When adding fields to a form, clicking the field will add it to the end of the form, whereas dragging and dropping a field allows you to position it wherever you want in the form. Fields can be moved via the drag and drop system after they have been added to a form.

Click on a field to add it to the form. The form preview is automatically updated when a field is added. When added to a form, all fields are automatically labeled 'Untitled' and the 'Required' value is applied.

**NOTE**

The required attribute determines whether or not a value must be entered in a field in order for it to be possible to submit a form. If the 'Required' attribute is added to a field, a value must be entered/selected for that field before the form can be successfully submitted.

Add a **Number** field to the form. After it has been added, click on the field in the preview. A new menu will now appear.

From here, various attributes relating to the selected field can be configured. These include the field name, additional instructions, limitations for maximum and minimum values that can be entered, and more.

**NOTE**

Each field has different configuration options specific to that field. For example, a text field will have a configuration option for the maximum set of characters that can be entered, whereas the photo upload field has a configuration option for the max file size that can be uploaded.

Set the attributes of the number field as the are listed below:

- Name: Number field

- Instructions: Please enter your mobile number

Now add a **Text** field by dragging it on to the form. Reposition the **Text** field so it's above the **Number** field. To do this, drag the **Text** field and release it above the **Number** field.

Select the **Text** field and set its Name to "Name".

Now Save the form.

The form has now successfully been created, and can be associated with a project.

CHAPTER 3. CREATE A FORMS PROJECT

Overview

This tutorial will cover how to:

- Create a Forms Project
- Associate a Form with an existing Project

Requirements

- App Studio Account

3.1. CREATE A FORMS PROJECT

There are two ways in which a Forms Project can be created using Drag & Drop Apps:

3.1.1. 1. Create a Forms Project via the Projects Section

1. Click the **Projects** section to be brought to the Project creation area.
2. Choose the **New Project** option.
You will now be presented with a screen that allows you to both name your project, and select a template to base the project on. One of the selectable options is **Forms Project**.
3. Select the **Forms Project** template.
4. Click **Create**.
Once the project has been created, you will be prompted to associate a theme and form(s) with it.
5. Select a theme and a form to be associated with the Project.
6. Click **Save**.

You have now successfully created a Forms Project via the **Projects** tab.

3.1.2. 2. Create a Forms Project via the Drag & Drop Apps Section

1. Select **Drag & Drop Apps** from the menu bar.
2. Select **Forms Projects** from the sub-navigation menu bar.
3. Select the **New Forms Project** option.
From here you have the option to either **Create New Project** or **Use Existing Project**.
4. Select **Create New Project**.
You will be prompted to enter a name for the project you are about to create.
5. After you have entered a name, click the **Next** button.
You will then be asked to associate a theme and form(s) with the Project.
6. Select a theme and form(s) to be associated with the Project.

7. Click **Finish**.

You have now successfully created a Forms project via the **Drag & Drop Apps** tab.

3.2. ASSOCIATE A FORM WITH AN EXISTING PROJECT

There are two ways in which forms can be added to an existing project.

3.2.1. 1. Associate Forms with a Project via the Forms Projects Section

1. Select a project from the **Forms Projects** section.
After a project has been selected, the project subnav will be displayed. A **Project Forms & Themes** tab can be seen in this subnav.
2. Select the **Project Forms & Themes** option from the subnav.
The Forms section allows users associate themes and forms with a project. To add a theme, simply select a theme from the dropdown menu. To add a form, click in the forms field, and a list of available forms will appear.
3. Select the form(s) you wish to associate with the project.
4. Click **Save**.

The form has now been successfully associated with a project.

3.2.2. Associate Forms with a Project via the Forms Builder Section

1. Select the **Forms Builder** section from the Menu bar.
2. Select the **New Forms Project** option.
You will now be given the option to either **Create New Project** or **Use Existing Project**.
3. Select the option to **Use Existing Project**.
You will now be prompted to associate a theme and form(s) with the Project.
4. Select a theme and form(s) to be associated with the Project.
5. Click **Finish**.

You have now successfully associated a form with a Project via the **Forms Builder** Section.

CHAPTER 4. CREATE A FORM THEME

Overview

This tutorial will cover how to:

- Create a Drag & Drop Apps theme

Themes allow designers to customize the visual appearance of a Form.

Requirements

- App Studio Account

4.1. TUTORIAL

4.1.1. Create a theme from scratch

1. Log in to the Studio using your credentials.
2. Go to 'Drag & Drop Apps'. Click the 'Forms Themes' tab.
If no themes have been created, or the current user does not have sufficient privileges to view the already created themes, the themes list will appear blank. If there are already themes created, then the themes list will be populated. Listed, is the name of the theme, the date it was last modified, the user that created the theme, and Projects currently using this theme.
3. In order to create a new theme, click on the **New Theme** button.
The theme creation screen will be displayed. The option to select a template will be presented. In order to create a theme from scratch, do not select any template.
4. Enter the name of the theme.
You can also enter a description for the theme, however this is not mandatory.
5. Click **Create**.



NOTE

Leaving the name field blank will result in an error being displayed. All themes require a name.

6. Select the newly created theme from the list.
A preview of the theme will automatically load. This will show various aspects of the theme configuration, such as logos used, fonts, colours etc.

4.1.2. Create a theme from a template

When creating a theme, users can choose to create a theme from scratch, or choose a theme from an existing template. Using an existing theme can be useful for developers, as it is far less time consuming to modify an existing theme rather than create a theme from scratch.

1. In order to use a template, go to 'Drag & Drop Apps'. Click the 'Forms Themes' tab.
2. Select **New Theme**.
This will display the theme creation screen. From here you can create a theme from scratch, or

select a theme from a list of templates. Selecting a template will display a preview of the theme. Here, customization settings such as colour schemes, logos, typography etc. can be seen.

3. Choose a template.
4. Enter a theme name and a optionally a theme description.
5. Select **Create Theme**.

The theme has now been successfully created based off of an existing template, and is ready to be associated with an App.

4.2. EDITING A THEME

Select **Edit** from the sidebar. This will produce a similar screen, however you will now be able to change the values for the various sections of the theme.

Logo

Users can upload their own logo via the file upload option in the Logo section. Any image to be used as a logo must be in the .jpeg format.

Backgrounds

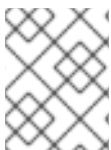
In the background section, users can change background colours for different sections of the theme. a colour can be changed by clicking the coloured circle above a section name, and then selecting a colour from the picker. The update will take place once the colour picker has been closed.

Typography

The Typography section allows for the customization of font size, type, and text decorations. The colour of a selected field can also be changed by clicking on the coloured square beside the section title. Clicking the coloured square displays a colour picker.

Borders

Here customizations can be made to the border sections of a theme. Users can make customizations based on colour, border type and border width.



NOTE

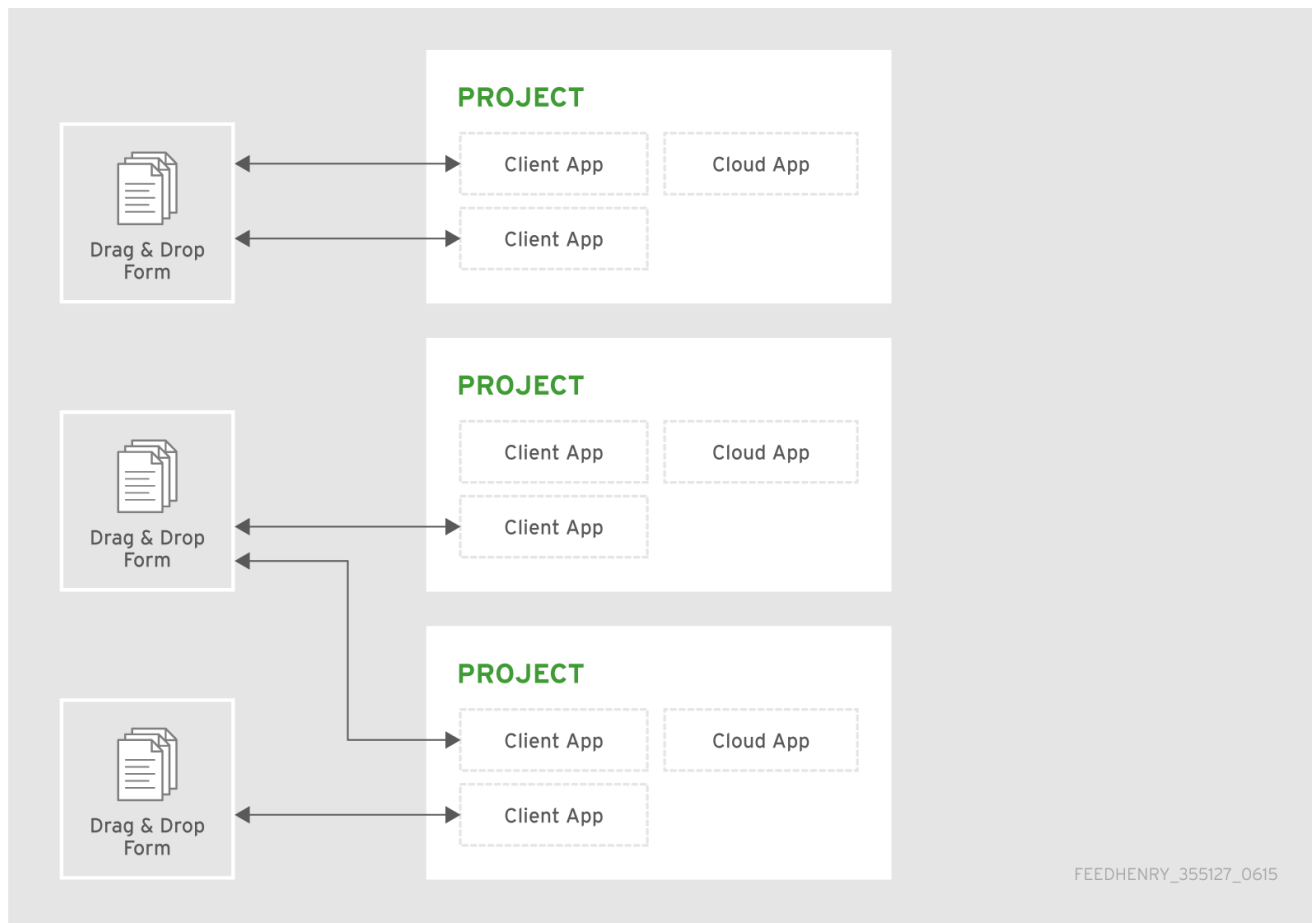
To get a preview of how changes made to the various sections affect the theme select a form from the dropdown menu and preview it in the simulator.

When you are happy with the customization of the theme, click the **Save** button at the bottom of the screen. This will save the theme and return you to the Themes page.

CHAPTER 5. DRAG & DROP APPS LIFECYCLE MANAGEMENT

5.1. OVERVIEW OF LIFECYCLE MANAGEMENT AND DRAG & DROP APPS

The basics of Lifecycle Management and Drag & Drop Apps are covered in the [product features page](#). Essentially, Lifecycle Management allows users to clearly understand what versions of their applications are deployed to which environment. It also enables them to easily deploy and promote applications between those environments. Drag & Drop Apps allow users to easily define forms for collecting data via a Drag & Drop interface. These forms can then be used and integrated within Client Apps.



5.1.1. How Does Lifecycle Management Work with Drag & Drop Apps

Drag & Drop Apps Lifecycle Management allows users to deploy and promote new and updated Drag & Drop Apps to individual environments as opposed to all at once. Drag & Drop Apps Lifecycle Management also enables users to clearly see which Drag & Drop Apps are available across each of their environments.

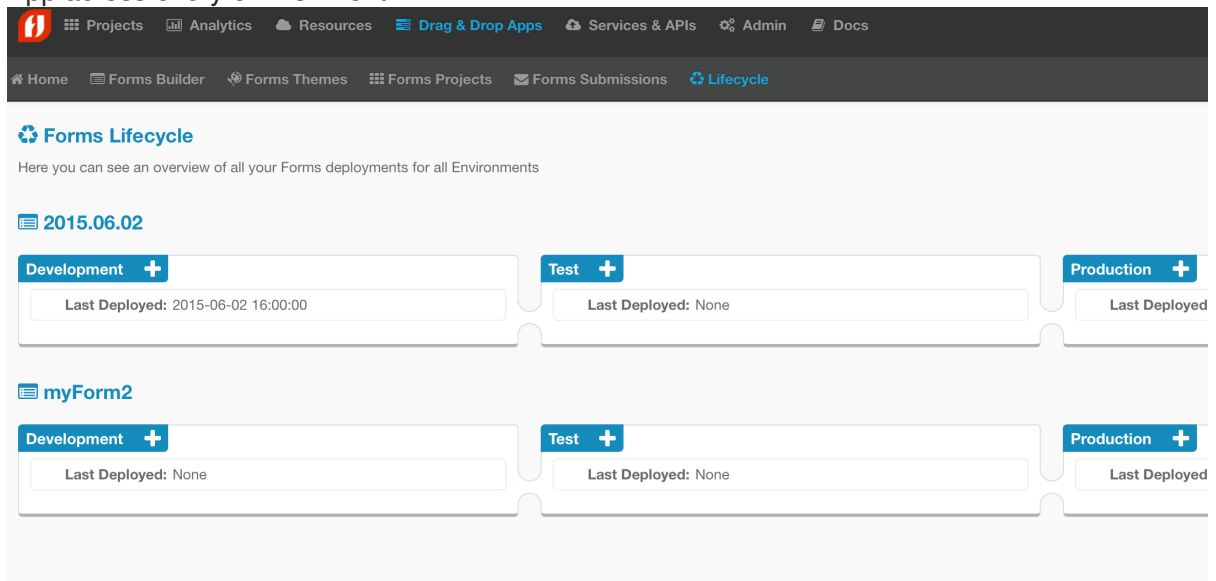
5.2. LIFECYCLE MANAGEMENT INTERFACE

The Red Hat Mobile Application Platform (RHMAP) includes a simple interface that allows users to manage the full lifecycle of all Drag & Drop Apps as a whole as well as at the individual level.

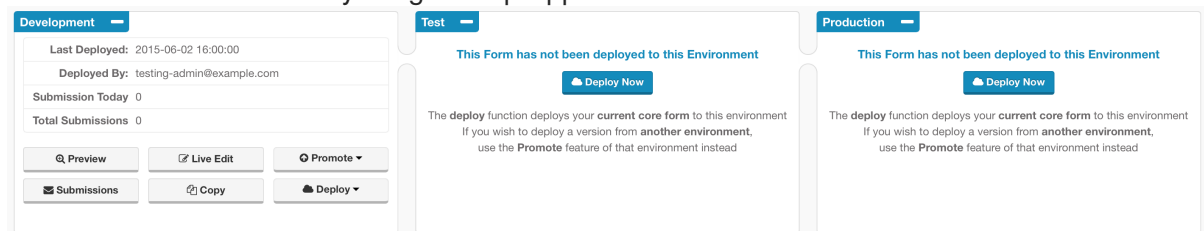
To access the Lifecycle Management page for all Drag & Drop Apps:

1. Navigate to the Studio and click on *Drag & Drop Apps* at the top of the screen.

- Click on *Forms Lifecycle* in top navigation. This screen shows the status of every Drag & Drop App across every environment.

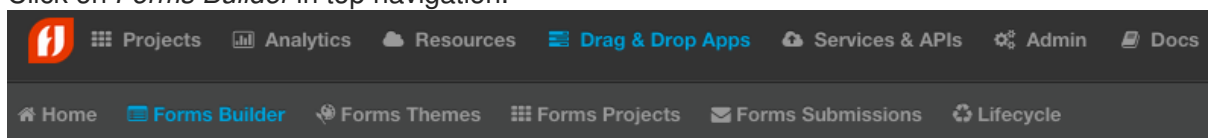


- Click on the + button for any Drag & Drop App to reveal the details.



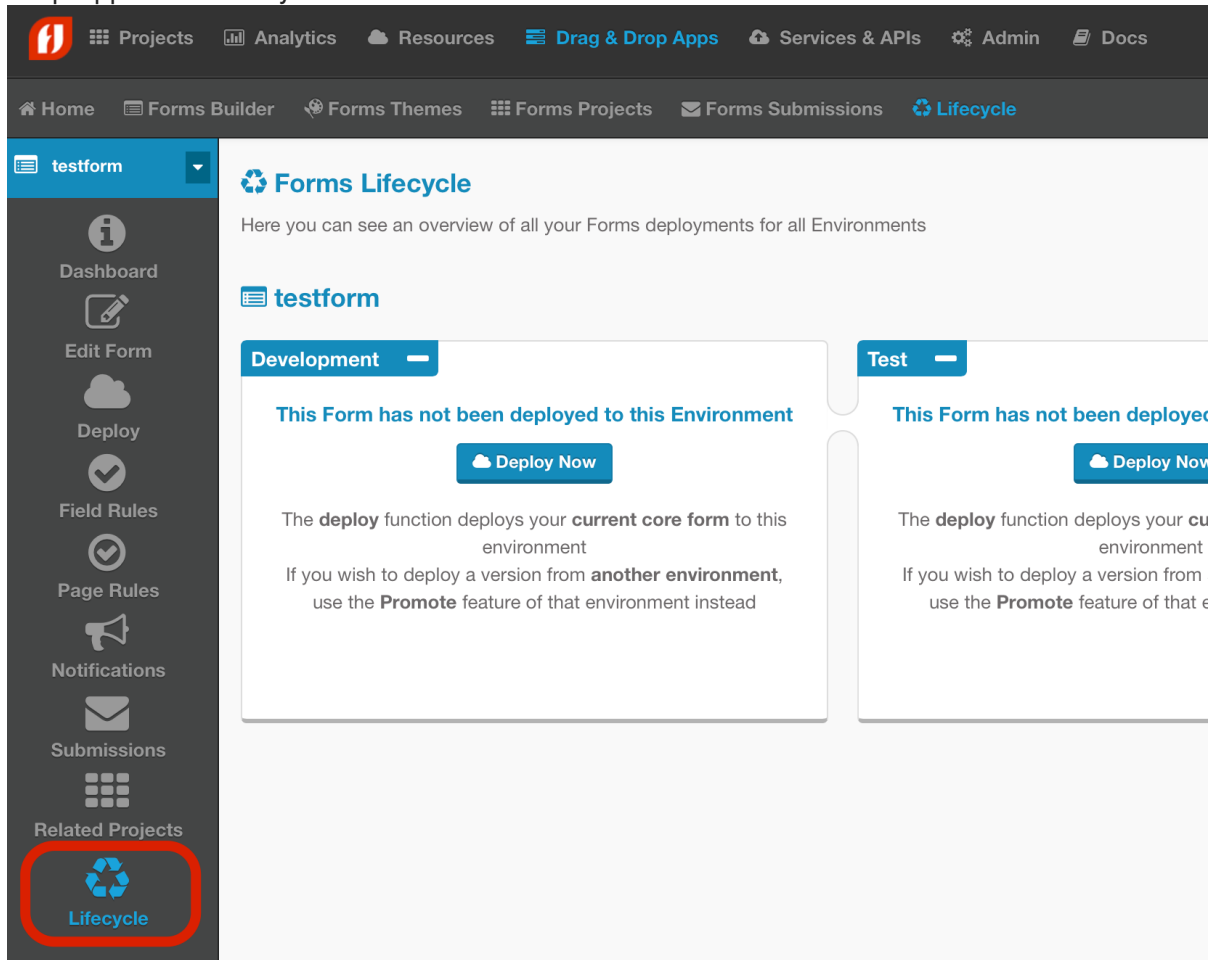
To access the Lifecycle Management page for a single Drag & Drop App:

- Navigate to the Studio and click on *Drag & Drop Apps* at the top of the screen.
- Click on *Forms Builder* in top navigation.



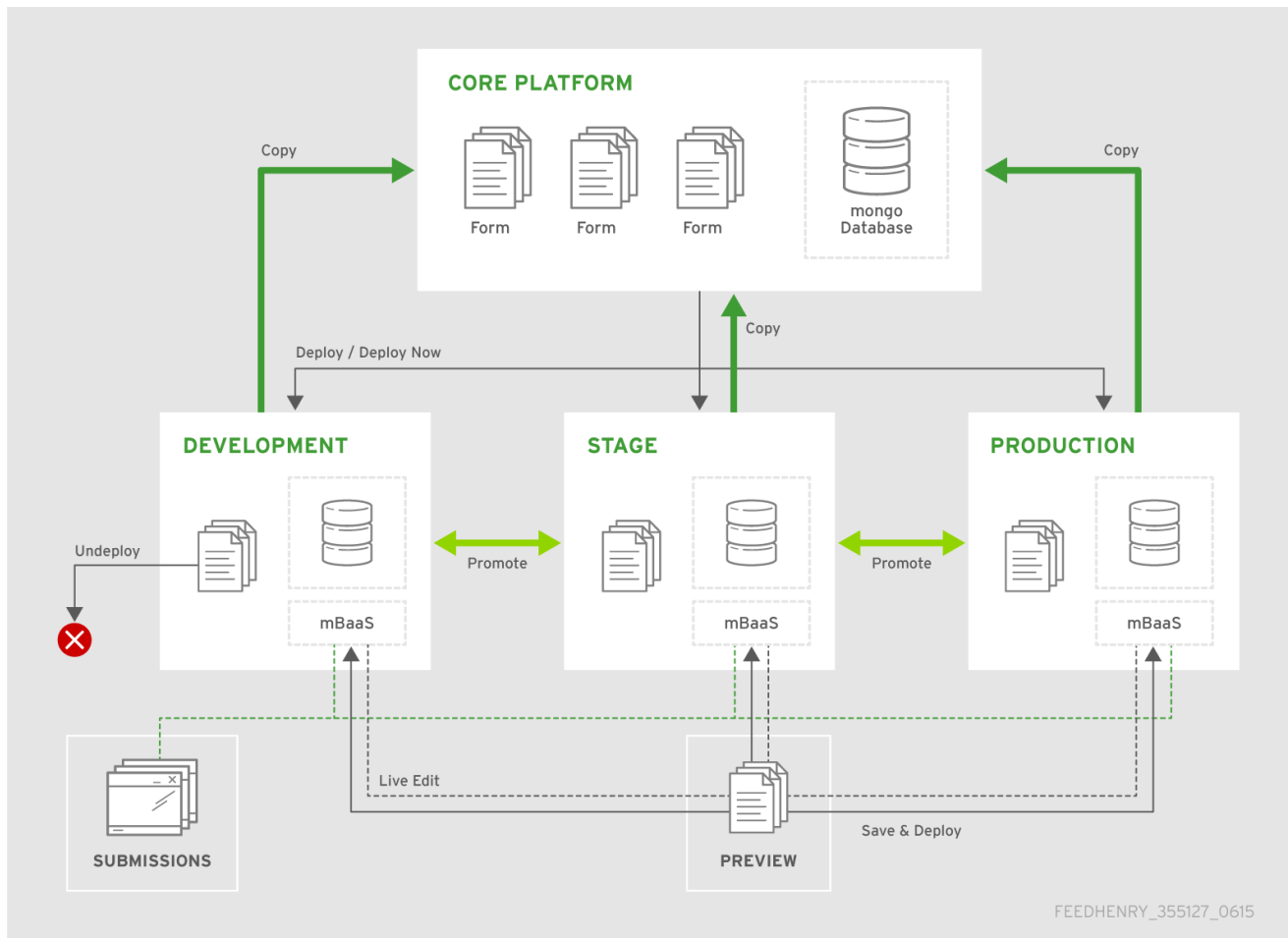
- Click on the desired Drag & Drop App from the list.

- Click on *Forms Lifecycle* in left navigation. This screen shows the status of the chosen Drag & Drop App across every environment.

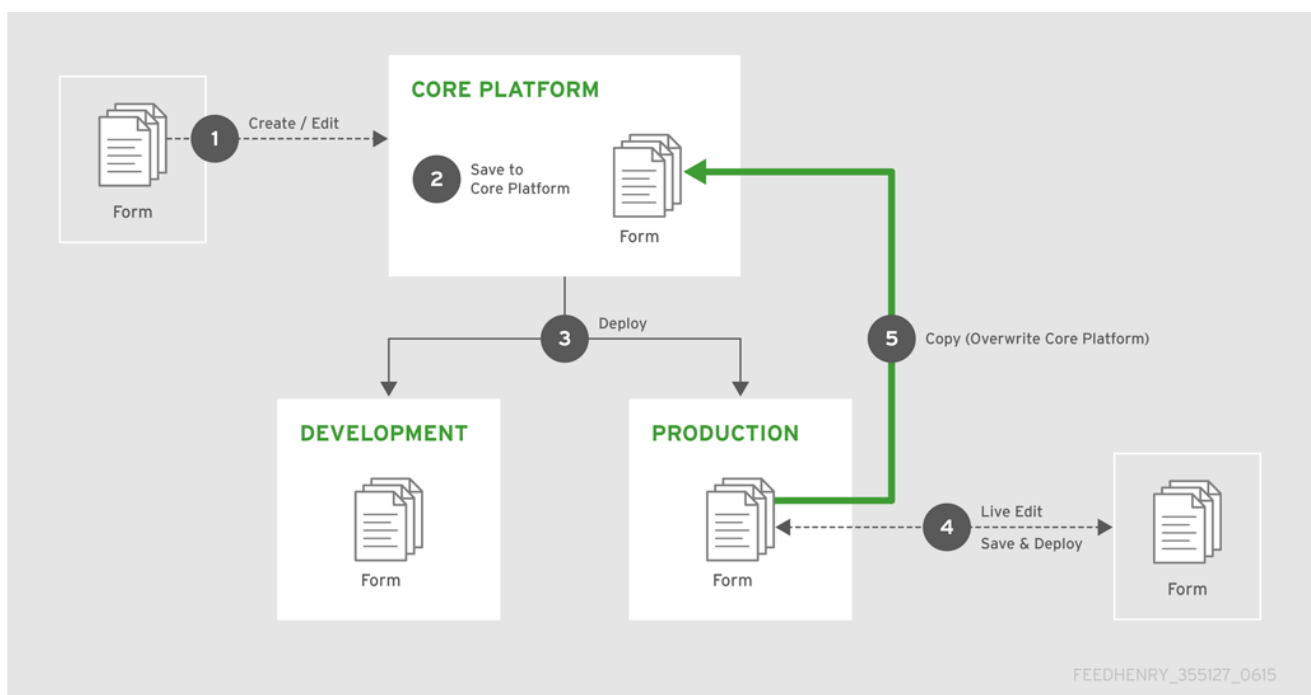


Both pages offer the following functionality in the Drag & Drop App details:

- Deploy Now
- Preview
- Live Edit
- Promote
- Submissions
- Copy
- Deploy



The typical flow of operations might be as follows: the user creates a form, saves it in the Core Platform and may perform subsequent edits safely before the form gets deployed to an environment. When the form is ready, it can be deployed to a Development environment, or even straight to Production. In case of any urgent issues found after deployment, *live edits* can be made to the form deployed in any of the environments. Live edits don't automatically propagate to the Core Platform, the user needs to do that manually using the *Copy* function, which overwrites the master copy in the Core Platform.



5.2.1. Deploy Now

Deploy Now appears in the Drag & Drop App details on the *Lifecycle* page and allows you to deploy a Drag & Drop App directly to a specific environment from the Core instance of the Drag & Drop App on the Platform.

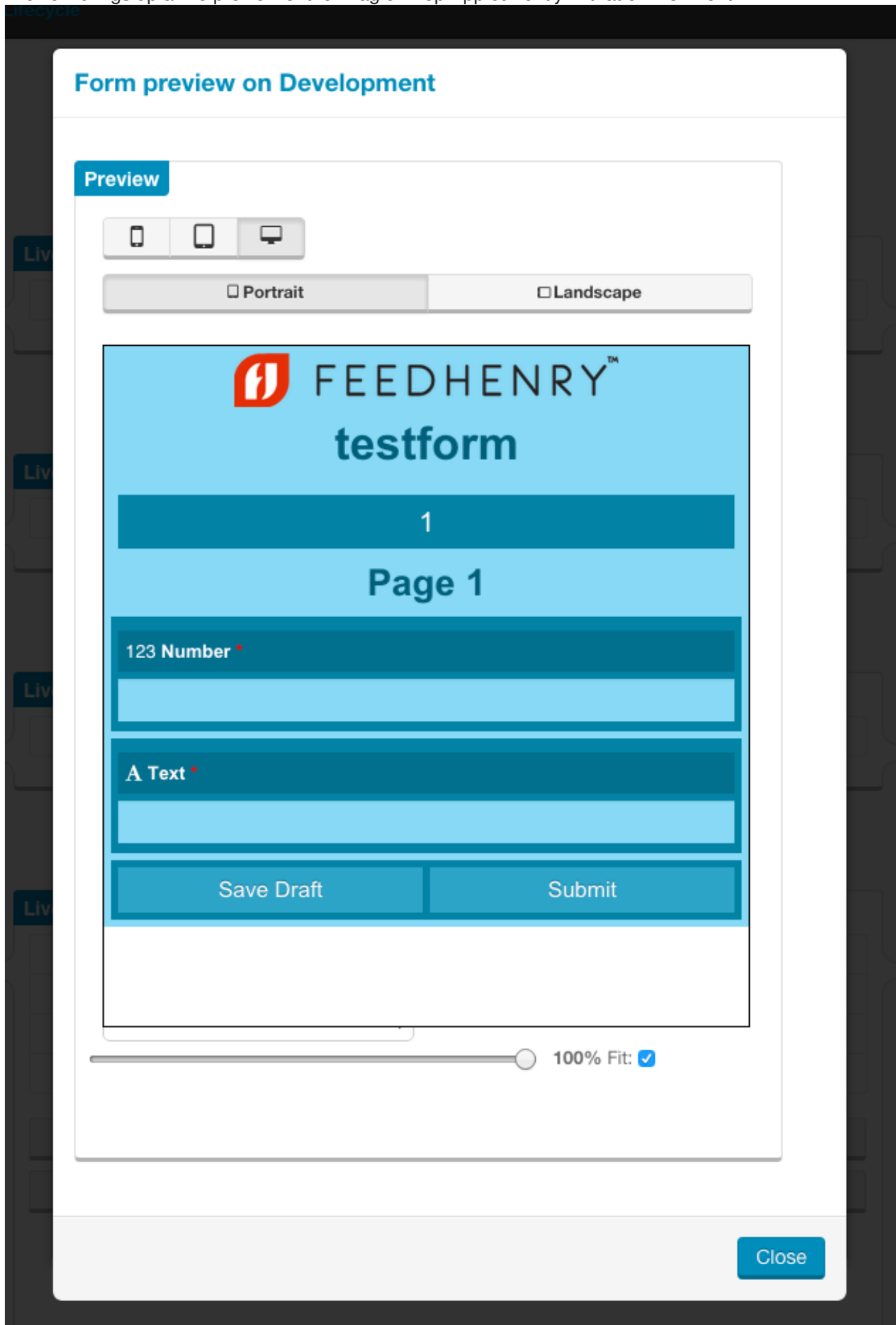


IMPORTANT

When associating projects with a Drag & Drop App, the project will only see and will only use the Drag & Drop Apps in the **same environment**. For instance, if a project is associated with a Drag & Drop App that is only deployed to *Development*, when that project is deployed to *Production*, it will be unable to see or use that Drag & Drop App. The same applies to updates made to a Drag & Drop App. If an update is deployed to a Drag & Drop App in *Development* but not to *Production*, associated projects will see the updated Drag & Drop App when they are in *Development* but will not see the update when they are in *Production*.

5.2.2. Preview

Preview brings up a live preview of the Drag & Drop App currently in that environment.



5.2.3. Live Edit

The lifecycle for publishing a Drag & Drop App usually resembles:

1. Create or make changes to the Core Drag & Drop App in the Platform.
2. Deploy changes to a testing or staging environment.
3. Once changes are approved, promote them to production.

In addition to this type of lifecycle, the Platform also enables users to do a *Live Edit*. *Live Editing* allows user with sufficient privileges to make changes to a form and save those changes directly in an environment without having to follow any promotion process.

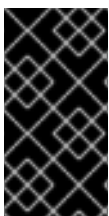
For example, a user could make a change to a Drag & Drop App and deploy it only to a development or testing environment, leaving all other environments with the original version. Alternatively, a user could see a critical issue in *Production* and use the *Live Edit* functionality to make the change directly in *Production* to resolve the issue immediately. The user could then copy those edits back to the Core project and propagate that change to the rest of the environments.

To *Live Edit* a form:

1. From the *Forms Lifecycle* page, show the details of the desired Drag & Drop App by click on +.
2. Click on *Live Edit* in the desired environment.

The screenshot shows the 'Lifecycle / Live Edit' interface for a form named 'testform'. At the top, there is a header 'Lifecycle / Live Edit' and a sub-header 'Here you can make a quick edit to a Form that has already been deployed to an Environment. When you save this form, it will be immediately deployed.' Below this is a red warning banner: 'Live Editing: Any changes you make will be immediately deployed to the Development environment when you hit 'Save and Deploy''. The interface has three tabs: 'Edit Form', 'Field Rules', and 'Page Rules'. The 'Edit Form' tab is active, showing a 'FORM PAGES' section with a 'Drag to re-order' instruction and a dashed box containing a blue icon. To the right, the form fields are displayed: a '123 Number' field with a red asterisk and a 'Text' field with a red asterisk. On the far right, there is a vertical toolbar with various field types: Text, 123 Number, Website, Radio Button, Location, File, Signature, Barcode, and Section Break. At the bottom left, there is a 'Save and Deploy' button.

3. Make the desired edits and click *Save and Deploy* to save the changes to the environment.



IMPORTANT

Clicking on *Save and Deploy* will save and deploy your changes to the **current environment only** and will do so **immediately**. To save these changes to the Core instance of the Drag & Drop App, *Copy* must also be used after you click *Save and Deploy*.

5.2.4. Promote

Promote allows you to replicate the deployed version of a Drag & Drop App from one environment to another. The main difference between doing a *Promote* versus doing a *Deploy* is that *Promote* does not involve the Core instance of a Drag & Drop App on the Platform. Meaning, *Live Edits* made to an environment can be *Promoted* to another environment without doing a *Copy* back to the Core instance of a Drag & Drop App on the Platform.

To *Promote* a form:

1. From the *Forms Lifecycle* page, show the details of the desired Drag & Drop App by click on +.
2. Click on *Promote* in the desired environment and choose the destination environment.

The screenshot shows the 'Development' environment details for a Drag & Drop App. The interface includes a table with the following data:

Last Deployed:	2015-06-02 16:00:00
Deployed By:	testing-admin@example.com
Submission Today	0
Total Submissions	0

Below the table, there are several action buttons:

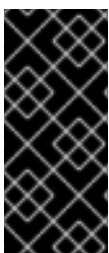
- Preview** (with a magnifying glass icon)
- Live Edit** (with a pencil icon)
- Promote** (with a double arrow icon and a dropdown arrow)
- Submissions** (with an envelope icon)
- Copy** (with a document icon)
- Test** (with a cloud icon)
- Production** (with a cloud icon)

5.2.5. Submissions

Submissions allows you to see all submissions made to a Drag & Drop App for that specific environment.

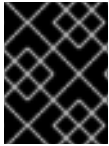
5.2.6. Copy

Copy will copy any *Live Edits* made to an environment back to the Core instance of the Drag & Drop App on the Platform. This is useful for preserving changes made while doing *Live Edits* as well as deploying those changes out to other environments.



IMPORTANT

Copy performs a rudimentary copy, **not a merge**, of the chosen environment back to the Core instance of the Drag & Drop App on the Platform. Meaning this has the potential to **destroy** changes that are not deployed to the environment that was live edited. Carefully review both the live edited environment as well as the Core instance of the Drag & Drop App prior to using *Copy*, to avoid losing changes made on the Core instance.



IMPORTANT

Make sure you have used *Copy* to save any *Live Edits* you wish to save prior to using *Undeploy* or *Redeploy*.

5.2.7. Deploy

The *Deploy* menu provides three options: *Redeploy*, *Undeploy*, and *Remove*.

The screenshot shows the 'Development' environment tab in the Red Hat Mobile Application Platform interface. The tab displays the following information:

- Last Deployed:** 2015-06-02 16:00:00
- Deployed By:** testing-admin@example.com
- Submission Today:** 0
- Total Submissions:** 0

Below the information, there are several buttons:

- Preview** (with a magnifying glass icon)
- Live Edit** (with a pencil icon)
- Promote** (with a cloud icon and a dropdown arrow)
- Submissions** (with an envelope icon)
- Copy** (with a document icon)
- Deploy** (highlighted in blue, with a cloud icon and a dropdown arrow)

The 'Deploy' button's dropdown menu is open, showing two options:

- Redeploy** (with a circular arrow icon)
- Undeploy** (with a cloud and downward arrow icon)

Redeploy allows you to deploy the Drag & Drop App from the Core instance to the chosen environment. This will overwrite any live edits made to that environment. *Undeploy* allows you to remove a Drag & Drop App from the chosen environment. *Remove* allows you to remove the form from the chosen environment (including all submission data associated with this form). Neither of these operations affect the other environments that Drag & Drop App is deployed to.

5.3. PERMISSIONS

All operations related to Drag & Drop Apps Lifecycle Management adhere to the existing permissions system of the Platform.

To *Deploy* and/or *Live Edit* a Drag & Drop App, the user must have:

- **Write** access on the **Deploy** permission under forms
- **Write** access on the form being deployed
- **Write** access to the environment they are deploying the form to

To view a Drag & Drop App in the Lifecycle Management interface, a user must have:

- **Read** access on the environment

- **Read** access on the form being viewed

For example, a user with **Read** access on a form and **Read** access to all environments will be able to view all deployed forms, but not *Live Edit* those Drag & Drop Apps.

For more details on permissions in general, see the [User Roles section](#) of the [Administration Guide](#).

5.4. DRAG & DROP APPS LIFECYCLE MANAGEMENT AND `$fh.forms`

The `$fh.forms` API allows you to call the Drag & Drop Apps API from javascript Client Apps. When making calls using `$fh.forms`, results will be filtered automatically depending on the current environment the application is running in. For example, an application may be associated with three Drag & Drop Apps, but if only one of them is deployed to the current environment, `$fh.forms.getForms` will only return that one.

For more details on using the `$fh.forms` API, consult the [API documentation](#).