



# Kony Fabric

## Introduction to Kony Fabric

### Release V8

#### **Document Relevance and Accuracy**

This document is considered relevant to the Release stated on this title page and the document version stated on the Revision History page. Remember to always view and download the latest document version relevant to the software release you are using.

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January, 2018

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## Revision History

Date	Document Version	Description of Modifications/Release
10/10/2017	1.0	Document release for Introduction to Kony Fabric Training - V8

## Table of Contents

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<b>1. Objective</b> .....	<b>5</b>
<b>2. Understanding Kony Fabric Console</b> .....	<b>6</b>
2.1 Navigating the Console .....	6
2.2 Accounts, Clouds, and Environments .....	7
2.3 The Apps Section .....	9
2.4 Settings .....	12
<b>3. Using Integration Services</b> .....	<b>14</b>
3.1 Creating your first Kony Fabric Application .....	14
3.2 Connecting to your REST API .....	15
<b>4. Adding Authentication</b> .....	<b>18</b>
4.1 Understanding Identity .....	18
4.2 Using Identity Session Data in Integration Services .....	21
4.3 Using your new Identity Service in a Mobile Application .....	22
<b>5. Invoking Services from a Mobile Application</b> .....	<b>24</b>
5.1 Deploying your Kony Fabric Application .....	24
5.2 Adding Kony Fabric APIs in the Mobile Application .....	27

## 1. Objective

In this online training, you will learn:

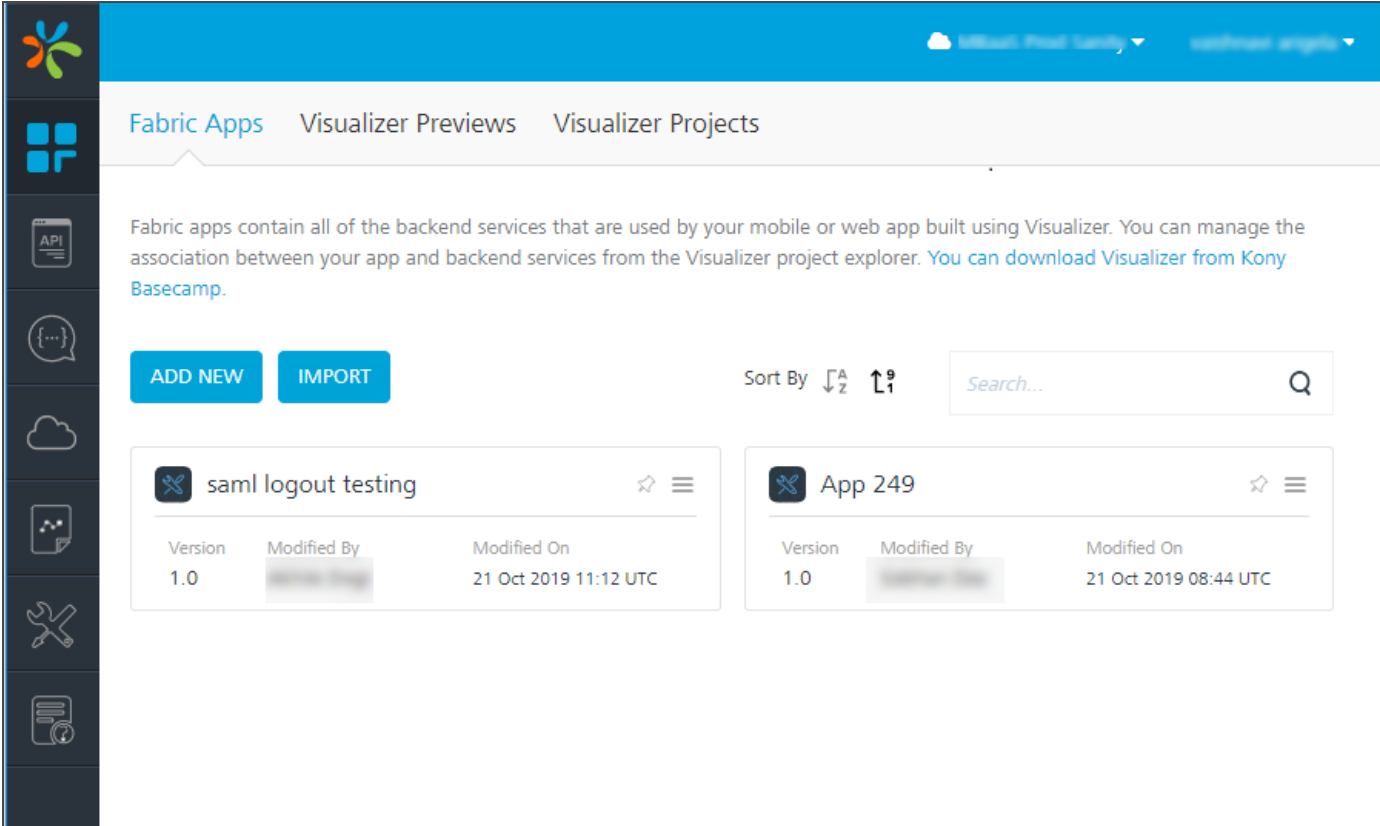
1. The various features in Kony Fabric console.
2. The various phases of Kony Fabric backend application.
3. How to create a simple backend application.
4. How to use **Identity** features of Kony Fabric to protect the client application.
5. How to connect your services to a client application using Kony Visualizer.

## 2. Understanding Kony Fabric Console

Hello Everyone! Welcome to your first look at Kony Fabric. In this tutorial, we will take you through the various components of Kony Fabric Console, and terms you need to know before you get started.

### 2.1 Navigating the Console

Your first sign in to Kony Console will navigate you to the **Fabric Apps** view, containing a snapshot of your apps:



The screenshot shows the Kony Fabric Console interface. On the left is a dark sidebar with icons for navigation. The top navigation bar is blue and contains the Kony logo, a user profile dropdown, and a language dropdown. Below the navigation bar, there are three tabs: 'Fabric Apps' (selected), 'Visualizer Previews', and 'Visualizer Projects'. The main content area has a heading 'Fabric apps contain all of the backend services that are used by your mobile or web app built using Visualizer. You can manage the association between your app and backend services from the Visualizer project explorer. You can download Visualizer from Kony Basecamp.' Below this are two buttons: 'ADD NEW' and 'IMPORT'. To the right of these buttons are 'Sort By' options (down arrow, up arrow, and a list icon) and a search bar with the text 'Search...'. The main content area displays two app cards. The first card is for 'saml logout testing' and the second is for 'App 249'. Each card has a table with columns for 'Version', 'Modified By', and 'Modified On'. The 'Version' column for both apps shows '1.0'. The 'Modified On' column for 'saml logout testing' shows '21 Oct 2019 11:12 UTC' and for 'App 249' it shows '21 Oct 2019 08:44 UTC'.

Kony Fabric Console comprises six major sections, accessible from the left panel of your console.

- **Apps** - Create your backend apps and services here. All service deployments will need to be done thru this section.

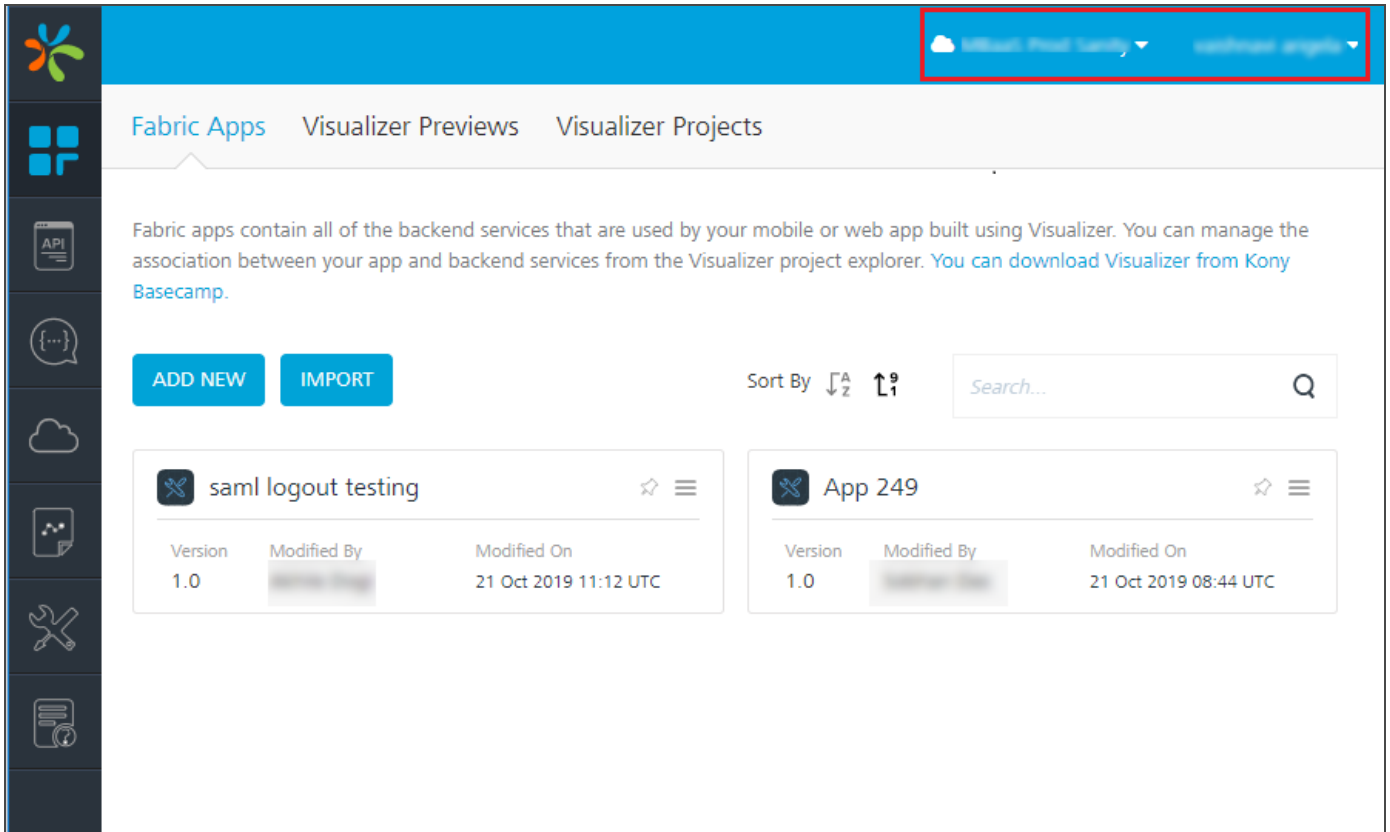
- **API Management**- With API Management, you can configure and manage app services (for identity, integration, orchestration, objects, and logic for Node.js services) without linking or configuring them within an app. After configuring the services in API Management, you can edit, clone, view a sample code, and delete services.
- **Developer Portals**- Allows you to create a Portal for exposing APIs created using Kony Fabric. Developers from internal and external partner teams can access the portal created to explore and test the APIs.
- **Environments** - View state of your connected clouds/ environments here. This sections also lets you navigate to the Administrator view for each connected service.
- **Reports** - View data from your active applications here. You can use one of our out-of the box reports, or create your own.
- **Settings** - Manage access to cloud deployments linked to the active account.
- **Support** - Connect to us! Access Kony documentation and forums.

We will go into further details on these sections in the later part of this lesson.

## 2.2 Accounts, Clouds, and Environments

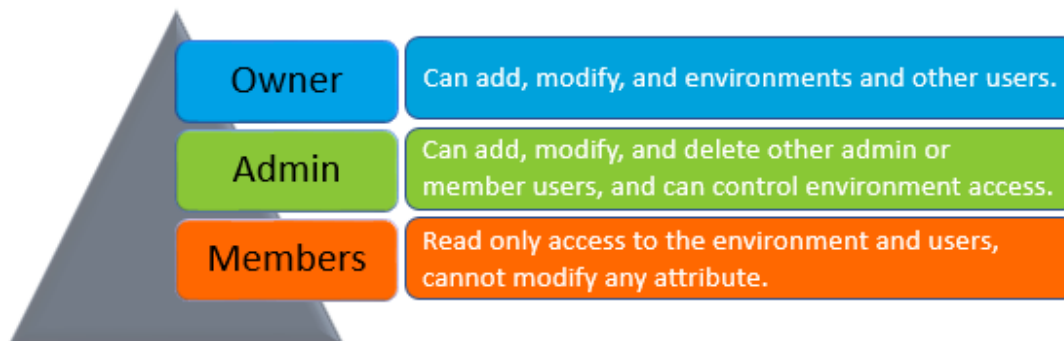
Lets take a better look at **Accounts, Clouds and Environments** in Kony Fabric.

At the top-right section of your Cloud sign in, you will be able to see your Account and Login information. Your Kony login can be associated with multiple Accounts.



The screenshot shows the Kony Fabric Console interface. At the top right, there is a red box highlighting the user profile area, which includes a cloud icon, the text "Without Post Family", and a dropdown menu labeled "Without Orgs". Below this, the main navigation bar contains "Fabric Apps", "Visualizer Previews", and "Visualizer Projects". The "Fabric Apps" section is active, displaying a description: "Fabric apps contain all of the backend services that are used by your mobile or web app built using Visualizer. You can manage the association between your app and backend services from the Visualizer project explorer. You can download Visualizer from Kony Basecamp." Below the description are two buttons: "ADD NEW" and "IMPORT". To the right, there is a "Sort By" dropdown set to "A-Z" and a search bar labeled "Search...". The main content area shows two app cards. The first card is for "saml logout testing" with a version of 1.0, modified on 21 Oct 2019 11:12 UTC. The second card is for "App 249" with a version of 1.0, modified on 21 Oct 2019 08:44 UTC. A vertical sidebar on the left contains various icons for navigation.

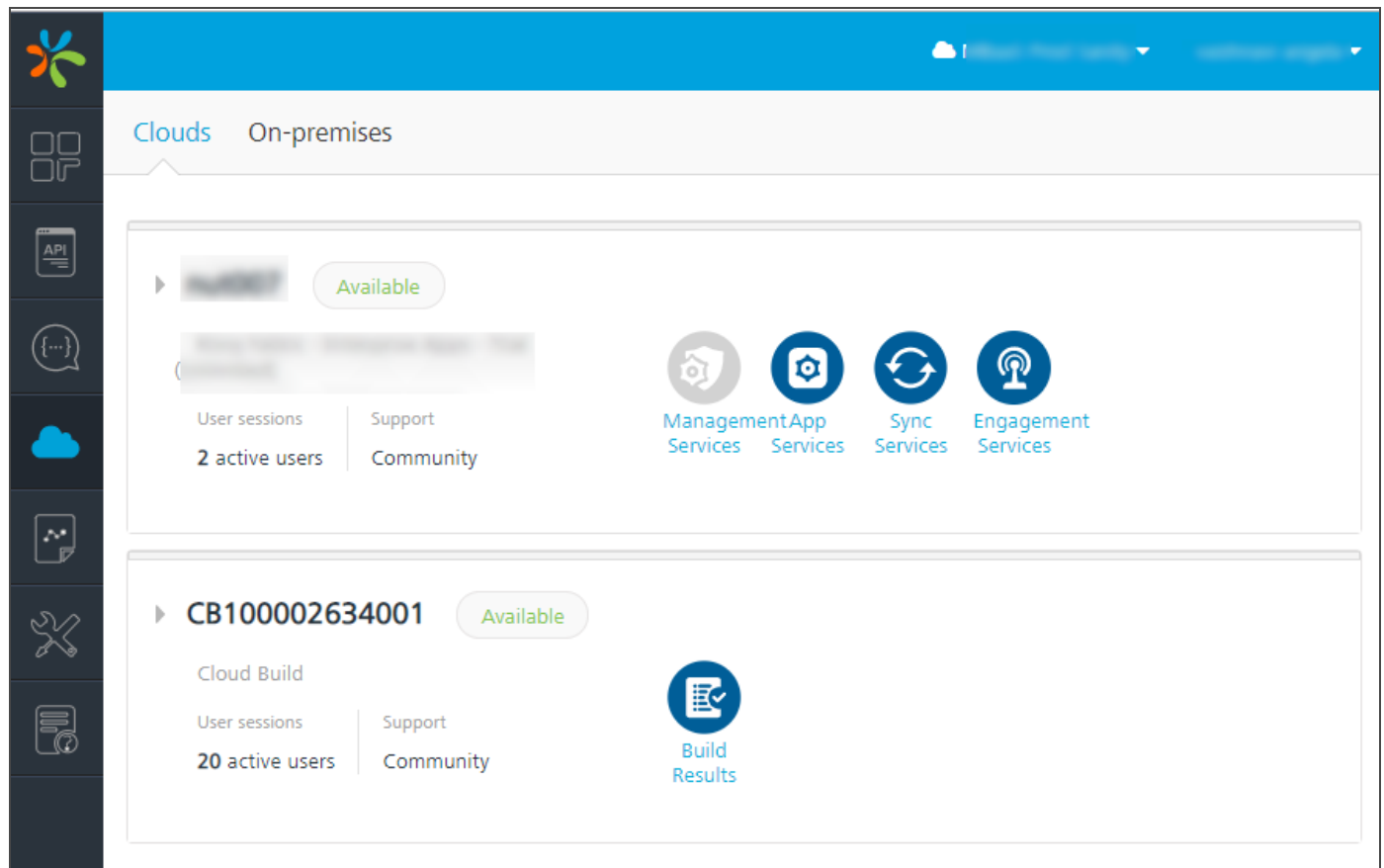
Your Kony login will be associated with a default account. You will be the **Owner** for this account, and will have the right to share your account with other members. Any users you share your account with can access the clouds associated with your account. You can choose the access you provide to the associated user, by making them - an **Owner**, an **Administrator**, or a **Member**.











Each account can be linked with a set of **Environments**. An environment is a collection of servers available to you for use. You can view the environments associated with each account under the **Environments** section of your login.

This is what your **Environments** section will look like:



## 2.3 The Apps Section

The **Apps** section of your Kony Fabric console is where all the heavy lifting gets done. This section lets you create services to connect to your backend services, and deploy your services and applications. You can create a new application or service here, or choose to import an existing Kony Fabric application here. Kony Fabric lets you configure services to fulfil to the suitable backend requirement. The **Services** section contains a bunch of options to configure different types of services. Based on the type of feature you want to implement, create a service of the required type. The type of services supported are:

 Integration	Connect to a REST API
 Identity	Add authentication to your application
 Orchestration	Link many Integration services to suit your purposes
 Objects	Connect and access your endpoints in an OOPS mechanism
 Synchronization	Enable offline data in your applications
 Logic	Connect mobile apps to your NodeJS Backend application

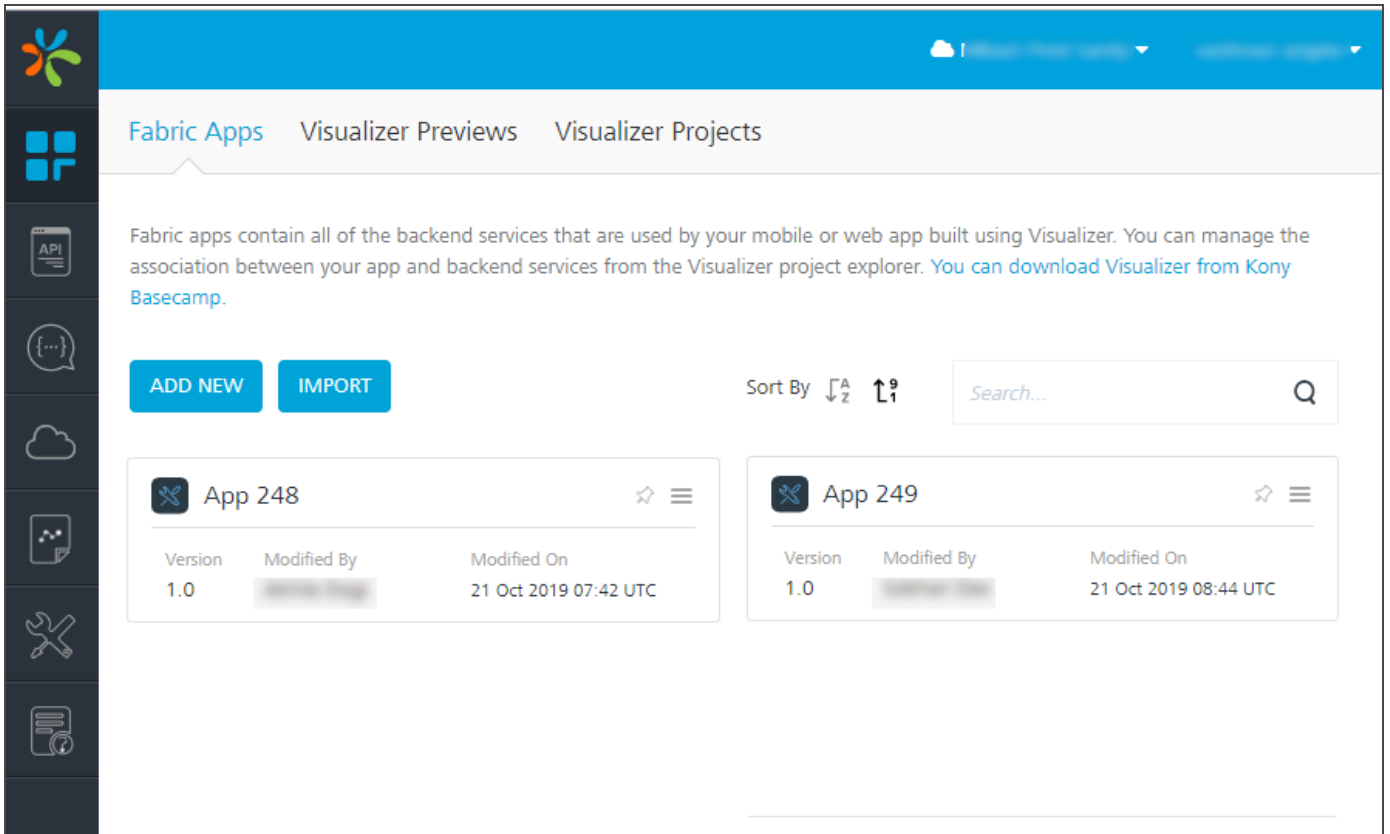
To provide you the freedom to control your backend operations, we allow a set of services catering to connecting to a set of predefined Endpoints URLs, or to create your own backend operations in Java, or JavaScript. You can even create NodeJS applications and host them on the Kony Fabric server as backends!

### 2.3.1 Applications and API Management

You can access your **Applications** from the **Applications** tab (left control pane).

An application is a logical grouping of a set of services. Creating an application to group your services lets you create an inter-relation between the included services. For example, an application can contain an Identity provider, and a protected backend application. By linking these two services in an application, they can be used in correlation with each other.

Your Applications page will look like this:

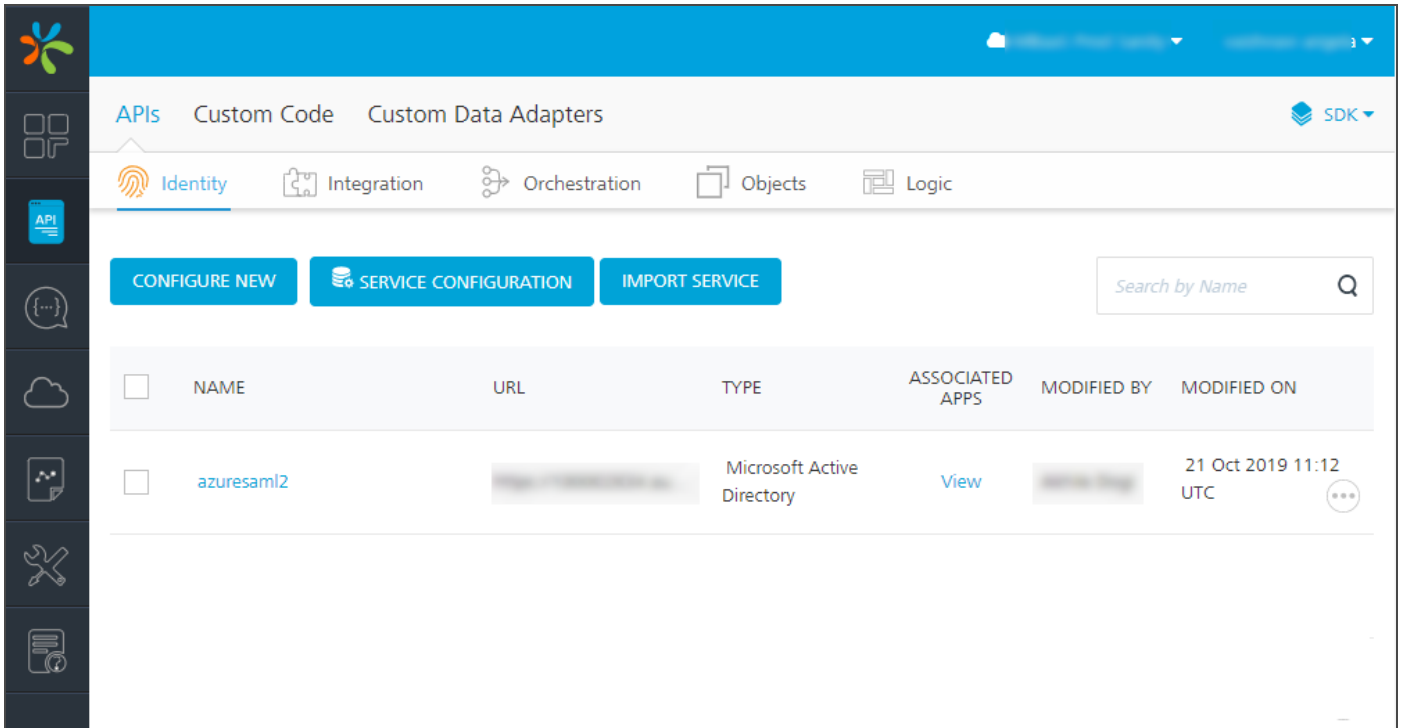


The screenshot displays the 'Fabric Apps' section of the Kony Fabric console. The page title is 'Fabric Apps' and it includes sub-sections for 'Visualizer Previews' and 'Visualizer Projects'. A descriptive paragraph explains that fabric apps contain backend services for mobile or web apps. Below the text are 'ADD NEW' and 'IMPORT' buttons. To the right, there is a 'Sort By' dropdown menu and a search bar. The main content area shows two app cards: 'App 248' and 'App 249'. Each card has a table with the following data:

Version	Modified By	Modified On
1.0	[REDACTED]	21 Oct 2019 07:42 UTC
1.0	[REDACTED]	21 Oct 2019 08:44 UTC

If you do not wish to create an application for grouping your services, Kony Fabric allows you to create a standalone service and access it as well. You can create these services from the **API Management** section of Kony Fabric portal. This section lets you configure **Identity**, **Integration**, **Orchestration**, **Objects**, and **Logic** services.

Here's what the API Management section looks like:



The screenshot displays the Kony Fabric Console interface. The top navigation bar includes 'APIs', 'Custom Code', and 'Custom Data Adapters'. Below this, the 'Identity' section is active, with sub-sections for 'Integration', 'Orchestration', 'Objects', and 'Logic'. The main content area features three buttons: 'CONFIGURE NEW', 'SERVICE CONFIGURATION', and 'IMPORT SERVICE'. A search bar labeled 'Search by Name' is positioned to the right. Below the buttons is a table with the following columns: NAME, URL, TYPE, ASSOCIATED APPS, MODIFIED BY, and MODIFIED ON. The table contains one entry for 'azuresaml2' with a type of 'Microsoft Active Directory' and a modification date of '21 Oct 2019 11:12 UTC'. A 'View' link is present next to the entry.

NAME	URL	TYPE	ASSOCIATED APPS	MODIFIED BY	MODIFIED ON
azuresaml2		Microsoft Active Directory	View		21 Oct 2019 11:12 UTC

## 2.4 Settings

The **Settings** area lets you manage user access to your clouds. If you are a owner or an Admin of the cloud, you will be able to invite users to a cloud from this section. You can also modify user access from this section.

Refer the sample view below:

The screenshot displays the 'Accounts' section of the Kony Fabric Console. The 'Profile' tab is selected, showing a form with the following fields:

- Account Name**: Text input field.
- Region**: Text input field.
- Account Owner**: Dropdown menu.
- Company Information**: Section header.
- Company Name**: Text input field.
- Industry**: Dropdown menu.
- Street 1**: Text input field.
- Street 2**: Text input field.
- City**: Text input field.
- Country**: Dropdown menu.
- State**: Dropdown menu.
- Zip Code**: Text input field.
- Phone Number**: Text input field.

## 3. Using Integration Services

In this module, we will walk you thru creating your first Kony Fabric application. At the end of this module, you will understand how to use Kony Fabric to connect with backend APIs.

This learning course help you build a **News and Weather** application. To get a head start, you can get the Frontend Visualizer application from the **Kony Git Repository**.

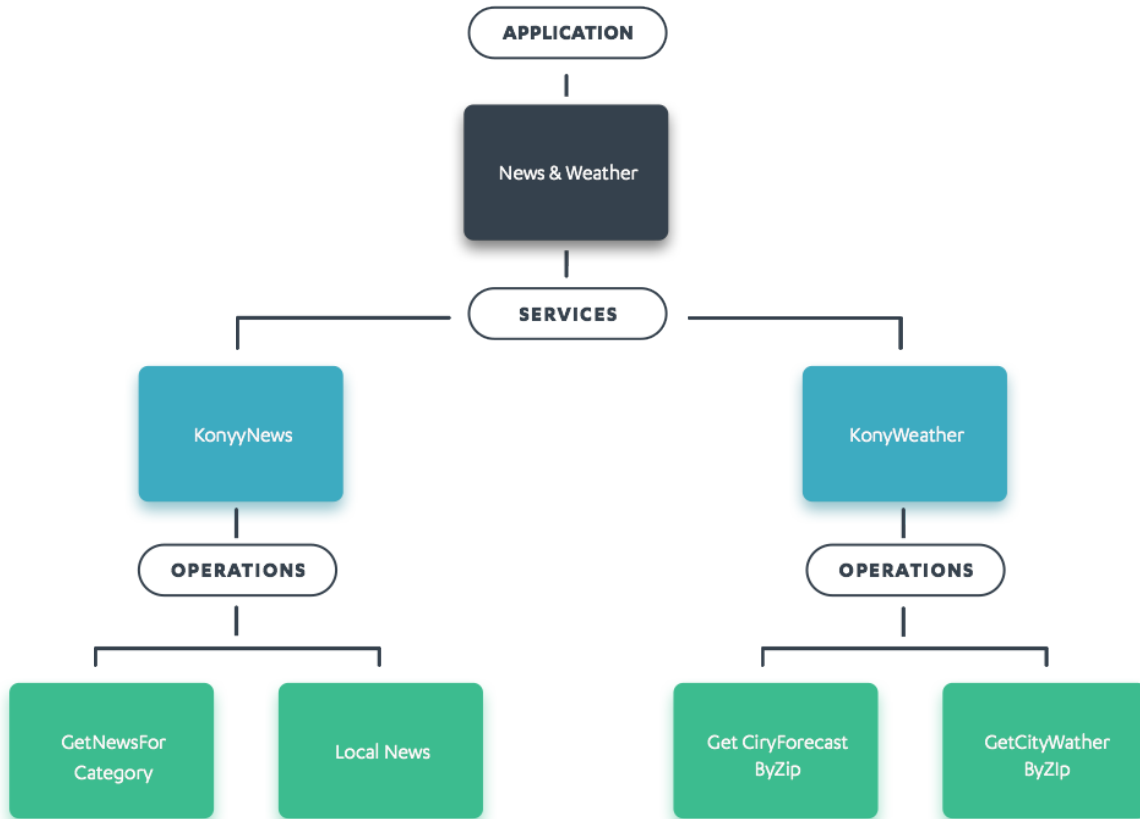
We will go thru the below milestones in the course of this module:



### 3.1 Creating your first Kony Fabric Application

Now let's get started with your first Kony Fabric application!















An application in Kony Fabric terms lets you logically group all your services and backend features under a single umbrella. Your Kony Fabric cloud can host multiple applications. Each application contains a group of services, and each service contains a group of operations. A service definition contains an Endpoint URL and additional parameters defining the connection. The operations created on top of this service pertain to each individual method available at the endpoint host.



**Note:** Services can also be created without being linked to an Application thru the API Management tab.

## 3.2 Connecting to your REST API

Connecting to your backend API via Kony Fabric is easy. You will need to define an Integration service, create a new service under **Configure Services > Integration**. Integration services let us configure a service to connect to a REST endpoint.

Technology Adapters		Business Adapters	
 XML	 Database	 Salesforce	
 SOAP	 API Proxy	 Kony SAP Gateway	
 JSON	 AWS API Gateway	 MuleSoft	
 Java		 RAML	
 JavaScript		 MongoDB	
		 RAML	

Kony supports connecting to a multitude of service types. For this module, we will showcase creating XML services.

The first thing you need, is to get your backend APIs in place. We are trying to build an application for showing News and Weather for a selected City. We will use Google News (<https://news.google.com/>) and Weather services hosted on weather.gov (<https://graphical.weather.gov>). Take note of the specification below :

### 3.2.1 Google News API

Service Type	XML
Base URL	<a href="https://news.google.com/news/section?output=rss">https://news.google.com/news/section?output=rss</a>
<b>URL Parameters</b>	
topic	Accepts the Google News topic code to limit the news results for that category. Example Topic codes: World (w), US (n), Business (b), Technology (tc), Entertainment (e), Sports (s), Science (snc), Health (m)



Service Type	XML
q	Accepts one parameter and submits that to Google News as the query parameter to filter the news results. This is used to limit the results to a specific City or any search term sent as an input parameter.
Detailed specifications	<a href="https://productforums.google.com/forum/#!topic/news/CwDLdEfUwSk">https://productforums.google.com/forum/#!topic/news/CwDLdEfUwSk</a>

The video familiarizes you with creating Kony Integration service with the above mentioned specifications. We recommend you to create a sample service based on this video to have a real-time experience of Kony Fabric services.

For more information, refer to [Integration Services](#).

## 4. Adding Authentication

In this module, you'll learn how to add a secure login to your application. You can secure your application's data with a range of authentication providers pre-built into Kony Fabric, or connect your own authentication mechanism by configuring a Custom Identity provider.

In this module, you will learn the following:


















### 4.1 Understanding Identity

Kony Fabric lets you add an authentication layer to your application and control it right from your console. Authentication modes can be controlled from the **Identity** section of your Kony Fabric application. As the name suggests, it lets you identify valid users and block intruders.

We support a wide range of Enterprise level connectors and popular Social Identity providers, easily configurable in your Kony Fabric console.

#### 4.1.1 Identity providers supported by Kony Fabric

Configuring Identity services in your app eliminates the hassle of coding backend specific authentication mechanisms into your mobile app, and moves the required logic into Kony Fabric console. Your app simply needs to invoke a Kony Fabric Identity API, and the Identity service hosted on Kony Fabric will take care of authenticating your credentials with the chosen backend.

Enterprise Identity		Social Identity	
 Microsoft Active Directory	 Kony SAP Gateway	 Google	 LinkedIn
 Open LDAP	 OAuth 2.0	 Instagram	 Amazon
 Salesforce	 Custom	 Microsoft	 Yahoo
 SAML		 BOX	
		 Facebook	

What Kony Fabric does, is the following:

- Accepts user credentials and name of Identity service to use for login authentication.
- Invokes the configured backend with user credentials and retrieves authentication tokens from the backend.
- Creates a new token such as **MFToken**, and sends it across to the **Mobile Application**.
- All the following requests from the device send the MFToken to Kony Fabric, and Kony Fabric adds the corresponding backend tokens to each request.

The video familiarize you with Kony Identity and Security features.

### 4.1.2 Configuring an Identity Provider

To configure an **Identity** provider for your Kony Fabric application, open your Kony Fabric application, and navigate to the **Identity** section.

You can choose to:

- Create a new Identity service from the available adaptors.

OR

- Use one of the adapters configured by other users of your Kony Fabric console.

This video will run you through configuring Kony Fabric Identity services, connecting to Google OAuth as a backend service.

### 4.1.3 Getting the best results from your Identity Services

As a bonus to help you on your Kony Fabric journey, we have made tweaks on top of standard authentication mechanisms to get you the smoothest and most fruitful user experience. You can:

- Maintain your own list of user credentials using Kony UserStore.
- Link your Identity services to allow an enhanced Single Sign on experience.
- Use enhanced profile and user specific information from your login authenticator in the rest of your services with our security filters.

#### 4.1.3.1 Single Sign-On Features

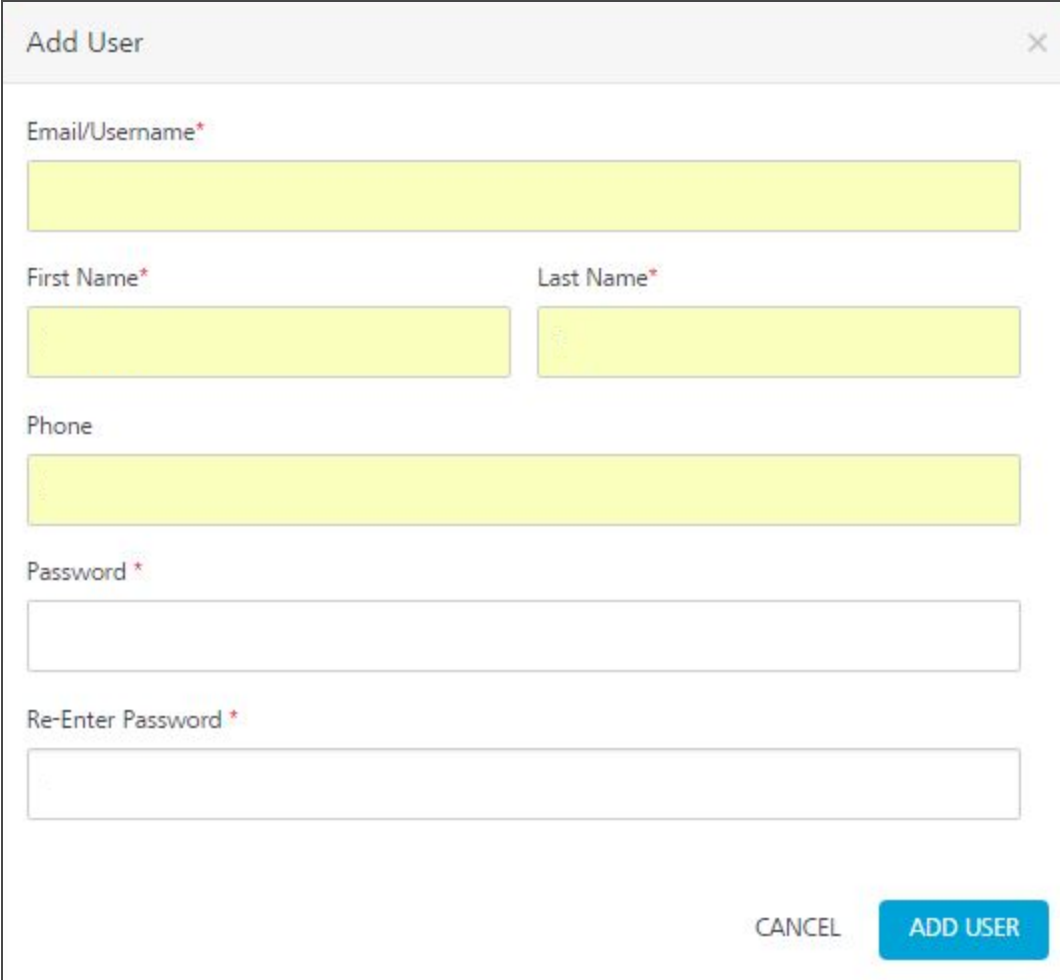
With the SSO feature on Identity services, you can link multiple Identity services together. Once Identity's SSO feature is enabled, multiple mobile applications running on a single device will reuse security tokens from the active session in the device. The feature allows you to deploy multiple applications on a device and eliminates the need for the user to login from each app. For more information, refer to demo video: Single Sign-On for Mobile Apps

#### 4.1.3.2 Kony Userstore

Using Kony UserStore, you can start adding application users without even setting up a backend authentication mechanism. Kony UserStore is a built-in Identity service on Kony Fabric. To start using Kony UserStore for authentication, use the **Use Existing** button in the **Identity** and select **Kony User Repository**. Kony UserStore service will be added into your application. Add users to the userstore to complete your process. Publish the service and modify your client-side code to invoke the Identity API from your mobile application to start using this Userstore.

#### 4.1.3.3 Add a user to Kony User Repository

The following image displays how to add a user in Kony User Repository.



The image shows a web form titled "Add User" with a close button (X) in the top right corner. The form contains the following fields:

- Email/Username\***: A single-line text input field.
- First Name\***: A single-line text input field.
- Last Name\***: A single-line text input field.
- Phone**: A single-line text input field.
- Password \***: A single-line text input field.
- Re-Enter Password \***: A single-line text input field.

At the bottom right of the form, there are two buttons: a "CANCEL" button and a blue "ADD USER" button.

## 4.2 Using Identity Session Data in Integration Services

Consider a scenario where an organization such as **Sellscart Inc.** wants to provide records based on the access rights of a user logged in. To fulfill this, the Sellscart Admin adds a field named as `permissions` in the **Login** mechanism. The subsequent requests require a user to provide the `permissions` value, before the right set of records is returned. Using the identity security field, the scenario can be handled with absolutely no change in the client's mobile code.

Kony Fabric allows you to choose the response fields from the Identity service that you wish to use in further service requests, and add them into your request body automatically. This feature reduces unnecessary code additions into your client app as well as adds a level of protection to your service calls, by restricting any sensitive authentication data from being sent to the client device.

#### 4.2.0.1 How can I use this feature?

While creating a service request, create a request parameter with `Value` field set to `identity`. Provide the path to your identity parameter using a dot notation.

For example, if your Identity service response is :

```
{
  "profile": {
    "email": "john.smith@kony.com",
    "userid": "107616287583430495861",
    "firstname": "John",
    "lastname": "Smith"
  }
}
```

To access the `firstname`, use `profile.firstname` in the field provided.

## 4.3 Using your new Identity Service in a Mobile Application

Now that your application is secured, add the code snippet for calling the identity service into your client side application, you are ready to go!

Kony Fabric makes it easy to get your application code ready to go by providing a code snippet for each service you create. To access the code snippet for your service, use the service menu for the service, and choose `Sample code`. We provide sample code for use in all supported SDKs, including Kony Visualizer, iOS, Android and PhoneGap.

***Important:*** Exercise:

- Extend the authentication process for the News and Weather application by adding Facebook integration into your application.
- If you face any issues completing this exercise, take a sneak peek at the updated News and Weather application available [here](#).

For more information, refer to [Identity Services](#).

## 5. Invoking Services from a Mobile Application

You are almost good to go! Now that your server pieces are complete, you can connect your client application to the Kony Fabric app and get your application up and running!

Once all services are configured and tested, connect your app to the client code by adding the required invocation code into your mobile app. This chapter will teach you the best options available to get your client app connected to your services.

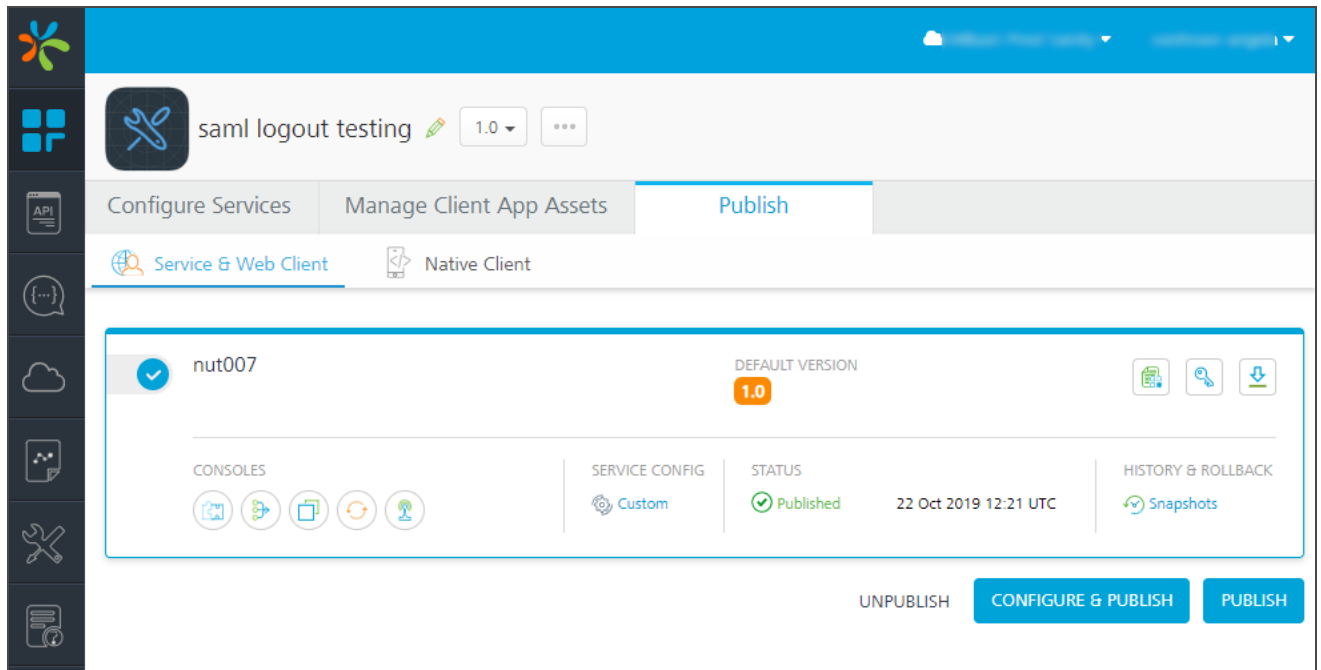
### 5.1 Deploying your Kony Fabric Application

To start using your Kony Fabric application, you will need to deploy the created Kony Fabric application. This can be done thru the **Publish** tab in your application. The **Publish** section manages the clouds where your service deployment is available for use. You can use this section to publish or unpublish your services deployment, and make any runtime configurations if you wish.

**Follow the steps to Publish your Application:**

1. Go to the **Publish** tab of your application.
2. In this view, you will see the list of supported **Environments** where you can deploy your application. Select the environment where you wish to deploy your services, and click **PUBLISH**.

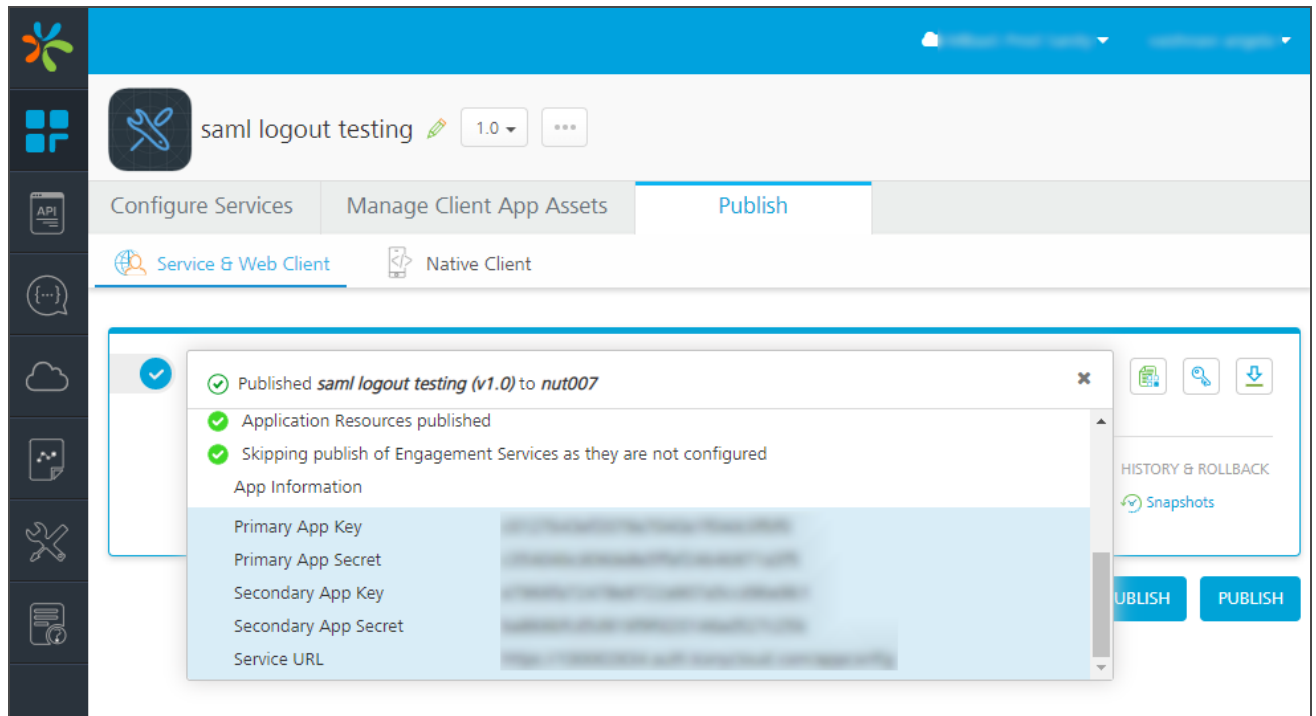




3. You can also click Configure and Publish to configure your services. After configuration, click **SAVE & PUBLISH** to deploy your application.

The screenshot displays the Kony Fabric console interface for configuring a mobile application. The application name is "saml logout testing" (version 1.0). The "Publish" tab is active, and the "Service & Web Client" environment is selected. The "App Configuration" section is expanded, showing fields for "App Key & Secret" with "Primary" and "Secondary" columns for "Key" and "Secret". Below this is the "Service Configuration" section, which includes expandable rows for "Identity Service Configuration", "Integration Service Configuration", and "Object Service Configuration", each showing "Configurations 0". At the bottom right, there are "CANCEL" and "SAVE & PUBLISH" buttons.

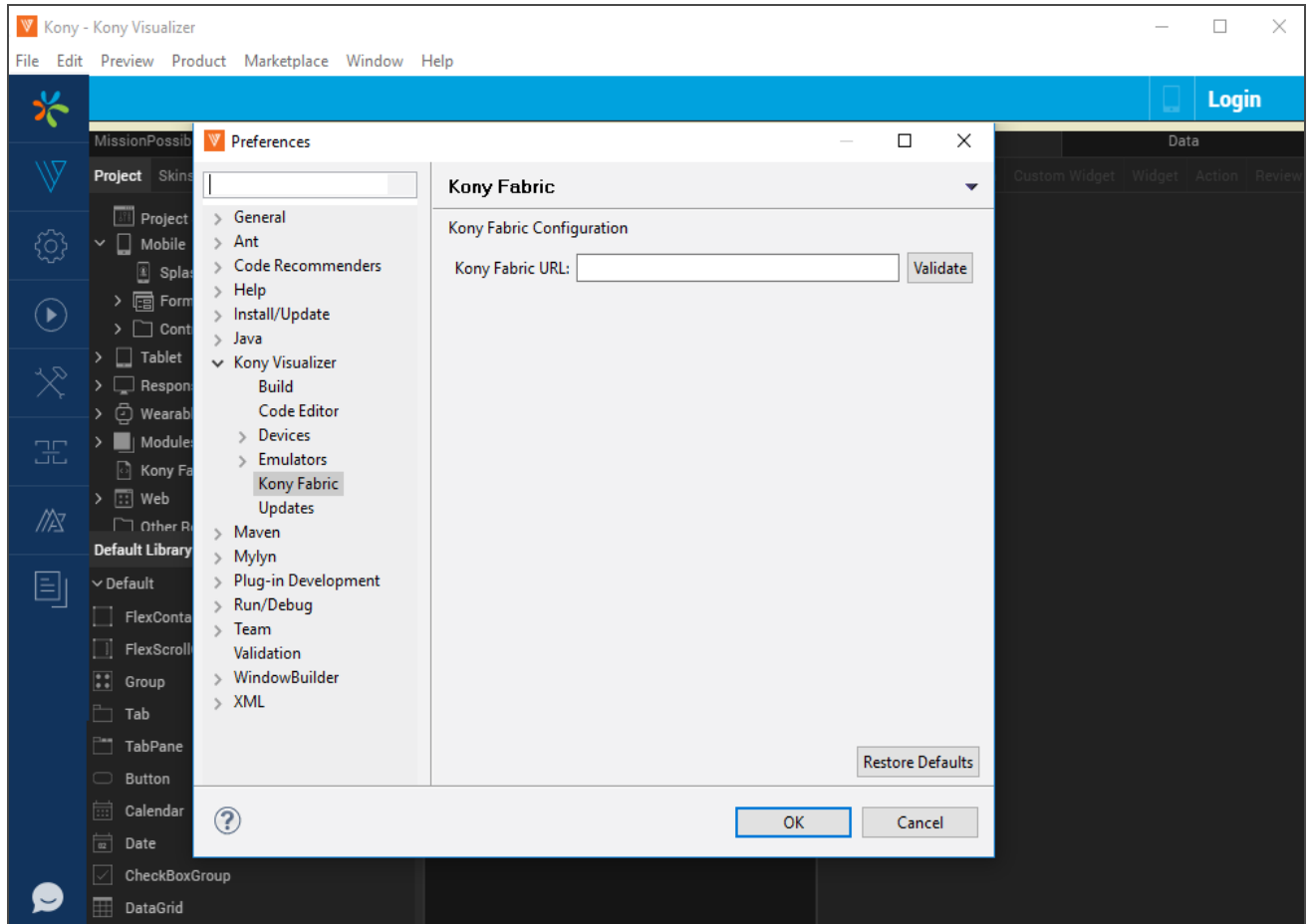
4. After the app is published, a dialog box appears. From the **Publish Progress** dialog box, retrieve the `App key` and `App secret`. You need to add the app key and app secret into your client application to invoke Kony Fabric services.



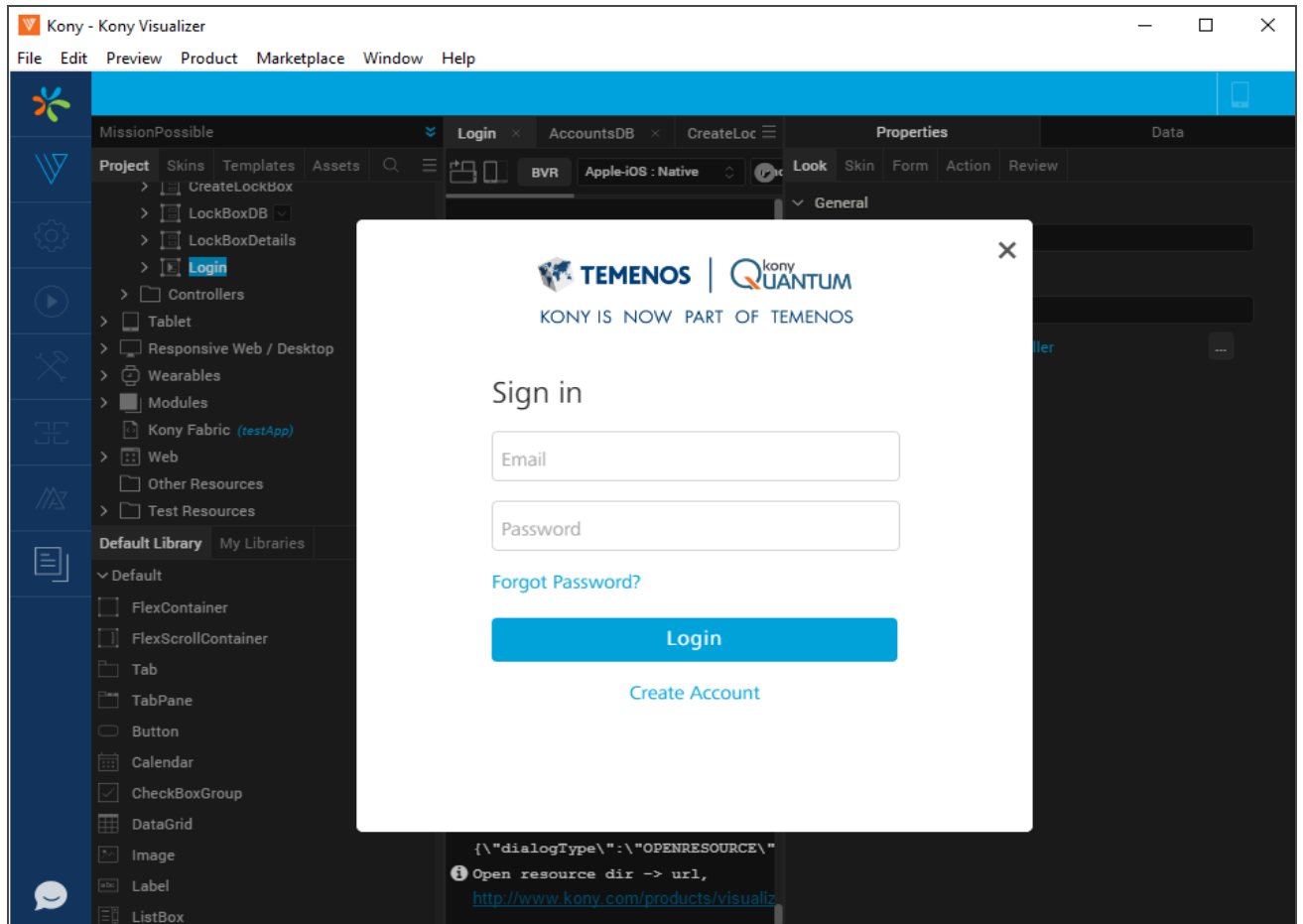
## 5.2 Adding Kony Fabric APIs in the Mobile Application

To see your mobile app in action with a live backend, you need to add the required SDK invocation calls for your service. For our **Kony Mobile** application to be connected to **Kony Fabric** backend, you need to perform the following steps:

1. Open the Kony Client application in Kony Visualizer. Configure Kony Fabric URL in the **Project Properties** of your application.

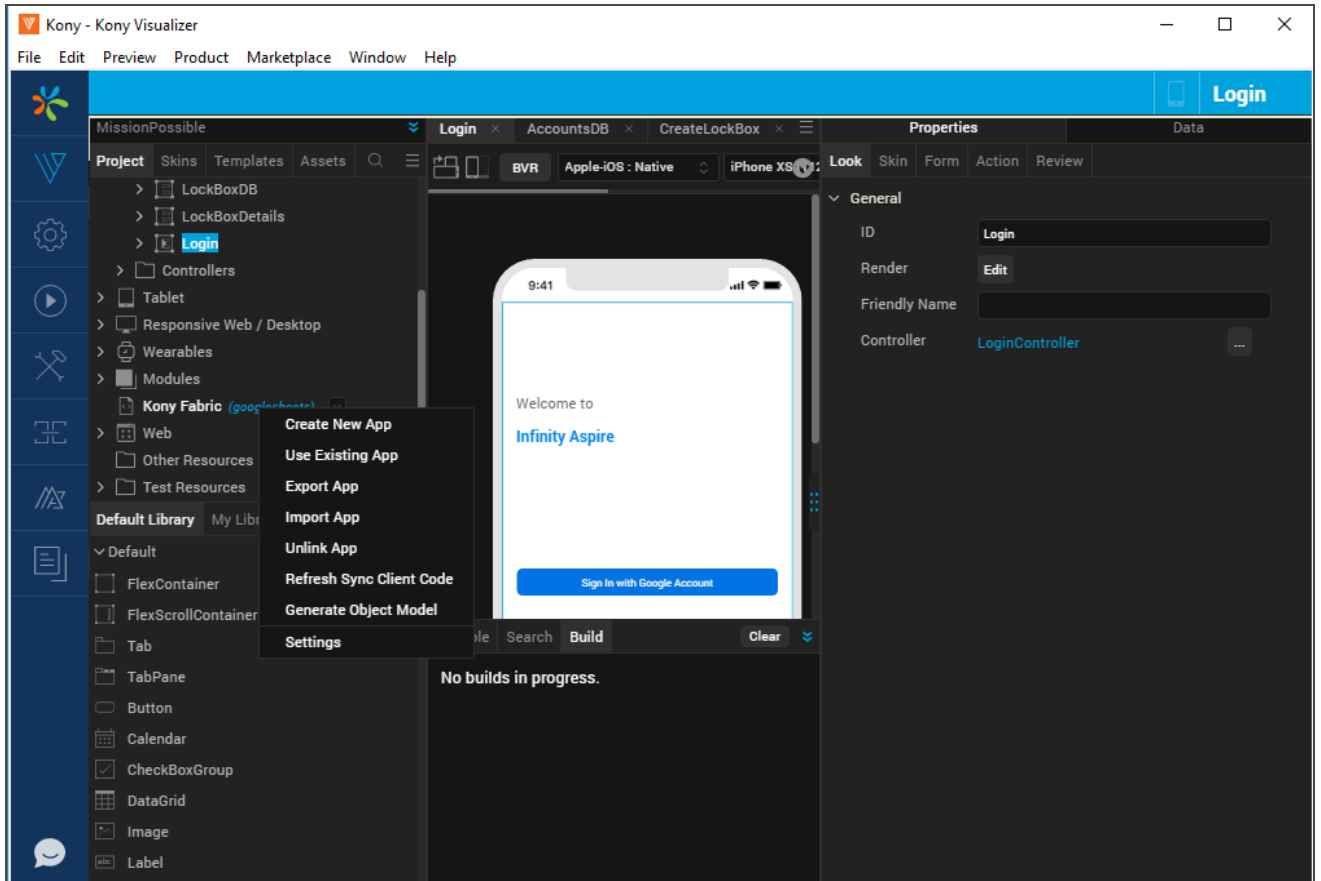


2. Login to console using the **Login** button at the top-right of Kony Visualizer.

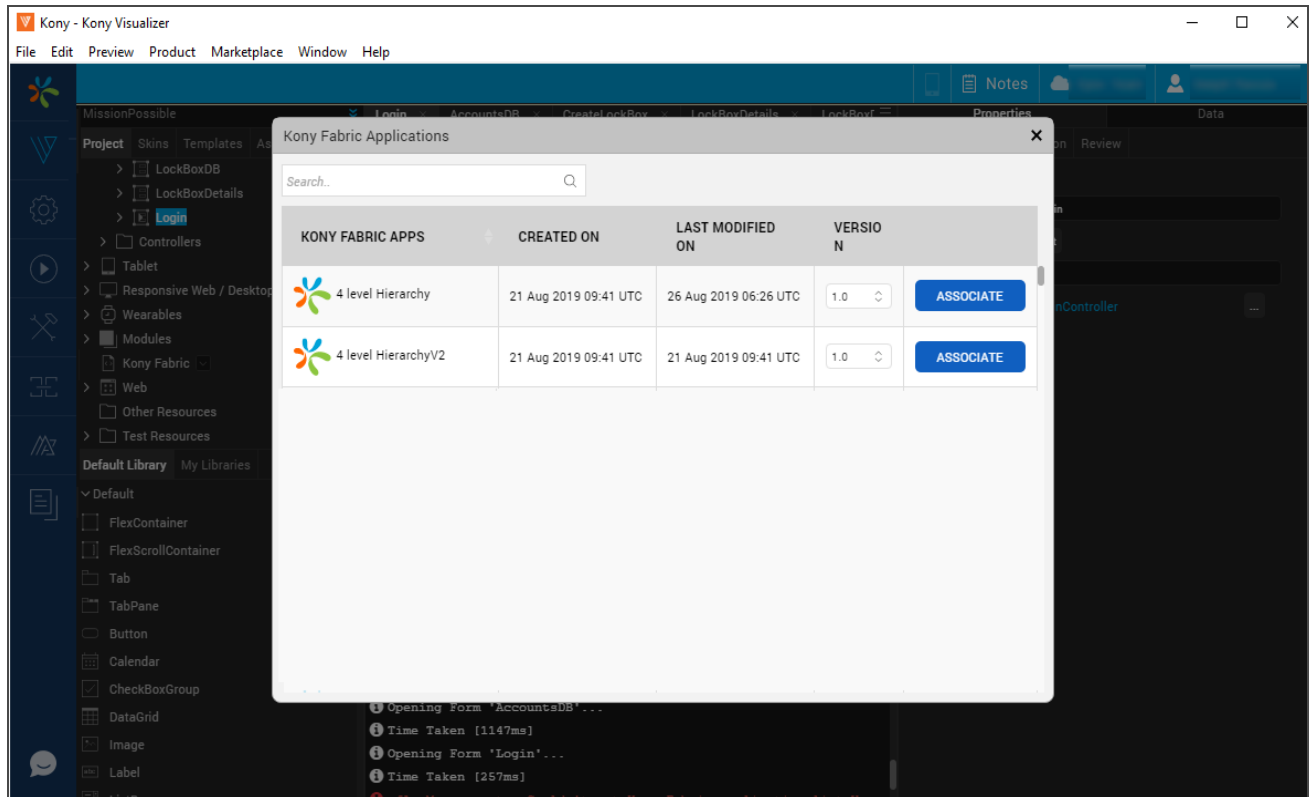


3. Connect the client application to Kony Fabric backend.

You can do this in Kony Visualizer by selecting the **Kony Fabric** section in the Project Explorer, and select **Use Existing App**.

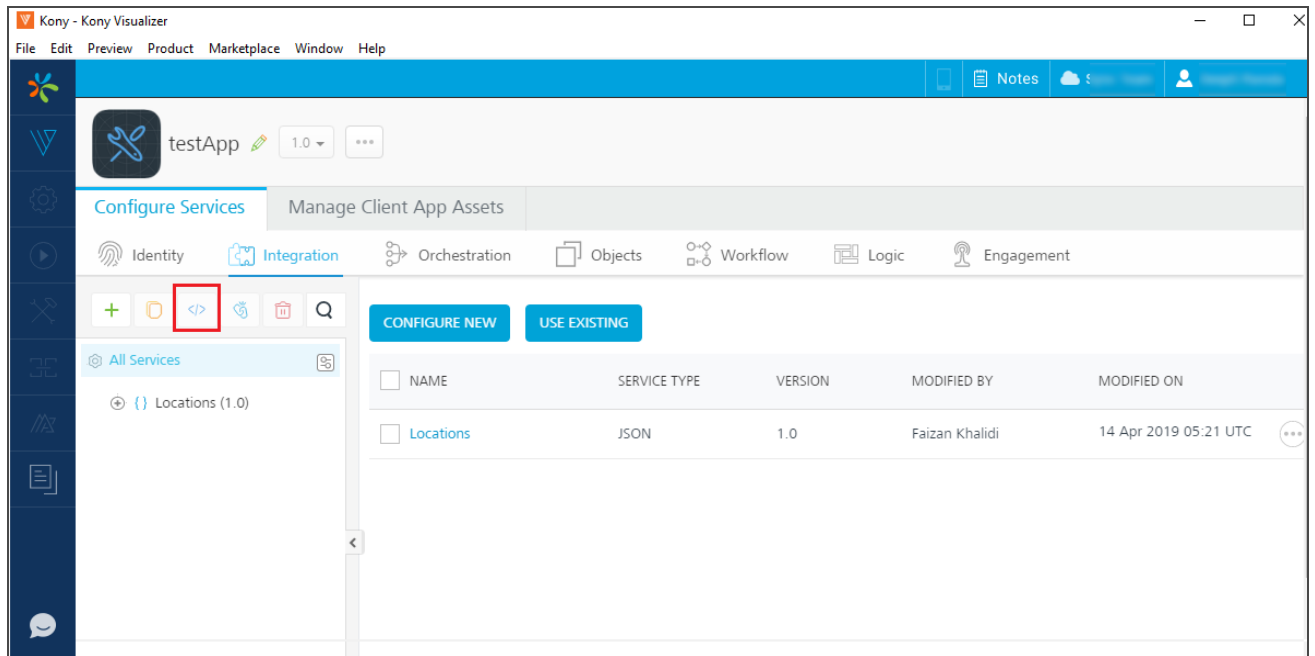


- This will bring up a list of services. Click **Associate** to select your Kony Fabric application.



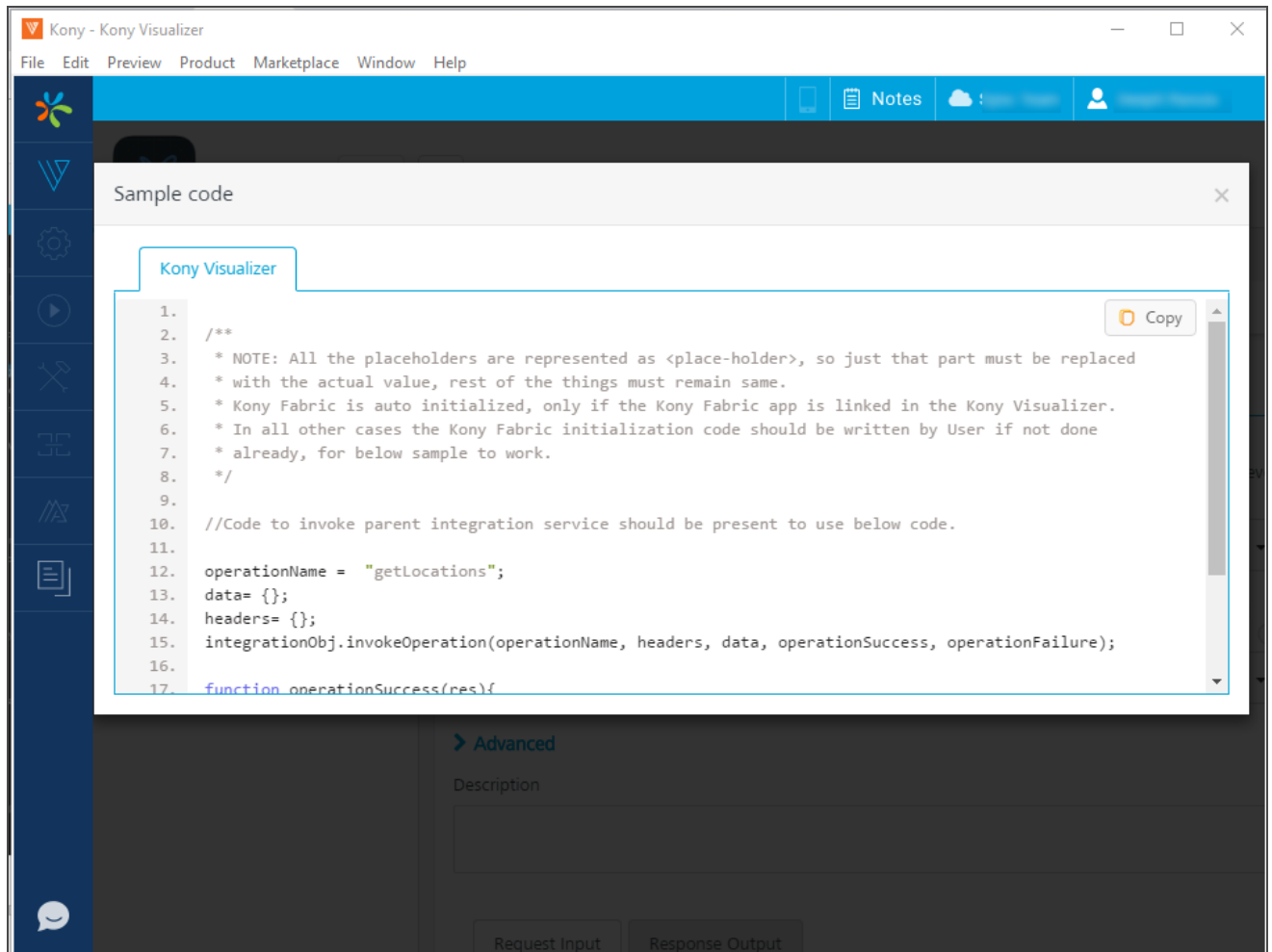
- Now your client application and backend services are connected.
- Next, build your Visualizer application. This step will initialize Kony Fabric SDK for you.
- Call your Kony Fabric APIs.

The quickest way to get started using Kony Fabric APIs, is to use the Auto-generated code available with every service and operation. The Sample code can be accessed from Kony Fabric console using the below menu:



The sample code for each service and operation can be accessed and added into your Frontend application.





**Note:** Sample code snippet for selected operation: You are done! Re-build your application and try it out!

Kony Fabric also supports iOS and Android Native, and PhoneGap applications. To view sample code for other platforms, access the service or operation through Kony Fabric console and use the **Sample Code** menu option.