Telerik Backend Services

You'll find it empowering ..

So, you're building a modern app

Mobile / Web / Desktop

Problems you face ..

1. How do you manage & scale Data?
2. Is your data Platform-agnostic?
3. Relational Vs Non-Relational data storage?
4. Do you have consistent APIs on top of your data?
5. How do you handle Users & Authentication?
6. Do you need scalable code running in the cloud?
7. X-Platform Mobile Push Notifications a distant dream?
8. Legacy data holding you back?

Debilitating concerns .. we know

Backend plumbing - done right!

Why Telerik Backend Services?


Complete Backend-as-a-Service (BaaS) offering


One portal to rule it all


Secure Data storage - relational or non-relational


Consistent APIs & Cloud code


Social User authentication & Management


Easy X-Platform Mobile Push Notifications


Easy Data Connectors to On-premise data


X-Platform SDKs and extensive product Integrations

That's a lot of features ..

No worries - let's break it down

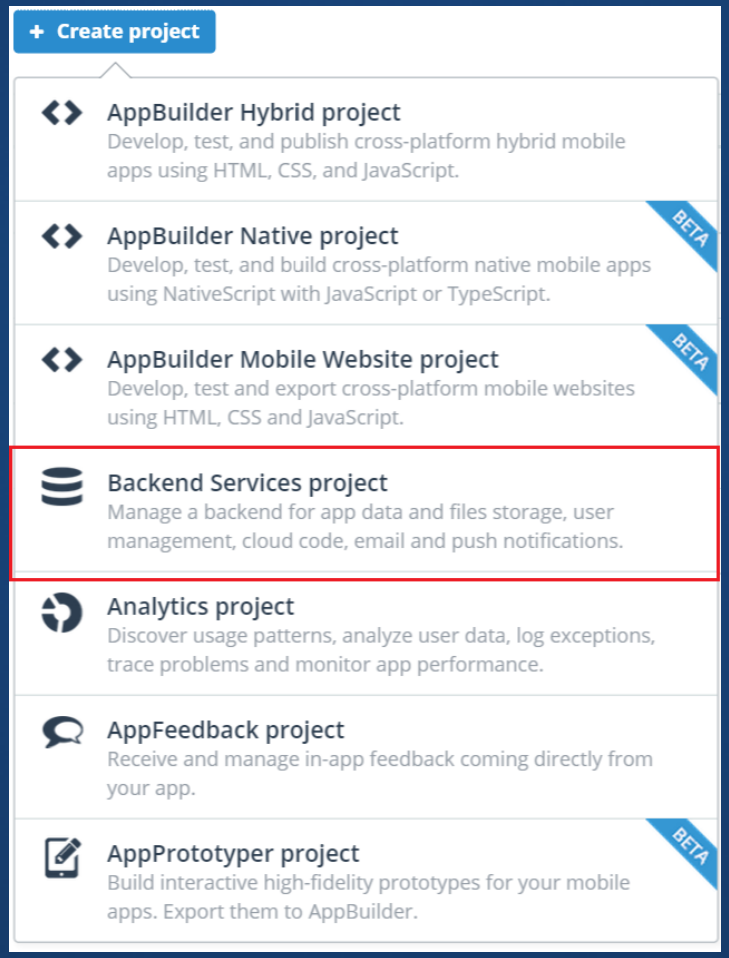
Where do I start?

Simply head to

https://platform.telerik.com/

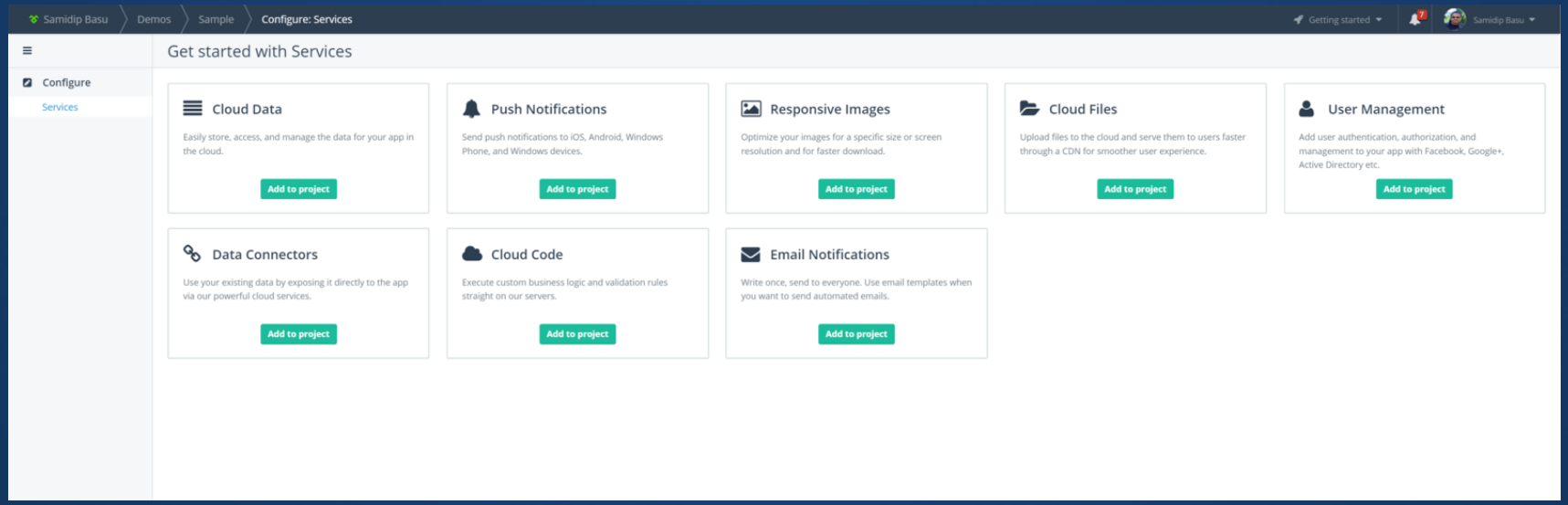
Sign in & Create an App ..

Then, start a Backend Services project



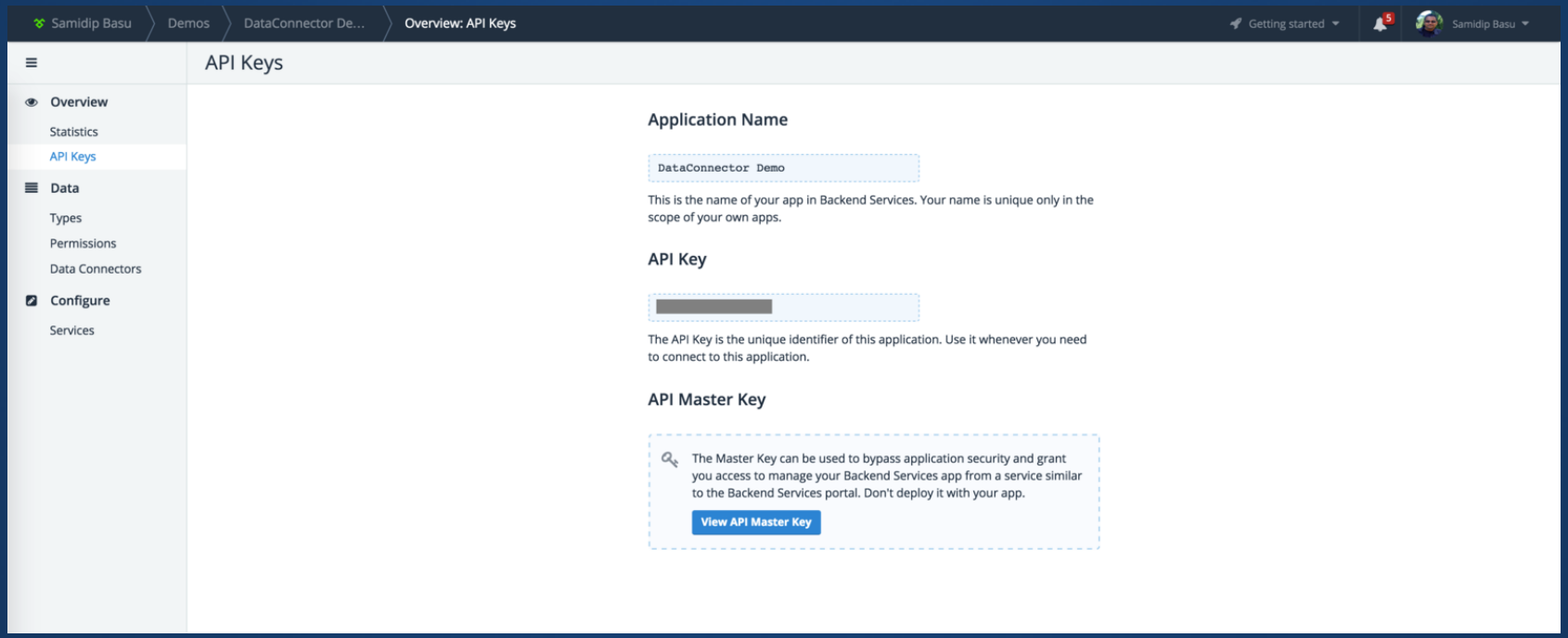
And just like that ..

Your Backend Services Dashboard is ready



See that API Key?

It's important and unique to your Backend



#1. Let's talk SDKs

You get wrappers .. over a consistent REST API

1. JavaScript SDK
2. .NET SDK
3. iOS SDK
4. Android SDK
5. Cloud Code

That's pretty much everything ..

Yup, that's the goal

Native SDKs make it easy to work with
Backend Services REST API

Makes for smooth Integrations

Any App, Any Platform

#2. Let's talk about Data

1. Can't be local in devices only
2. Users will want to roam between platforms/devices
3. Data types - Relational & Non-relational
4. Data needs exposed through clean APIs
5. Security & Scalability concerns

Telerik Backend Services

Complete, Fast & Robust
Mobile Backend as a Service

Your data however you want it

Scalable BaaS in the cloud

Backend Content Types

Like a Table in a Relational Database

Only in the cloud & accessible

Content has Fields that describe the Data

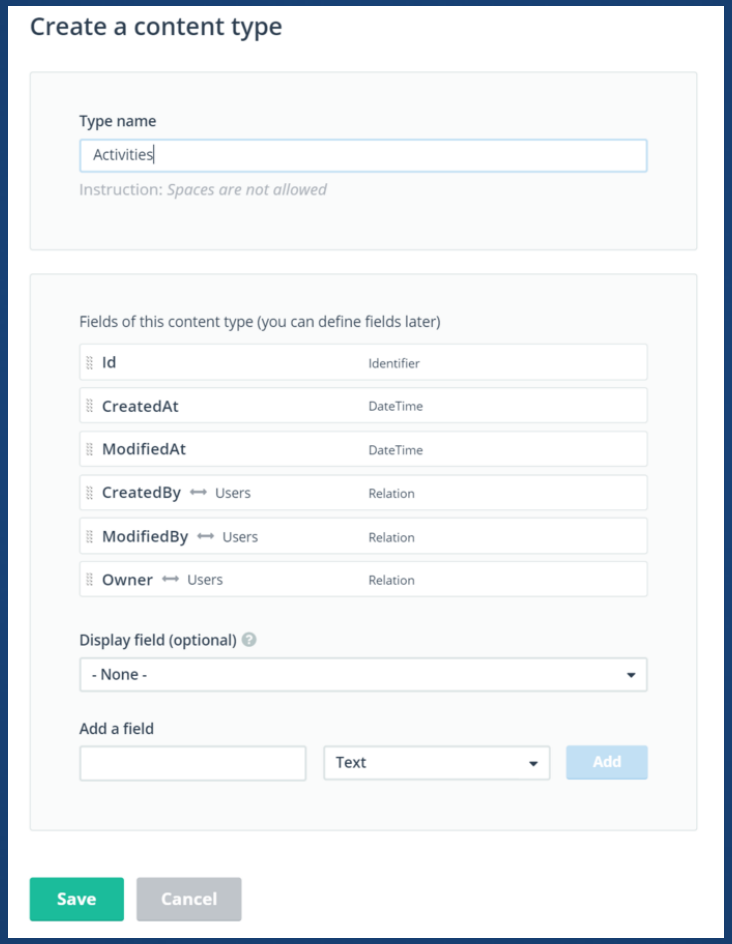
Like column schema in a Table

Backend Content Fields

TELERIK BACKEND SERVICES TYPE	DESCRIPTION
Id	Unique identifier of each record.
Text	String able to hold both text and objects. Note: Objects won't be displayed properly in the backend interface. Use an Object field if you need to store complex nested values.
Number	Number field.
Yes/No	Boolean field.
Date and Time	Date field.
File	Unique identifier of a file present in the Files type.
Geo Point	Plain JS object { "longitude": number, "latitude": number }
Object	An object field can be used to store complex nested values (ex. a nested object, array of objects etc.).
Array	Array used to hold multiple values or objects.
Relation	Pointer to the Id of an external type.
Relation - multiple	An array of pointers to the Ids of an external type.

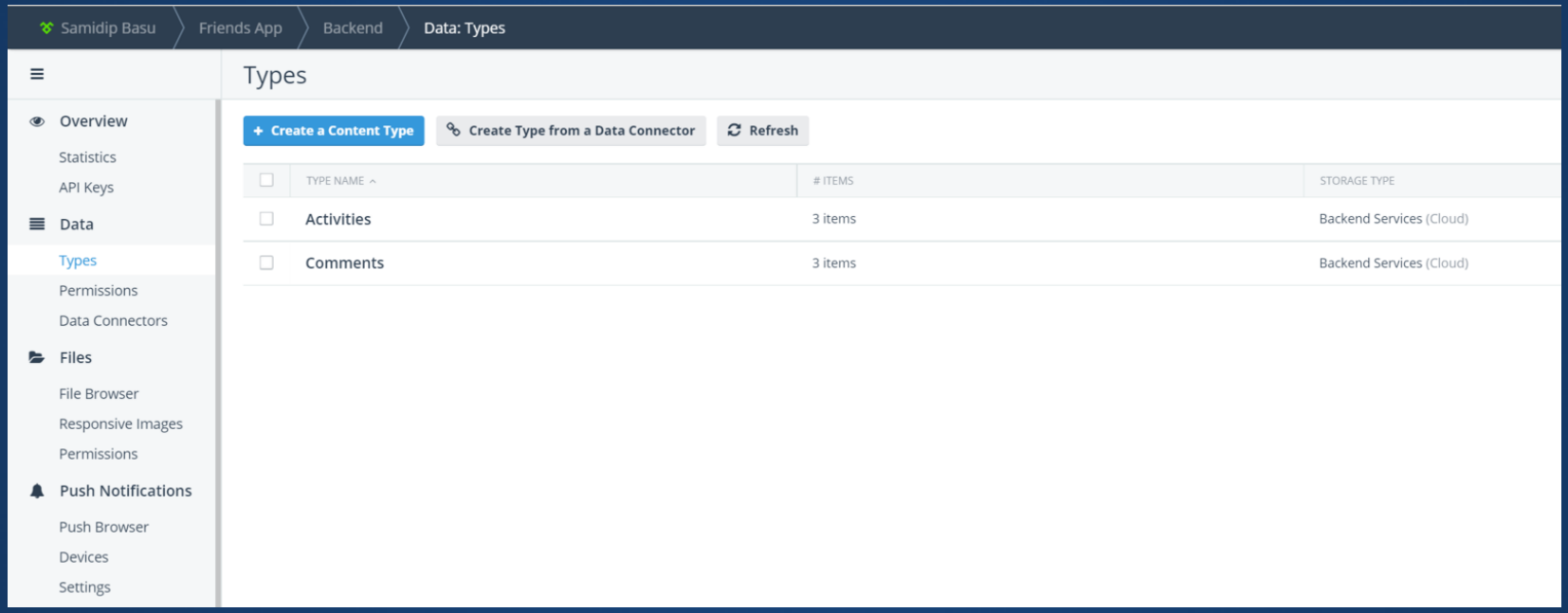
Oh, and Content can be Related .. like Table relationships

Creating Content



There are some default Fields .. you set up the rest

Manage your Content



All Content Types & Data - accessible through portal

#3. Your Data, Our APIs

Best part about Backend Content = Easy APIs

REST API created auto-magically on top of Content

No need to write your own Services/APIs

REST API for any app, any platform

Let's manage Data

Yes, you can do plain RESTful service calls

But SDKs make the integrations so much easier

Seamless CRUD operations!

I see EverLive

Internal name for Backend Services

Used in namespaces & SDKs

Entry point into Backend Services SDK is through ..

The Everlive class

You normally create one global instance of 'Everlive'

Needs your Backend API Key

Here's how you start

.NET SDK

```
EverliveApp myApp = new EverliveApp("your-api-key-here");
```

JavaScript SDK

```
var el = new Everlive('your-api-key-here');
```

Read data from Backend

.NET code, granted you have a content called 'Activity'

Single item by Id

```
public async Task GetSingleItem(EverliveApp app, Guid activityId)
{
    var activity = await app.WorkWith().Data<Activity>().GetById(activityId)
                          .ExecuteAsync();
    Debug.WriteLine("Activity: " + activity.Text);
}
```

Multiple items

```
public async Task GetMultipleItems(EverliveApp app)
{
    var activities = await app.WorkWith().Data<Activity>().GetAll().ExecuteAsync();
    foreach(var activity in activities)
    {
        Debug.WriteLine("Activity: " + activity.Text);
    }
}
```

Manipulate data from Backend

.NET code, granted you have a content called 'Activity'

Update

```
public async Task UpdateActivityById(EverliveApp app, Guid activityId,
                                     Activity updatedActivity)
{
    await app.WorkWith().Data<Activity>().Update(activityId, updatedActivity)
          .ExecuteAsync();
}
```

Delete

```
public async Task DeleteById(EverliveApp app, Guid id)
{
    await app.WorkWith().Data<Activity>().Delete(id).ExecuteAsync();
}
```

#4. Let's talk Data Connectors

We know you have existing data

Variety of DB providers = disparate content

Painful Service layers to expose data

It's time to bridge your On-premise data

You'll love this

Data Connector flexibility

Data Connectors

Microsoft SQL

Built-in MS SQL data connector allows you to seamlessly connect your mobile app to your existing MS SQL database.

MySQL

Easily connect your mobile app to your existing MySQL database using the built-in MySQL Data Connector.

Oracle

Connecting your mobile app to an existing Oracle database has never been easier with our built-in Oracle Data Connector.

PostgreSQL

PostgreSQL Data Connector enables you to easily connect your mobile app to an existing PostgreSQL database.

Set your on-premises data free ..

How does it work?

You download & install an IIS app ..

It's the Data Link Server

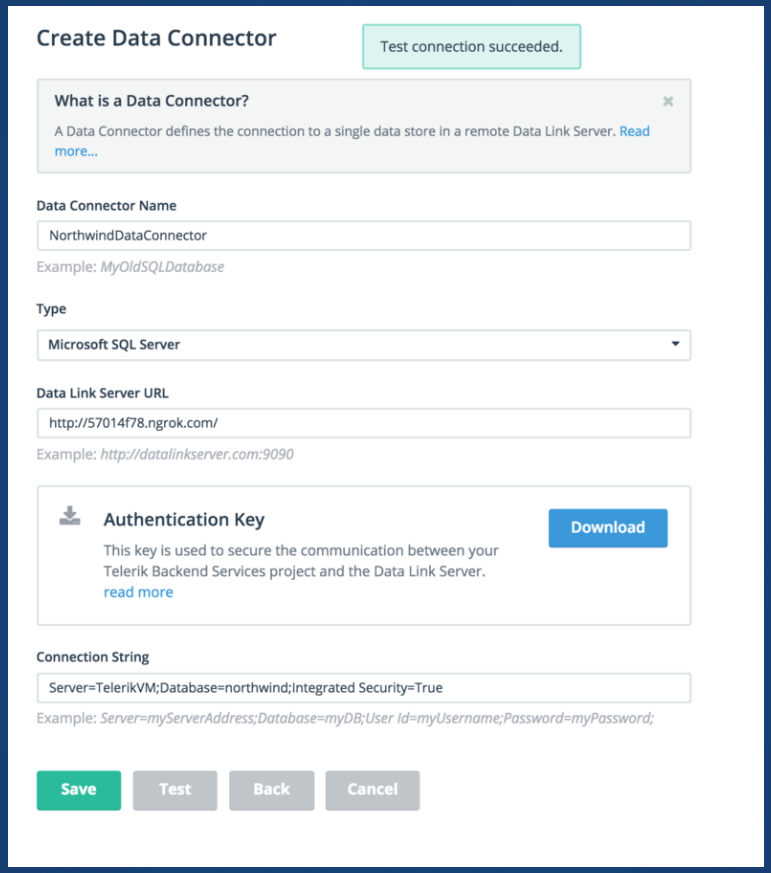
Simply point to your on-premise Data storage

You create Mapped Content

Your data stays in house .. uses Backend API

Free REST API over your data!

Don't code, just Configure!



Simply make your Data Link Server accessible

And use Connection String to point to your data ..

#5. Got Non-Relational data?

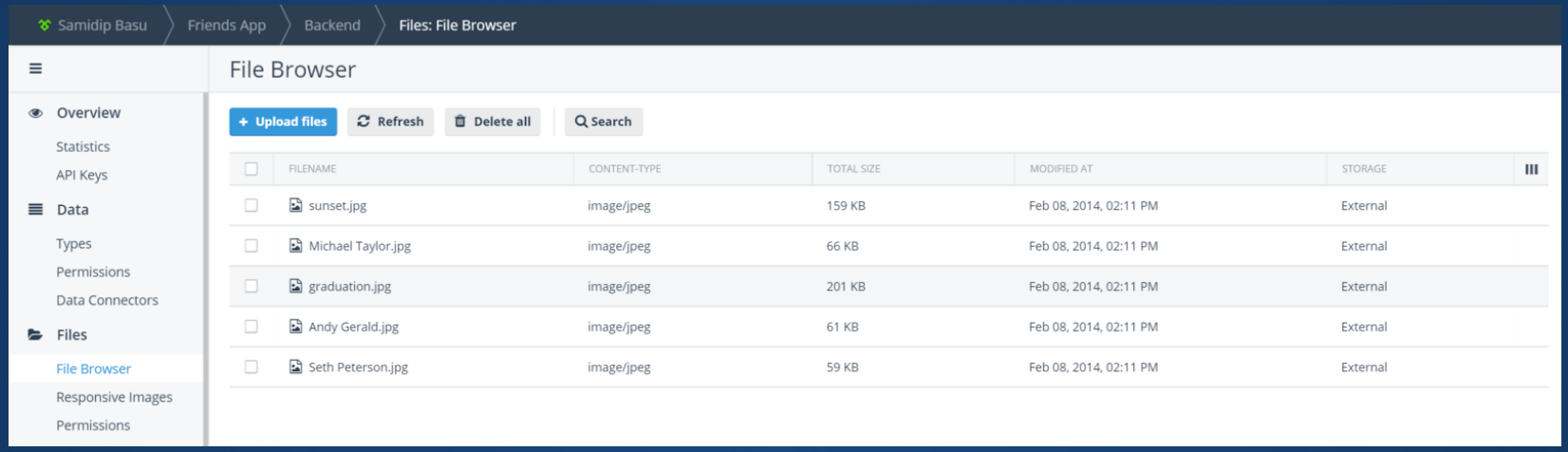
Yep, Backend Services allows you deal with Files

Think of it as Blob storage in the Cloud

And it's super scalable

Same RESTful API for your Files

Backend portal helps manage Files



Users can take pictures & upload to Backend

2 lines of code for developers from any SDK

File delivery powered by global CDNs .. it's free!

#6. Let's talk User Management

Traditionally, bothersome for developers ..

User authentication/authorization = Tricky

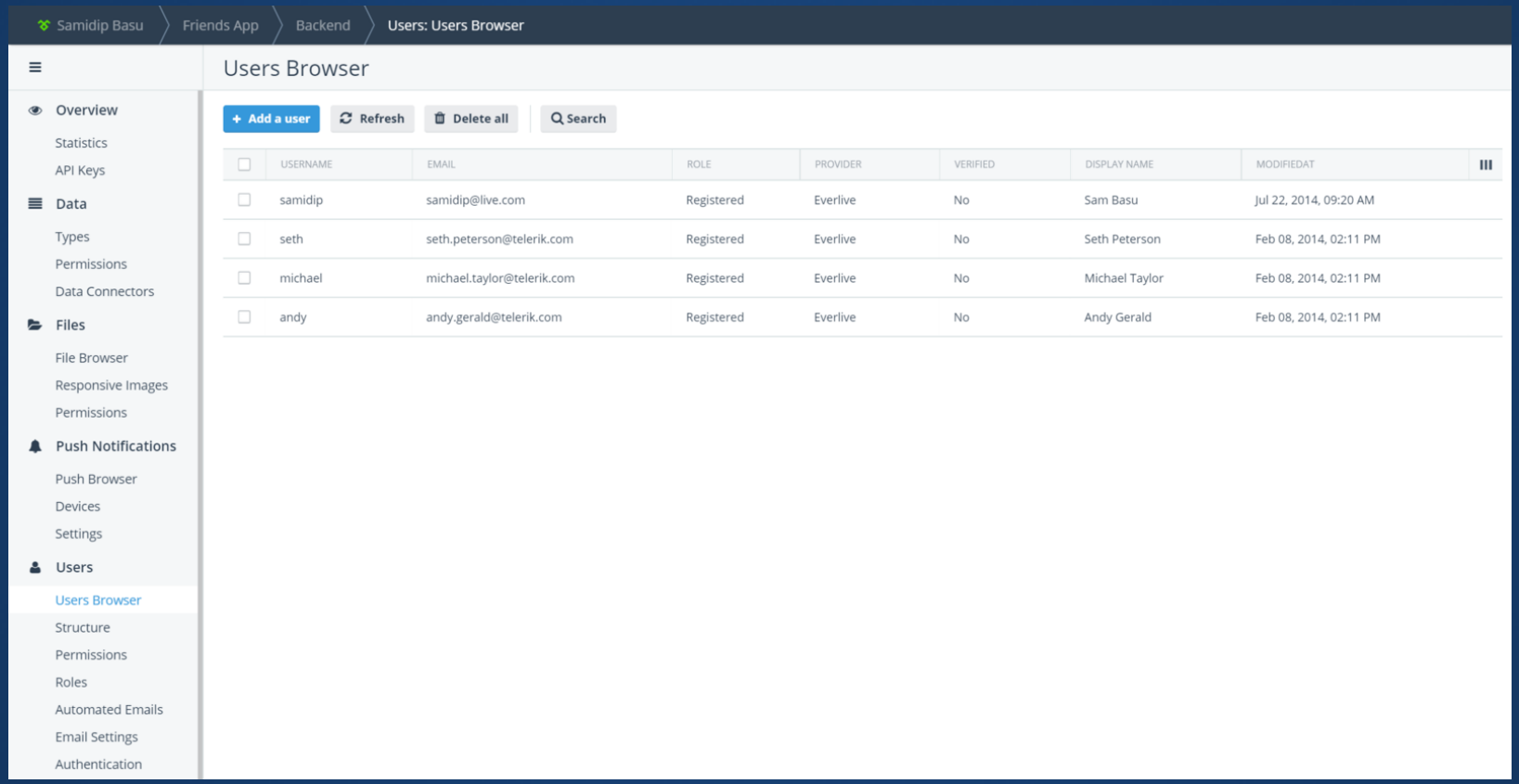
Account management = Security concerns

Backend Services to the rescue

User Management - Elevated

1. New user registration
2. Automatic email flow for newly-registered accounts
3. Fine-grained control over User accounts
4. User Password management flows
5. User authentication through OAuth providers (Facebook, Google+, Live Connect, Twitter)
6. User authentication through Active Directory Federation Services (AD FS) authentication provider
7. Account deletion

User Management in the Cloud



Automated Email Templates .. everything on portal

#7. Let's talk Push Notifications

Push Notifications are a great way to engage users

Present on every Mobile platform

Captures user attention even when app not running

It should be a no-brainer, right?

Push Notifications are actually hard!

Configuring Push Notifications is tough for developers

Every Mobile platform does it differently

Apple, Google, Microsoft - all have own rules & setup

Backend Services is here to help

Push Notifications in Backend Services

1. Works X-Platform for iOS, Android & Windows
2. Powerful targeting to filter on devices
3. Smart grouping on users/geography
4. Works for native or hybrid mobile apps

How to work Push Notifications

1. Register device for Push from mobile app
2. Enable Push Notifications per platform
3. Build Segments for Filtering - user/device
4. Send Push Notifications from Backend
5. Push can also be triggered from REST endpoint

Device Registration for Push

All this achieved with 2 lines of code

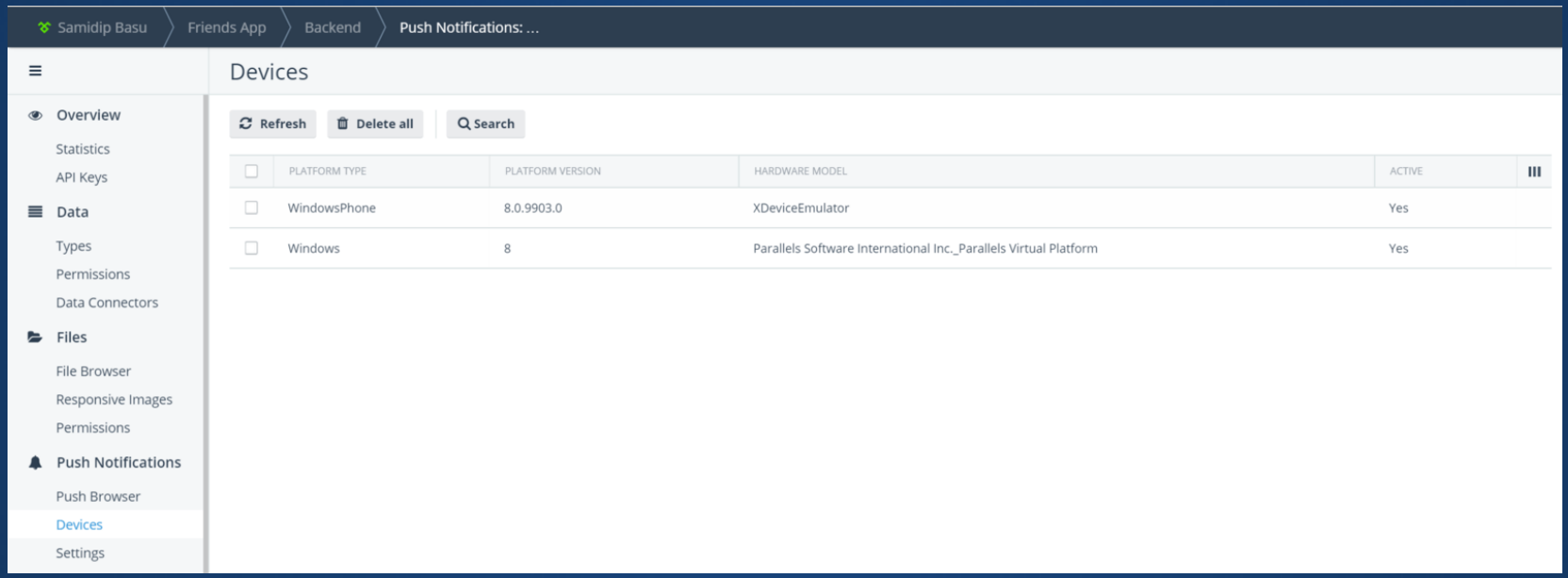
.NET

```
await app.WorkWith().Push().CurrentDevice.Initialize(PushSettings)
        .ExecuteAsync();
var result = await app.WorkWith().Push().CurrentDevice.
                      Register(DeviceParameters customParameters)
                      .ExecuteAsync();
```

JavaScript

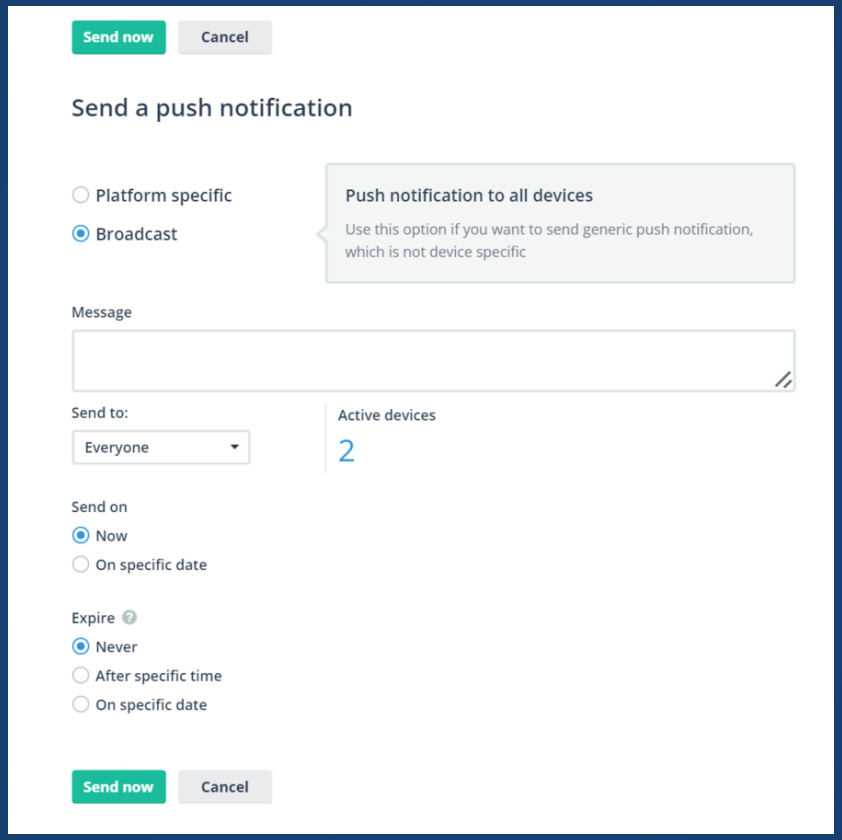
```
var el = new Everlive('your-api-key-here');
el.push.register(
    pushSettings,
    function successCallback(data) {},
    function errorCallback(error) {}
);
```

Device list on portal



Manage registered devices .. even works on simulators

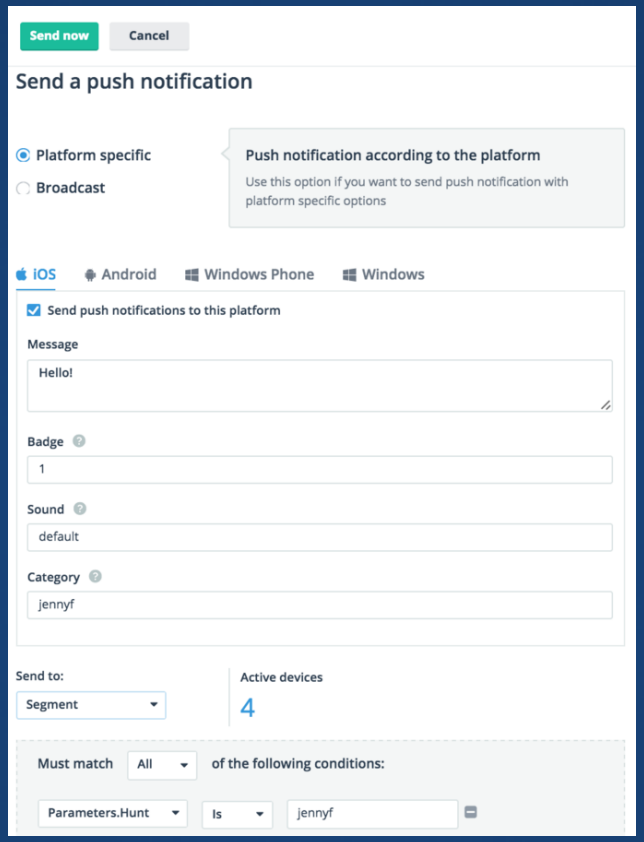
Sending Push Notifications from portal



Broadcast to all devices or be Platform specific

Payload can be tweaked for iOS/Android/Windows

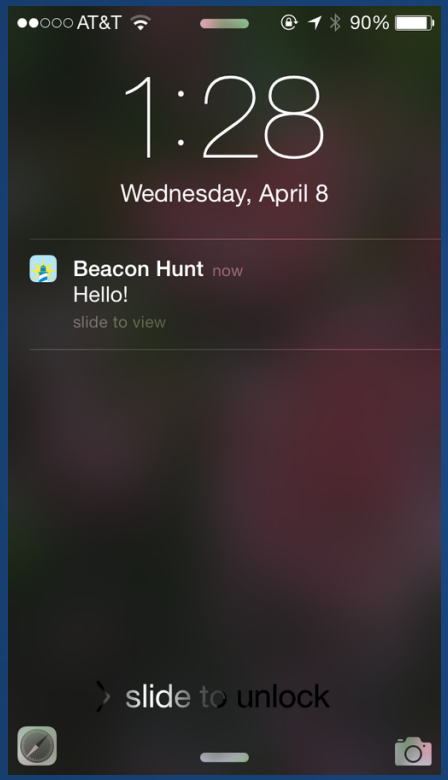
Sending Push Notifications from portal

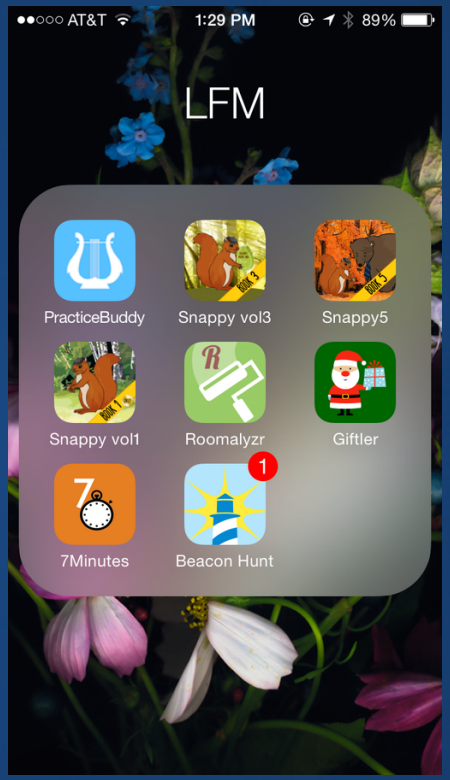


Here's an iOS specific Push Notification

Parameters in Segments allows you to filter devices

Push Notifications in action!





Works on Devices or Simulators

Can be triggered through a REST endpoint

#8. Let's talk Cloud Code

For times when you need custom logic server-side

Simplicity of JavaScript

Yes, this is based on Node.js

Built-in inside Backend Services

Types of Cloud Code

Content Type Code - like DB triggers | works on content | acts before/after CRUD operations

Cloud Functions - custom JavaScript code | each function gets REST endpoint | invoke anytime

You can write Cloud Code ..

Directly in Backend or Upload custom JS file

#9. Let's talk Responsive Images

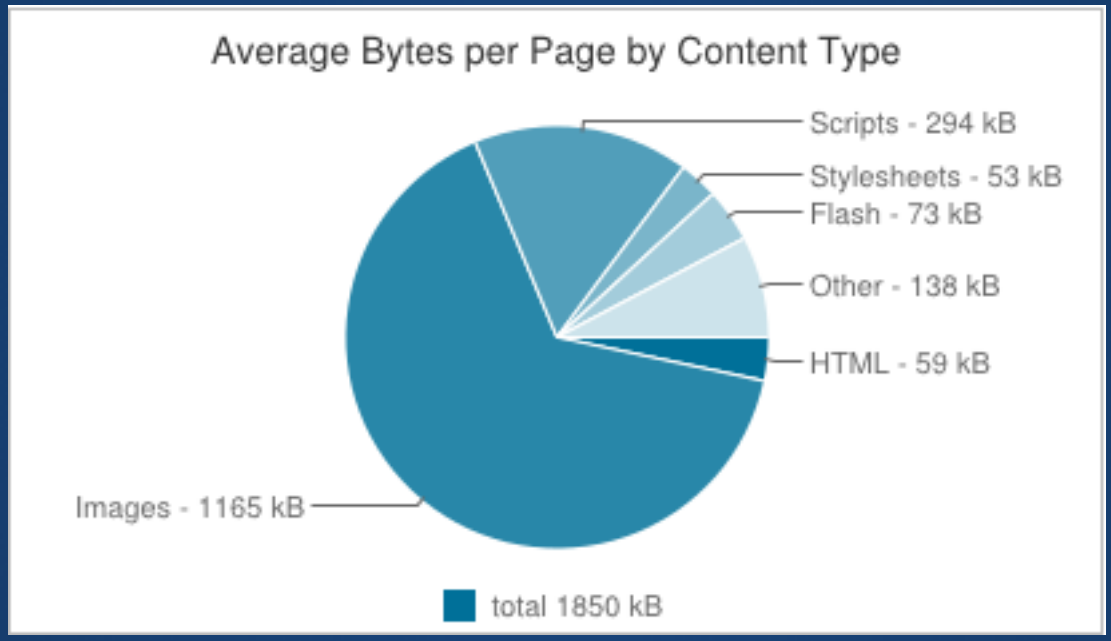
Images are selling points of many apps

Yet, ill-sized images are the biggest bandwidth hogs

Makes whole app feel sluggish

Backend Services does the heavy work

Here's why Images are important



Typical HTTP bandwidth usage

Critical to optimize in Mobile first world

Responsive Images in Backend

1. Automatic image re-sizing on server
2. Caters to exact device form factor
3. Bandwidth & app optimization
4. Support for high DPI retina devices
5. Platform agnostic
6. Image delivery over global CDNs
7. Simple JavaScript to set up

Simply upload an Image to Backend

Works even if you are self-hosting images ..

```
https://bs1.cdn.telerik.com/image/v1/your-api-key-here/
        resize=rezise-options-here/URI-to-image-here
```

URI to Responsive Image .. like magic!

That's a lot of features ...

Everything you need from a

Modern, Robust, Scalable Backend

Feeling empowered?

Let's Recap

Telerik Backend Services

1. Relational or Non-relational data in the cloud
2. Automatic REST API on top of data
3. Data Connectors for On-premise data
4. Wrapper SDKs for any app on any platform
5. Robust User Management
6. Easy X-Platform Push Notifications
7. Cloud Code for server-side logic & much more

Complete BaaS offering

Telerik Backend Services

Get started today

http://www.telerik.com/backend-services

Go build your client app .. you Backend awaits!