

## Develop with Deere

[developer.deere.com](http://developer.deere.com)

# Safe Harbor Statement & Disclosures

This presentation includes forward-looking comments subject to important risks and uncertainties. It may contain financial measures that are not in conformance with accounting principles generally accepted in the United States of America (GAAP).

Refer to Deere's reports filed on Forms 8-K (current), 10-Q (quarterly), and 10-K (annual) for information on factors that could cause actual results to differ materially from information in this presentation and for information reconciling financial measures to GAAP.


Guidance noted in the following slides was effective as of the company's most recent earnings release and conference call. Nothing in this presentation should be construed as reaffirming or disaffirming such guidance.

This presentation is not an offer to sell or a solicitation of offers to buy any of Deere's securities.

# Agenda – full page

- Create your John Deere account
- First Steps on [developer.deere.com](https://developer.deere.com)
  - Creating an application
  - Testing to see if the application works
- Operations Center
  - Logistics on the map
  - Field Analyzer
  - Notifications, files, odds and ends
  - Tools and More Tools
- Test Data
  - Develop with Deere
  - Creating your own
- Testing your first application
- Sample Applications

# Create a new John Deere Account at myjohndeere.com

 **JOHN DEERE**

MyJohnDeere

### Sign in to MyJohnDeere

Username

▶ [Forgot username?](#)

Password

▶ [Forgot password?](#)

PIN For John Deere Financial customers only.

▶ [Don't have a PIN?](#)

**SIGN IN** ☐ Remember Me

Not registered? [Create New Account](#)

▶ [Help Signing In ?](#) ▶ [Notifications \(3\)](#)  
Your use of this site is governed by our [Terms of Use](#)

### Your gateway to better business decisions

MyJohnDeere makes it simple to access secure John Deere web applications:

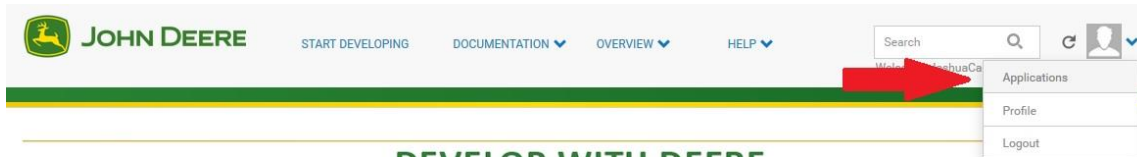
- Locate John Deere Financial information.
- Collect and analyze machine and agronomic information.
- Manage all your John Deere technology subscriptions.
- Search for parts solutions—including inventory and pricing—then place orders.
- Reduce the number of user IDs and passwords needed to access your applications.

Register today.

**CREATE ACCOUNT**

**LEARN MORE**

# Create An Application on developer.deere.com




**JOHN DEERE** START DEVELOPING DOCUMENTATION ▼ OVERVIEW ▼ HELP ▼

Search [JoshuaCa] Applications Profile Logout

## DEVELOP WITH DEERE

John Deere APIs enable your ag and construction industry software to securely access the robust data from John Deere machines, mobile applications, and more.



### Agriculture

**MyJohnDeere, Field Connect™, & AgLogic™**

Access data to assist with logistics management and agronomic solutions.

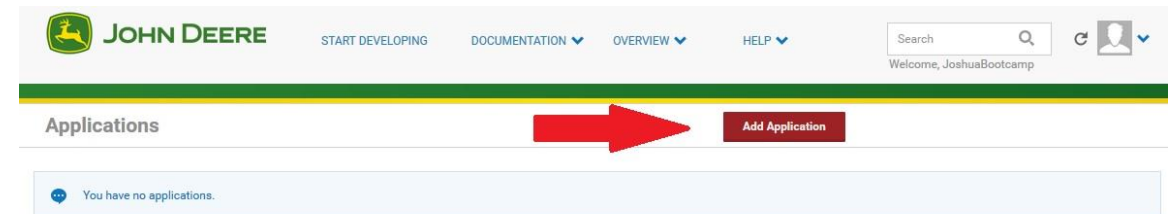
[LEARN MORE >](#)

### Construction

**Get Machine Data with AEMP API**

Work with us and access AEMP standard fleet management data from John Deere machines.

[LEARN MORE >](#)



**JOHN DEERE** START DEVELOPING DOCUMENTATION ▼ OVERVIEW ▼ HELP ▼

Search [JoshuaBootcamp] Welcome, JoshuaBootcamp

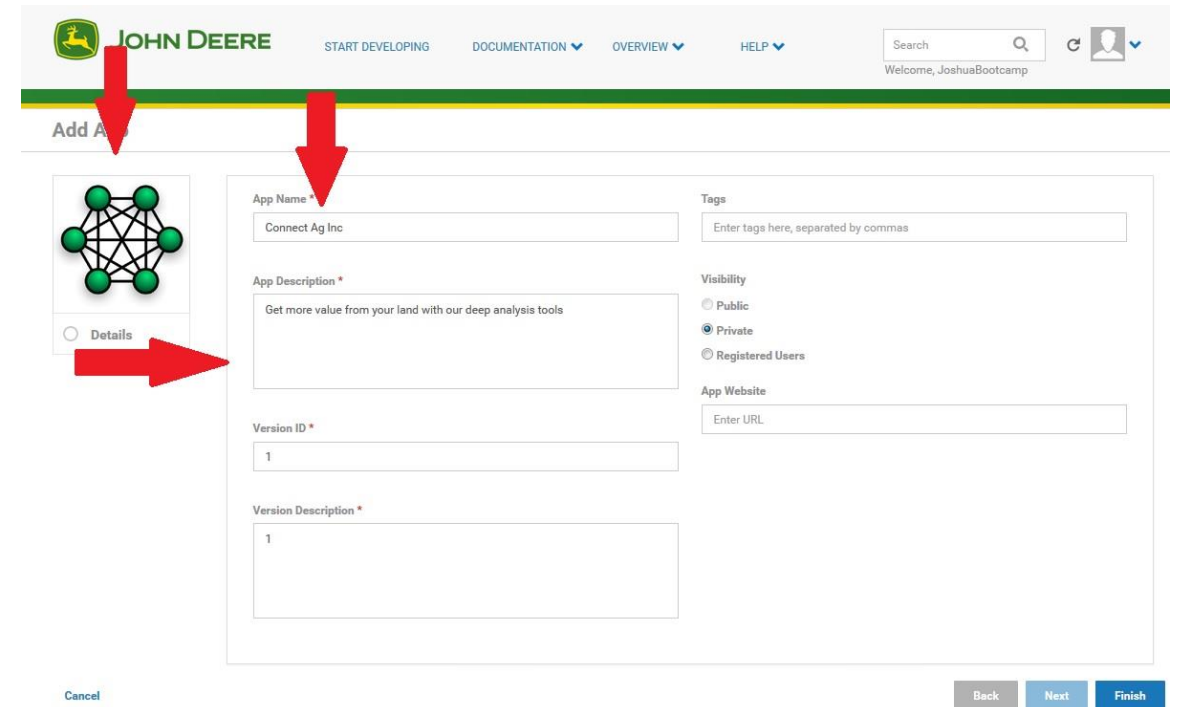
## Applications

[Add Application](#)

You have no applications.

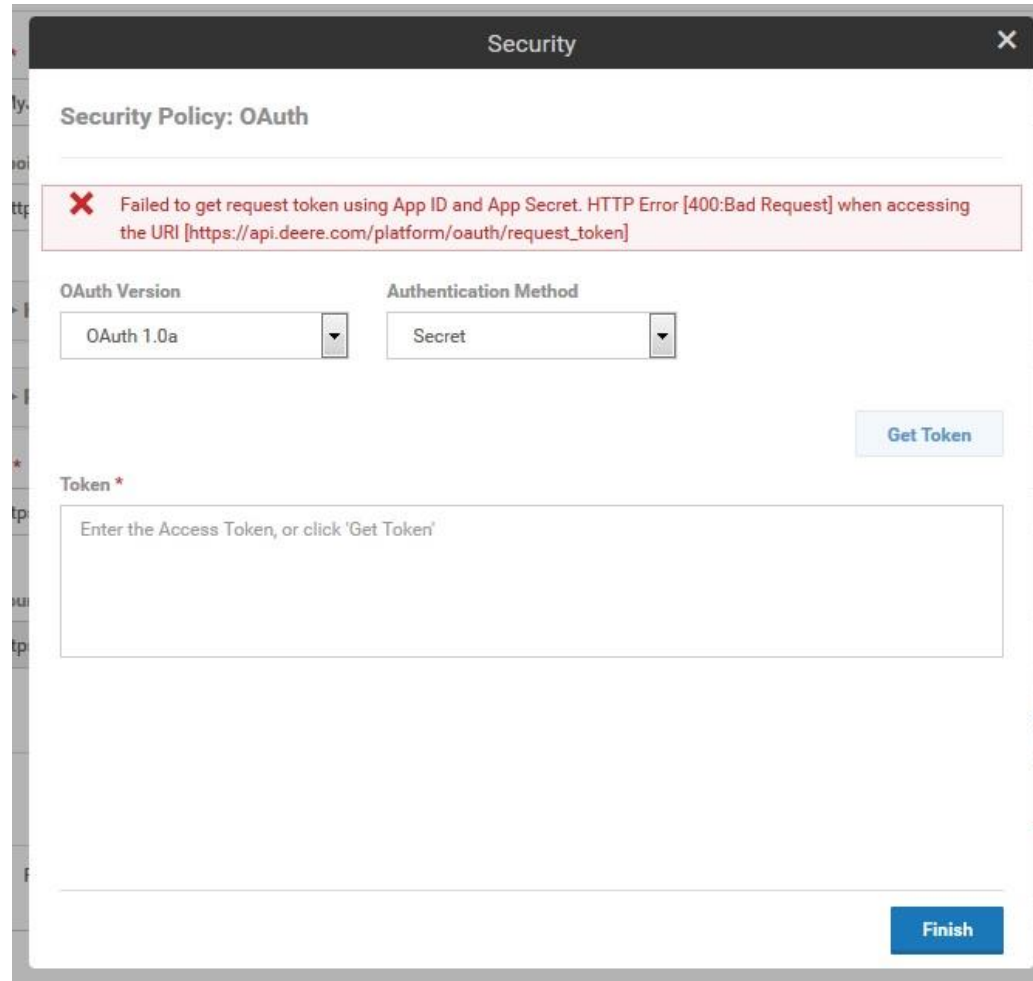
# Create An Application on developer.deere.com – Part 2

- Image, Name, and Description visible to end customers
- Everything editable later



The screenshot shows the John Deere developer portal interface. At the top, there's a navigation bar with the John Deere logo, links for 'START DEVELOPING', 'DOCUMENTATION', 'OVERVIEW', and 'HELP', a search bar, and a user profile dropdown. Below the navigation bar, there's a green banner with the text 'Add Application'. A red arrow points to this banner. Below the banner, there's a form to create a new application. The form has a left sidebar with a 'Details' tab selected, indicated by a red arrow. The main form area contains several fields: 'App Name' (with the value 'Connect Ag Inc'), 'App Description' (with the value 'Get more value from your land with our deep analysis tools'), 'Version ID' (with the value '1'), and 'Version Description' (with the value '1'). There are also fields for 'Tags' (with the placeholder 'Enter tags here, separated by commas'), 'Visibility' (with radio buttons for 'Public', 'Private' (selected), and 'Registered Users'), and 'App Website' (with the placeholder 'Enter URL'). At the bottom of the form, there are 'Cancel', 'Back', 'Next', and 'Finish' buttons.

# Check that Connection is working or will be soon



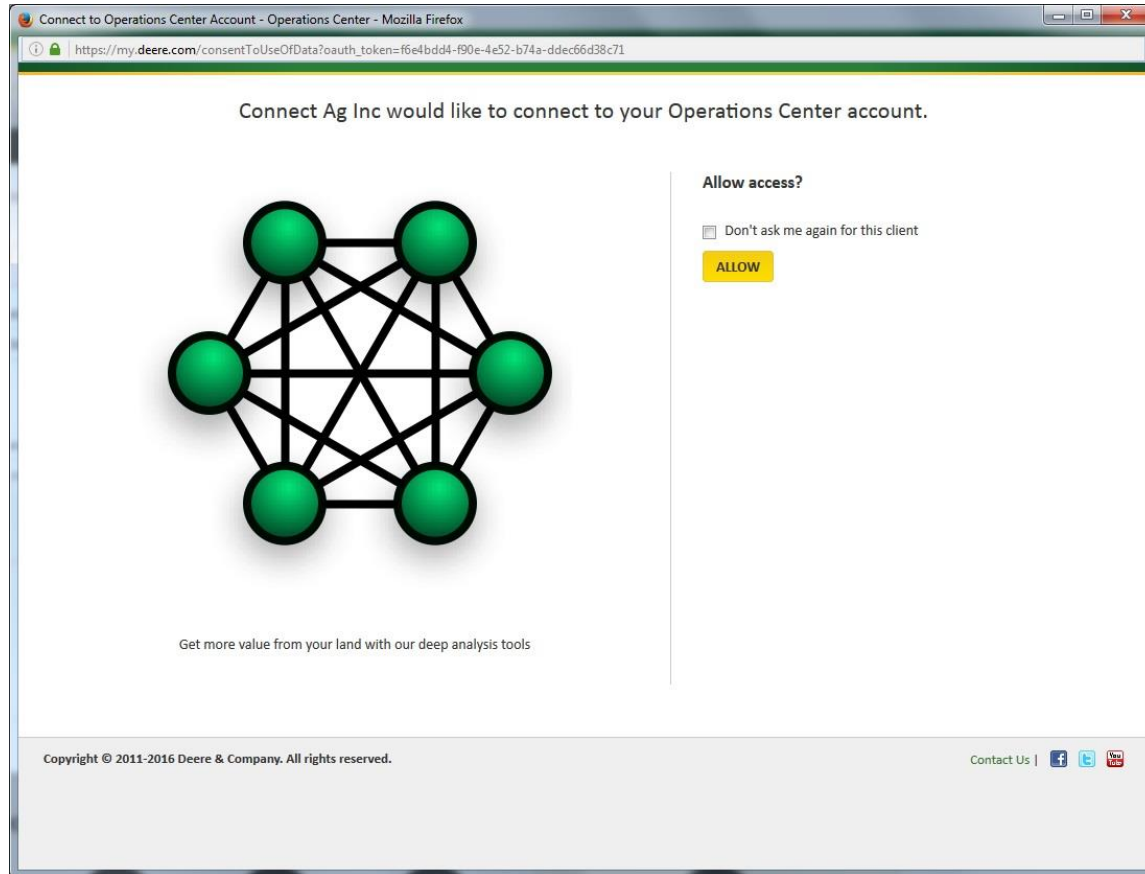
The screenshot shows a 'Security' window titled 'Security Policy: OAuth'. It contains a red error message: 'Failed to get request token using App ID and App Secret. HTTP Error [400:Bad Request] when accessing the URI [https://api.deere.com/platform/oauth/request\_token]'. Below the error, there are two dropdown menus: 'OAuth Version' set to 'OAuth 1.0a' and 'Authentication Method' set to 'Secret'. A 'Get Token' button is located to the right of these dropdowns. Below the button is a text input field labeled 'Token \*' with the placeholder text 'Enter the Access Token, or click \'Get Token\''. At the bottom right of the window is a 'Finish' button.

Async process to grant new applications access.

Error means process is still happening



# OAuth Screen



Security On Test Client triggers OAuth

The OAuth screen shows what customers would see about your app

Seeing this screen means that your app has API access to MyJohnDeere API



# Create Test Organization

## Organization Setup

[Go to MyJohnDeere](#)

Hey Joshua Bootcamp,

In order to use Operations Center, please create an organization.

*Don't worry, this won't take long.*

Organization Name

Ex: Smith Farms, LLC, JS Enterprise

► I'd like to setup a few more things

Cancel

LET ME IN!

## Why do I need to setup an organization?

### Why Create an organization?

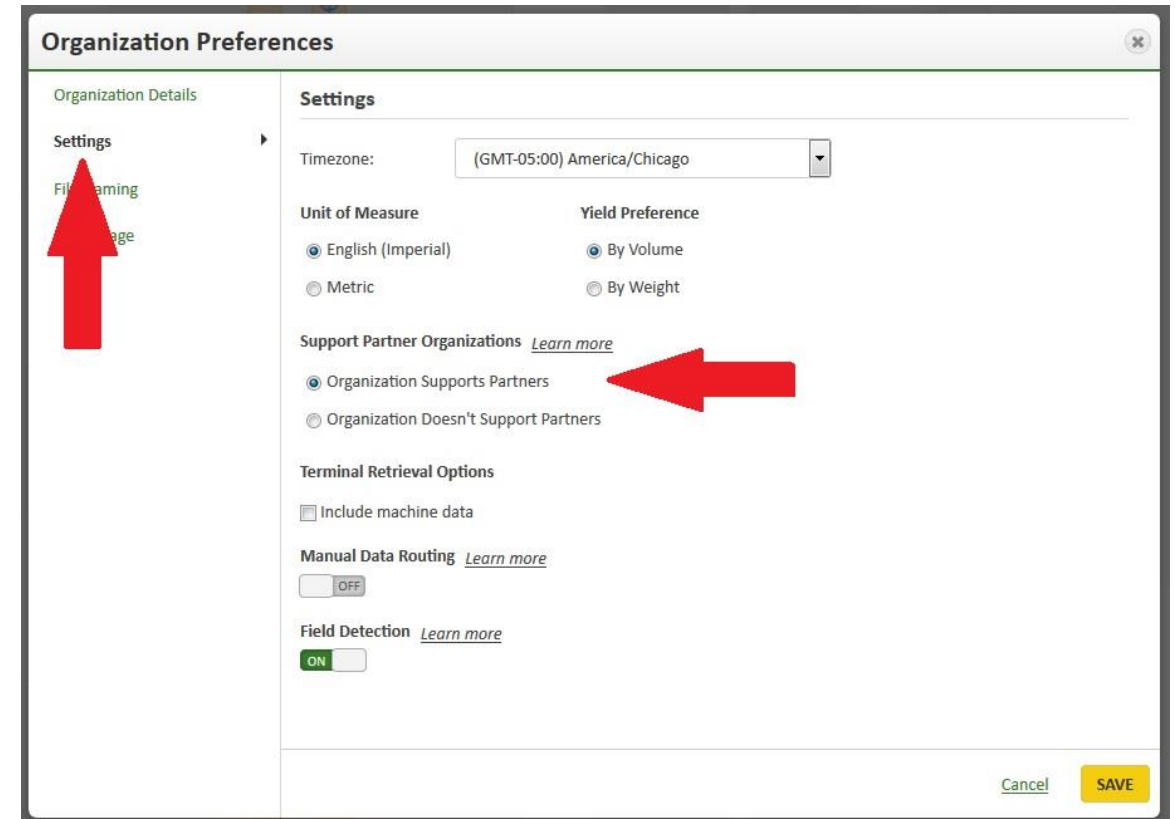
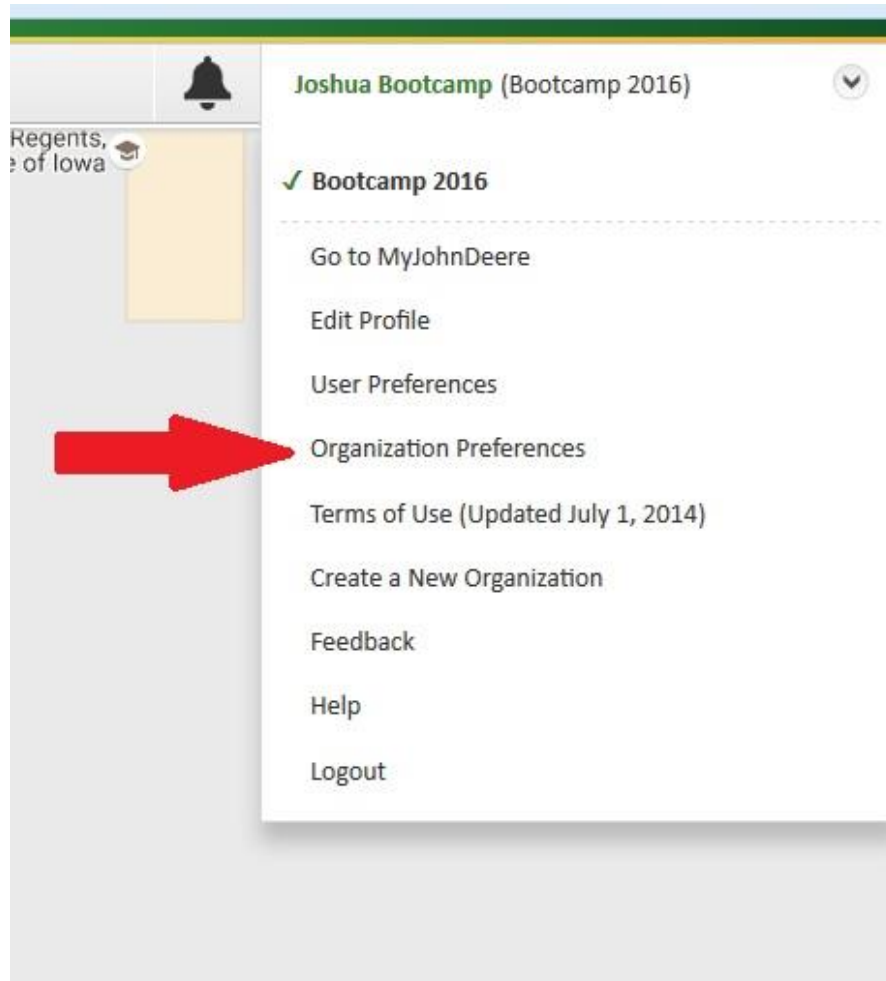
Creating an organization allows easy access to all your resources in a single location.

### Have a JDLink™ or Field Connect Account?

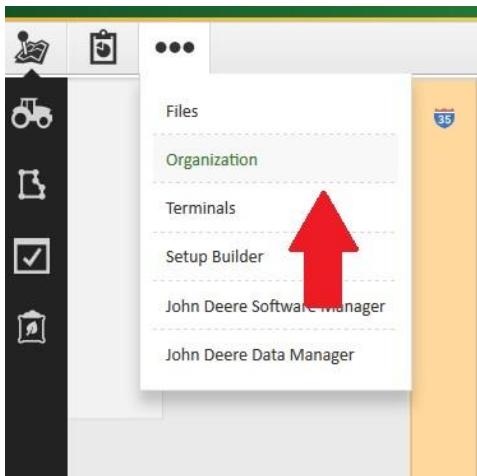
If you have an existing organization with JDLink™ or Field Connect, please log out and sign back in with those credentials so we can expose those resources in your Operations Center account.

Copyright © 2011-2016 Deere & Company. All rights reserved.

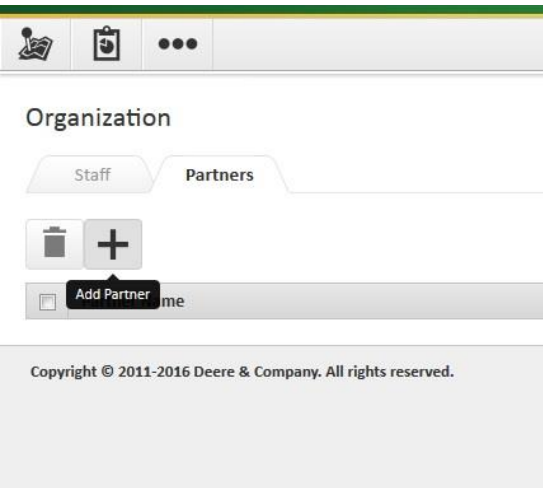
# Setup your organization to “Support Partners”



# Request Access To Test Data



- Add Partner
- Request Access from [CarsonJoshuaJ@JohnDeere.com](mailto:CarsonJoshuaJ@JohnDeere.com)
- Request everything possible



Collaborating is easier than you think.  
Start by choosing an option below.

☐ Share information from my Operations Center.  
You would like help optimizing machines, making agronomic decisions and/or collaborating on work.

☒ Request information from another Operations Center.

<b>Machine Optimization</b> <i>You help manage or optimize equipment.</i>	<b>Agronomic Decision Making</b> <i>You help plan field work and analyze results.</i>	<b>Work Collaborator</b> <i>You collaborate to plan and monitor field work.</i>
--	--	--

[Cancel](#) [NEXT](#)

## Intermission – Wait while Josh gets you access



**Image created by J R**  
**Source: <https://flic.kr/p/m7xjoZ>**

# View Test Data Set

Develop with Deere is standard test data

It has data for all basic API access

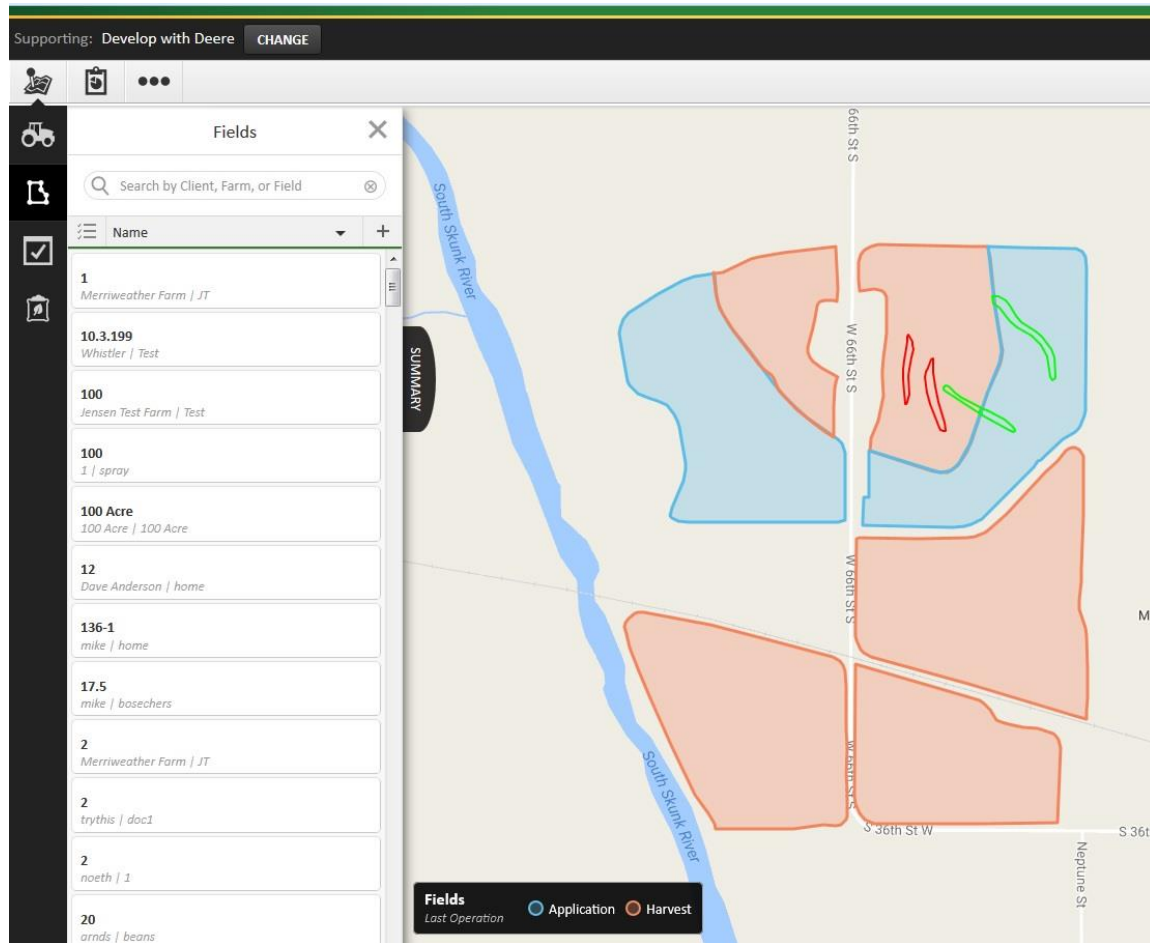
Supporting: Bootcamp 2016

Which organization would you like to support?

Bootcamp 2016	Organization ID: 291885	
★ Develop with Deere	Organization ID: 223031	4140 114TH ST URBANDALE AL 503222064 United States

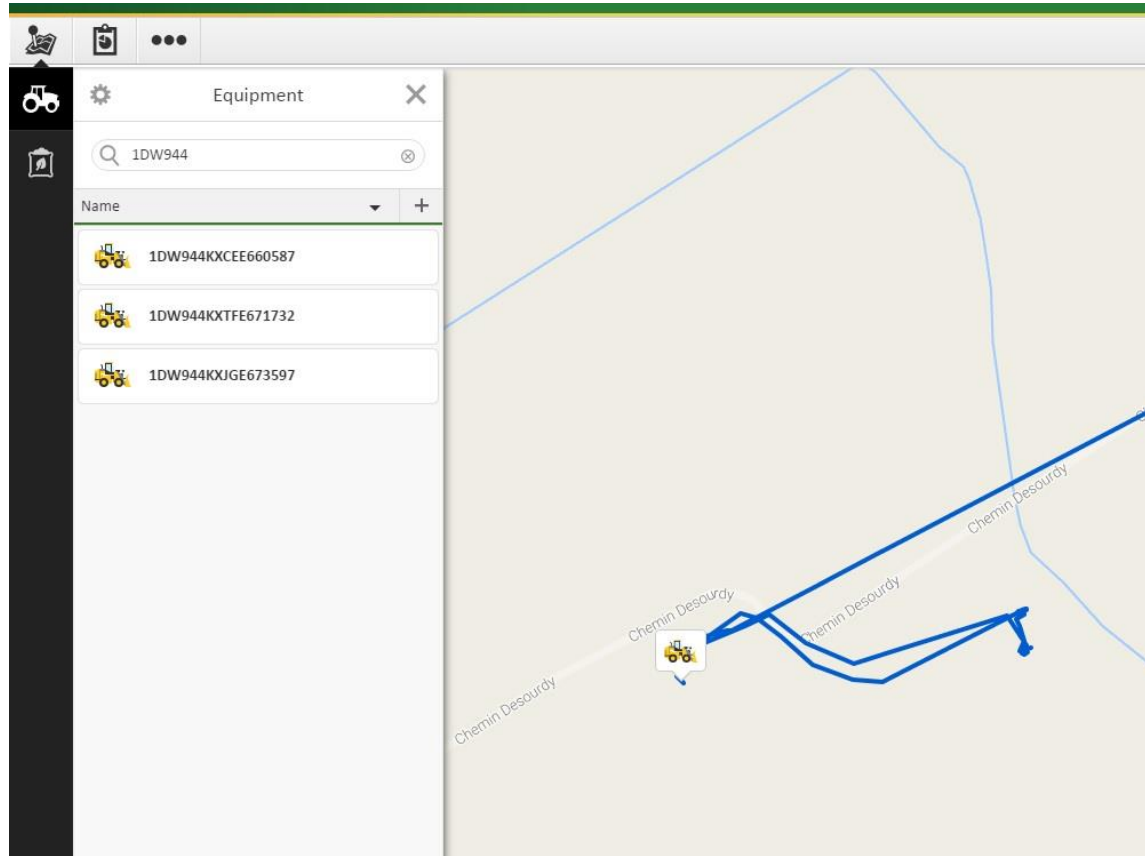
Copyright © 2016 Deere & Company. All rights reserved.

# The Map – Viewing Fields



- Client, Farm, Field names
- Field Boundaries
- Operations Done on a field
- Default Map for John Deere customers

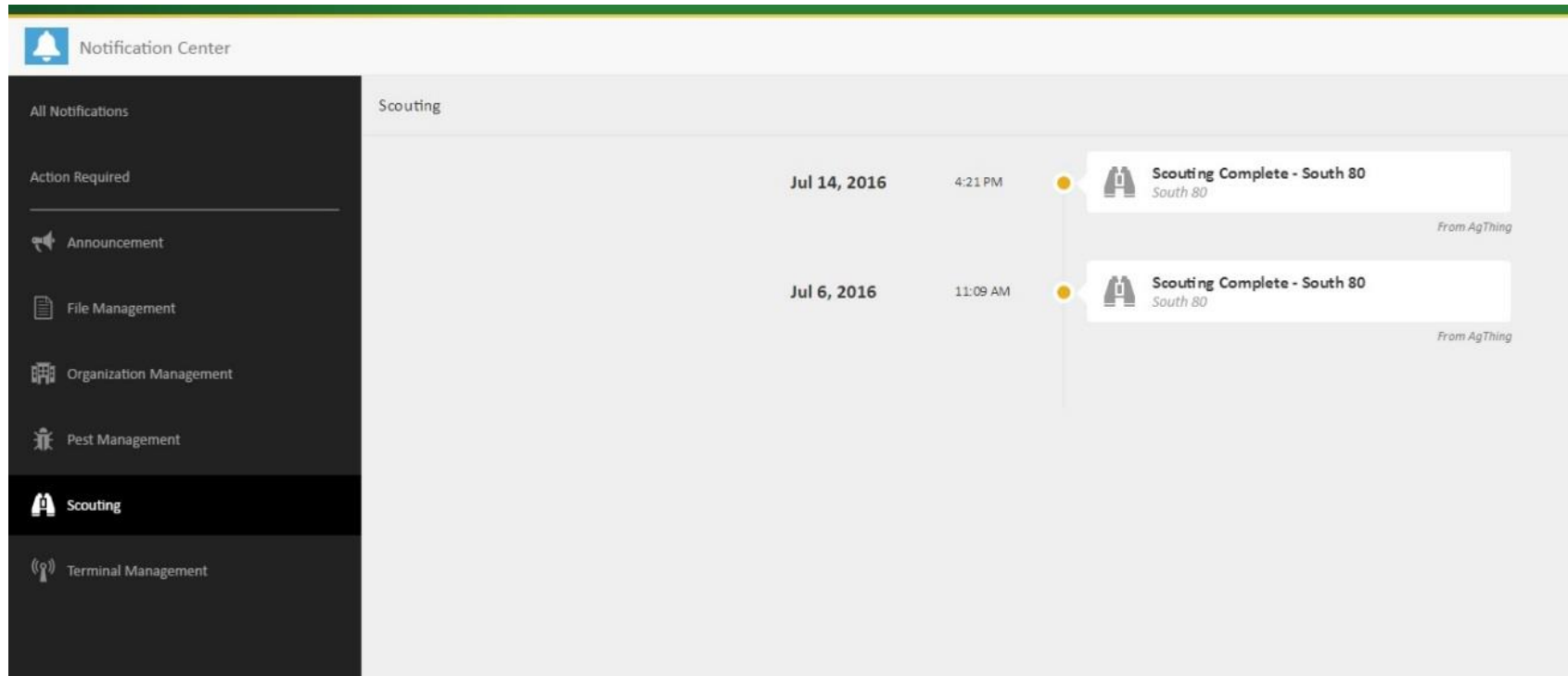
# The Map – Viewing Machines



- Machine Make, Model, Type, Name
- Engine Hours
- Location (partial)



# Notifications



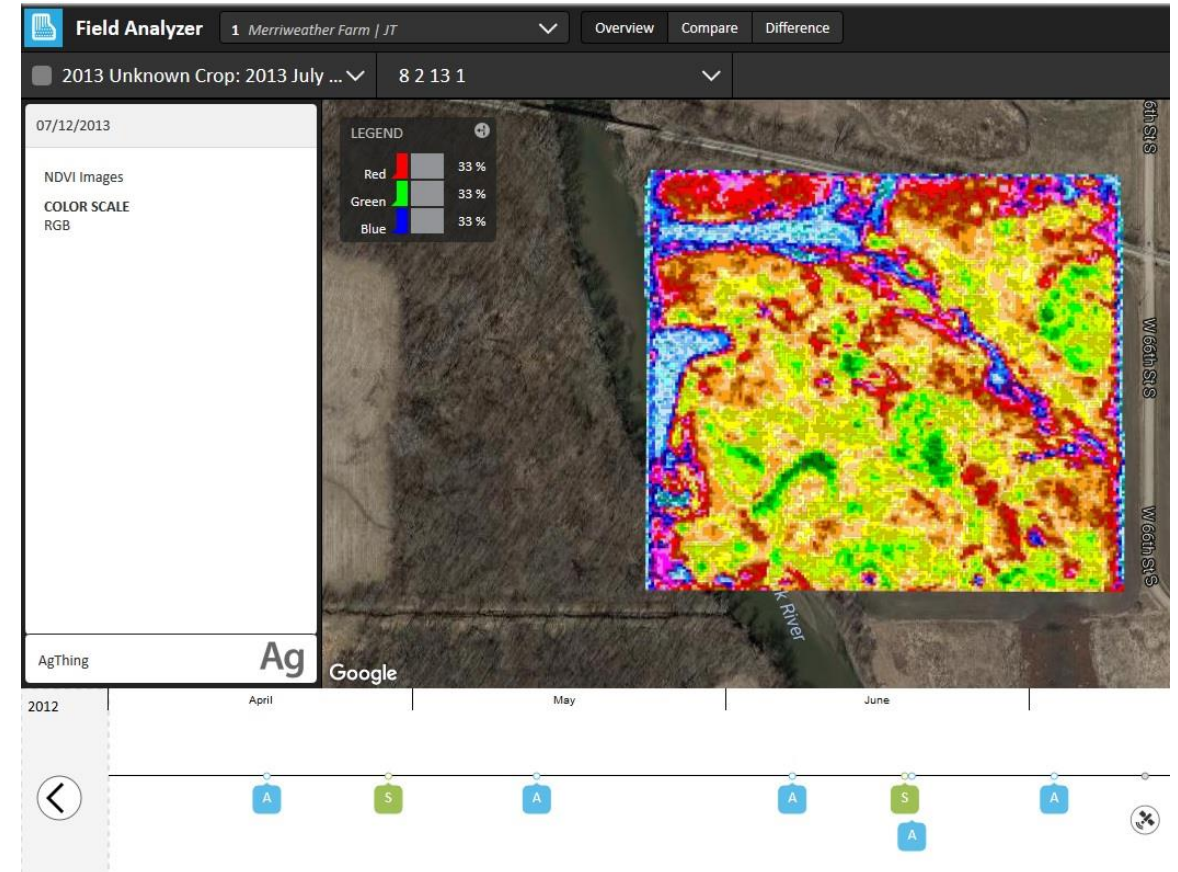
Notification on assets within the Operations Center (Fields, Machines, Organizations)  
Categories, Severities, Links back to your system, Branded to your Company

# Field Analyzer

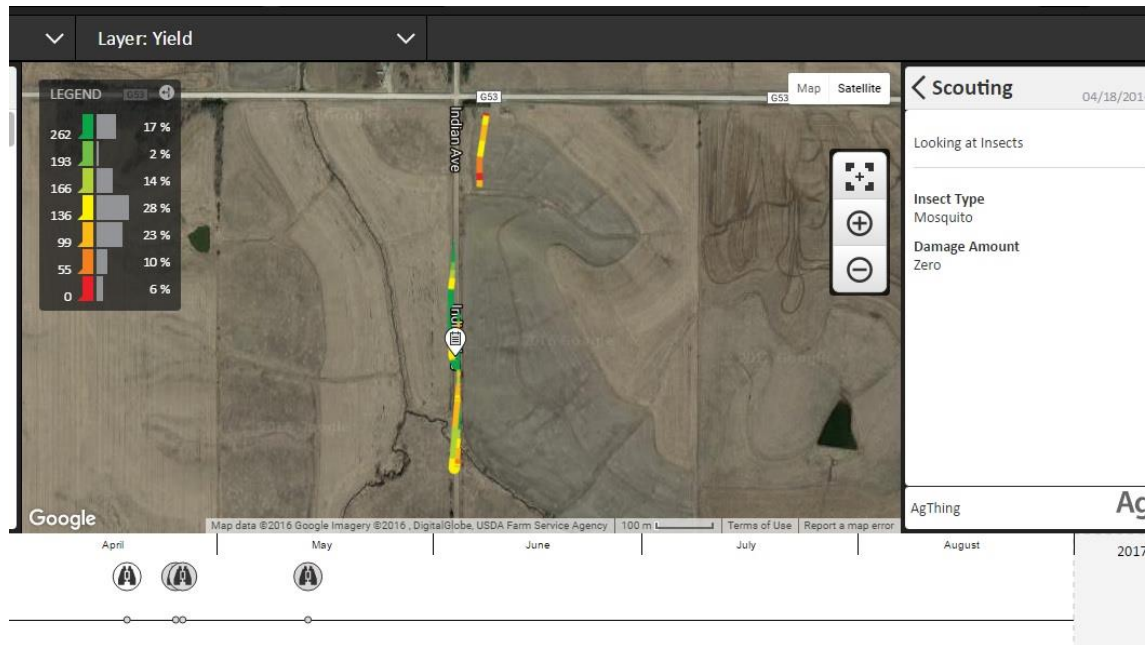


# Field Layers

- Image Data about field
  - Drone
  - Satellite
  - Analysis
- Meta Data about Layers
- Multiple Layers available
- PNG or Shapefile as source
- Shows on timeline
- Branded for your company



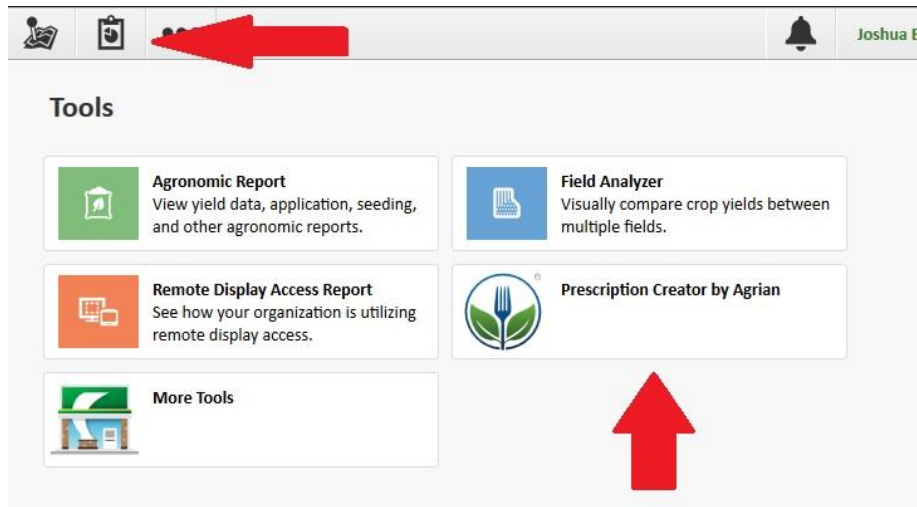
# Field Notes



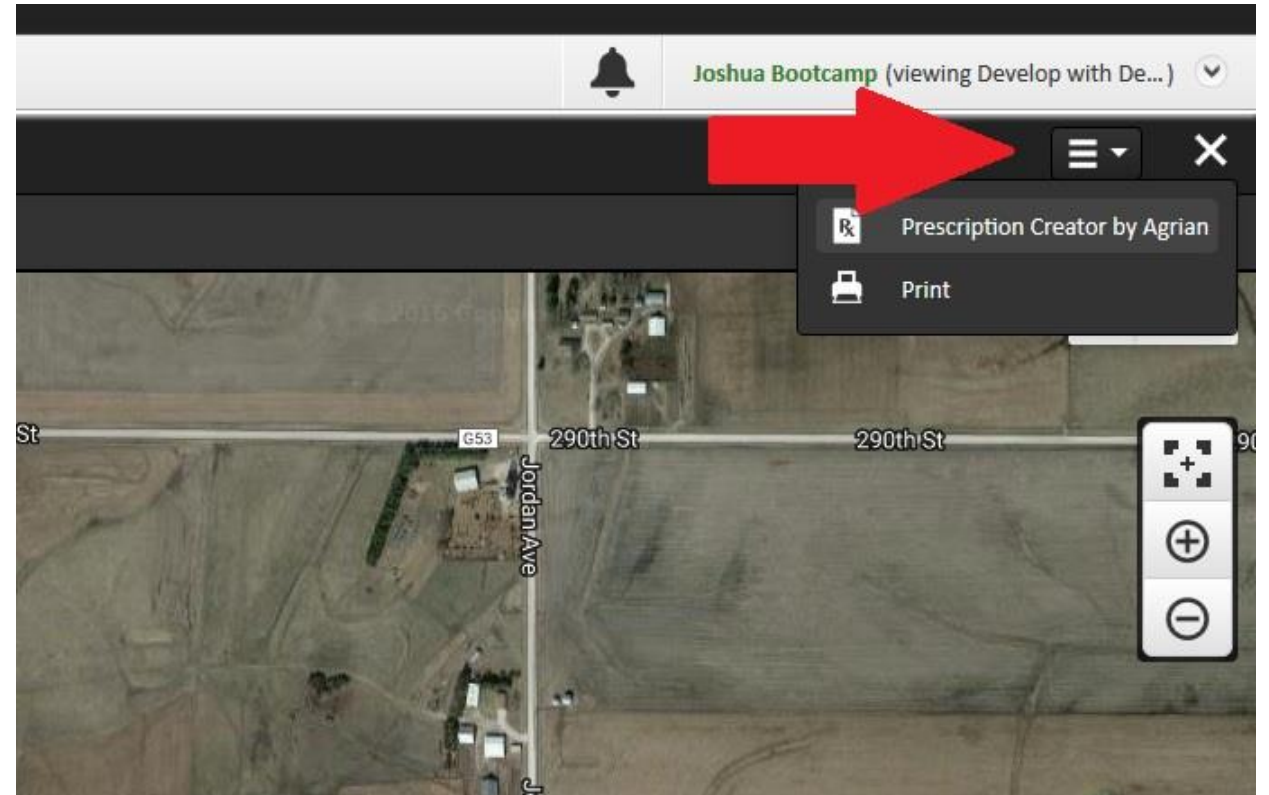
- Insights about Field
  - Scouting
  - Point based analysis
  - Pictures, PDFs, attachments
- Unique metadata available per Note
- Shows on Timeline
- Branded for your company



# Links From Operations Center



- **Link to your software from Operations Center**
- **Let customers maintain context**



# More Tools

- Advertise to John Deere customers and dealers
- Increase your Sales Funnel
- Requires commercially available software using MyJohnDeere APIs

## JOHN DEERE OPERATIONS CENTER - MORE TOOLS BETA

Tools to Enhance your Operations Center Experience



### AgDrone Link

Category: Remote Imagery

Fly the AgDrone System™ and view, annotate & export both NDVI & RGB maps in a multitude of file types. HoneyComb Farm™ is a collaborative web-based environment for data processing & map management.

[Details >>](#)

[PURCHASE TOOL](#)



### AgStudio

Category: Crop Management, Farm Management, Prescription Creation, Financial

Use AgStudio's logical workflow of Automating Soil Testing to generating Variable Rate Fertility and Variable Rate Seeding recommendations. Easily share AgStudio data to and from MyJohnDeere to get an integrated communication.

[Details >>](#)

[PURCHASE TOOL](#)



### AgVault™ 2.0 Software

Category: Remote Imagery, Crop Management, Crop Scouting

Senterra's AgVault™ 2.0 Software and Mobile App is a robust data management solution giving farmers instant access to RGB, NIR, and NDVI data at the



### AssetScan: The power of analytics. Delivered.

Category: Asset Monitoring, Risk Management

AssetScan connects industrial products and devices to the Internet of Things (IoT), unlocking product intelligence for improved efficiencies and


# Organizations And Files

Organization

Staff

Partners

+

Name	Username
Bootcamp, Joshua 	joshuabootcampapi

Copyright © 2011-2016 Deere & Company. All rights reserved.

Files

Files

Queue

Archive

All


Setup


Prescription


Doc Files


Harvest ID


PDF









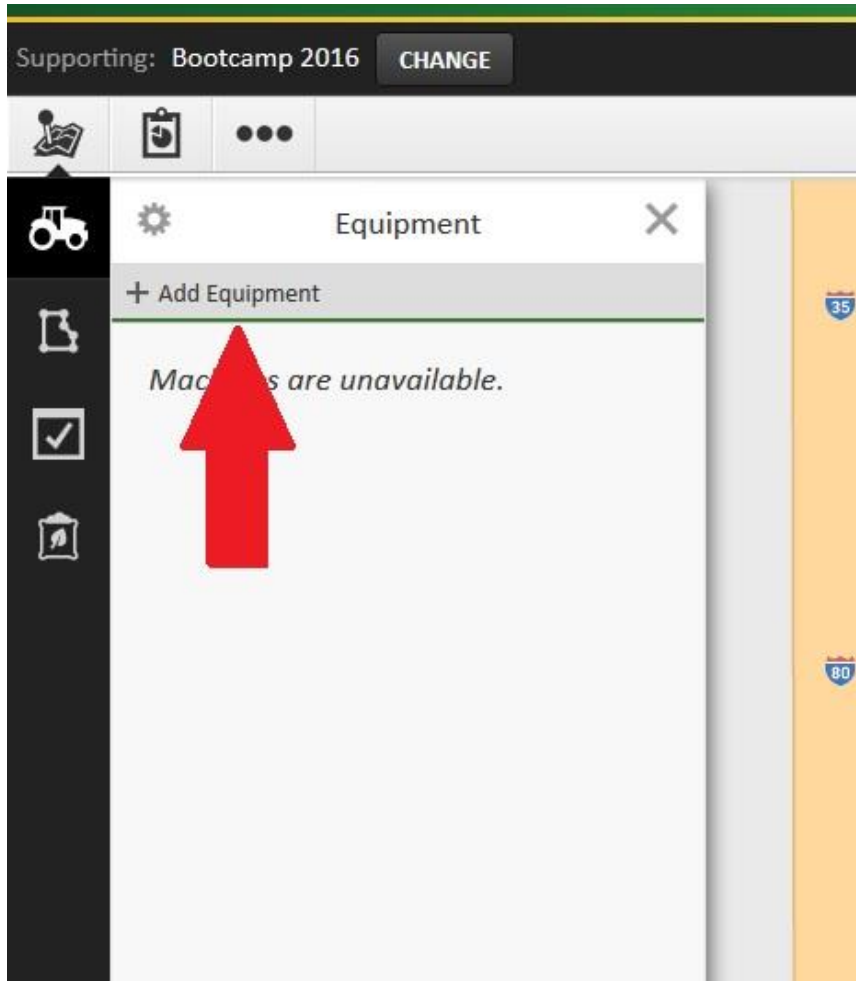


	Name	Type	Size
<input type="checkbox"/>	10.3.199-1 North40.zip	Doc	102.4 K
<input type="checkbox"/>	South_80.zip	Doc	353.1 K
<input type="checkbox"/>	SeedingDay2.zip	Doc	12.7 KB

Copyright © 2011-2016 Deere & Company. All rights reserved.



# Add Machines and MyJohnDeere Demo Files

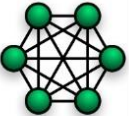


[myjohndeeredemo.deere.com/files](https://myjohndeeredemo.deere.com/files)

- Login with your test ID
- Download Files
- Upload File to your own test org at [my.deere.com/files](https://my.deere.com/files)

# Test Out Call To Files

← Connect Ag Inc Edit Delete



- Details
- Overview
- Performance
- Logs
- License Monitor
- Test Client**
- Team

API \*  
MyJohnDeere API - 3.0 (Sandbox)

Operation \*  
GET: /organizations/{orgid}/files{params{;.\*})\* - GetFileListByOrganization

Endpoint \*  
https://sandboxapi.deere.com:443/platform

Path  
/organizations/{orgid}/files{params{;.\*})\*

► Headers ?

▼ Parameters ?

Name *	Value	Type
params	Enter Parameter value	path
orgid	223031	path

[Add Parameter](#)

URL \*  
https://sandboxapi.deere.com:443/platform/organizations/files

Resource URI for OAuth  
https://sandboxapi.deere.com:443/platform

Setup Security Invoke

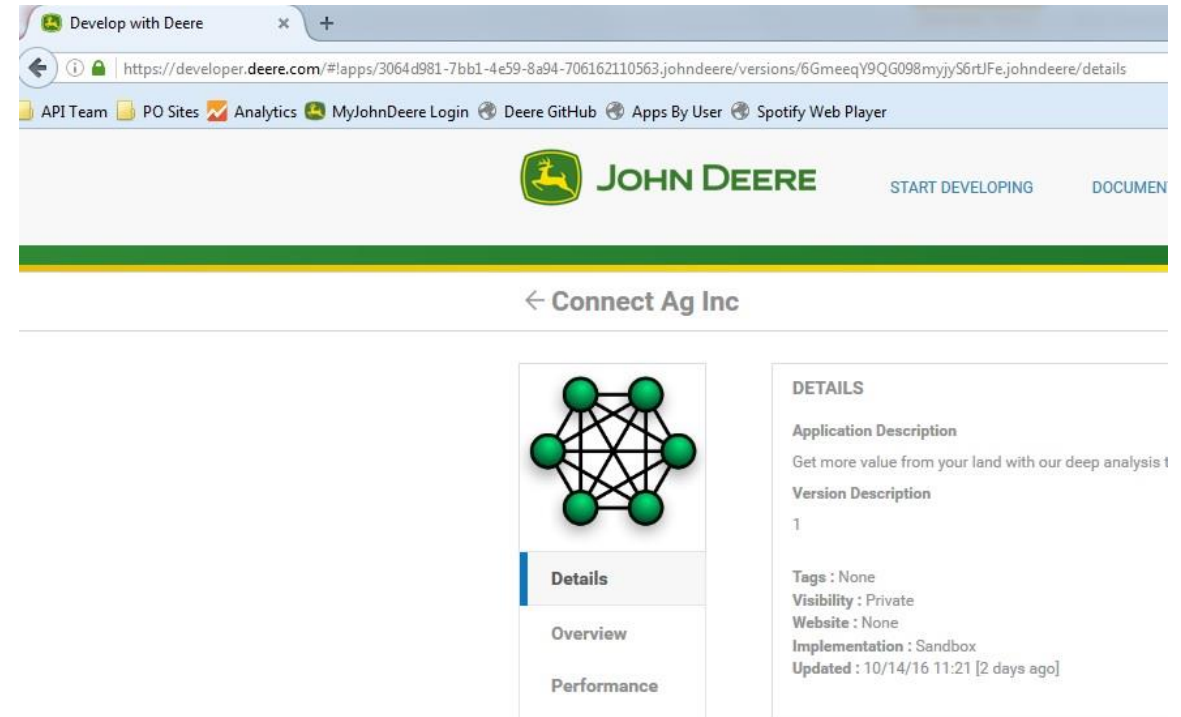
REQUEST

RESPONSE

- developer.deere.com
- Open Application
- Test Client
- Security, OAuth
- GET /organizations/{orgId}/files
- Set orgID to 223031
- Invoke, see results

# Request Access For More APIs

- Get URL of application
- Send URL to [APIDevSupport@JohnDeere.com](mailto:APIDevSupport@JohnDeere.com) asking for more API access
- Wait




# Intermission – Wait while Josh gets you access



Image created by J R  
Source: <https://flic.kr/p/m7xjoZ>

# Review and Verify expanded access

 **JOHN DEERE** START DEVELOPING

OVERVIEW >

API RESOURCES ✓

API Inventory

API Catalog

BaseResources

FieldDetails BETA

MachineMonitoring BETA

Notifications BETA

FieldOperations ALPHA

Map Layers ALPHA

Scouting ALPHA

Join Beta

SECURITY >

### MyJohnDeere API

[Find out how to set up your API](#)

**About John Deere Operations Center**  
Operations Center is the place where you can manage your machine interactions, as well as your data.

**Note:** No one can access a customer's data without their permission. With MyJohnDeere API, you can learn more about sharing information.

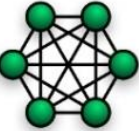
**About MyJohnDeere API**  
With MyJohnDeere API, you can interact with the Operations Center via PCs, tablets, or cloud services, machine telemetry data, transfer files to JDLink, and more.

**Note:** An EIC license is required to use the API.

**Note:** When an app is connected to the API, it can access the data of the user who is logged in.

← Connect Ag Inc

EditDelete



DetailsOverviewPerformanceLogsLicense MonitorTest Client

API \*  
MyJohnDeere API - 3.0 (Sandbox)

Endpoint \*  
https://sandboxapi.deere.com:443/platform

▶ Headers ⓘ

▶ Parameters ⓘ

URL \*  
https://sandboxapi.deere.com:443/platform/

Operation \*  
GET: / - GetApiCatalog

GET: /organizations/{id}/clients(params:({})) - GetClientListByOrganization

GET: /organizations/{id}/cropTypes(params:({})) - GetCropTypeListByOrganization

GET: /organizations/{id}/farms(params:({})) - GetFarmListByOrganization

GET: /organizations/{orgId} - GetOrganization

GET: /organizations/{orgId}/machines(params:({})) - GetMachineListByOrganization

GET: /organizations/{orgId}/boundaries/{id} - GetBoundaryByOrganization

GET: /organizations/{orgId}/boundaries/{id}/fields(params:({})) - GetFieldListByOrganizationAndBoundary

GET: /organizations/{orgId}/clients/{clientId}/farms(params:({})) - GetFarmListByOrganizationAndClient

GET: /organizations/{orgId}/clients/{id} - GetClientByOrganization

GET: /organizations/{orgId}/clients/{id}/fields(params:({})) - GetFieldListByOrganizationAndClient

GET: /organizations/{orgId}/farms/{farmId}/fields(params:({})) - GetFieldListByOrganizationAndFarm

GET: /organizations/{orgId}/farms/{id} - GetFarmByOrganization

GET: /organizations/{orgId}/farms/{id}/clients(params:({})) - GetClientListByOrganizationAndFarm

GET: /organizations/{orgId}/farms/{id}/fields(params:({})) - GetFieldListByOrganizationAndFarm

POST: /organizations/{orgId}/fields/{fieldId}/fieldNoteSummary - PostFieldNoteSummaryByOrganizationAndField

GET: /organizations/{orgId}/fields/{fieldId}/fieldOperations(params:({})) - GetFieldOperationListByOrganizationAndField

POST: /organizations/{orgId}/fields/{fieldId}/mapLayerSummaries - PostMapLayerSummariesByFieldAndOrg

GET: /organizations/{orgId}/fields/{fieldId}/mapLayerSummaries(params:({})) - GetMapLayerSummariesByOrgAndField

POST: /organizations/{orgId}/fields/{fieldId}/notes - PostNoteByOrganizationAndField

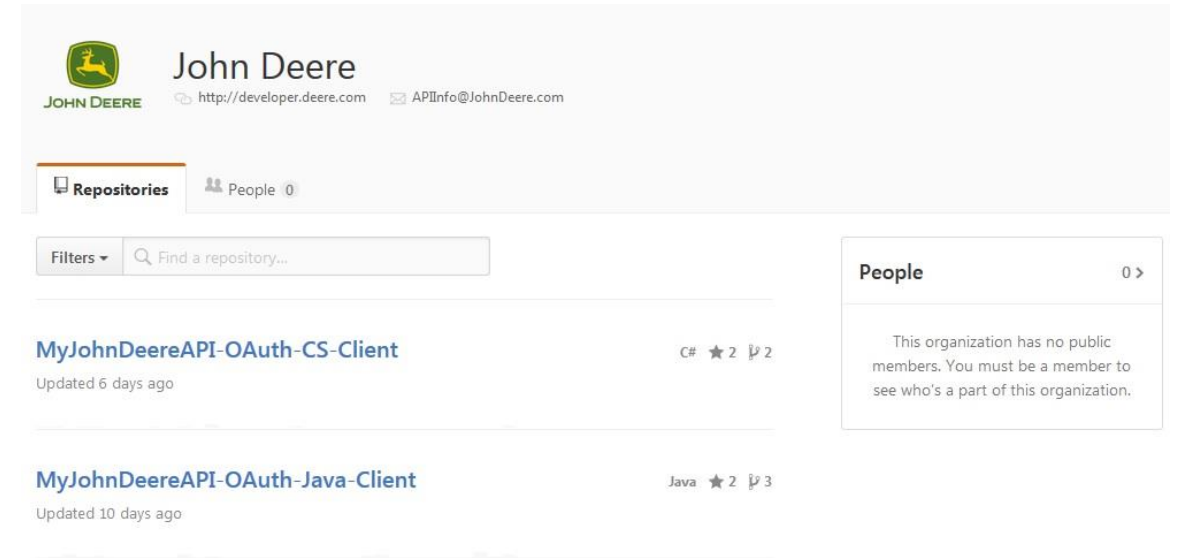
GET: /organizations/{orgId}/fields/{fieldId}/notes(params:({})) - GetNoteListByOrganizationAndField

Documentation has Alpha

Application has more Operations available

# Checkout Samples

- Find Samples at [github.com/JohnDeere](https://github.com/JohnDeere)
- Samples require Client Key And Secret
- All Samples get through OAuth
- Java Sample has best examples





**JOHN DEERE**