



JOHN DEERE

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API Onboarding, Support & Best Practices

Josh Conner, API Customer Support Lead

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Agenda

Wednesday, January 29th, 2020

- Developer.Deere.com overview
- Developer.Deere.com navigation
- Available APIs Overview
- Application Creation
- API Onboarding
- Sandbox & Postman
- API Best Practices
- API Support Process
- John Deere Internal Release Process
- External Application Release Process
- Alpha and Pre-Alpha APIs on DD.com
- APIs in Beta and Production
- Q&A / Feedback

Developer.Deere.com Overview

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Developer.Deere.com Overview

What is Developer.Deere.com?

Developer.Deere.com (DD.com) is John Deere's API developer portal.

It contains all relevant information for in-production APIs that are available through our open API platform. Sign up is free, and there is no cost to connect to our API platform.

As a possible connected software company, or integrator with John Deere, this web portal will give you all of the necessary information to get started with your application and how to connect it to John Deere's API platform.

Developer.Deere.com Overview (cont.)

How to I get to Developer.Deere.com?

<https://developer.deere.com>

(mobile friendly)

What information can be found on this site?

- API inventory
- API documentation
- Help guides
- Application creation & maintenance
- Sandbox test client
- ADAPT & EIC forum

The screenshot displays the John Deere Developer website. At the top, the John Deere logo is on the left, and navigation links for 'START DEVELOPING', 'DOCUMENTATION', and 'HELP' are on the right, along with a search bar and a 'LOG IN' link. The main heading is 'DEVELOP WITH DEERE', followed by a subtext: 'John Deere APIs enable your ag and construction industry software to securely access the robust data from John Deere machines, mobile applications, and more.' Below this is a large illustration of John Deere tractors and a loader. Two buttons are present: 'START DEVELOPING NOW' and 'CONTACT US'. The page is divided into two main sections: 'Agriculture' and 'Construction'. The 'Agriculture' section includes 'MyJohnDeere, Field Connect™, & AgLogic™' and 'Integrate with John Deere Operations Center'. The 'Construction' section includes 'Get Machine Data with JDLink'. Below these are 'AGRICULTURAL API CAPABILITIES' (Transfer Data, Agronomic Data, Field Conditions, Machine Monitoring, Logistics Data) and 'CONSTRUCTION API CAPABILITIES' (JDLink™ Machine Data). A 'Developer License Agreement' link is at the bottom. The footer contains links for 'Start Developing', 'Documentation', and 'Help', along with copyright information and a 'Privacy and Data | Legal' link.

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.

Start Developing
START DEVELOPING NOW

Have questions or comments?
CONTACT US

Agriculture
MyJohnDeere, Field Connect™, & AgLogic™
Access data to assist with logistics management and agronomic solutions.
LEARN MORE >

Integrate with John Deere Operations Center
Let's work together to reach more customers and deliver more value with your solution. Check out the MyJohnDeereAPIs on ways to POST data to the Operations Center.

Construction
Get Machine Data with JDLink
Access ISO-standard fleet management data from John Deere machines.
LEARN MORE >

AGRICULTURAL API CAPABILITIES

- Transfer Data
- Agronomic Data
- Field Conditions
- Machine Monitoring
- Logistics Data

CONSTRUCTION API CAPABILITIES

- JDLink™ Machine Data

Offline SDK
Decode display data with EIC or a John Deere ADAPT plugin.
LEARN MORE

Developer License Agreement

Start Developing
Start Developing Guide

Documentation
AgLogic™ API
Field Connect™ API
JDLink™ Machine Data API
MyJohnDeere API
Offline SDK

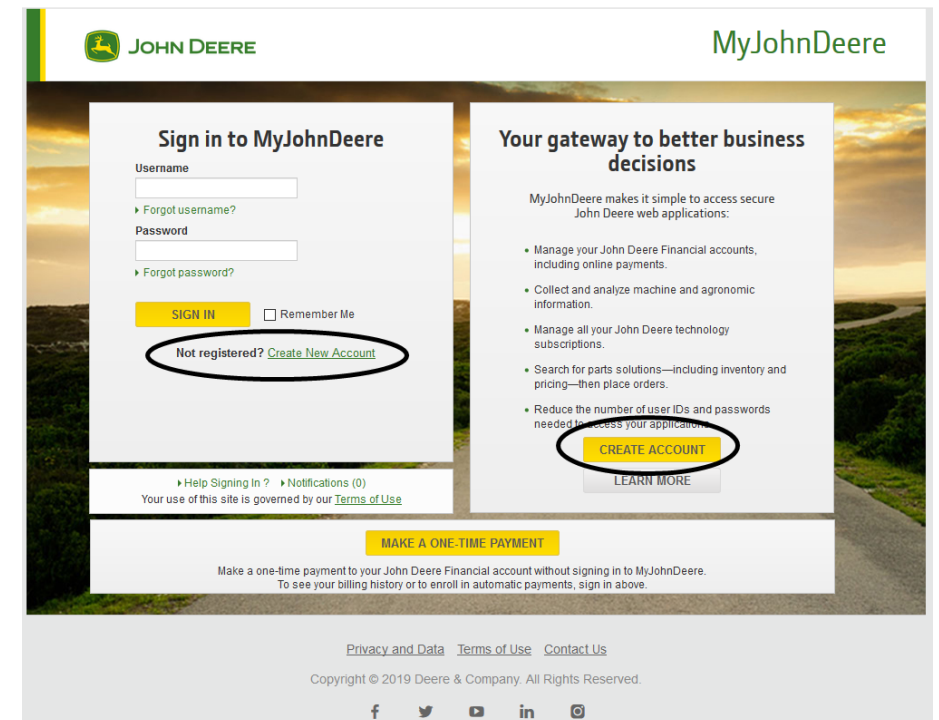
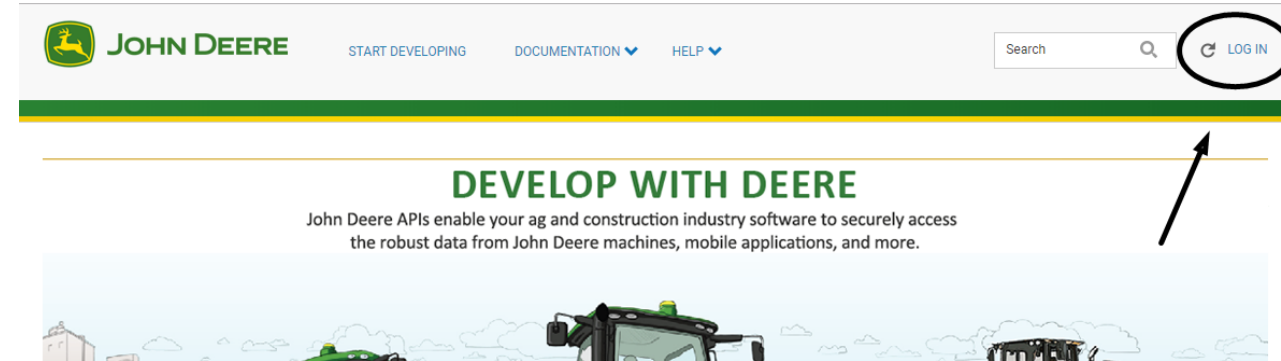
Help
FAQ
Contact Us

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Developer.Deere.com Overview (cont.)

How do I log in to Developer.Deere.com?

- Go to <https://developer.deere.com>
- Select Log In
- Re-route to <https://myjohndeere.com/>
- Log in to MyJohnDeere.com
- Click Create New Account (if you do not have a MyJohnDeere account)
- Once signed in, you are re-routed back to <https://developer.deere.com>
- Accept Terms of Use

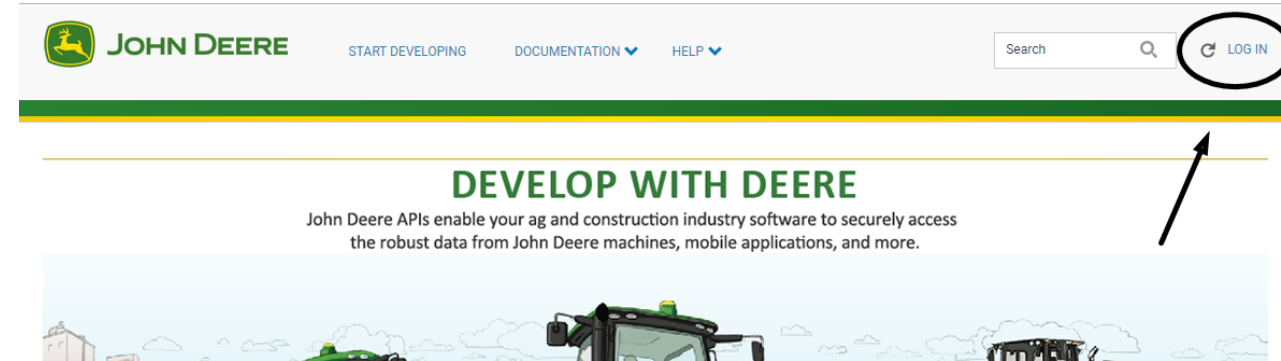



Developer.Deere.com Overview (cont.)

UPCOMING CHANGES – Okta SSO (SAML)

How do I log in to Developer.Deere.com?

- Go to <https://developer.deere.com>
- Select Log In
- Re-route to Okta single sign-on
- Log in with a MyJohnDeere.com username/password
- Once signed in, you are re-routed back to <https://developer.deere.com>



Connecting to 
Sign-in with your John Deere account to access Akana Simple Dev

A screenshot of the John Deere Sign In form. The form is centered on a light gray background. It features the John Deere logo at the top, followed by the title 'Sign In'. Below the title is a text input field labeled 'Username' with a user icon on the left and a clear button on the right. Underneath the input field is a checkbox labeled 'Remember me'. A large yellow button labeled 'Next' is positioned below the checkbox. At the bottom of the form, there is a link that says 'Need help signing in?'. At the very bottom of the page, there is a footer with links for 'Privacy' and 'Terms & Conditions of Use', and a copyright notice: 'Copyright © 2020 Deere & Company. All Rights Reserved.'

Developer.Deere.com Navigation

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Developer.Deere.com Navigation (Start Developing)

API Overview

MyJohnDeere API

JDLINK Machine Data API

Offline SDK

AgLogic

John Deere Field Connect

Start Developing

How to create an account

How to create an application

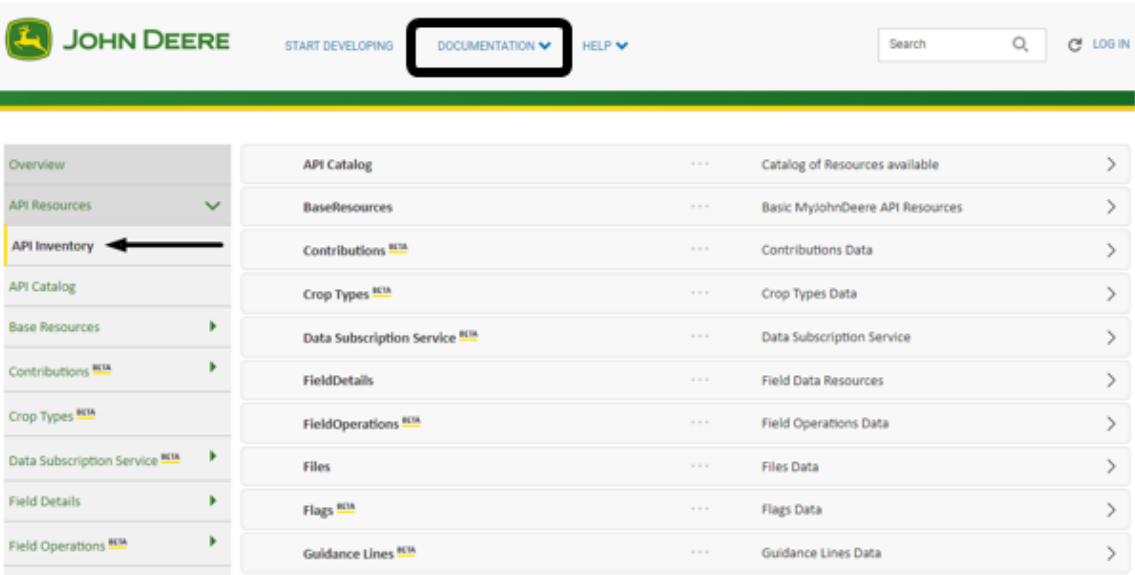
How to test In sandbox

How to go live in Production

The screenshot shows the John Deere Developer website. The top navigation bar includes the John Deere logo, a 'START DEVELOPING' button (highlighted with a red box), 'DOCUMENTATION', and 'HELP'. A search bar and 'LOG IN' link are on the right. The left sidebar has a menu with 'Overview' (selected with a red arrow), 'Start Developing', 'Tutorial Videos', and 'Guides'. The main content area is titled 'MyJohnDeere' and describes the API. It includes a 'Features' section with bullet points: 'Upload and download files to and from the MyJohnDeere cloud.', 'Transfer files from the MyJohnDeere cloud to JDLINK™-enabled John Deere machines.', and 'Securely share files between MyJohnDeere organizations.' A note states: 'No one can access a customer's files unless the customer has granted them the appropriate permissions in MyJohnDeere.' Below this is the 'JDLINK Machine Data' section, which describes the API and its features: 'Equipment information such as make, model, equipment ID and serial number.', 'Machine location & elevation.', and 'Cumulative machine hours and fuel consumption within the last 24 hours.'

The screenshot shows the John Deere Developer website. The top navigation bar is identical to the previous screenshot. The left sidebar has a menu with 'Overview', 'Start Developing' (selected with a red arrow), 'Tutorial Videos', and 'Guides'. The main content area is titled 'Notebook Tutorial' and includes a 'Create an Account' section with a list of steps: 1. If you do not have a MyJohnDeere account, create one here. 2. Fill in both pages of the registration form, and then click the yellow "Submit" button. 3. Check the e-mail account you used when registering. You will have a new e-mail from do-not-reply@johndeere.com. Click the yellow "Validate Profile" button in this e-mail. 4. The MyJohnDeere sign-in form will open again, in a new window, with your new username already entered in. Enter in your password, and log in to your new account. 5. Click the yellow "Continue Validation" button. 6. Problems? See the account help page. 7. Log into Operations Center and create an organization. 8. Sign in to developer.deere.com 9. Accept the terms and conditions to confirm your Deere Developer account. Below this is a 'Create an Application' section with a list of steps: 1. Click on the arrow next to your name in the top navigation, and select Applications from the drop-down menu. 2. Click on the "Add Application" button. 3. Enter your application information. At minimum, you must fill out an "App Name" and "Version ID". 4. Click the Finish button in the bottom right corner of the window. 5. Get some coffee. Most of the time, a newly created application is ready to use within 5 - 10 minutes.

Developer.Deere.com Navigation (Documentation)

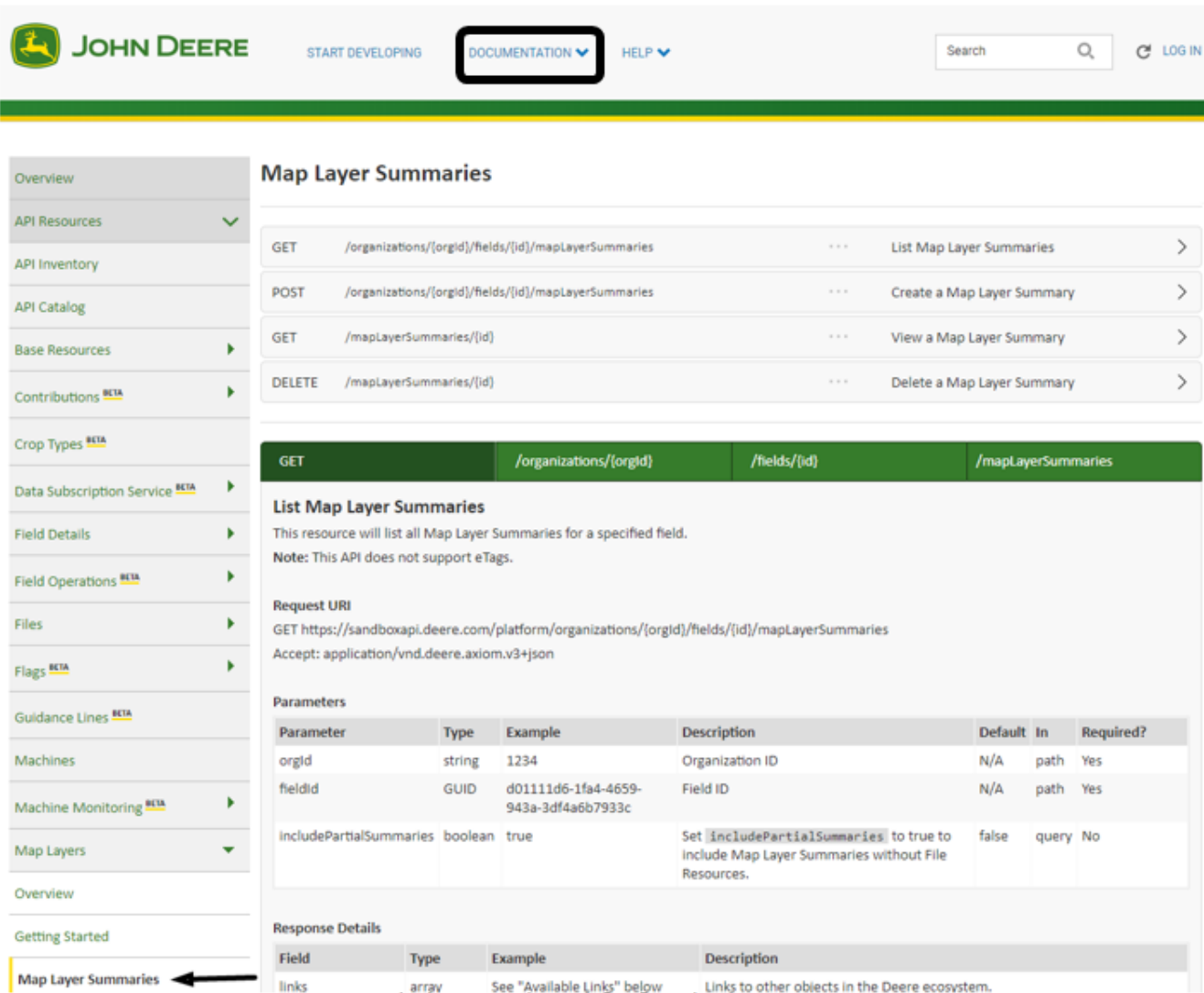


API Inventory

All available APIs

Link to call methods

Description of call methods



API Details

Overview

Getting Started

API Details

Developer.Deere.com Navigation (Help)

If I have questions, how do I contact John Deere?

Connect With Us

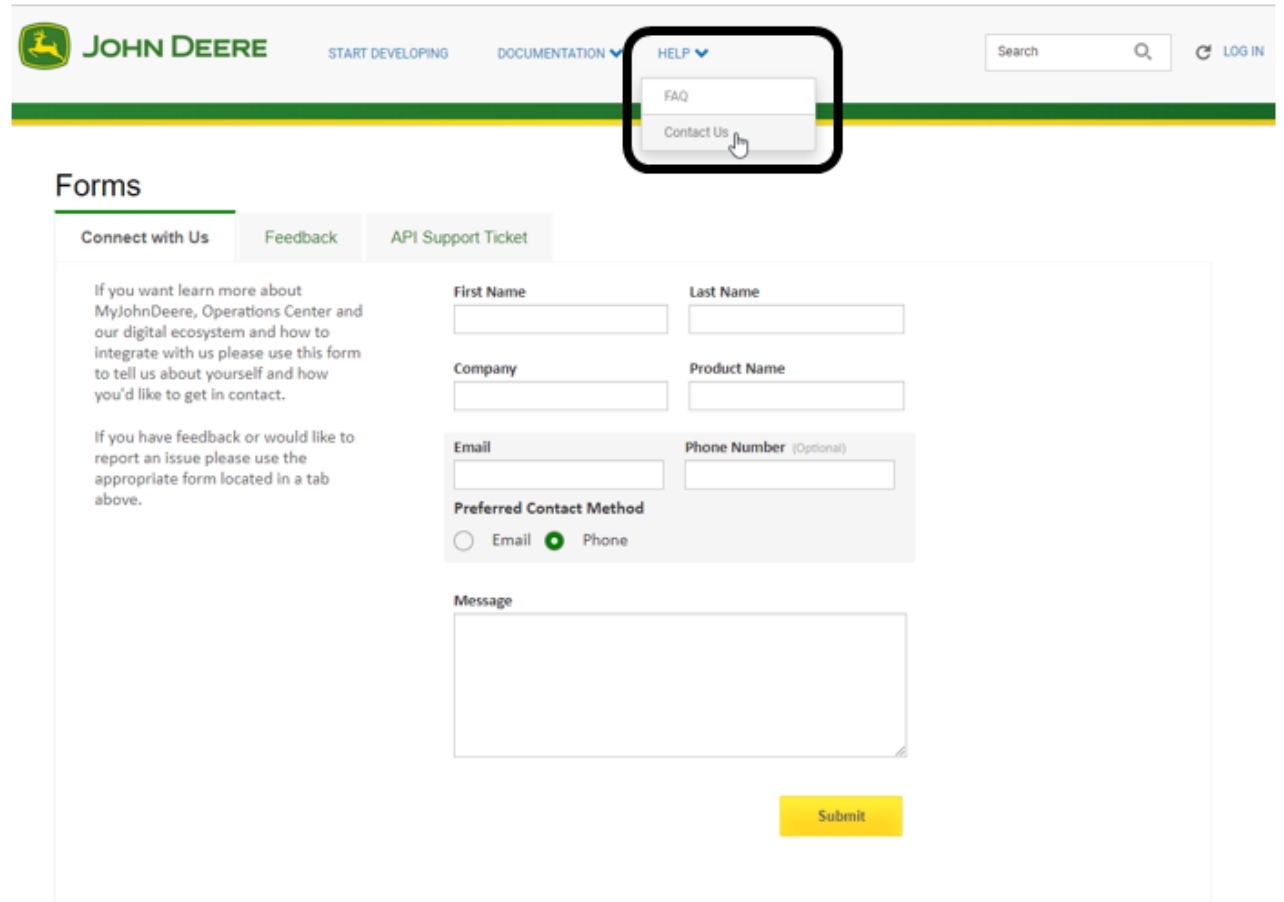
- Submit Contact Information
- Request More Info

Feedback

- Feedback
- Comments
- General Questions

API Support Ticket

- API Support
- ADAPT Support
- Development Questions



The screenshot shows the John Deere Developer website. The top navigation bar includes the John Deere logo, links for "START DEVELOPING", "DOCUMENTATION", and "HELP". The "HELP" dropdown menu is open, showing "FAQ" and "Contact Us" options. Below the navigation bar, there are three tabs: "Connect with Us", "Feedback", and "API Support Ticket". The "Connect with Us" tab is active, displaying a form with the following fields: "First Name", "Last Name", "Company", "Product Name", "Email", "Phone Number (Optional)", "Preferred Contact Method" (with radio buttons for "Email" and "Phone"), and a "Message" text area. A yellow "Submit" button is located at the bottom right of the form.

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START DEVELOPING DOCUMENTATION **HELP**

Search LOG IN

FAQ
Contact Us

Forms

Connect with Us Feedback API Support Ticket

If you want learn more about MyJohnDeere, Operations Center and our digital ecosystem and how to integrate with us please use this form to tell us about yourself and how you'd like to get in contact.

If you have feedback or would like to report an issue please use the appropriate form located in a tab above.

First Name Last Name

Company Product Name

Email Phone Number (Optional)

Preferred Contact Method

☐ Email ☒ Phone

Message

Submit

Available APIs Overview



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JDLink™ Machine Data API – AEMP 2.0

What is it?

John Deere telematics hardware (MTG) captures incredibly detailed, real-time machine data. The JDLink™ Machine Data API retrieves that machine data according to the ISO standard (15143-3).

What information is available?

The machine must have a Modular Telematics Gateway installed, and a valid JDLink™ subscription on the MTG to record this data. Not all machines will supply all of these data points.

- Equipment Make/Model/Type
- Equipment Name/VIN
- Location/Distance Travelled
- Idle/Operating Hours
- Fuel Information

What information can be contributed back to John Deere?

- None



MyJohnDeere API

What is it?

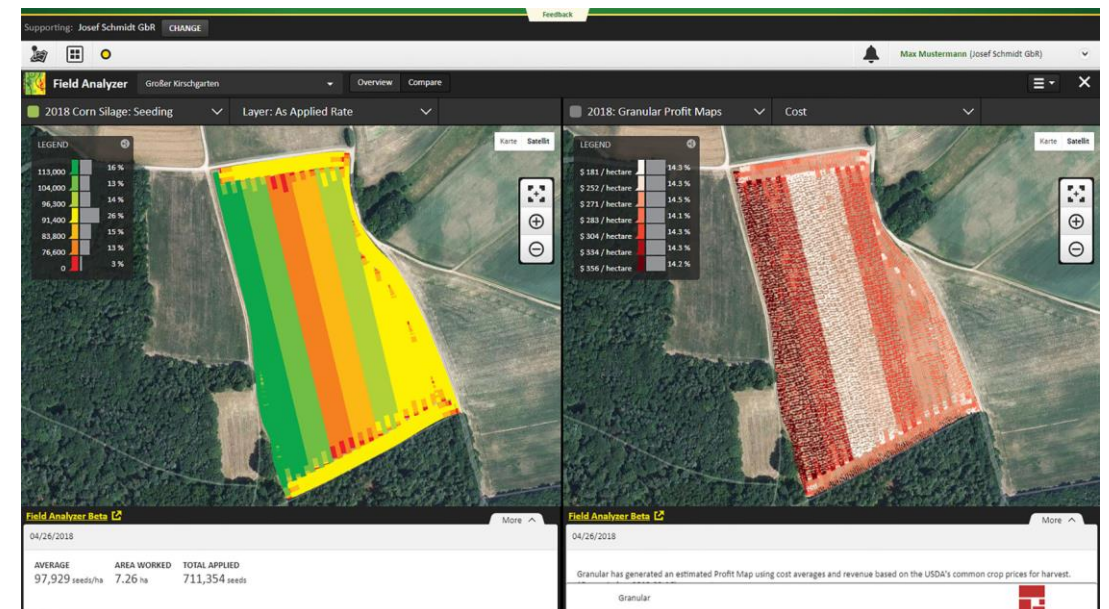
The MyJohnDeere API provides a wide variety of data through many different API endpoints. This API is also capable of contributing data into John Deere's data platform and GUIs.

What information is available?

- User data
- Organization data
- Agronomic data
- Machine data

What information can be contributed back to John Deere?

- Map layers
- Notifications
- Flags
- Assets
- More to come!



Offline SDK/ADAPT

What is it?

ADAPT is an open-source SDK developed by [AgGateway](#). The ADAPT SDK includes a data model and a set of plugins.

What does it do?

A plugin converts data. It can import from a proprietary data format into the ADAPT data model, or export from the ADAPT data model into some proprietary format. It assists you in transferring data to/from John Deere.

Why use ADAPT for John Deere Data?

We have built a plugin for each of our currently supported display formats, including the GreenStar2 2600, 1800, and CommandCenter displays, the GreenStar3 2630 display, and the GreenStar4 display series. This ensures any company that integrates with ADAPT can consume John Deere display data by simply licensing the John Deere ADAPT plugins.

How do I get access to the John Deere ADAPT plugin?

The first step is to [request a license for your application](#). With your license, you will get access to [our forums](#) where our plugins are available to download. The forums are also a good place to post questions or feedback.

AgLogic and Field Connect APIs

What are they?

The **AgLogic API** connects to data associated with the AgLogic website only.

The **Field Connect API** connects to data associated with the Field Connect website only.

When would I use these APIs?

Only if your customers will need access to their AgLogic or Field Connect data, and for some reason the John Deere User Interface is not technically feasible for their operation.

One thing to note...

The Field Connect website and API will be deprecated at the end of 2020. John Deere will be shifting sale and support of this product offering to a third party service provider in the near future.

Application Creation

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How do I create an application on Developer.Deere.com?

DD.com / Profile / Applications

Why do I need to create an application?

- To get an application ID (client ID) and secret
- To setup OAuth
- To test the API calls in a Sandbox environment
- To manage team members for your application

API Onboarding

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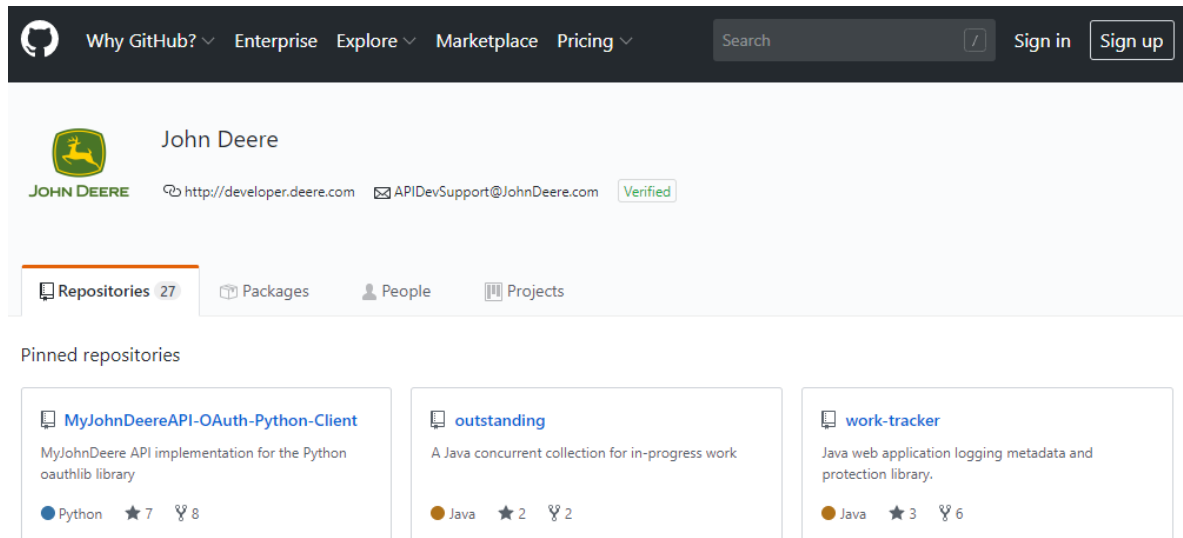
I have my application. How do I get started?

Developer.Deere.com

- <https://developer.deere.com>
- Guides
- Documentation

GitHub Sample Code

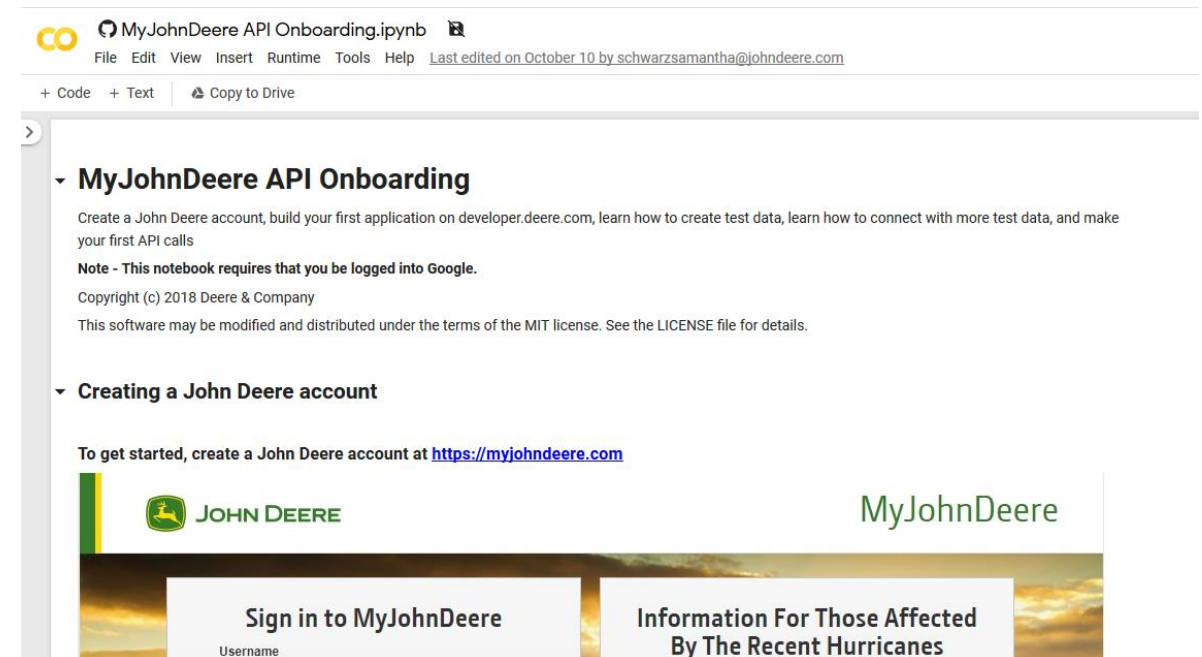
- <https://github.com/JohnDeere>



Jupyter (Google Colab) Notebooks

*** Must have a Google Account to use

- [Onboarding](#)
- [Best Practices](#)



Sandbox Testing



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How do I use the Test Client on Developer.Deere.com to call APIs?

DD.com / Profile / Applications / Test Client

Can I use Postman to call John Deere APIs?

- Postman is a free application that can be used to call our APIs
- Copy your App client ID and secret from Developer.Deere.com
- Generate a user OAuth token and secret with sample code on Developer.Deere.com
- The URIs and accept headers for each API are located on Developer.Deere.com
- Sample request [JSON] code for contribution APIs is available on Developer.Deere.com

Postman



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How do I use Postman to call John Deere APIs?

- <https://developer.deere.com/#!/help&doc=.%2Ffaq%2FHELPFAQMJDPostman.htm&anchor=>
- Copy your App client ID and secret from Developer.Deere.com
- Generate a user OAuth token and secret with our sample application code on GitHub/Developer.Deere.com
- The URIs and accept headers for each API are located on Developer.Deere.com
- Sample request/response [JSON] code for contribution APIs is available on Developer.Deere.com for copy/paste

Why should I use Postman?

- Postman is a free application that can be used to test call our APIs
- It's easier to use than the sandbox application on Developer.Deere.com

API Best Practices

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API Best Practices

Best Practices Notebook on Github/JohnDeere.com

- Developers should use the sample applications on Developer.Deere.com
- During development, ensure the user obtaining the OAuth token has data to test with
- Call the API Catalog to start, then follow REST (HATEOAS) links after
- John Deere APIs return a collection of objects, and these collections are wrapped in a JSON object that contains metadata to support pagination. The collection wrapper contains links for 'self', 'nextPage', and 'previousPage'
- Use embeds (if available) to optimize data retrieval and replace the needs for multiple calls
- Use Deere ETags to monitor for changes. It helps keep data in sync between your system and ours by telling you what changed since the last time you made an API call
- Use a retry method for 429 and 5XX errors

John Deere Internal API Release Process

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Alpha and Pre-Alpha APIs on DD.com

What is an Alpha API?

There are some “Alpha” APIs that you may see in the help documents on Developer.Deere.com. These are only made available to a limited number of developers based on business need and approval from John Deere API Support. [Contact Us](#)

If API Support determines that your development need fits an “Alpha” API, we will enable the API documentation for your application and team members on Developer.Deere.com.

John Deere is currently reviewing all “Alpha” APIs, and in the near future we will be either removing these APIs or releasing them to the public.

John Deere API Release Process

Internal

- Internal use only
- OpenAPI completed
- Development finished
- Stress Tests
- Contract Tests

Beta

- Limited release
- Possible breaking changes (based on feedback)
- API Documentation released on D.D.com
- Feedback needed

External

- Full release
- Breaking changes require minimum one year lead time

External Application Release Process

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External Application Release Process

Onboarding

1. Log in to Developer.Deere.com (DD.com)
2. Review API documentation
3. Create an application with John Deere
4. Contact John Deere for help

External Application Release Process (cont.)

Sandbox

1. Request API licenses from John Deere
2. Use DD.com sample code for OAuth
3. Use DD.com sandbox or Postman to test
4. Develop your GUI
5. Contact John Deere for help

External Application Release Process (cont.)

Production

1. Request API production access
2. Call API one last time in test
3. Send in test call date/time
4. Request an test call log review
5. Pass the review
6. Sign a developer license agreement
7. Change URI to production
8. Contact John Deere for help

APIs in Beta and Production

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APIs in Beta

- Assets
- Crop Types
- Data Subscription Service
- Field Operations
 - Shapefile downloads
- Flags
- Guidance Lines
- HID Cotton
- Machine Monitoring (Alerts, Engine Hours, Hours of Operation, Location History)
- Notifications
- Products

APIs in Production

- Field Details (Clients, Farms, Fields, Boundaries)
- Files
- File Transfers
- Machines
- Map Layers
- Partnerships & Permissions

API Support Process



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API Support Process

How do I contact the John Deere API Support team?

The John Deere API Support team will soon be using an application called **Zendesk** to facilitate all internal and external support requests. (Beginning March 1, 2020)

To create an API Support ticket Today:

- Email APIDevSupport@JohnDeere.com
- Go to Developer.Deere.com and fill out a **Contact Us** form (upper navigation pane)

To create an API Support ticket March 1st:

- Click on the **Help** button on Developer.Deere.com (lower right-hand corner) and choose *API Support Request*
- Once a ticket is initiated, you will receive a confirmation email from John Deere

To reply or add information to the Zendesk ticket:

1. Click on the ticket # link in the email to view its status and add comments (MyJohnDeere profile log in required)
2. Reply to the confirmation email (no log in required)

API Support Process (cont.)

What APIs are available from John Deere?

On Developer.Deere.com, all of the *available* APIs are located in the “Documentation” section.

How do I request access to those APIs ?

By default, only the basic API catalog and some other “base resources” are given to new applications created on Developer.Deere.com.

Access to other APIs must be requested from and approved by the John Deere API Support team. [Contact Us](#)

API Support Process (cont.)

Once my app is in Production, how do I receive support?

John Deere is fully committed to supporting all of our connected software companies, input providers, and third party integrators through the development cycle.

API support does not end after the development and licensing process is finished. Our goal is to keep our APIs performant and your applications connected.

John Deere API Support is normally available Monday thru Friday from 9:00am-5:00pm CST for all issues or questions related to John Deere APIs. [Contact Us](#)

What's Coming in 2020



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Recap: What's coming in 2020

- API Dev Support ticket system changes and team additions
- Developer.Deere.com new version
- More APIs moving into Production

Q&A /Feedback

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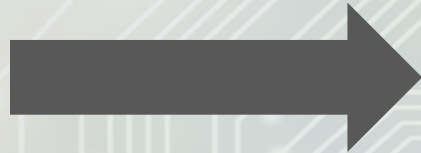
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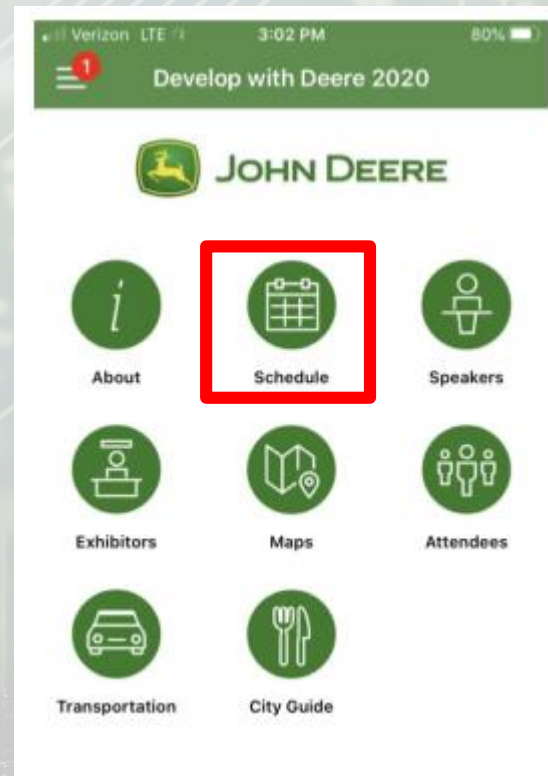
How'd we do? How valuable was this session to you?



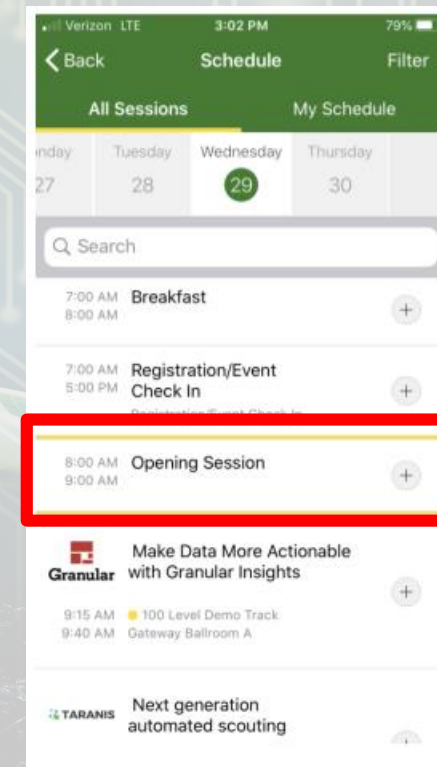
Please let us know by completing a short survey in the app



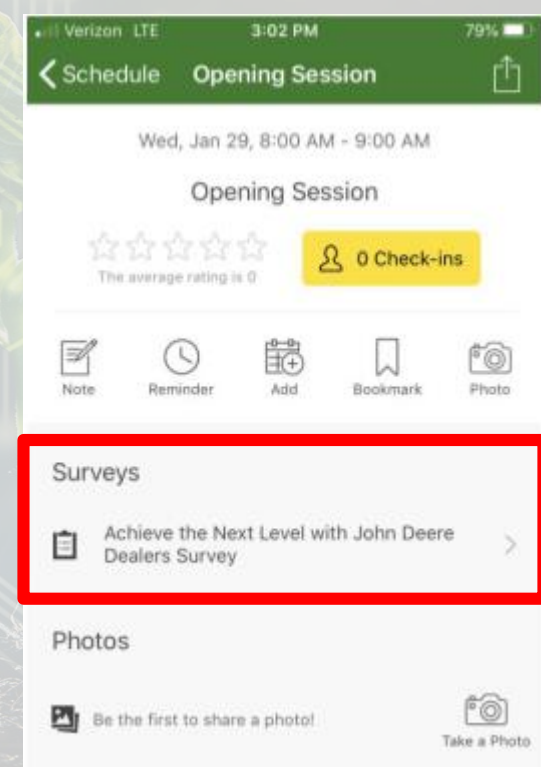
Select schedule



Select your session



Select survey and fill out!





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