




Introduction to BIM 360 API

Presentation as a part of Forge Hackathon event

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Agenda

- Forge and BIM 360 API
 - Scope
 - Product Overview
- BIM 360 Account Level API
- Q&A

Forge and BIM 360 API

Forge and BIM 360 API – Scope

- <https://developer.autodesk.com/en/docs/bim360/v1/overview/>
- “At present, the BIM 360 API offers **account-level functionalities** that enable developers to work with BIM 360 account administration workflows.”
- <https://bim360enterprise.autodesk.com/>

[APIs](#) ▾[Support](#) ▾[SIGN UP](#)[SIGN IN](#)[Overview](#)[API Basics](#)[Field Guide](#)[Parameters](#)[Step-by-Step Tutorials](#)[API Reference](#)[BIM 360 API](#) > [Overview](#) > [On this page](#) ▾[v1](#) ▾

BIM 360 API

The BIM 360 API allows developers to develop apps that integrate with the Autodesk BIM 360 platform to extend its capabilities in the construction ecosystem. Integration use cases include, but not limited to, connecting BIM 360 with Enterprise Resource Planning (ERP) systems for project automation, connecting BIM 360 data with project management solutions, integrating BIM 360 data with cost estimation and financial systems, and many others. Integrations built with the BIM 360 API help designers, engineers, and contractors reduce manual data entry, improve data quality and consistency, and automate construction workflows.

At present, the BIM 360 API offers account-level functionalities that enable developers to work with BIM 360 account administration workflows.

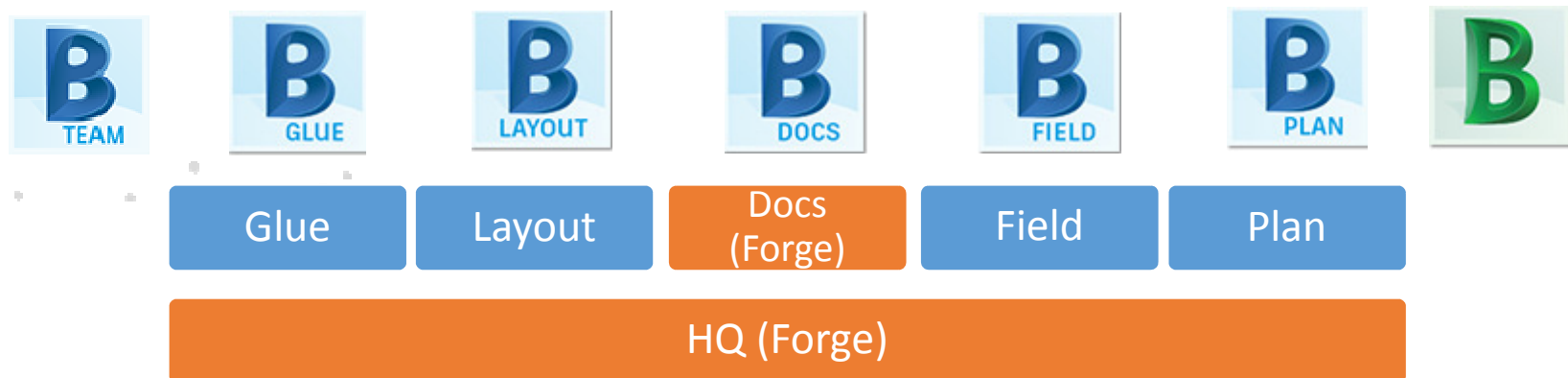
Account-Level Functionality

The account-level functionalities of BIM 360 API allow customers to connect their BIM 360 accounts with external applications in their construction ecosystem. They provide secure access to your BIM 360 accounts, serving as the single point of integration for projects, partner companies, user management, and other account-level information. They enable better-connected workflows across the project lifecycle, shared data across the project team, and construction insight across your project portfolio.

ODESK
GE

BIM 360 Family Products

- HQ – Forge API
- Docs – Forge API (coming)



Enterprise Account Level API & Authentication

Apps & Integrations

AUTODESK BIM 360 Forge Conferenc... > Apps & Integrat...

Account Settings Business Units **Apps & Integrations** PREVIEW

AUTODESK Forge

Visit BIM 360 APIs on Forge Platform for details about the account level APIs.

To add a Forge app, invite a developer to your account.

Add Integration

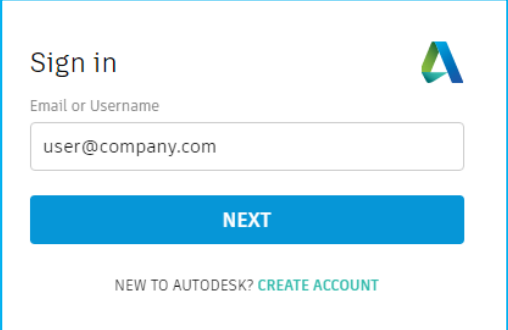
 CRM Integration Test Details Active	 Sharepoint Integration Test Details Active	 Forge DevCon ERP App Details Active
 test Details Active	 test2 Details Approve	 DM-Docs Test Details Active

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AUTODESK FORGE

Authentication Methods for Forge

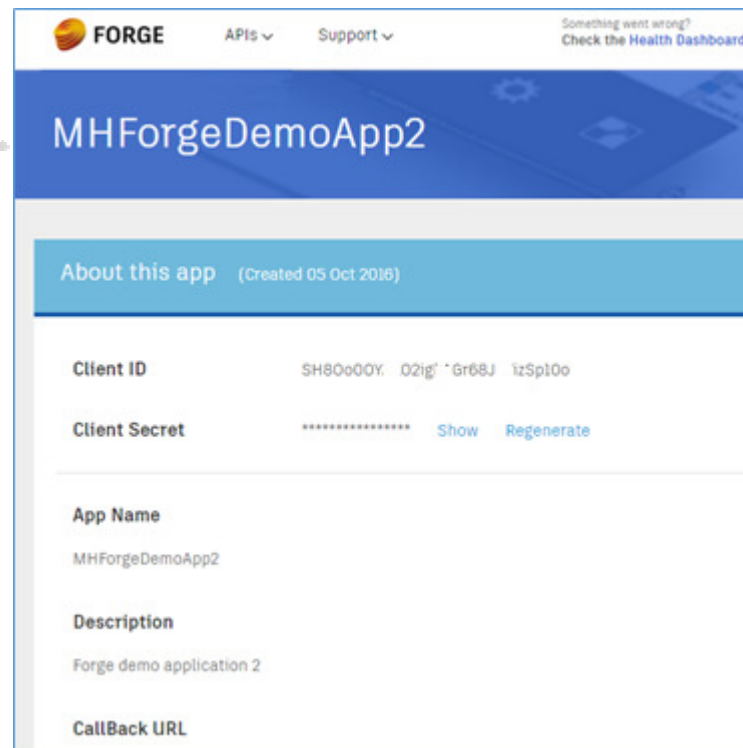
- OAuth2
 - 2-legged – **HQ**
 - Application context
 - 3-legged
 - User context
 - Re-direct to accounts.autodesk.com

A screenshot of the Autodesk sign-in interface. It features a white background with a blue border. At the top left, it says "Sign in" in a dark grey font. To the right of this text is the Autodesk logo, a stylized "A" in blue and green. Below the "Sign in" text, there is a label "Email or Username" in a smaller, lighter grey font. Underneath this label is a text input field containing the placeholder text "user@company.com". Below the input field is a prominent blue button with the word "NEXT" in white, uppercase letters. At the bottom of the form, there is a link that reads "NEW TO AUTODESK? CREATE ACCOUNT" in a small, teal-colored font.

<https://developer.autodesk.com/en/docs/oauth/v2/overview/>

My Apps Portal

- <https://developer.autodesk.com/myapps>
- Client ID
- Client Secret



BIM 360 HQ API

BIM 360 API | Account-level (HQ) Functionality

Key User Roles:

Account Admins, Corporate Developers, and
External 3rd Party Developers

Key HQ API Categories:

- Secure Account Access Control
- Project Creation/Access Control
- Project Profile
- Partner Companies Directory
- Master Member Directory
- Business Unit Data

The image displays three overlapping screenshots of the Autodesk BIM 360 API interface. The top screenshot shows the 'Current Projects' tab with a table of 11 projects. The middle screenshot shows the 'Companies' tab with a table of 9 companies. The bottom screenshot shows the 'Profile' page for a specific project, 'Oakwood Medical'.

Name	Members	Companies	Project Status	Last Activity	STATUS
Alabama State Court	2	1	active	10/1/2015	Active
BIM 360 Plan	35	25	active	10/7/2015	Inactive
BIM 360 Plan Training	63	3	active	10/6/2015	
Downtown Hospital	2	1	inactive	10/1/2015	
Hospital Training Project	0	0	in...		
Oakwood Medical	13	13			
Plan Demo	16	12			
Plan Demo Project	2	1			
Science Lab	7	4			
Stadium	4	5			

Name	Trade	Count
Acme	Structure	1
Besco	Structure	1
Columbia Carpets	Interiors	1
Evergreen Painting	Electric	2
Fresh Meadow Mechanical Corp	Mechanic	1
Global Construction	General Contracting	6
Jorgensen Flooring	Interiors	0
Universal Drywall	Masonry	1
Williams Electrical Co.	Electric	0

Oakwood Medical Project Profile:

- Project Type: Hospital
- Construction Type: New Construction
- Project Value: 1,200,000 USD
- Construction Management (CM) at Risk
- Project Date: 11/29/2015 to 10/01/2018
- Project Job Number: M-KC-0001345
- Project Address: 100 Main Street, Kansas City, Missouri, United States, 65645
- Project Time Zone: (GMT-06:00) Central Time (US & Canada)
- Business Unit

Business Unit Data:

Business Unit	Count
Structure	2
Masonry	1
Mechanic	1
Concrete	0
Roofing	0
General contracting	1
Interiors	2



BIM 360 API | Account-level (HQ) Functionality

BIM 360 API Overview

AUTODESK® BIM 360™ APIs

Autodesk BIM 360 gives construction project teams the tools to coordinate better, communicate more effectively, and resolve issues quickly, resulting in faster and more efficient construction project delivery. BIM 360 APIs offers a collection of web services that allows developers to integrate the BIM 360 platform with other third party applications and extend the capabilities for a seamless construction eco-system. Existing examples of integrations include connecting BIM 360 with Enterprise Resource Planning (ERP) systems for project automation, connecting BIM 360 data with project management solutions, integrating BIM 360 data with cost estimation and financial systems, etc.

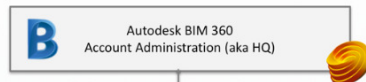
BIM 360 is an open platform built on APIs and we plan to make these APIs available through Forge for a unified and consistent developer experience. Current BIM 360 API functionality includes Account Level APIs that allow developers to work with BIM 360 account administration.

Account Level API

BIM 360 Account Level APIs allows customers to integrate their BIM 360 account with external applications in their construction ecosystem to automate workflows, reduce manual data entry, and improve data quality. The BIM 360 Account Level API provides secure access to your BIM 360 account and serves as the single point of integration for projects, partner companies, user management and other account level information.

Features

- Account Access Control – secure access to BIM 360 enterprise account/tenant
- Project Service – ability to create a unified project across all BIM 360 services including Docs, Glue, Field, and Plan
- Project Profile – shared project ID and profile
- Partner Companies Directory – add/edit/sync Company data with external systems
- Master Member Directory – add/sync Users with external systems
- Business Unit – add/edit Business Units with external systems



Projects

- POST projects
- GET projects
- GET projects/:id
- PATCH projects/:id
- PATCH projects/:id/image



Companies

- POST companies
- Post companies/import
- GET companies
- GET companies/:id
- GET companies/search
- PATCH companies/:id
- PATCH companies/:id/image



Users

- POST users
- POST users/import
- GET users
- GET users/:id
- GET users/search
- PATCH users/:id
- POST projects/:project_id/users

Business Units

- PUT business_units_structure
- GET business_units_structure

Visit: developer.autodesk.com/en/docs/bim360/v1



HQ API

- Grill down

Request:

request area

Response:

```
[{"id": "0889c9f8-dcbe-4417-d7473a1fd1f1", "account_id": "a4f95080-8d0a-438569-80", "name": "AC J  
Liska", "start_date": "2016-02-  
20", "end_date": "2019-02-  
20", "value": 1000000.0, "currency": "USD", "status": "  
active", "job_number": "", "address_line_1": "", "addr  
ess_line_2": "", "city": "", "state_or_province": null  
, "postal_code": "", "country": "United  
States", "business_unit_id": null, "created_at": "201
```

hq

- accounts/(account_id)/projects
- accounts/(account_id)/projects
- accounts/(account_id)/projects/{project_id}
- accounts/(account_id)/companies
- accounts/(account_id)/companies/{company_id}
- accounts/(account_id)/companies/search
- accounts/(account_id)/users
- accounts/(account_id)/users/{user_id}
- accounts/(account_id)/users/search
- accounts/(account_id)/business_units_structure

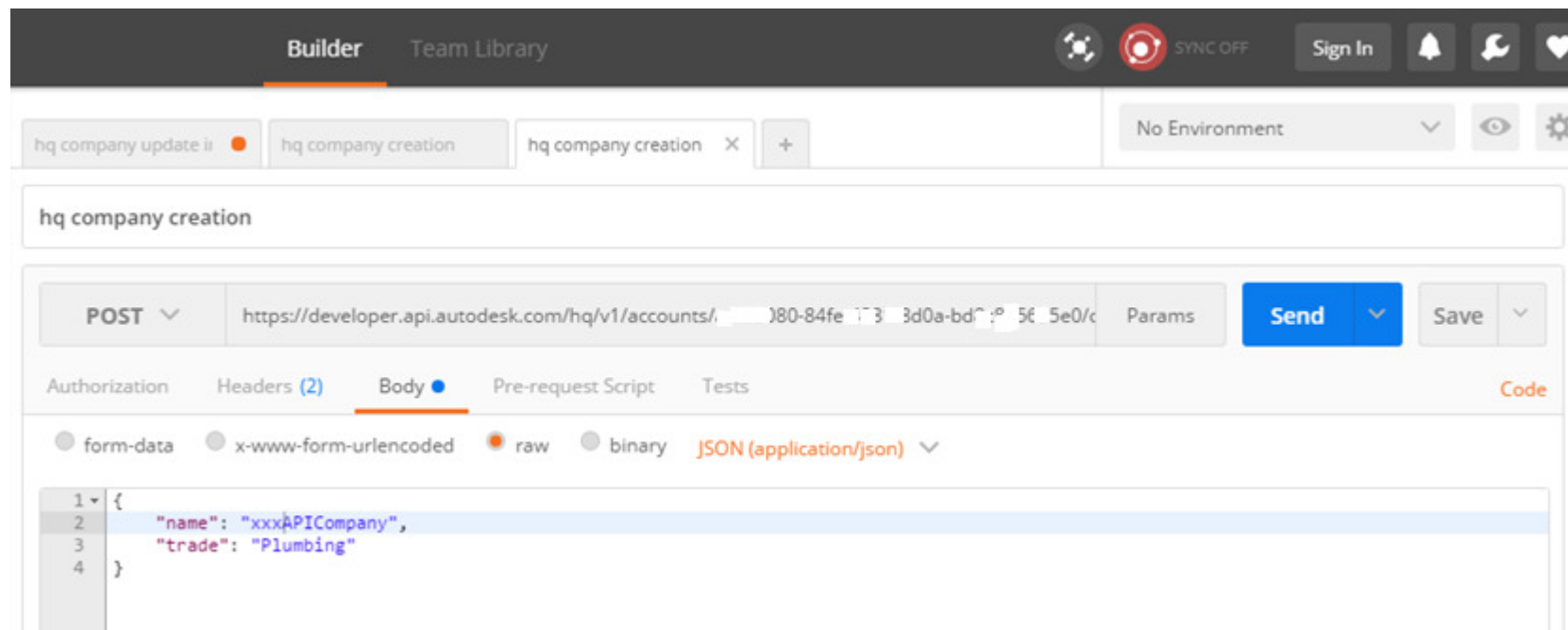
Tree View:

- JSON[7]
 - { } 0
 - { } 1
 - { } 2
 - { } 3
 - { } 4
 - { } 5
 - id : 4344f3c5-4299-497b-b3d9-
 - account_id : f9f8-84fe-10a-bd8...
 - name : Forge Demo MH
 - start_date : 2016-10-04
 - end_date : 2019-10-31
 - value : 1230000
 - currency : USD
 - status : active
 - job_number : 110-230-5567

Parameters:

	Name	Value
>	detailed	
>	limit	
>	offset	
>	sort	
>	field	
>	account_id	1f95080-84fe-4281 bd8c8856

Company Creation Example



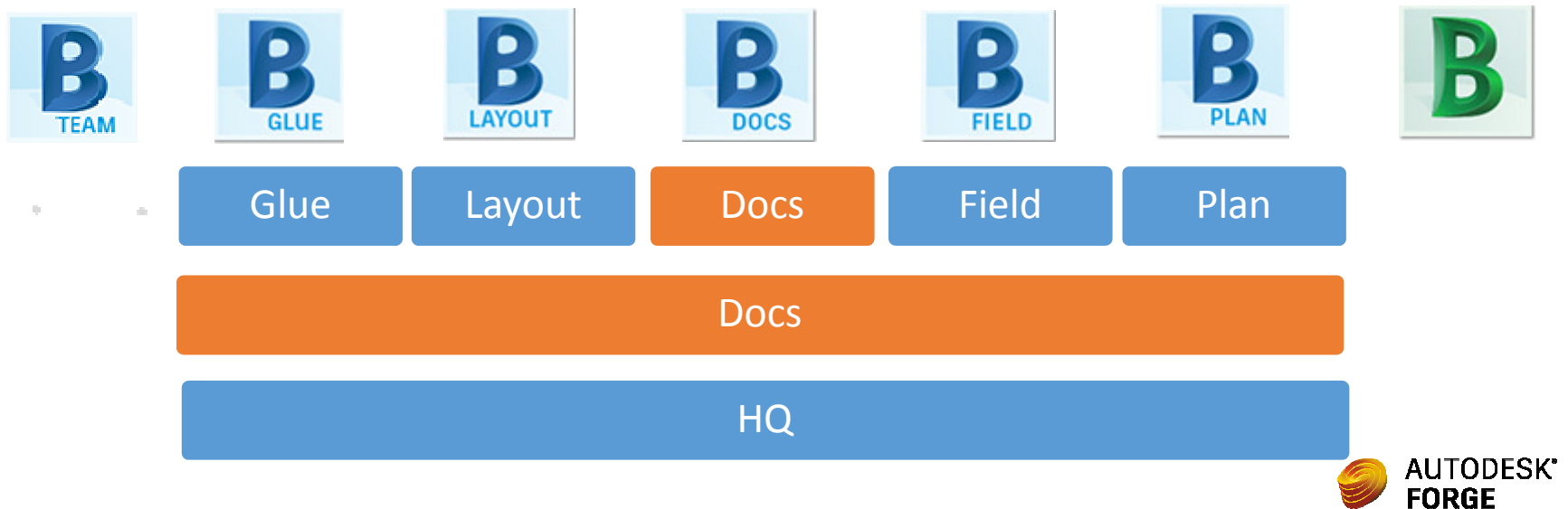
Summary

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 - Scope
 - Product Overview
- BIM 360 Account Level API
- Q&A

What's Coming Next

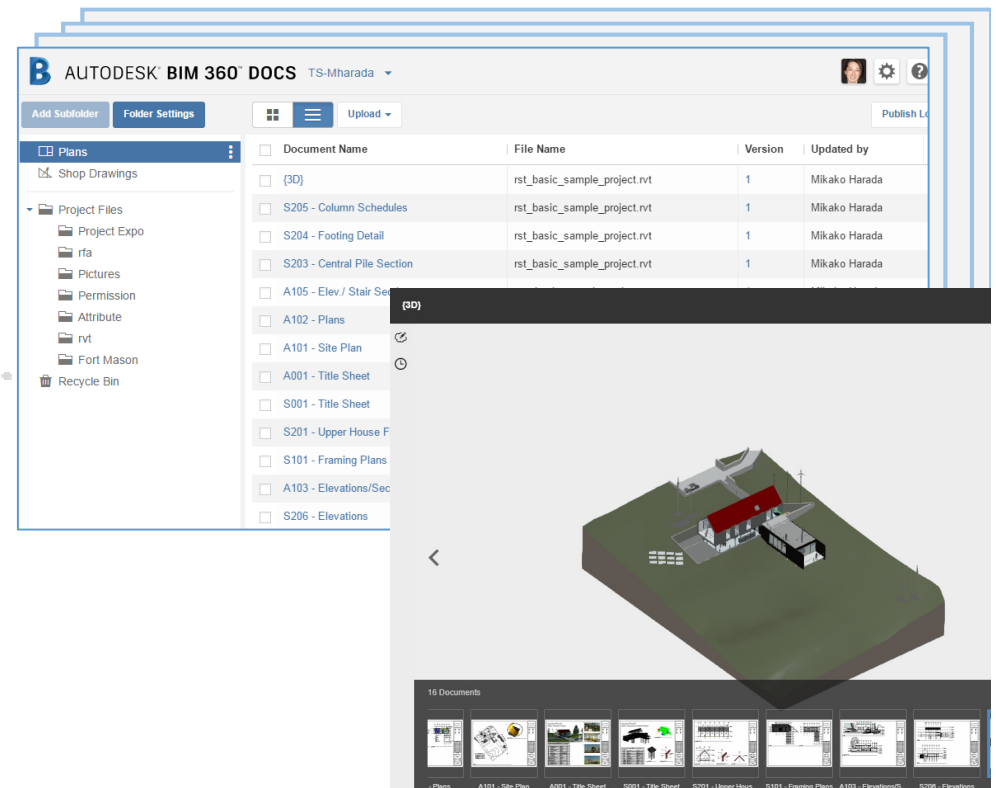
API for BIM 360 Docs

- Docs as data at center
- Seamless, unified future



BIM 360 Docs – API Overview

- Authentication (OAuth)
- BIM 360 API (Account/HQ Mgmt)
- Data Management API
- Model Derivative API
- Viewer
- Issues API



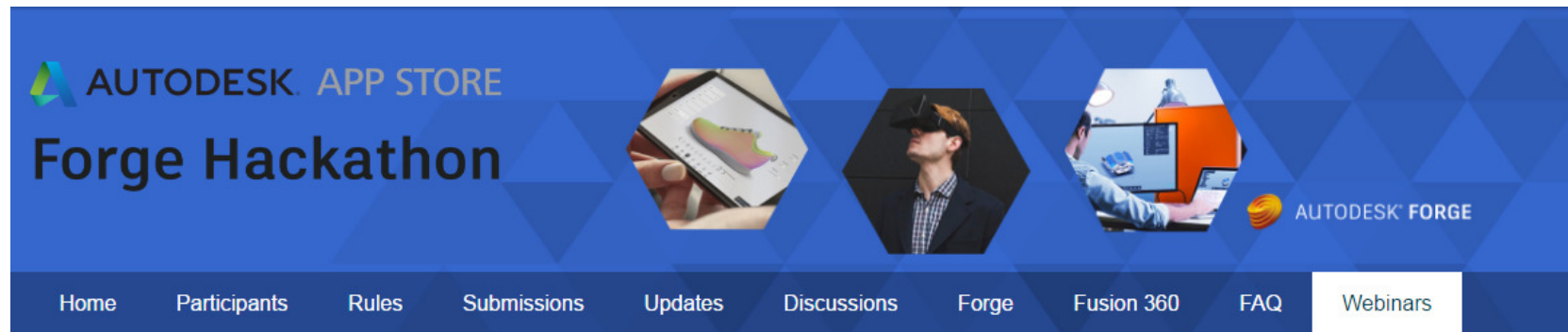
Learn more: Data Management & Related API Session Recordings

Date	Title	Focus
9/20	Forge overview, by Jim Quanci	Overview of Forge
9/22	OAuth and Data Management, by Augusto Goncalves	Platform
9/27	Model Derivative API, by Adam Nagy	Platform
9/29	Viewer API, Jaime Rosales and Philippe Leefsma	Platform

From DevCon

- Keynotes videos
 - <https://forge.autodesk.com/devcon-2016>
- Presentation slides
 - www.slideshare.net/Autodesk
- Session (post) recording
 - <https://www.youtube.com/watch?v=cOQEyI-EMAQ>
- Get started
 - <https://developer.autodesk.com>

Forge Hackathon



<http://autodeskforge.devpost.com/details/webinars>

Submit a new app ~Oct 31, 2016

\$500 reward



Questions?

Thank you!

