Forge API Workshop

REALITY REBOOT

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HOUSTON, TEXAS

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AUTODESK.

FORGE

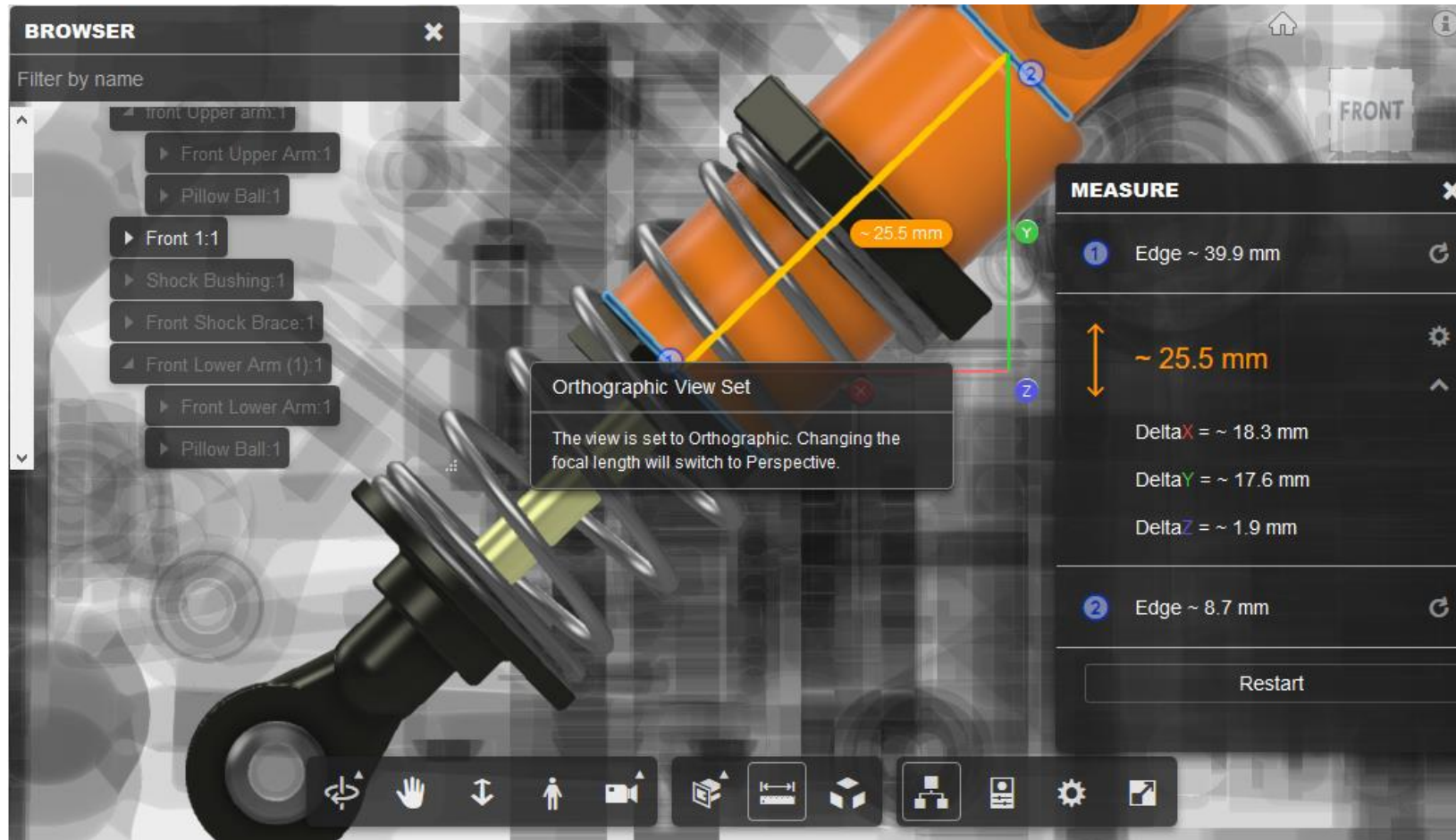# 3D on the web

▶ HTML 5 + WebGL enables it

▶ Lots of 3D content already available

Forge brings 3D to the web…

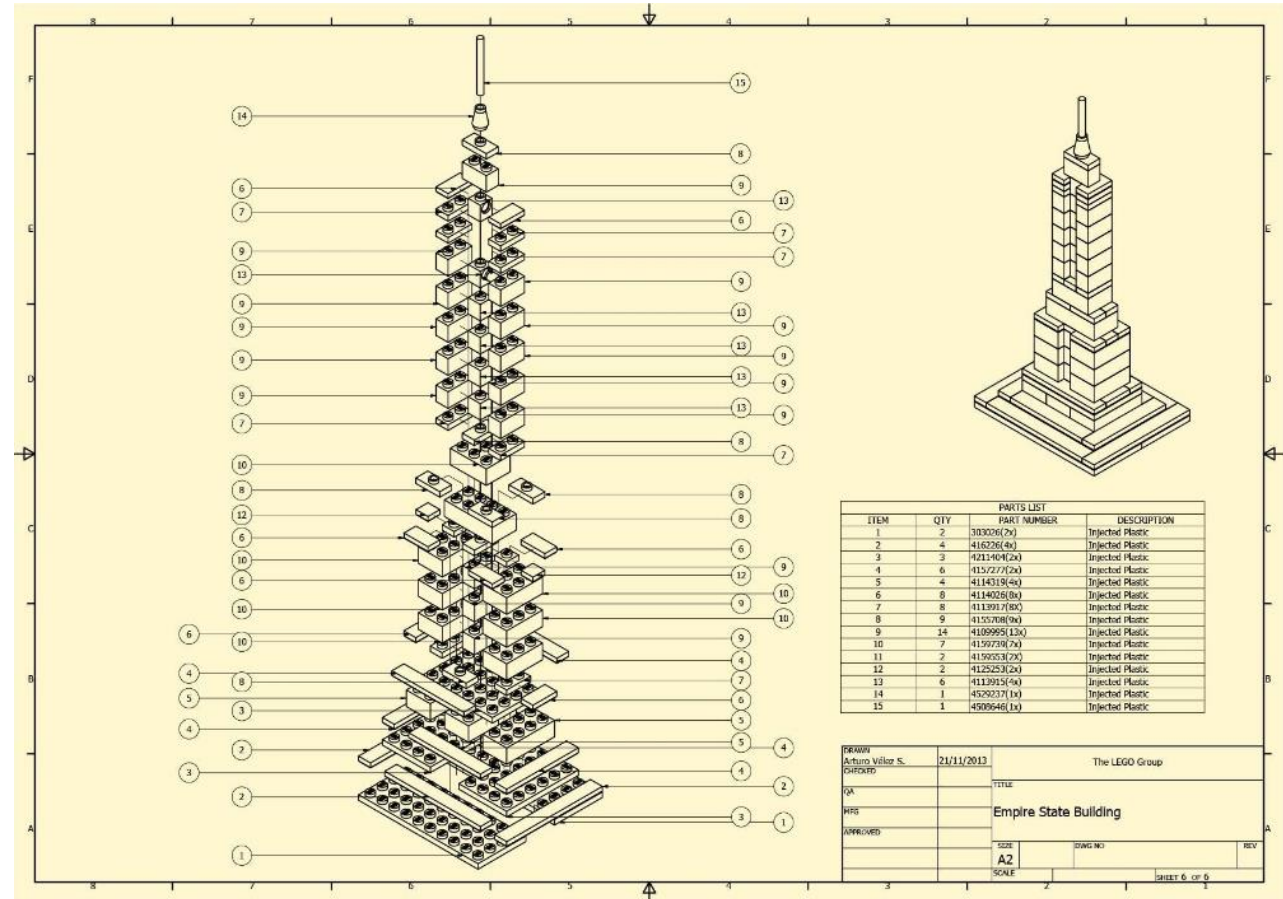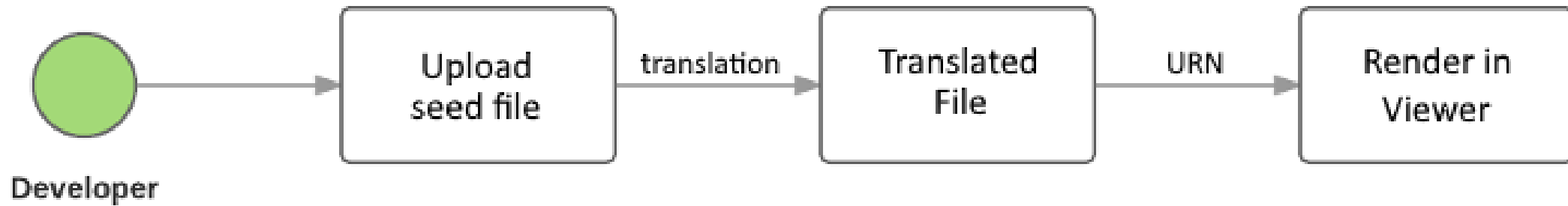demo viewer

Viewable Content

▶ The viewer uses a proprietary light-weight viewable as an SVF or F2D package

▶ The viewable is stored online (or can be local if needed to be offline)

▶ Viewable comes from Model Derivative service

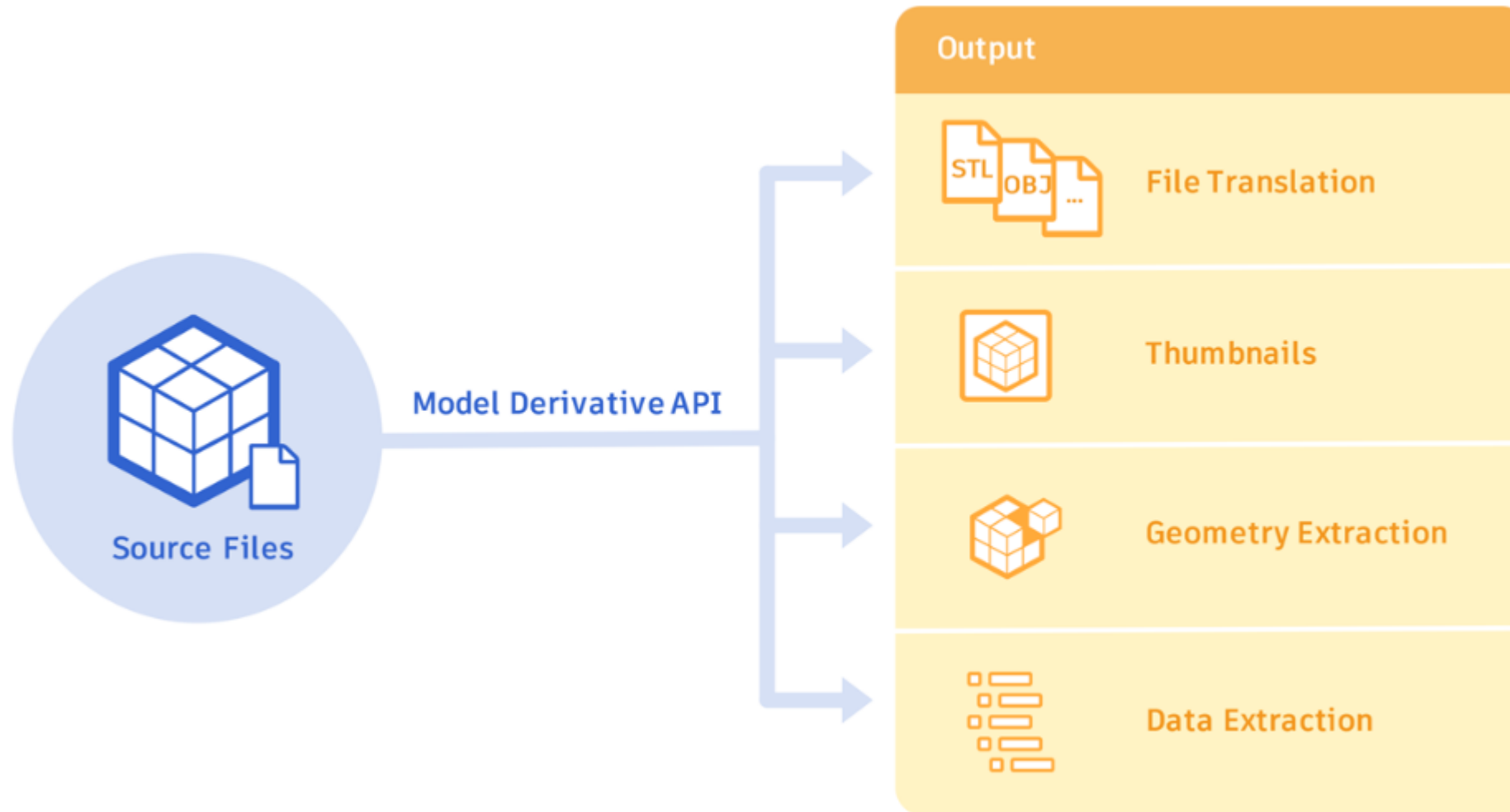# Forge Model Derivative REST API
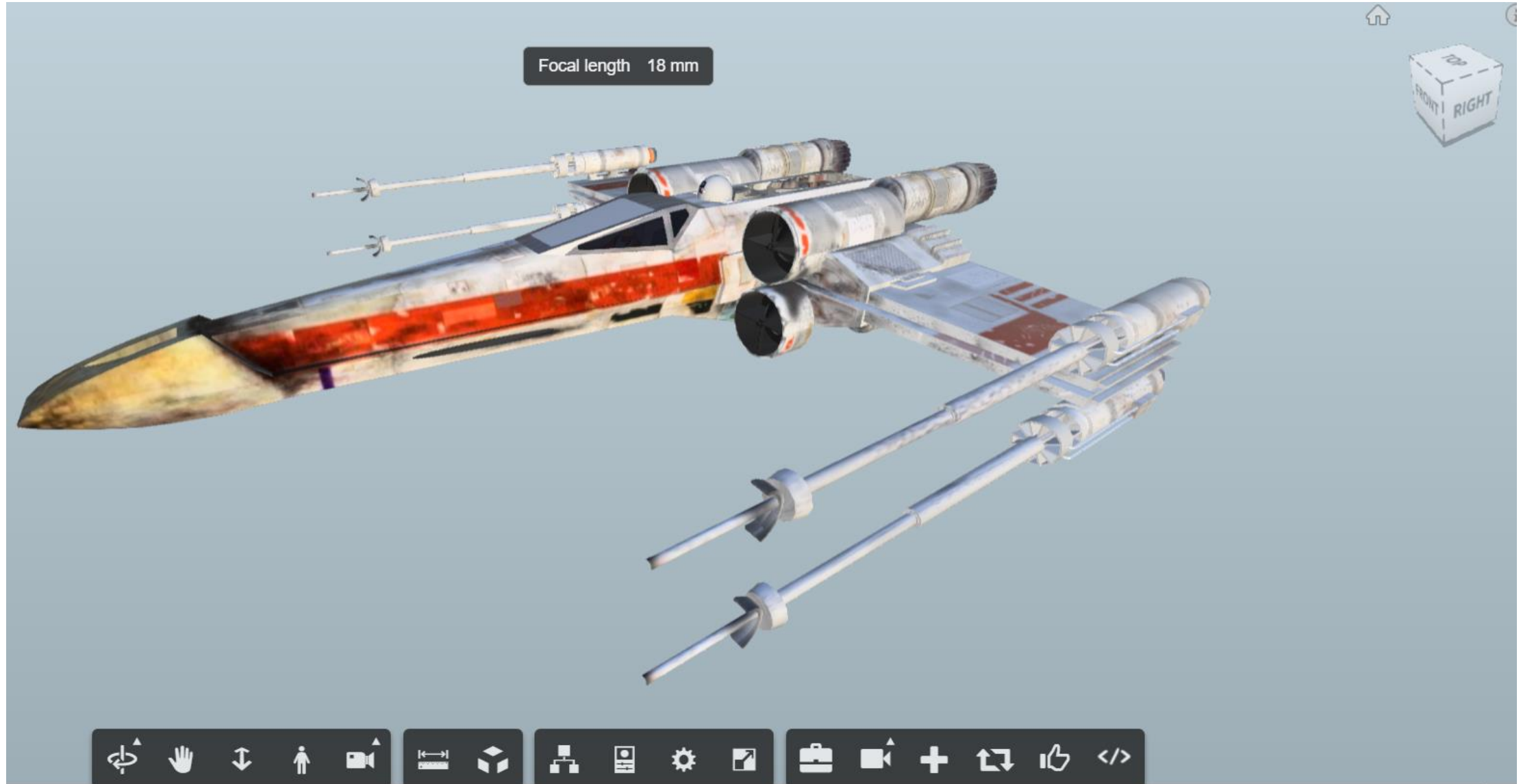

▶ Supporting ~ 50 formats

▶ https://developer.autodesk.com/en/docs/model-derivative/v2/overview/supported-translations/

▶ Translate into SVF/F2D for Viewer

▶ Can also be translated into other formats

Forge Model Derivative REST API

Source Files

Model Derivative API

Output

STL OBJ ... **File Translation**

Thumbnails

Geometry Extraction

Data Extraction

Forge JavaScript Viewer

Workshop Prerequisites

▶ JQ (suggested) : https://stedolan.github.io/jq/

▶ cURL (in some form, ie. cURL is part of command line mac os, directly in Linux, and cURL install on Windows, or part of CYGWIN)
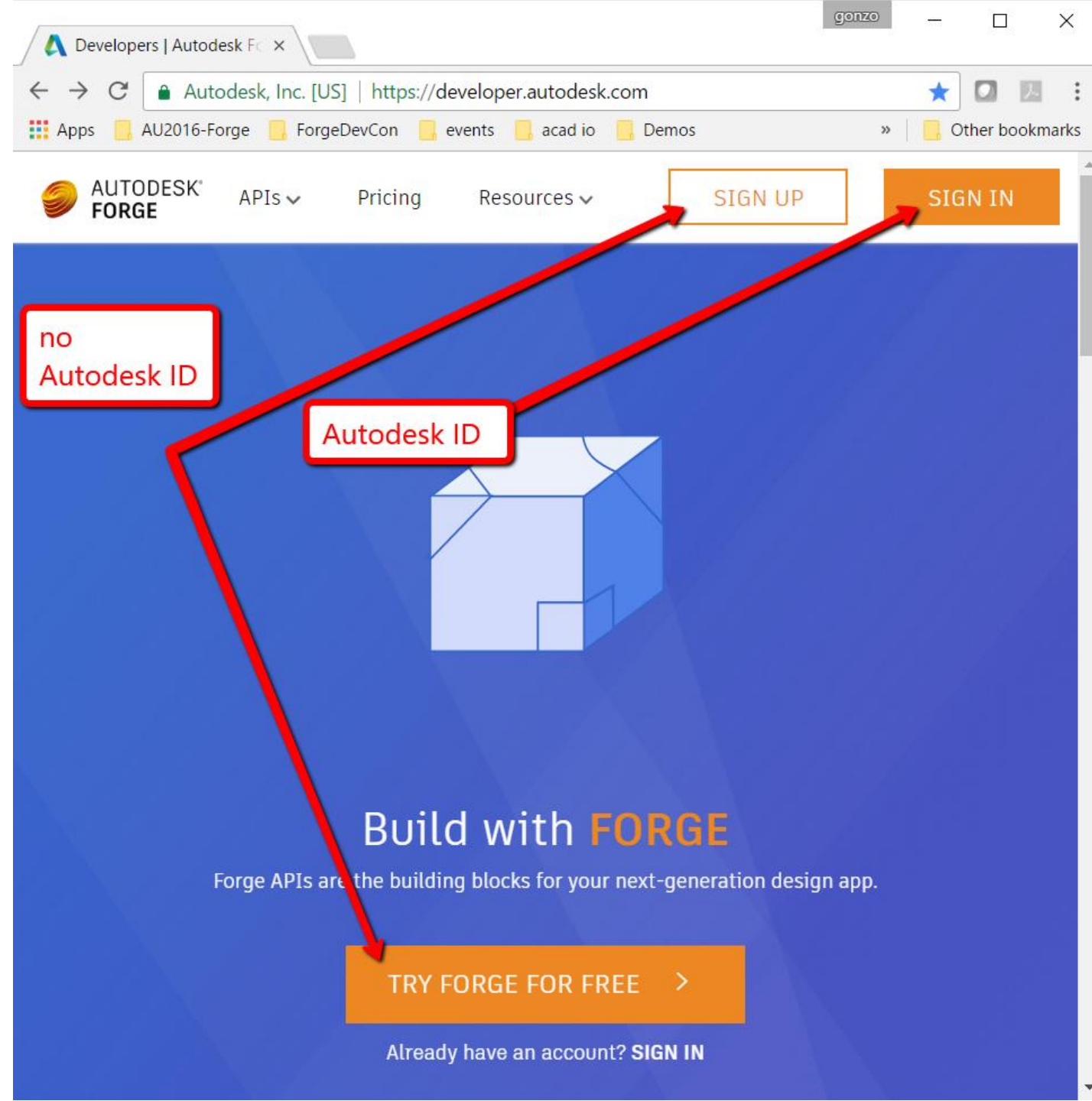
▶ Node.js installed to host the Viewer site

Autodesk Forge Viewer – Getting Started

1. Register an App

2. Translate Model

3. Build your HTML / JS

4. Token Handling

5. View Content

1. Register an App

Sign-In or Sign-up

1. Register an App

Sign-up or Sign-in

Create account

First name	Last name

Email

Confirm email

Password

☐ I agree to the **Autodesk Web Service API Terms of Service** and the **Autodesk Privacy Statement**.

CREATE ACCOUNT
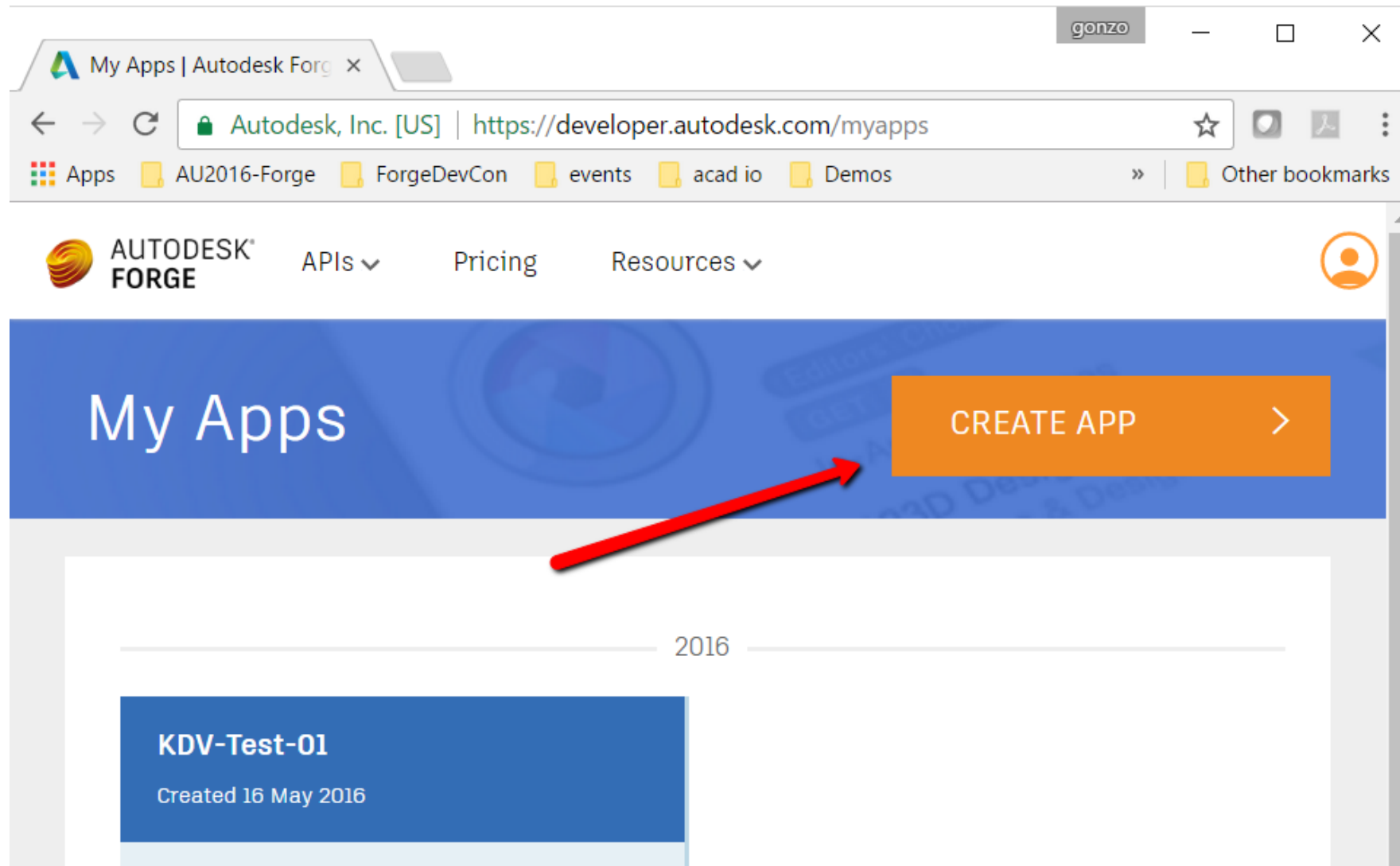
ALREADY HAVE AN ACCOUNT? **SIGN IN**

- OR -

Sign in

Email or Username

NEXT

NEW TO AUTODESK? **CREATE ACCOUNT**

1. Register an App

Create App

1. Register an App

Create App

Provide basic information about your app

APIs

BIM 360

Design Automation API

Model Derivative API

Design

About this app   (Created 16 May 2016)

Client ID	dO1pjPN4JtOHXswSjFwYRh8a91U1wTru
Client Secret	**************** Show Regenerate
App Name	KDV-Test-01
Description	Testing the services from customer account (non-autodesk).
CallBack URL	http://localhost:3000/api/forge/callback/oauth
Your Website URL	http://www.getcoreinterface.com

CREATE APP   >

2. Translate Model

Run cURL commands

- OR -

See:

https://github.com/kevinvandecar/nodejs-forge-viewer-tutorial-extras/blob/master/WorkShop_Tutorial-Model-Derivative-cURL-JQ.json

Use example service

https://models.autodesk.io/

- or-

http://view-and-data-prod-uploader.herokuapp.com/

Note about base64 encoding of the URN

▶ use:
https://www.base64encode.org/

▶ Make sure to paste the urn:

▶ Returned urn will typically have double equal

Encode to Base64 format
Simply use the form below

urn:adsk.objects:os.object:kdv002/Sports-Car.dwfx

> ENCODE <   UTF-8 ⌄ (You may also select output charset.)

dXJuOmFkc2sub2JqZWN0czpvcy5vYmplY3Q6a2R2MDAyL1Nwb3J0cy1DYXIuZHdmeA==

3. Build Client (HTML + JS)
4. Build the token handler
5. View It!

▶ See https://github.com/Autodesk-Forge/viewer-nodejs-tutorial

Autodesk Forge Viewer / Examples

▶ https://a360.autodesk.com/viewer/

  ▶ User-side use and easy way to evaluate the Viewer capabilities

▶ http://lmv.rocks/

  ▶ Nice Viewer overview

▶ http://viewer.autodesk.io/node/gallery/#/home

  ▶ Uses Angular.js and Node.js

▶ http://calm-inlet-4387.herokuapp.com/

  ▶ Example showing how to hook up data outside of viewer

Autodesk Forge Viewer

▶ Free programming tools:

  ▶ http://forge.autodesk.com

  ▶ http://developer.autodesk.com

  ▶ http://developer-autodesk.github.io

▶ try it out with your models:

  ▶ https://360.autodesk.com/viewer