



Building Web Applications with Inventor on Forge

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Key learning objectives

At the end of this class, you will be able to:

- Understand how Inventor fits into the Forge Platform
- Know how the Design Automation API building blocks apply to Inventor
- Build a Web App on Forge leveraging Inventor in the Design Automation API
- Gather takeaways for how you can automate your workflows on Forge

Forge | Design Automation API

What is Forge?

FORGE is a set of web service APIs* that power the future of making things.

*Application Program Interface

Technology.

Forge takes components from Autodesk's powerful library of software and delivers them as cloud-based building blocks for companies to create their own new solutions.



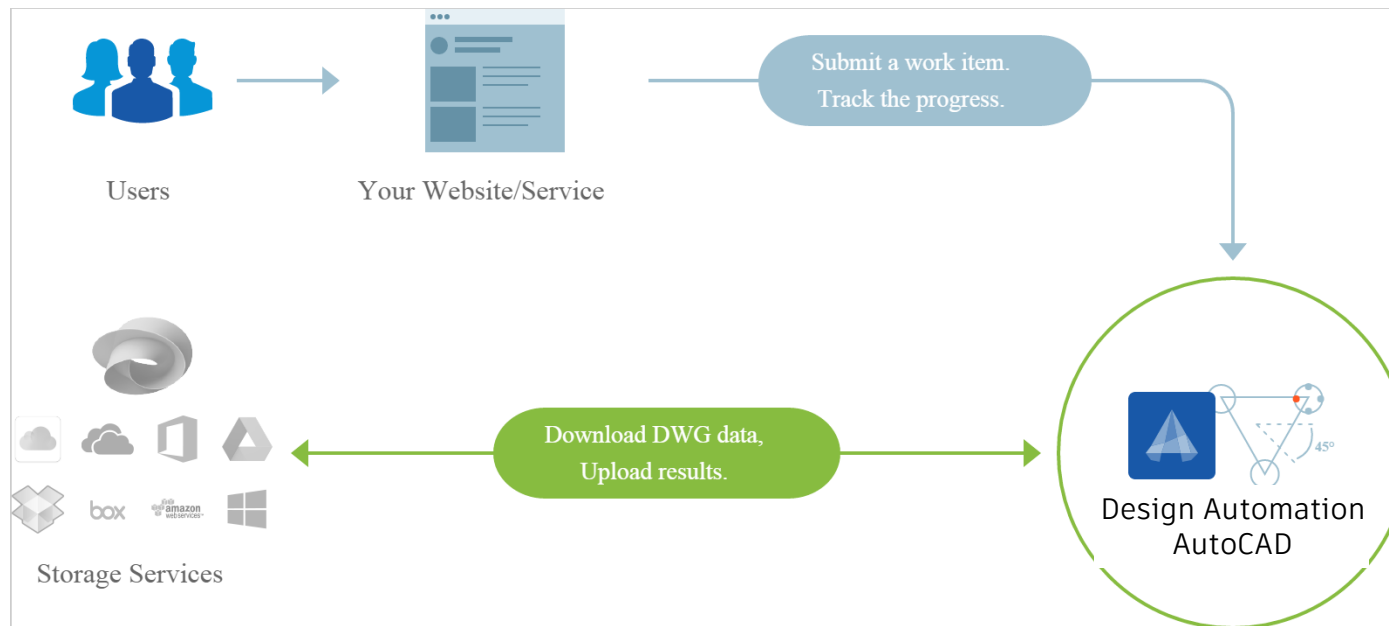
Integrate.

Use these services to extend products or to create entirely new solutions within your existing infrastructure. We provide the blocks, you build the spaceship.



Design Automation API Initial Release

AutoCAD scripts in the 'cloud'



Design Automation API + Inventor

Design Automation Terminology

Term	Definition	Interaction
Engine	Headless Inventor (InventorServer) where work is done	AutoCAD or Inventor specified in AppPackage and Activity
AppPackage	Code or Data to be used by the Engine	Zipfile uploaded by API
Activity	An action to be executed by the Engine	Object defined by API
WorkItem	Job submitted to the and run by the Engine	Object defined by the API

Design Automation API Steps

Setup

Inventor
Plugin/iLogic

Create
AppPackage

Upload
AppPackage

Define
Activities

Run

Input/Output
File Setup

Define
WorkItems

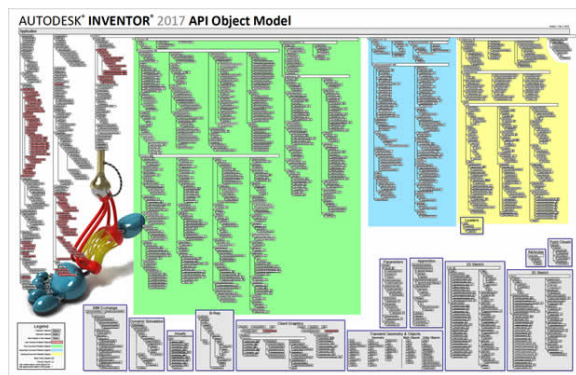
Submit
WorkItems

Get
Results

Setup | Inventor Plugin Example



InventorServer **Plugin** $\approx$ Inventor **Addin** - UI



.NET or C++ (COM)

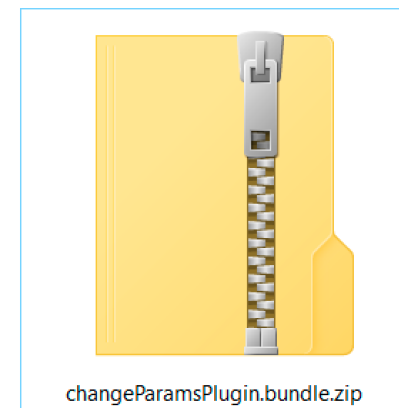
- ✓ Document is available in Plugin
- ✓ Parameters are handed to Plugin
- ✓ Via Inventor API change parameters as specified
- ✓ Save out changes

C# Sample Code for Change Parameter available in class handout

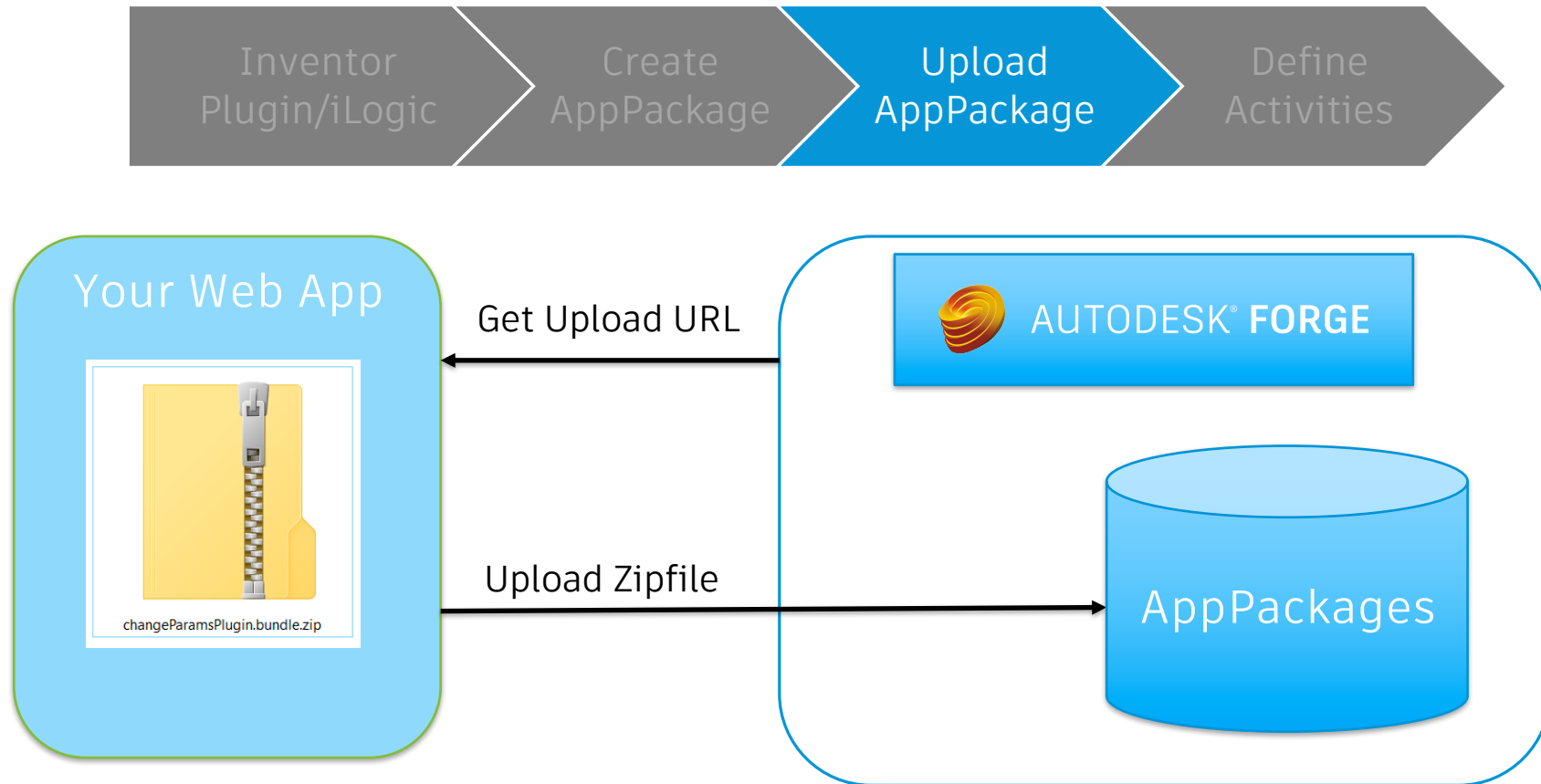
Setup | Create AppPackage Example



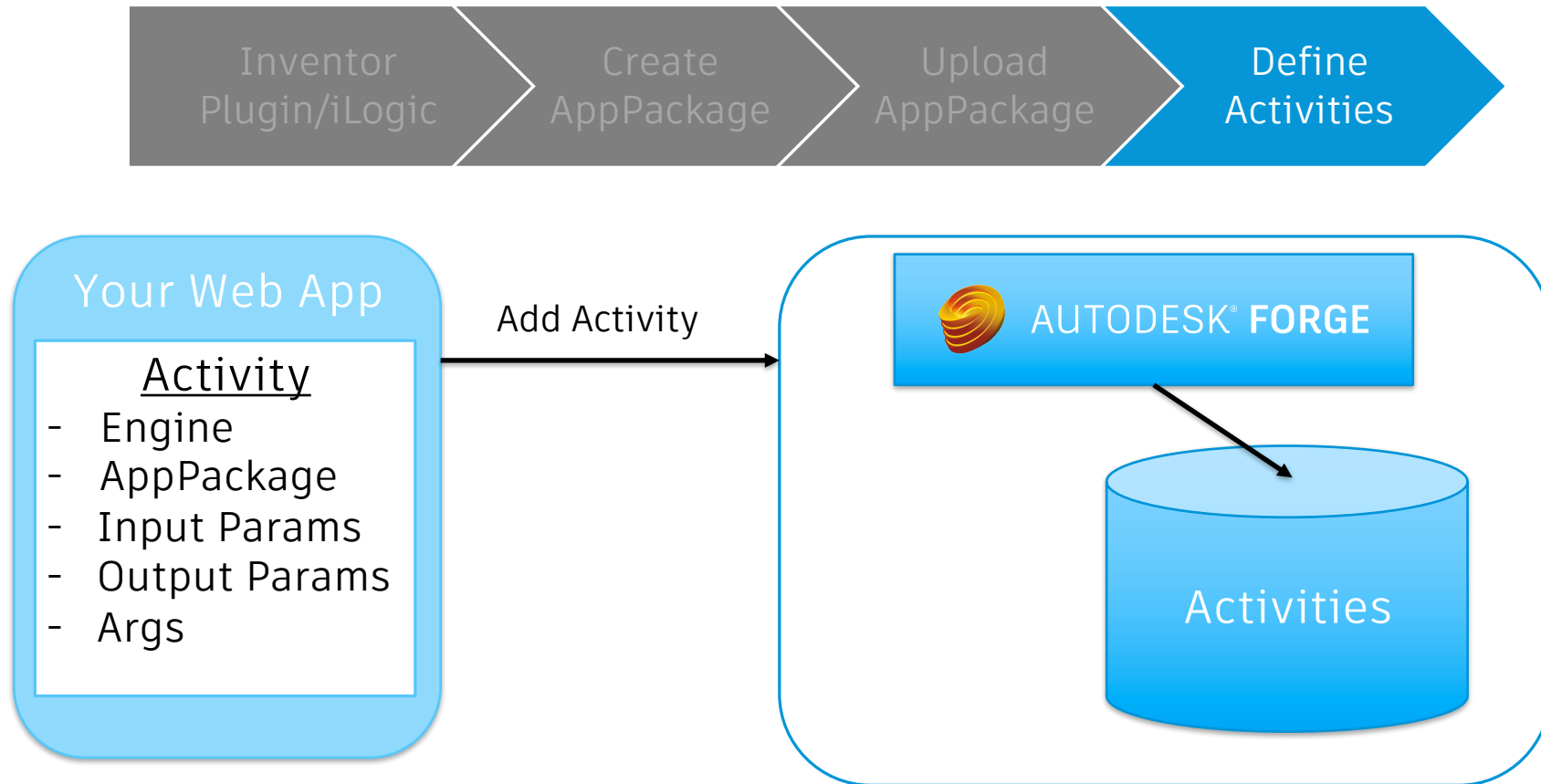
```
\---changeParamsPlugin.bundle  
| PackageContents.xml  
|  
\---Contents  
  changeParamsPlugin.dll  
  changeParamsPlugin.Inventor.addin
```



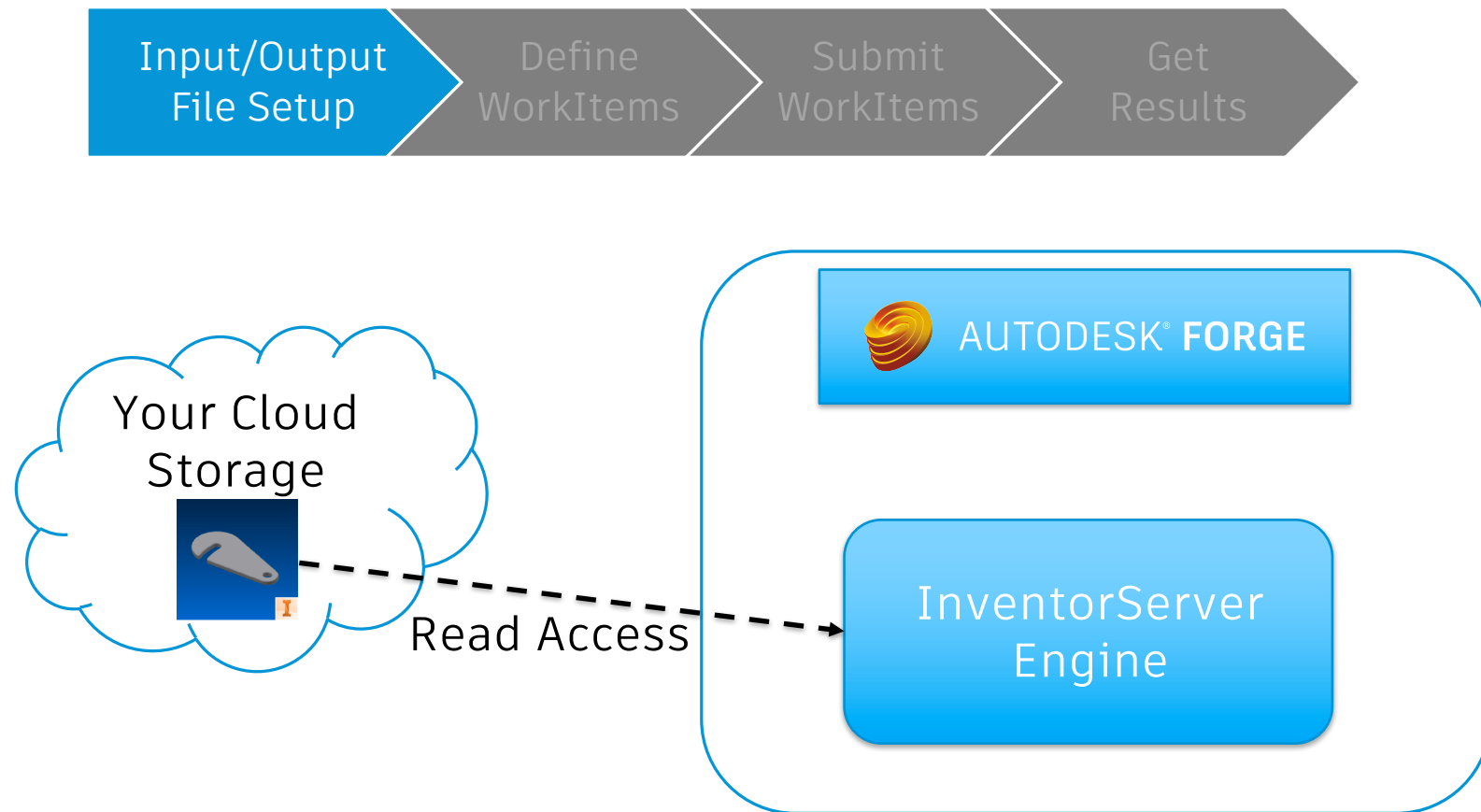
Setup | Upload AppPackage Example



Setup | Define Activities Example



Run | Setup Input File Example



Run | Define WorkItem Example

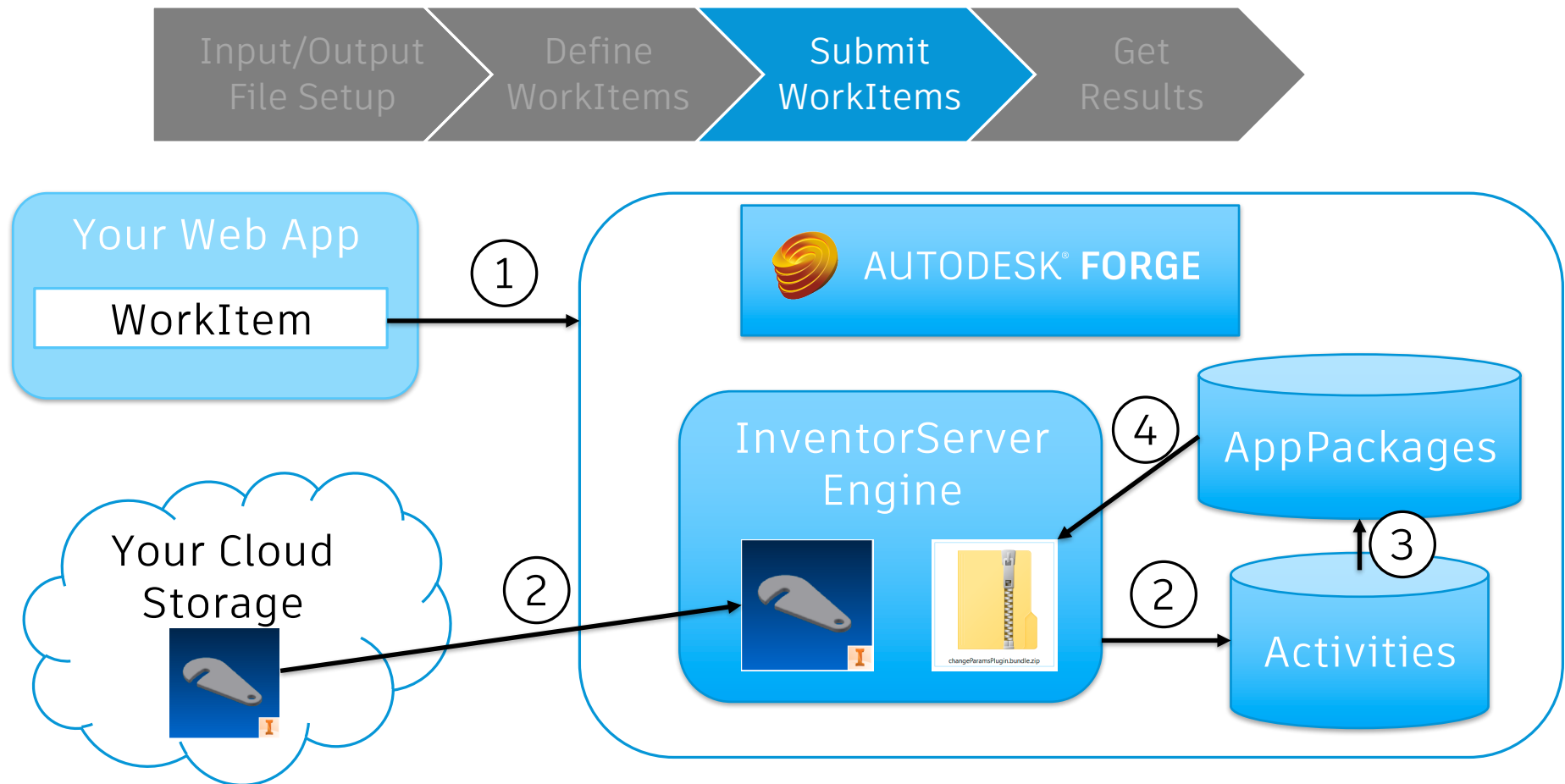


Your Web App

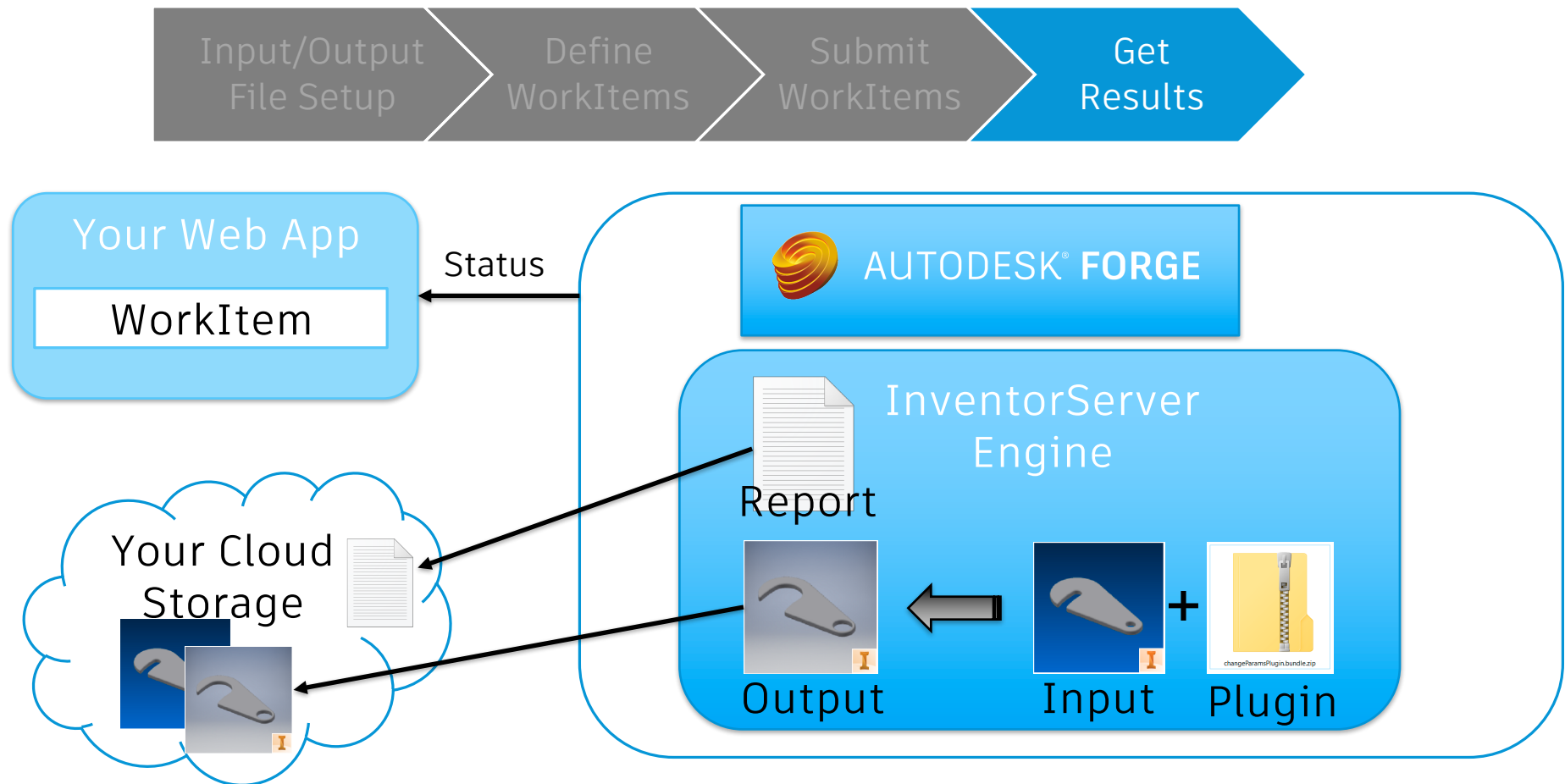
WorkItem

- Activity
- Inputs
 - Input Part URL
 - Param JSON
- Outputs
 - Output Part File

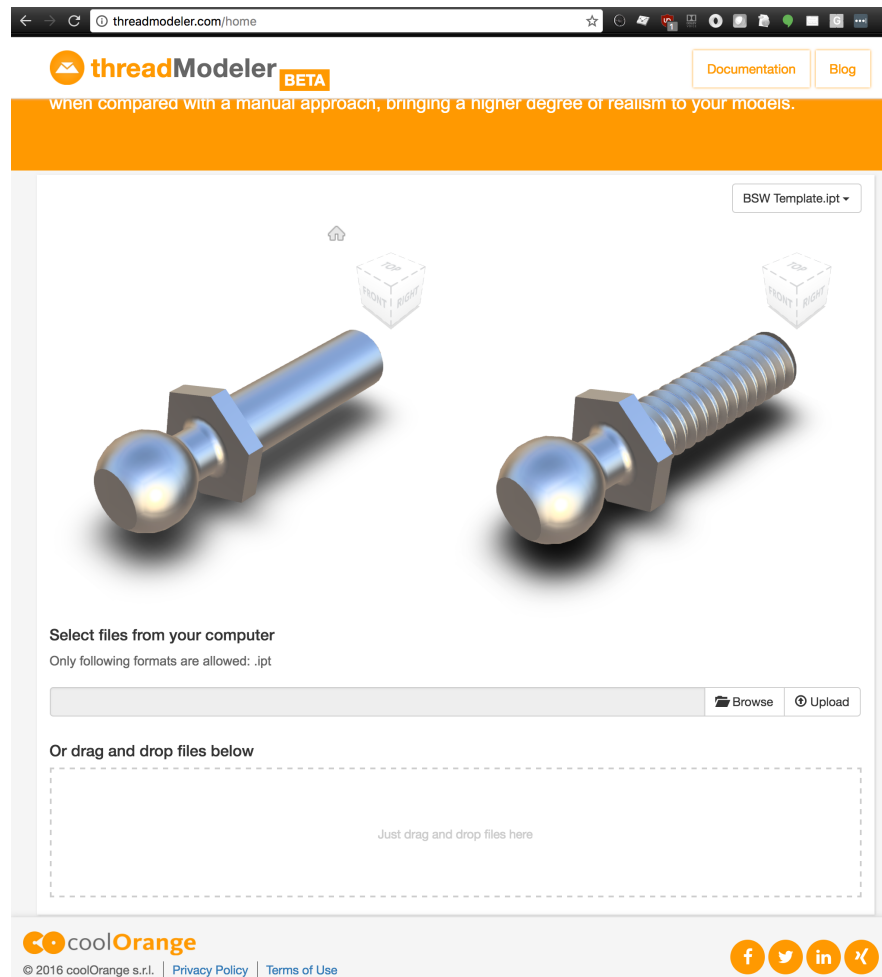
Run | Submit WorkItem Example



Run | Run Work Item and Get Results Example



See it working!



What does this mean to you?

How does this fit into your existing workflows?

- Groups of 4-6
- Write out as ideas as you can
- As a group choose best 1-2 to share
- Select someone to share idea(s) out to class

How can this change my entire way of working

Think **big** – Think **impossible!**

- Groups of 4-6
- Ideas for the future – as many as you
- As a group choose best 1-2 to share
- Select someone to share idea(s) out to class

Where we are today and what's next

What's actually working, status....

- Research Project - more than just a PoC
- Running in Forge today with limited access
- Looking for feedback
 - Does this meet your workflow needs?
 - How do we optimize our engine?

How did I do?

- Your class feedback is critical. Fill out a **class survey** now.
- Use the AU mobile app or fill out a class survey online.
- Give feedback after each session.
- AU speakers will get feedback in real-time.
- **Your feedback results in better classes and a better AU experience.**



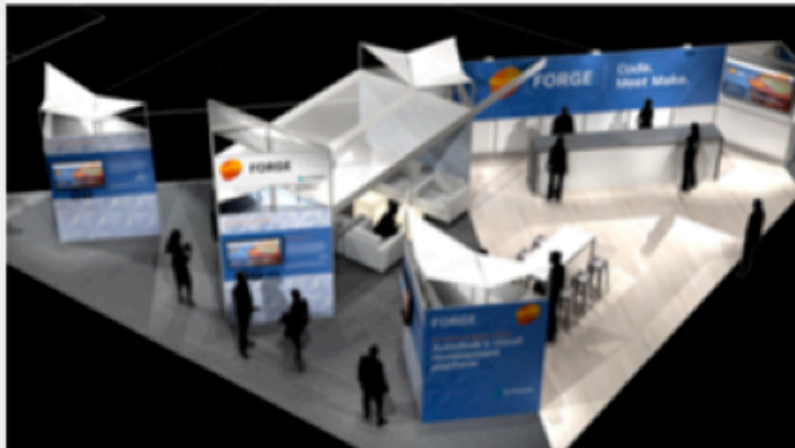
Forge Next Steps...



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