Welcome to the Fusion 360 API (Application Programming Interface)

What is an API?

For those new to customizing applications by writing programs, the first question might be, "What is an API?". An API, or *Application Programming Interface* is a term used to describe a set of functionality exposed by an application that allows it to be controlled by a program. For example, you can use Fusion 360's API to write a program that will perform the same types of operations you can perform when using Fusion 360 interactively.

Fusion 360, by definition, is a general CAD system, meaning that it is not aimed at any specific industry or set of individuals that only model certain types of products. By providing an API, Fusion 360 allows specialized functionality to be added and repetitive operations to be automated, resulting in the improved productivity that comes from a tailored solution.

An API is also important in that it allows third-party applications to integrate with Fusion 360.

Using the API Help

This online documentation is the primary source for details about the API and the content is accessed through the table of contents, as shown below. There are also some other resources that are referenced below.

The help content for the API consists of three major categories:

- **User's Manual** - Contains high level overviews of the various parts of the API and describes how to use them. The User's Manual is the place to start if you're new to the API.
- **Reference Manual** - Provides details about every object, method, property, event, and enum exposed by the API. Many topics include links to code samples that demonstrate how to use that specifc object or function. This is the heart of the API documentation and is something you'll use continually as you write programs for Fusion 360.
- **Code Samples** - These are complete code samples that you can copy, paste and run. Most code samples simply demonstrate how to successfully call a specific function and are not necessarily meant to accomplish a useful task; however, many of them also demonstrate common and useful workflows.

The same API help content is also available as a chm file that can be used offline. Look at the solution in this forum post for the link and instructions.

Additional Resources

Fusion 360 Object Model - As discussed in the Basics Concepts of Fusion 360's API topic here's a link to the pdf of the Fusion 360 object model.

Here are a few additional resources outside of this standard documentation that can also be very useful.

- **Autodesk Discussion Groups** - Autodesk discussion groups where there are open discussions about all of Autodesk's products. The Fusion 360 **API and Scripts** group can be used to ask API questions and is a great resource for looking at previous questions and answers. The answers you find to questions using web searches will often lead you to topics here.

- **Videos on YouTube** - A series of presentations were made at the end of 2015 for an Autodesk sponsored Hackathon to encourage the development of Apps for Fusion 360. These presentations are available as videos on YouTube. The API has grown a lot since these videos were produced but they still provide a lot of useful information and the concepts remain the same.


Introduction to the Fusion 360 API


Introduction to the Fusion 360 Object Model


Commands and User Interface


Document Structure


Geometry in Fusion 360


More About Commands


Odd and Ends

- **Resources on GitHub** - The Fusion 360 GitHub site provides access to additional sample programs. To use the

samples you'll need to copy them from GitHub to your machine. This process is described in detail in the Using Samples From GitHub topic.

- ***Mod the Machine* Blog** - A blog dedicated to the Autodesk Manufacturing API's

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