DIVE GETTING STARTED GUIDE

VERSION 1.0

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OVERVIEW

DIVE is a visual analytics software library designed for exploring data in interactive, flexible ways. It can stream data from data bases, plot data in multiple different ways, and represent data in sophisticated object-oriented and ontologically-expressive ways. For more details, please see the DIVE manuscript.[1]

DIVE allows you to build data pipelines consisting of one or more pipeline plugins – each plugin along the pipeline handles the incoming data – transforms it, mines it, visualizes it, etc – and then passes it along to the next plugin that handles the data in its own way. Thus, DIVE can be used to build many different applications –visualizing molecular dynamics protein simulations, charting statistics from data in a database – DIVE can handle almost any kind of data. In a sense, each pipeline is like a stand-alone application. And because DIVE pipelines can be saved out to disk in a .dive file and distributed to others (as we did for the samples), .dive files can be seen as tools – one person creates them and many more people use them.

Most aspects of DIVE have been documented. The DIVE installation program installed a folder hierarchy at *C:\Program Files\Dive.*
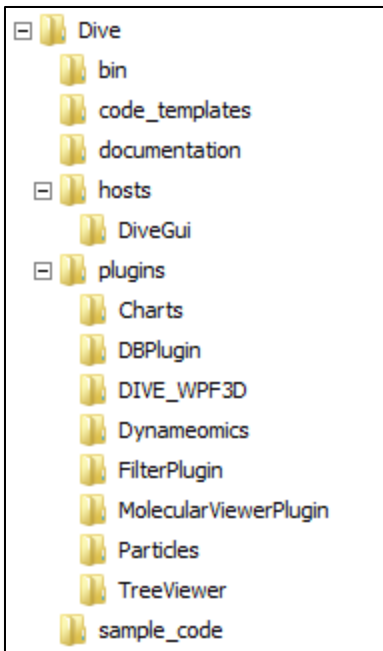
- The *bin* directory holds the DIVE software library. When writing your own plugins, you will need to link to the binaries in this directory.
- The *code_templates* directory holds a Microsoft Visual Studio template for creating DIVE plugins.
- The *documentation* directory holds documentation for several DIVE samples, a scripting tutorial, and other pieces of general DIVE documentation. It also contains documentation for the sample projects and general plugin development documentation.
- The *hosts* directory holds *DiveGui\DiveGui.exe*, the main DIVE application. Because DIVE is a software library, not an application *per se*, it must be hosted within an application (for example, you could also host DIVE within Excel, within a Python application, within a command-line program, etc). Double-clicking on *C:\Program Files\Dive\hosts\DiveGui\DiveGui.exe* will launch the DIVE application. (This is what most people will want to do upon downloading DIVE.)
- The *plugins* directory is where DIVE plugins are stored. You will most likely not be using items in this directory directly. When you write new DIVE plugins, this is where they will be placed.
- The *sample_code* directory holds a Microsoft Visual Studio solution file (.sln) that links to demonstration plugin projects.

PLATFORM REQUIREMENTS

Below are some requirements to run DIVE on your windows machine. Most machines should work if they are caught up with Windows Update (find *Windows Update* in the Start Menu and make sure that you are up to date).

WINDOWS

DIVE is a .NET program and can only run on Windows machines.

.NET

DIVE requires at least .NET 4.0 to be installed on your machine.

PROGRAMMING

The programming examples assume that you have Visual Studio installed.

FIRST STEPS

As a place to begin, look in the documentation directory for the *Basic DIVE Interaction Guide*. If you want to jump right in, go ahead and open up the *DIVE Demonstration Usage Guide* or the *DIVE Protein Dashboard Usage Instructions*. If you are interested in exploring and charting data, take a look at the *DIVE Users Guide – Scripting Tutorial*.

Have fun!

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REFERENCES

(1)   Bromley, D.; Rysavy, S. J.; Su, R.; Toofany, R. D.; Schmidlin, T.; Daggett, V. DIVE - A Data Intensive Visualization Engine. *submitted for publication* **2012**.