

---

# Epistemix Documentation

**['Epistemix Inc.']**

**Feb 06, 2023**



# CONTENTS

<b>1</b>	<b>Background Information</b>	<b>3</b>
1.1	Formatting Key . . . . .	3
1.2	Key Concepts . . . . .	4
<b>2</b>	<b>The Epistemix Platform</b>	<b>5</b>
2.1	Platform Introduction . . . . .	5
<b>3</b>	<b>The FRED Modeling Language</b>	<b>13</b>



Welcome to the Epistemix Documentation site. If you have questions about the company or are interested in speaking with our sales, recruiting, or other teams, please visit our main site at [www.epistemix.com](http://www.epistemix.com).



## BACKGROUND INFORMATION

Our agent-based modeling platform, the Framework for Reconstructing Epidemiological Dynamics (FRED) is our signature product to help leaders make better decisions. The following guides are provided to help new users navigate our products and documentation.

### 1.1 Formatting Key

This sections provides a short overview of the formatting used throughout the Epistemix documentation. The following list summarizes the formatting conventions used:

- **bold** introduces key terms or concepts.
- bold computer text is used for file names, such as `main.fred`
- `computer text` is used for variables, function names, and other coding syntax within the text.

Larger sections of code will appear in demarcated code blocks. For example, here is a block of FRED code:

```
# sample code may appear in a block like this  
# you can often copy these blocks directly into a FRED model file  
condition MY_CONDITION {  
    start_state = Start  
  
    state Start {  
        # some code  
    }  
    # some more code  
}
```

Command line interaction will also appear in demarcated blocks.

```
$ some_command # code that begins like this can be copied directly into your console  
output will look like this
```

In command-line interactions, the `$` represents a Linux or Mac generic shell prompt. Your shell prompt may look different.

---

**Note:** Within code blocks, inline comments will be preceded by a hash, `#`.

---

### 1.2 Key Concepts

Our agent-based modeling tool is the Framework for Reconstructing Epidemiological Dynamics, or FRED. It is important to make a distinction between the different aspects of FRED that you may encounter. This includes the following concepts.

**language**

The FRED Modeling Language refers to the programming language used by FRED. This language was built by Epistemix to simplify the construction, execution, and understanding of agent-based models.

**model**

A FRED model is a piece of FRED code used to simulate some interaction.

**agent**

In FRED, agents can represent anything. Often, they will represent individual people. They can have an associated age, gender, race, and other demographic information that can be used within the model.

**simulation**

A FRED simulation is the execution of a model with a defined set of parameters, especially the specific location and time-frame. The location determines the population, or set of agents that participate in the simulation. During a simulation, the individual agents experience the conditions, make decisions, and are impacted by any other factors defined in the model.

**platform**

The FRED Modeling Platform refers to the tools provided to build, execute, and analyze FRED models and simulations.

If at any point during or after reading through our product documentation you have questions, please do not hesitate to reach out on our forum at <https://epistemix.discourse.group/>, or contact our team directly at [help@epistemix.com](mailto:help@epistemix.com).



## THE EPISTEMIX PLATFORM

The Epistemix platform can be used to get you started with creating models using a powerful development environment in no time.

### 2.1 Platform Introduction

#### 2.1.1 Signing Up

If you do not already have credentials, you will need to sign up in order to access the platform.

Navigate to [www.epistemix.com/platform](http://www.epistemix.com/platform), click the sign up button at the bottom of the page, and submit the form.

Start building models.



Sign up

First name \*      Last name \*

Email \*

Company/Organization

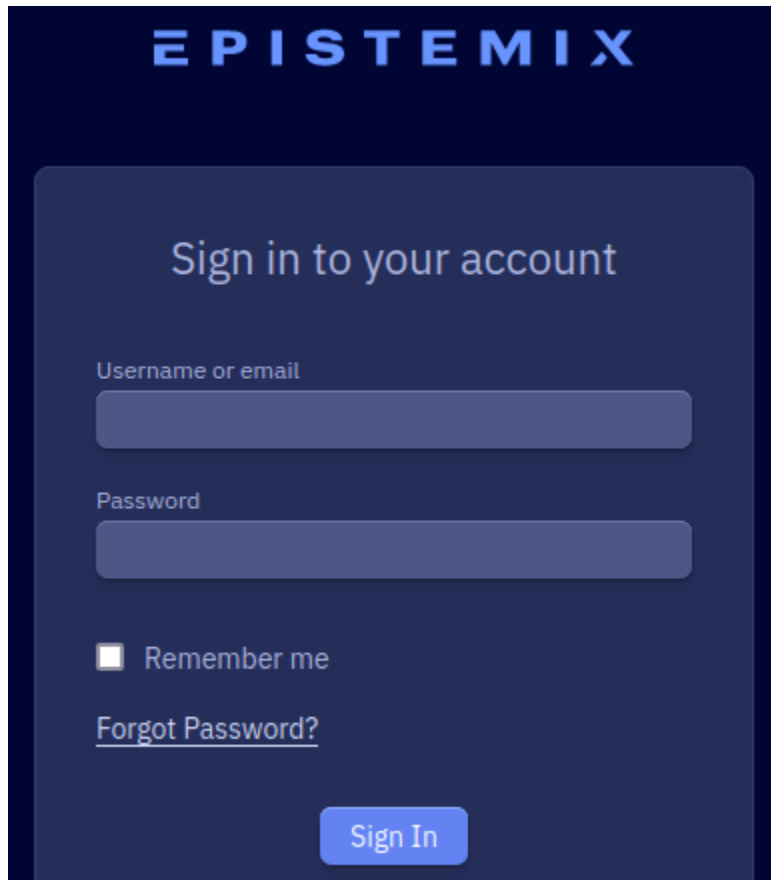
Submit

EPISTEMIX        

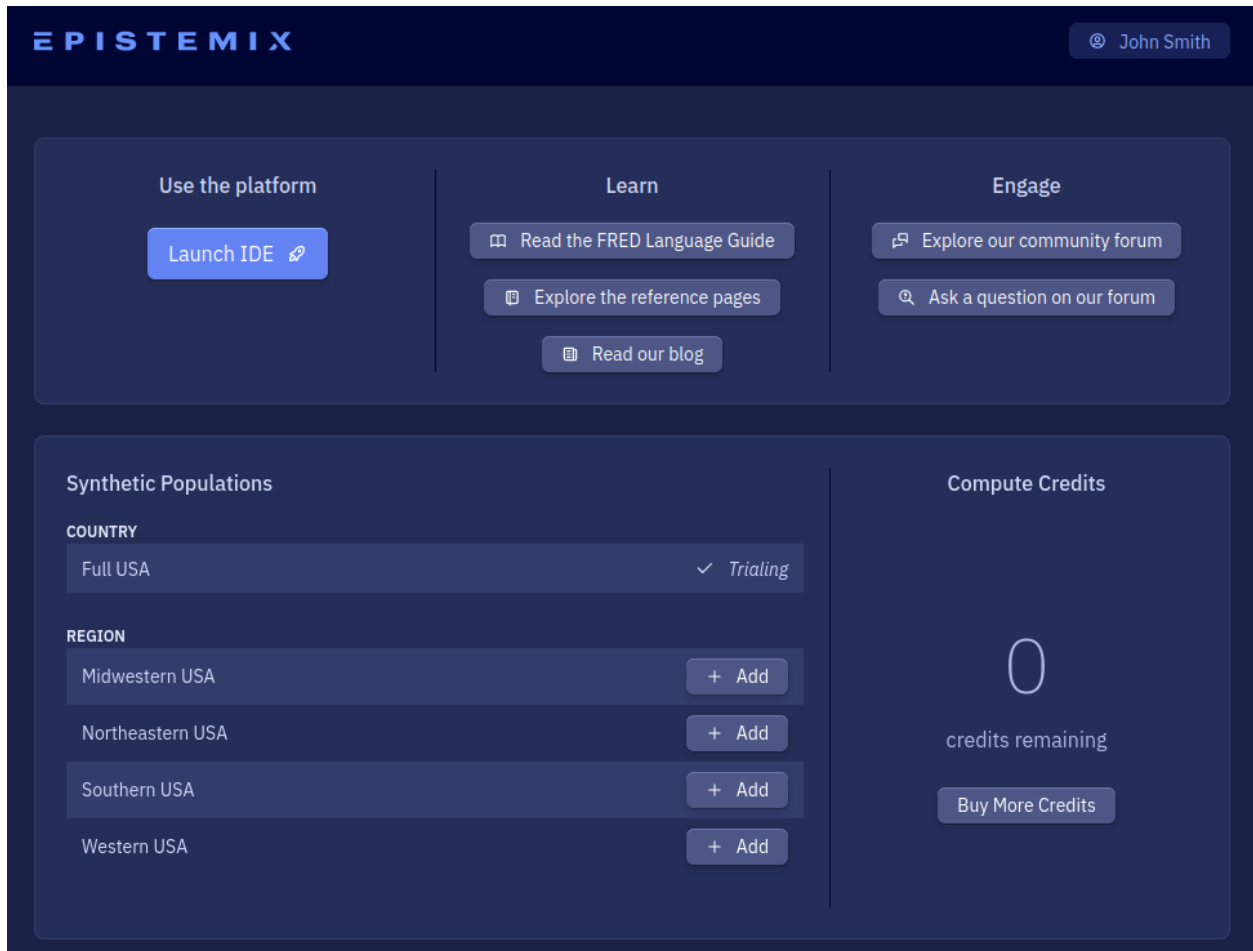
Within two business days of submitting the sign up form, you will receive an email with your credentials and further instructions.

Once you have your credentials, using your web browser, navigate to [platform.epistemix.cloud](https://platform.epistemix.cloud).

Enter your username and password.



The platform landing page will appear.



From here, the integrated development environment can be launched, and you can get start building agent-based models!

You will also find links to the [language guide](#), [reference pages](#), our [blog](#), and our [community forum](#).

At the bottom of this page, you will find information regarding which synthetic populations are available to you, as well as the number of compute credits that you have remaining.

## 2.1.2 Synthetic Populations

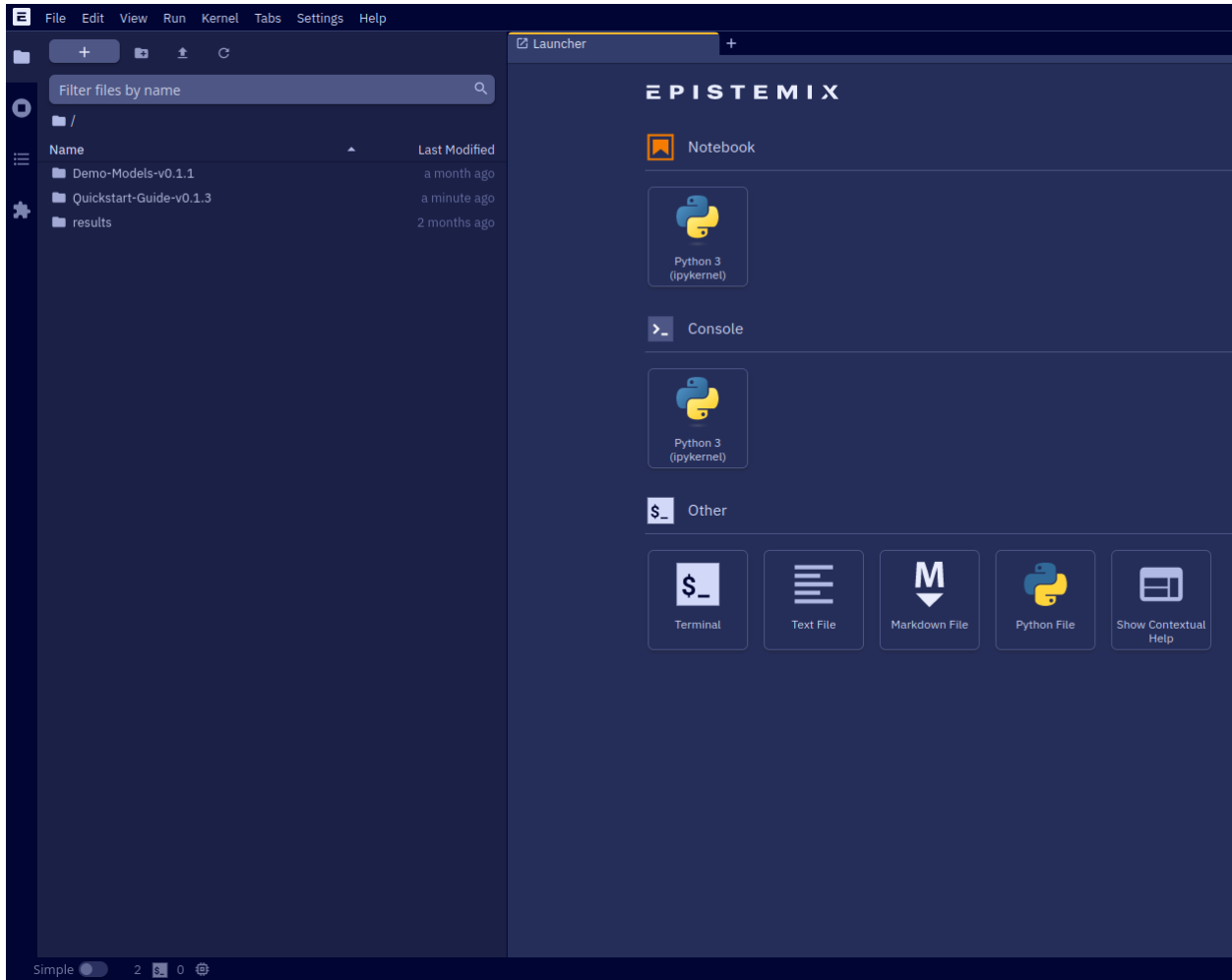
During your free trial, you will have access to a limited subset of the 2010 US synthetic population, including the following counties:

County	State
Park	Colorado
Clarke	Georgia
Butte	Idaho
New York	New York
Lenoir	North Carolina
Erie	Pennsylvania
Jefferson	Pennsylvania
Loving	Texas
Grand Isle	Vermont
Dane	Wisconsin
Kewaunee	Wisconsin

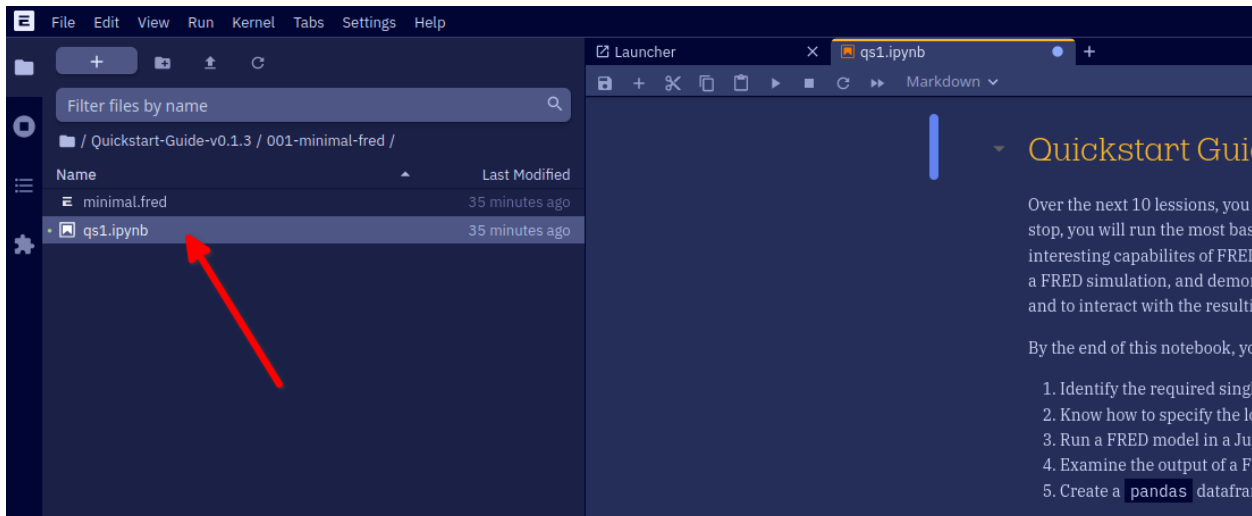
Paid users will have access to additional synthetic population data not available in the free trial.

## 2.1.3 The IDE

When you click the “Launch IDE” button, you will be taken to a web-based integrated development environment. When our cluster has finished allocating resources, you will see an interactive Jupyter notebook containing the synthetic population that is available to your account and the FRED software used to run agent-based simulations using that population.



From here, click the Quickstart Guide folder on the left, then lesson 001-..., and lastly, the file ending in .ipynb.



The Quickstart Guide will help you start building models as quickly as possible. We recommend going through the lessons in order to learn and leverage the platform's capabilities.

You can find additional information in the [FRED Language Guide](#) and [Reference](#) documentation.





## THE FRED MODELING LANGUAGE

The FRED Modeling Language™ is our proprietary agent-based modeling language.