



Smoke Cloud

User's Guide



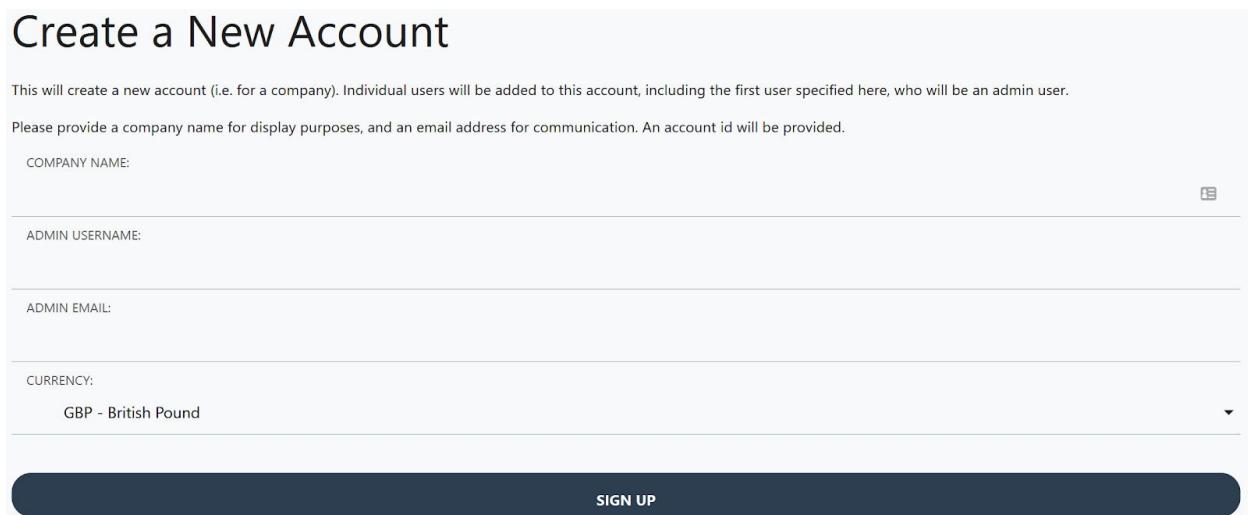


Registering a Company Account	2
Adding Users	3
Using the Client	3
Downloading the Client	3
Logging in for the First Time	3
Running a Simulation	4
Monitoring Simulations	7
Retrieving Simulations	7

Registering a Company Account

There are two types of accounts: company accounts and user accounts. In most use cases, a company will register for an account, and under this account add a number of users (for example engineers).

On the Smoke Cloud website there is a link in the upper right to the sign up page. After navigating to that page you should see something like this:



The screenshot shows a form titled "Create a New Account". Below the title, there is a note: "This will create a new account (i.e. for a company). Individual users will be added to this account, including the first user specified here, who will be an admin user." Below this is another note: "Please provide a company name for display purposes, and an email address for communication. An account id will be provided." The form has four input fields: "COMPANY NAME:" with a small icon on the right, "ADMIN USERNAME:", "ADMIN EMAIL:", and "CURRENCY:" with a dropdown menu showing "GBP - British Pound". At the bottom of the form is a dark blue button labeled "SIGN UP".

Company Name: Enter a name for your company. This is for display purposes only.

Admin Username: Enter a username for you first user. This user will be an admin user, and will be the one who can add other uses and make admin level changes. This user is also able to run simulations.

Admin Email: The email of the admin user. This will be used as the main contact point for the account.

Password: Password for the admin user.

After entering this information, click on the "Sign Up" button. After a moment, an account number will be returned. This will also be sent to you via email. You will need to go to this email and click the verification link **before** you click on the "Sign Up Users" button. This button will take you to another page where you can add more users to you account. If you only wish to use one user (your admin user) the next step of adding users is not necessary.

Adding Users

After registering your company account, it contains a single default admin user. If you would like to add more users (e.g. engineers that will run simulations) you need to go to the user sign-up page (<https://smokecloud.io/signup-users.html>). If you click the “Sign-Up Users” button after account creation, you will be taken here directly.

Here you will have to enter the login details for the admin user, as well as a new username and email address for the user you are adding.

Add a New User

Enter a username and email address for the new user. An email will be sent with instructions on setting a password.

USERNAME:

USER EMAIL:

ADD USER

Username: The new username for the user you are adding.

User Email: The email address of the user you are adding.

After you have entered this information, click the “Sign Up” button at the bottom of the page. After a moment, a confirmation email with a temporary password will be sent to the new user.

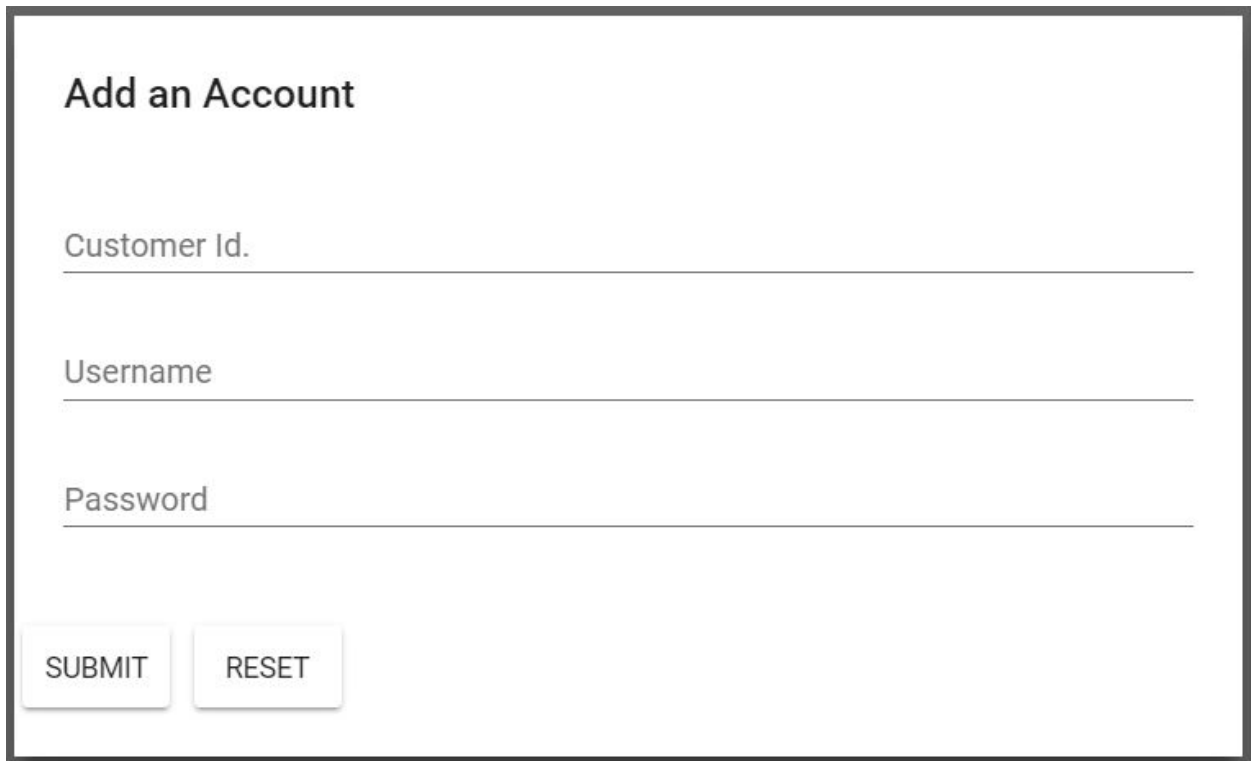
Using the Client

Downloading the Client

The client (for Windows) can be downloaded from the main page of <https://smokecloud.io>.

Logging in for the First Time

The first time you run the client, there will be no account information loaded into the client, and you will be presented with a prompt to enter your account details like this:



Add an Account

Customer Id. _____

Username _____

Password _____

The **Account Id.** is the account number you received on account creation. This account number is also included in the original verification email sent when you registered your account.

The **Username** and **Password** are either those entered as the admin username and password, or a different username and password, which is was included in the email received by any new user.

Before entering this information, you first have to make sure you have clicked the confirmation link in the email.

If you are entering the details of a new user (i.e. one created by the admin) and are using a temporary password, you will then be prompted to enter a new password.

Running a Simulation

After entering the correct login details, the screen should look roughly like this:

The screenshot shows the Smoke Cloud Client interface. The main window is titled "Smoke Cloud Client - v0.5.16" and has a "Transactions" tab selected. The "Transactions" list is empty. The "Models" tab is also selected, showing a search bar with "room_fire" and a "CLEAR" button. Below the search bar, there are checkboxes for "Local Models", "Running Models", "Stored Models", and "Deprecated Models". The "Models" list is empty. At the bottom, there are three main sections: "Local" (with buttons for "Run on Smoke Cloud", "Smokeview", "Forget model", "Check Model"), "Storage" (with buttons for "Download To Local", "Add Local Version", "Delete"), and "Running" (with buttons for "Transfer to Storage", "Stop").

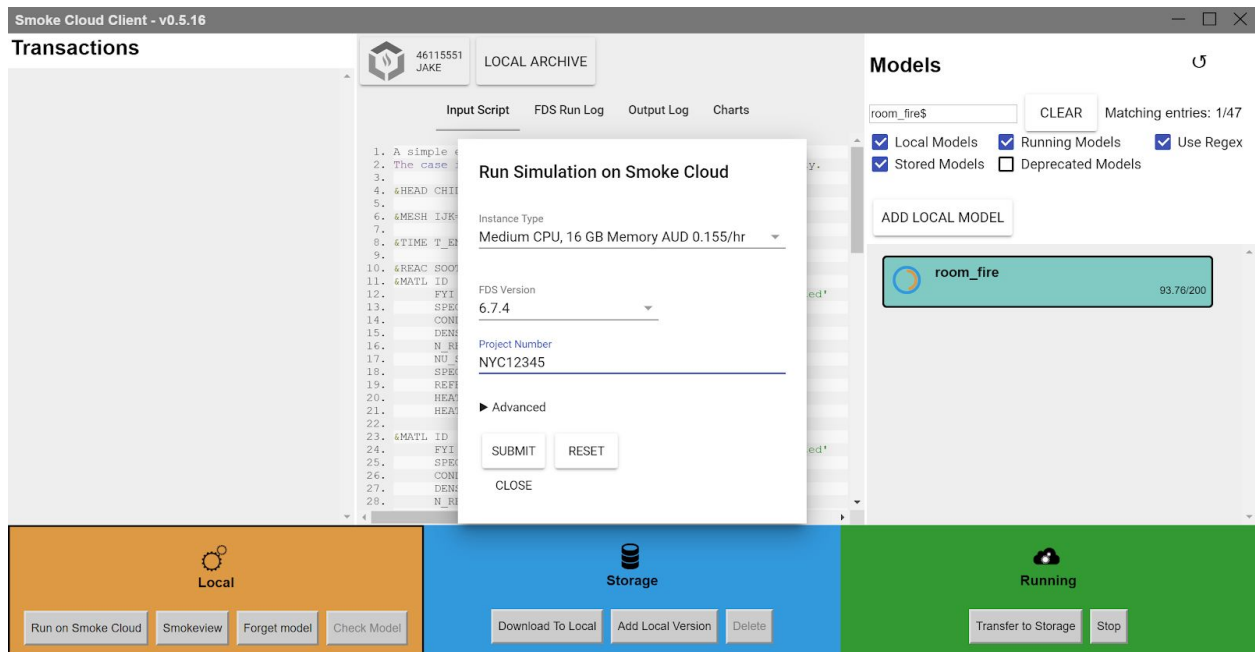
As there are currently no models under this account, there is nothing to display. On the right, under the **Models** heading, there is an **"Add Local Model"** button. Clicking this button brings up a file explorer for you to locate the *.fds file on your computer. This will register a simulation with the client, and any results will be downloaded into the folder in which the *.fds file resides. There is one important limitation: the CHID within the FDS input file, must match the name of the file (including respecting the limit on CHID and filename length). If these do not match, the model will be rejected, and you will need to correct it before proceeding.

After adding a local model, the screen should look something like this (with *room_fire* replaced with your CHID):

The screenshot shows the Smoke Cloud Client interface after adding a local model. The "Models" tab is selected, and the search bar now contains "room_fire\$". The "Models" list now shows one entry: "room_fire" with a matching entry count of 1/47. The "Models" list also shows checkboxes for "Local Models", "Running Models", "Stored Models", and "Deprecated Models". The "Models" list is now populated with the "room_fire" model. At the bottom, there are three main sections: "Local" (with buttons for "Run on Smoke Cloud", "Smokeview", "Forget model", "Check Model"), "Storage" (with buttons for "Download To Local", "Add Local Version", "Delete"), and "Running" (with buttons for "Transfer to Storage", "Stop").

Click on the name of the simulation on the right, and the orange local bar at the bottom left of the screen will light up, indicating there is a local model present. The other two will remain dark, as we do not have those yet. Once you have selected the model and the local (orange) section becomes available, there is now the option to click the **“Run AWS”** button.

After clicking on the **“Run AWS”** button, the screen should look something like this:



This is the run simulation prompt. There is unlikely to be anything to change here, with the exception of the project number. This can be anything, and does not need to be a number. This is purely for tracking costs amongst different projects, and the scheme by which you do this is entirely at your discretion.

Once you click submit, the input will be uploaded to Smoke Cloud and the simulation will begin running. After a short amount of time the green remote server bar at the bottom right of the screen will become available. Here you can do two things, stop the model and transfer to storage.

Smoke Cloud Client - v0.5.16

Transactions

Launched. ✖

room_fire-1536

Spot Req. Id.: undefined

LOCAL ARCHIVE

Input Script FDS Run Log Output Log Charts

```

1. Starting FDS ...
2.
3.
4. MPI Process 0 started on sc01
5.
6. Reading FDS input file ...
7.
8.
9. Fire Dynamics Simulator
10.
11. Current Date : July 2, 2020 09:47:27
12. Revision : FDS6.7.3-0-g9a07636-release
13. Revision Date : Wed Oct 30 13:27:03 2019 -0500
14. Compiler : Intel ifort 19.0.4.243
15. Compilation Date : Oct 31, 2019 08:45:55
16.
17. MPI Enabled; Number of MPI Processes: 1
18. OpenMP Enabled; Number of OpenMP Threads: 2
19.
20.

```

Models

room_fire\$ CLEAR Matching entries: 1/47

Local Models Running Models Use Regex

Stored Models Deprecated Models

ADD LOCAL MODEL

room_fire

Local Storage Running

Run on Smoke Cloud Smokeview Forget model Check Model Download To Local Add Local Version Delete Transfer to Storage Stop

Stopping the model will stop the model, however far it is come, and transfer the results to storage. Pressing the transfer button will transfer a current snapshot of the simulation to storage for download, but will allow the simulation to continue running.

Monitoring Simulations

While simulations are running, it is also possible to monitor the simulations. By selecting the green remote server bar on the bottom right, we can tell the client to retrieve any necessary data from the currently running remote server. If we select the remote server, then click on the **“FDS Run Log”** we can see the current *stderr* output of the FDS run, as seen below.

Smoke Cloud Client - v0.5.16

Transactions

Launched. ✖

room_fire-1536

Spot Req. Id.: undefined

LOCAL ARCHIVE

Input Script FDS Run Log Output Log Charts

```

117. Time Step: 7300, Simulation Time: 150.73 s
118. Time Step: 7400, Simulation Time: 152.36 s
119. Time Step: 7500, Simulation Time: 154.05 s
120. Time Step: 7600, Simulation Time: 155.63 s
121. Time Step: 7700, Simulation Time: 157.25 s
122. Time Step: 7800, Simulation Time: 158.83 s
123. Time Step: 7900, Simulation Time: 160.38 s
124. Time Step: 8000, Simulation Time: 162.02 s
125. Time Step: 8100, Simulation Time: 163.59 s
126. Time Step: 8200, Simulation Time: 165.29 s
127. Time Step: 8300, Simulation Time: 166.92 s
128. Time Step: 8400, Simulation Time: 168.68 s
129. Time Step: 8500, Simulation Time: 170.30 s
130. Time Step: 8600, Simulation Time: 171.87 s
131. Time Step: 8700, Simulation Time: 173.71 s
132. Time Step: 8800, Simulation Time: 175.38 s
133. Time Step: 8900, Simulation Time: 177.08 s
134. Time Step: 9000, Simulation Time: 178.70 s
135. Time Step: 9100, Simulation Time: 180.36 s
136. Time Step: 9200, Simulation Time: 182.00 s

```

Models

room_fire\$ CLEAR Matching entries: 1/47

Local Models Running Models Use Regex

Stored Models Deprecated Models

ADD LOCAL MODEL


room_fire

Local Storage Running

Run on Smoke Cloud Smokeview Forget model Check Model Download To Local Add Local Version Delete Transfer to Storage Stop

Retrieving Simulations

There are three 'locations' when using Smoke Cloud: local, storage, and running. This means there can be up to three versions of our simulations at any one time, depending on



where it's running. In the example above we're running a simulation on a remote server that we initially loaded locally (this is the most common case). We also have a version in storage. This version is a partially complete version that we stored by pressing the **"Transfer to Storage Button"** while the simulation was running. The simulation results will also be transferred to storage whenever a simulation is completed.

They can then be downloaded to local storage by pressing the **"Download to Local"** button. This will start downloading a compressed version of the results which will then be uncompressed into the folder where the original input file is stored.

These downloads are resumable, so the client can be closed, and the download later restarted.