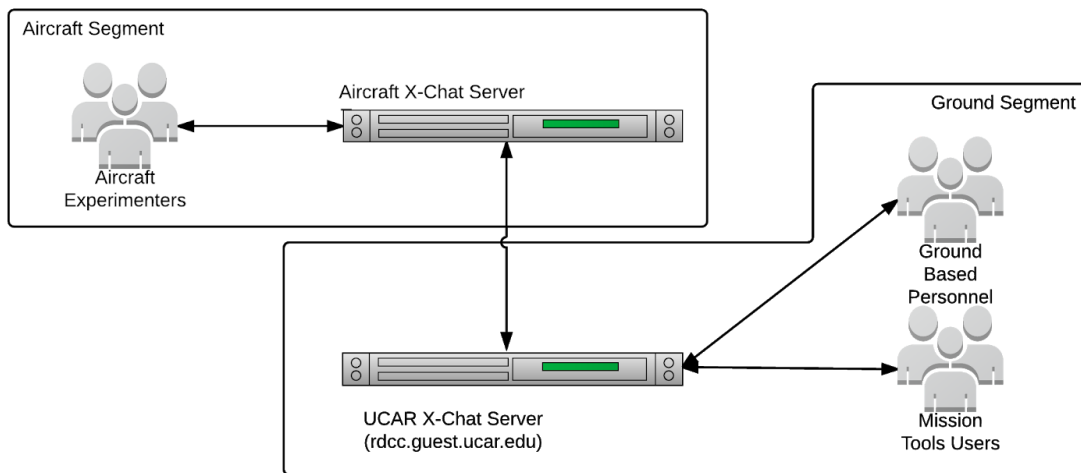


## Hexchat Overview

The NASA Airborne Science Program provides a text-only chat system based on the Internet Relay Chat system (IRC) for communication between science aircraft and ground based support personnel. This system currently encompasses several manned NASA, NOAA and NCAR aircraft, and is the chat system behind the Mission Tools Suite chat tool.

### X-Chat Overview Diagram



## Windows Chat Tool Installation:

For windows installations, we currently recommend the HexChat IRC client. HexChat is a variant of the original X-Chat Client. Users may select a different IRC client if they have one that they prefer.

Users of Apple OS X or Linux-Based computers should contact David Van Gilst ([d.vangilst@baeri.org](mailto:d.vangilst@baeri.org)) or Eric Stith ([e.stith@baeri.org](mailto:e.stith@baeri.org)) for instructions specific to those operating systems.

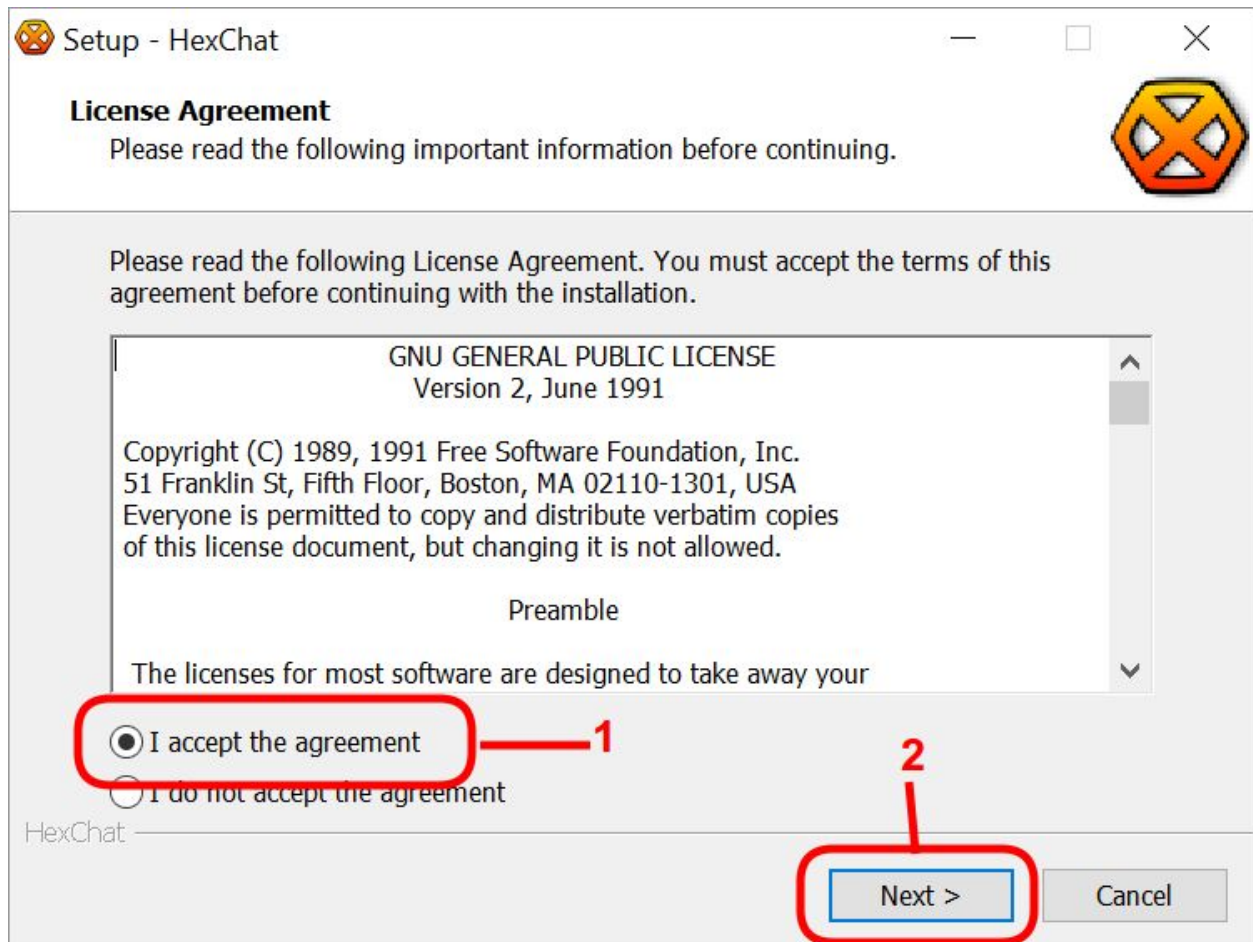
We recommend upgrading to HexChat if you have an existing X-Chat 2 installation for windows, as it is no longer being updated. HexChat can be downloaded here:

<https://hexchat.github.io/downloads.html>

Most users should now be running a 64 bit version of windows, and should use the x64 link. Otherwise, download the x86 version. If in doubt, download the x86 version. Once the installer

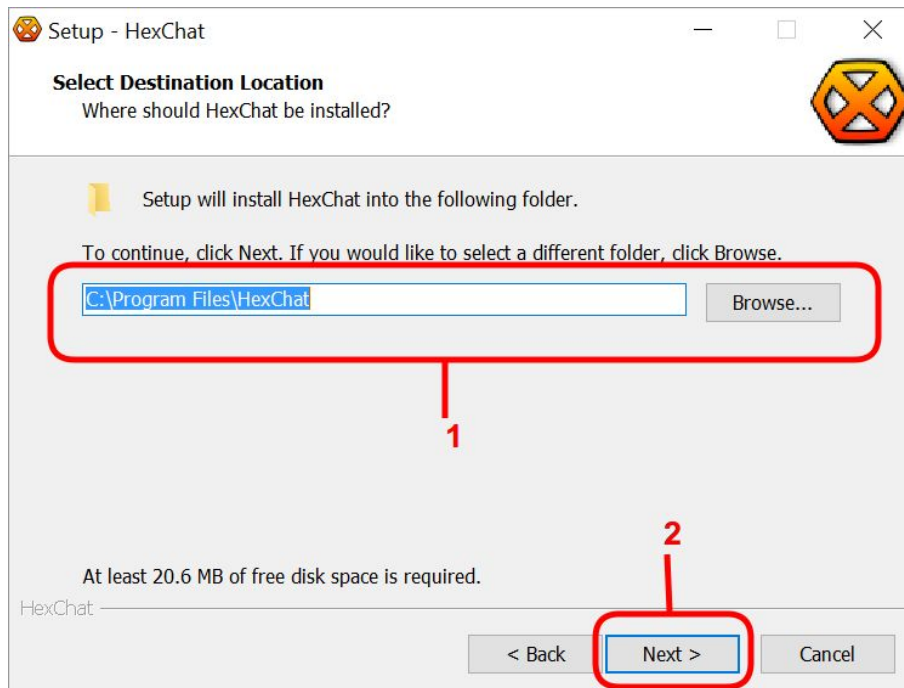
is downloaded, locate it and double click the installer to begin installation. Once the installer opens, follow the instructions below:

### Step 1:



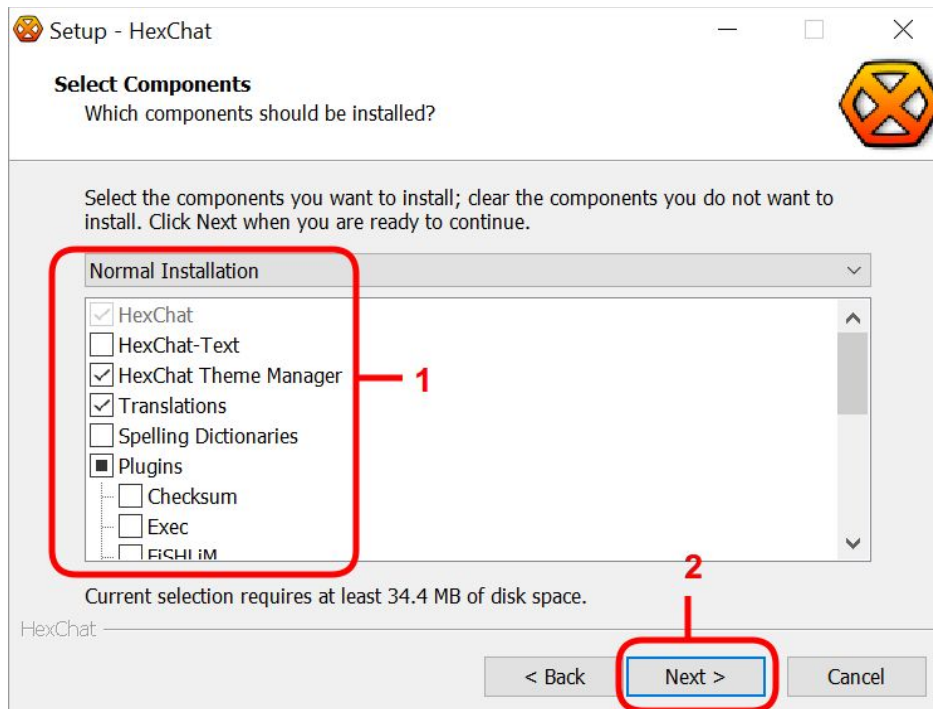
1. Accept the license agreement
2. Click Next

## Step 2:



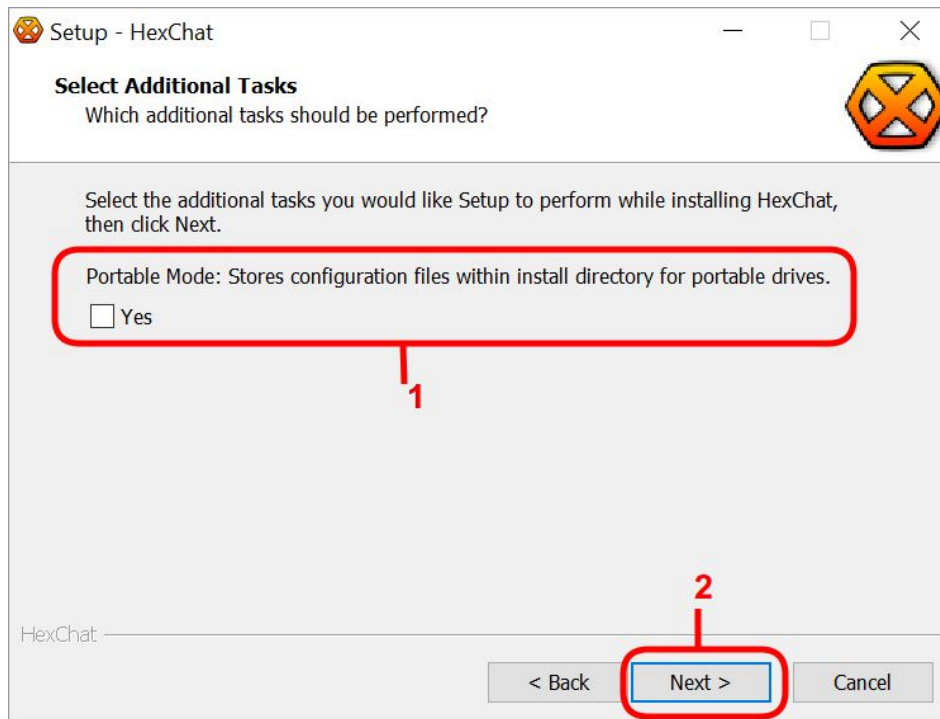
1. Enter or browse to the desired installation folder, the default is shown
2. Click Next

## Step 3:



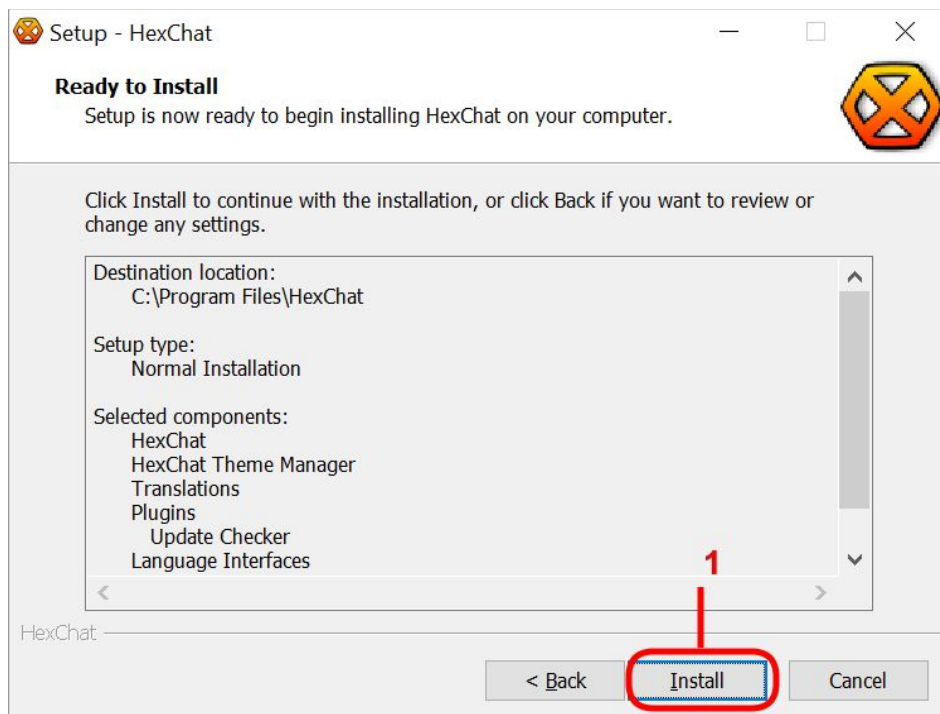
1. For a normal installation the default options will suffice
2. Click Next

#### Step 4:



1. Do **NOT** select portable mode.
2. Click Next

#### Step 5:

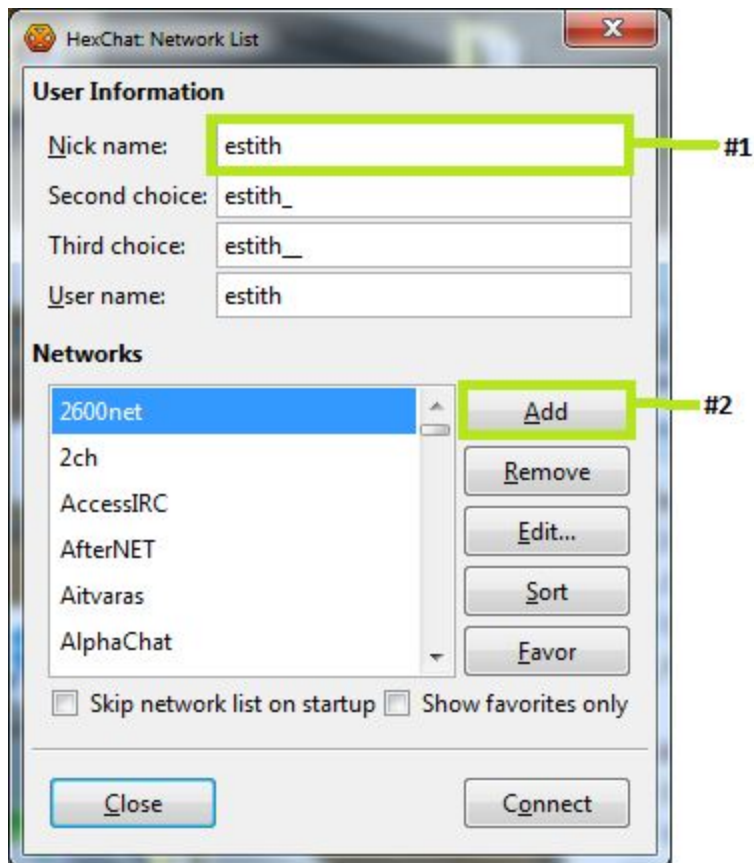


1. Click Install

### Step 6, Set Nickname information:

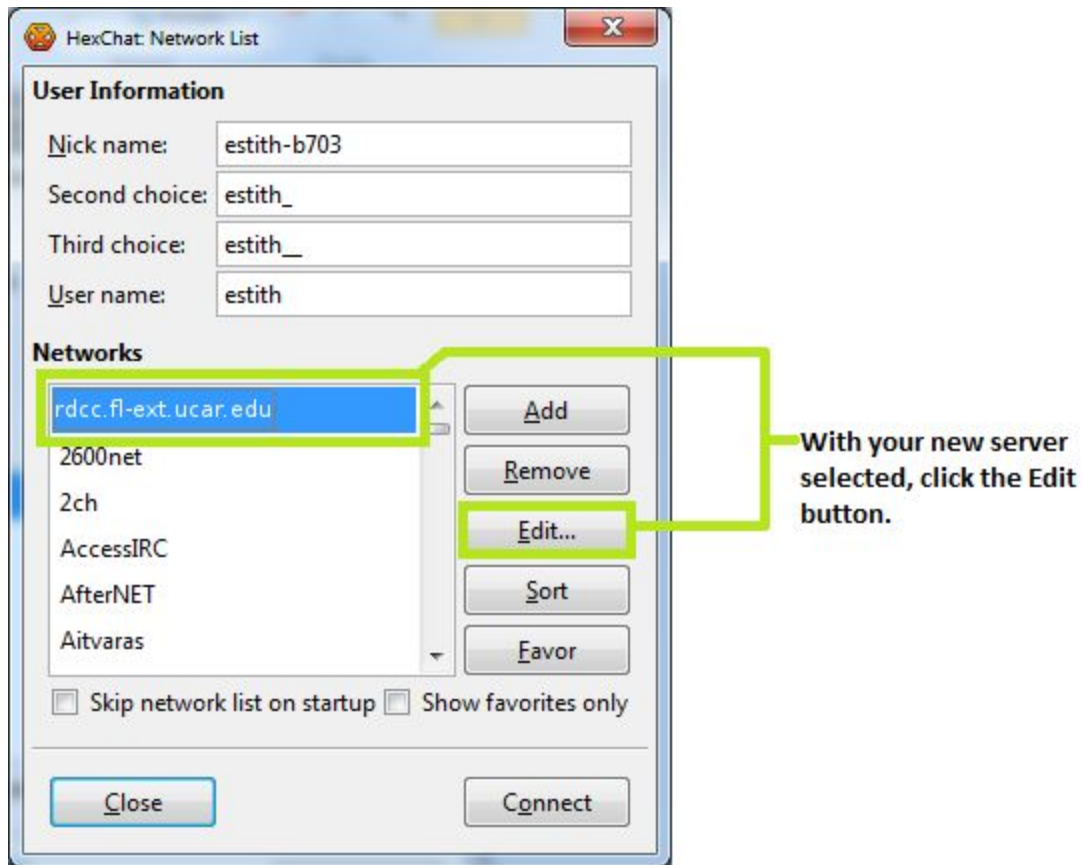
After clicking, Finish a Network list window should appear. If it does not, locate the HexChat program in your start menu and double click on the icon to start it.

1. Into the *Nick name* field, enter some abbreviation of your name, followed by your indication of your location (e.g. “estith-KPMD” or “estith-”DC8”). Letters, numbers, dashes and underscores are allowed, spaces and most other punctuation are not.
2. Click on *Add* to configure the IRC server. A “New Server” entry will appear. Double click on this, then type the name of the server, and then hit enter. The name does not affect the operation of the client, and should be chosen so that the user will remember what the server is (For instance “DC8” or “Ground”).



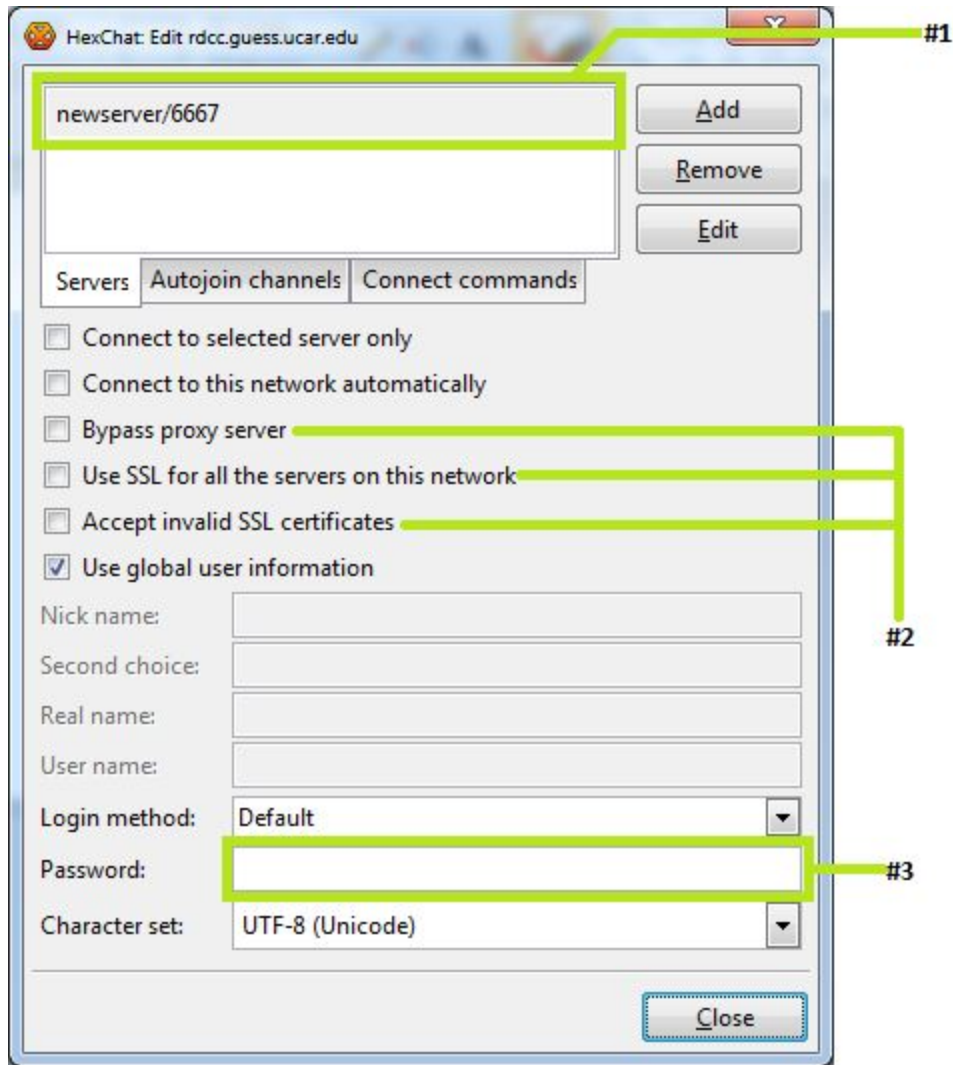
### Step 7, Add a new IRC Network:

Once you have entered the name, make sure that the server is still selected and click Edit.



### Step 8, Configure the IRC Server:

1. Click on "newserver/6668", type the server/port information for your location, and press enter to save the field. Addresses for all NASA Aircraft and ground connectivity can be found in Table 1 below.
2. If you are setting this up for use aboard any of the aircraft, check *Use SSL for all servers on this network*, and *Accept invalid SSL certificate*. This is not necessary for use on the ground server.
3. Enter the password, if applicable. NSERC personnel can be contacted for the appropriate password.



**Table 1, HexChat Server Addresses**

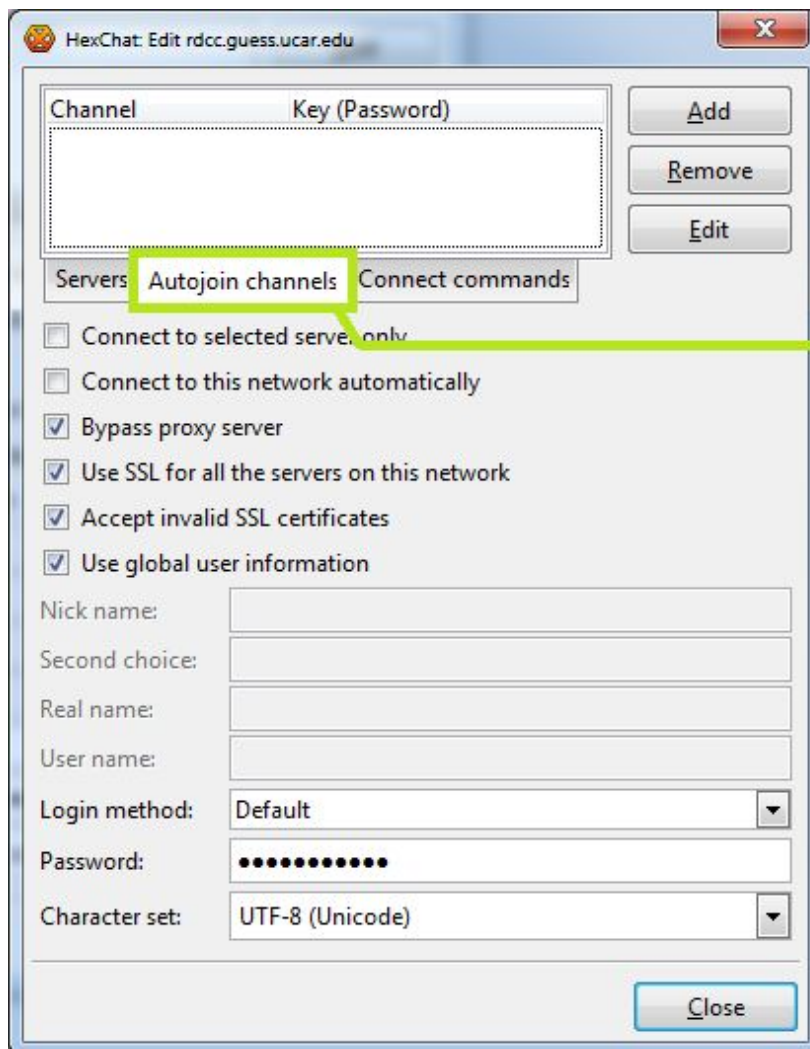
Location	server/port
On the ground	asp-interface.info/6668
DC-8	10.1.1.1/6668
P-3	10.15.1.1/6668
C-130	10.16.1.1/6668
C-23 Sherpa (N430NA)	10.21.1.1/6668
Johnson G-V	10.10.1.2/6668





## Step 9, Configure channels

Click on *Autojoin channels*.



The image shows the HexChat configuration window for the server rdcc.guess.ucar.edu. The window has a title bar with the HexChat logo and the server name. The main area is divided into several sections:

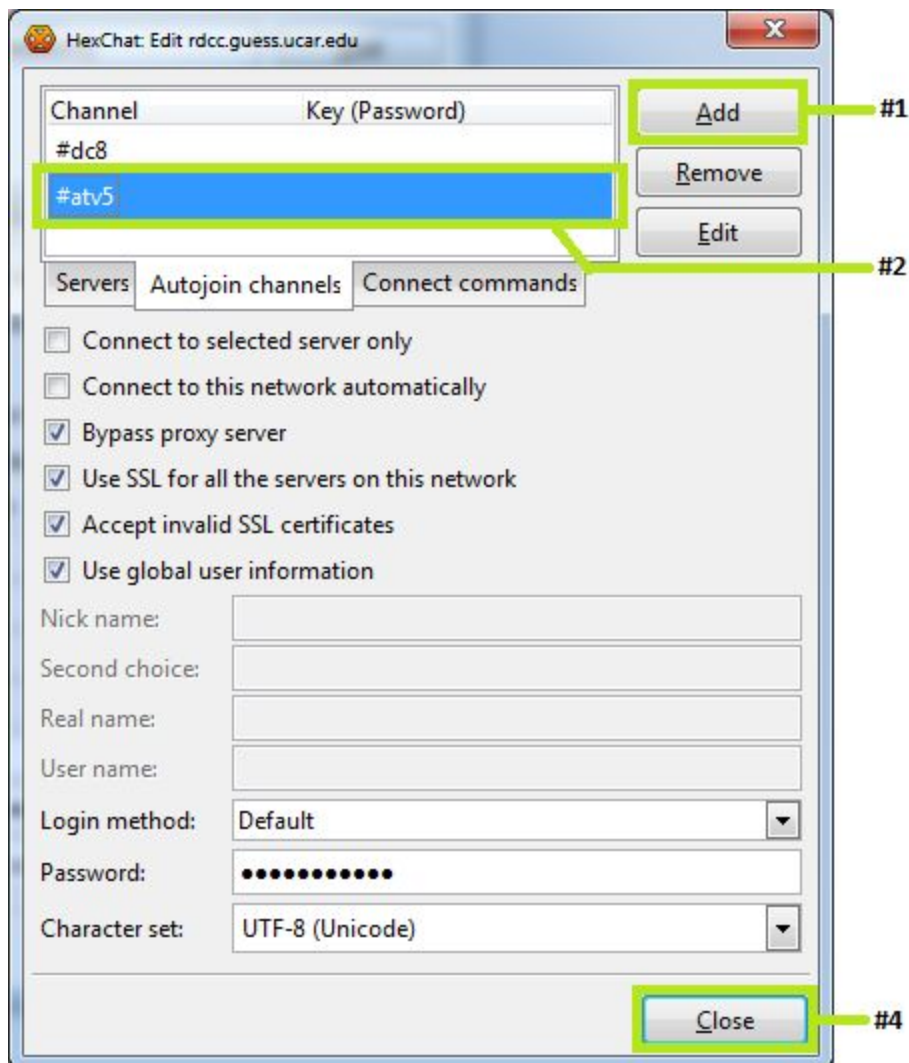
- Channel List:** A table with two columns: "Channel" and "Key (Password)". It is currently empty.
- Buttons:** To the right of the channel list are three buttons: "Add", "Remove", and "Edit".
- Navigation:** Below the channel list are three tabs: "Servers", "Autojoin channels", and "Connect commands". The "Autojoin channels" tab is highlighted with a yellow box.
- Options:** A list of checkboxes for various settings:
  - Connect to selected servers only
  - Connect to this network automatically
  - Bypass proxy server
  - Use SSL for all the servers on this network
  - Accept invalid SSL certificates
  - Use global user information
- User Information:** A series of text input fields for:
  - Nick name:
  - Second choice:
  - Real name:
  - User name:
- Login Method:** A dropdown menu currently set to "Default".
- Password:** A text input field with masked characters (dots).
- Character set:** A dropdown menu currently set to "UTF-8 (Unicode)".

A yellow arrow points from the text "Click here to add channels." to the "Add" button.

Click here to add channels.

1. Click Add.
2. Type the name of the channel. Make sure that the channel name starts with a #.
3. Repeat for each channel you want to add. At minimum, you should add a channel for the airplane and campaign you are on (e.g. #dc8, #c130, #atv5). You can also add any other channels that you want. Adding a channel that does not currently exist will automatically create it. This is useful for creating channels specific to an instrument or group.
4. Close the window to save the changes.

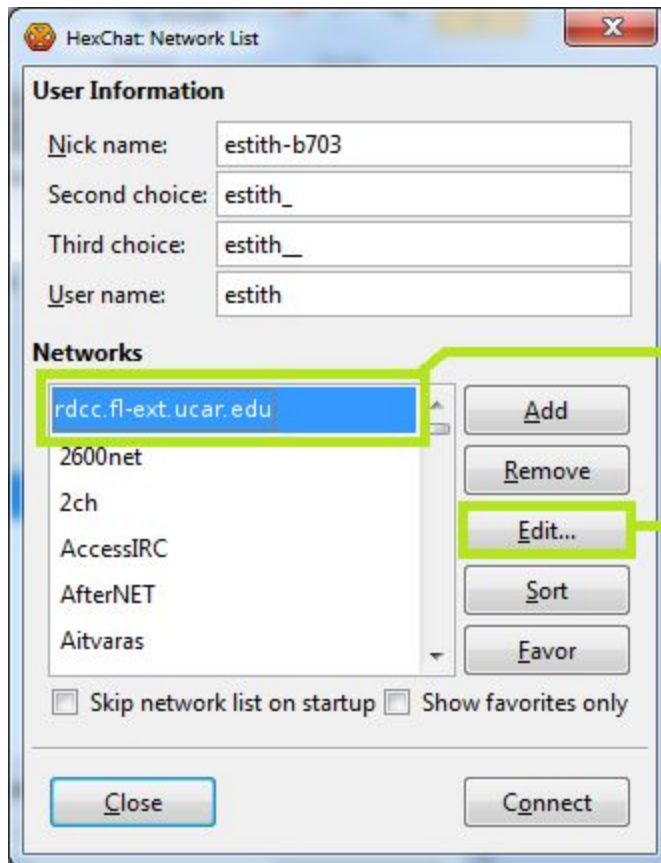
A list of official channels for a specific mission will be available from the data system personnel manning a specific mission.





### Step 10: Connect to the Network

Back on the network list, make sure that the network you want to connect to is still selected and click connect.



With your new server selected, click the Edit button.

Depending on your settings, this might bring up a firewall warning like this:



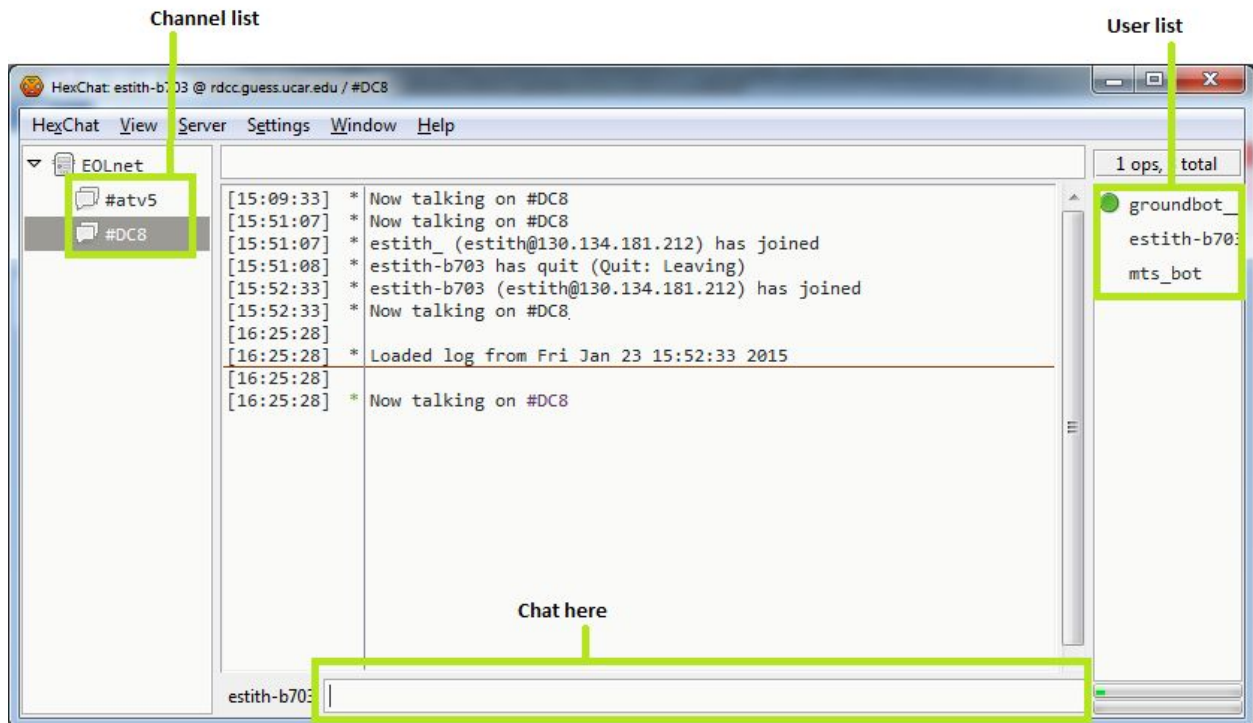
If you see this window, check the box for *Private networks*, and then click on *Allow access*.

### Step 11 - Chat:

You should now see a chat window. Your channel list is on the left-hand side. On the right-hand side, you can find a panel with all the people in your currently-selected channel.

To start a private conversation with another user, right-click on their name and select *Open Dialog Window*. Your conversation will then be listed with other channels on the left.

If your client does not connect, please check that your anti-virus software or local network firewall is not blocking IRC (TCP Port 6668).



## Mac Chat Tool Installation:

There are several different Mac chat tools one of which is Colloquy which we will discuss here. To install [Colloquy](#) you can follow this link or search for it online. Once downloaded you will have to unzip the Colloquy.app file. Once extracted you should be able to run the file by double clicking it or right-clicking and selecting open. This will open the program, no installation is necessary.

Once open you should see a screen as follows, if the lower boxes are missing, click on “Details” and the window should expand.



1. In the *Nickname* field we can give this network a name, for example “Ground Chat” or “Onboard Chat”
2. In the *Server* field fill in the appropriate server, see the table above for a list of servers.
3. The *Port* should be set to the corresponding port for the server. This can be seen in the table above.  
NOTE: *SSL Connection* should be checked
4. The *Username* field is where you give yourself a nickname, or username. Typically this is your first initial and last name with an indication of your location. (i.e. srainer-dc8 or srainer-pmd)
5. Set the server password, for password information contact an administrator.
6. In the *Real Name* you can enter your actual name

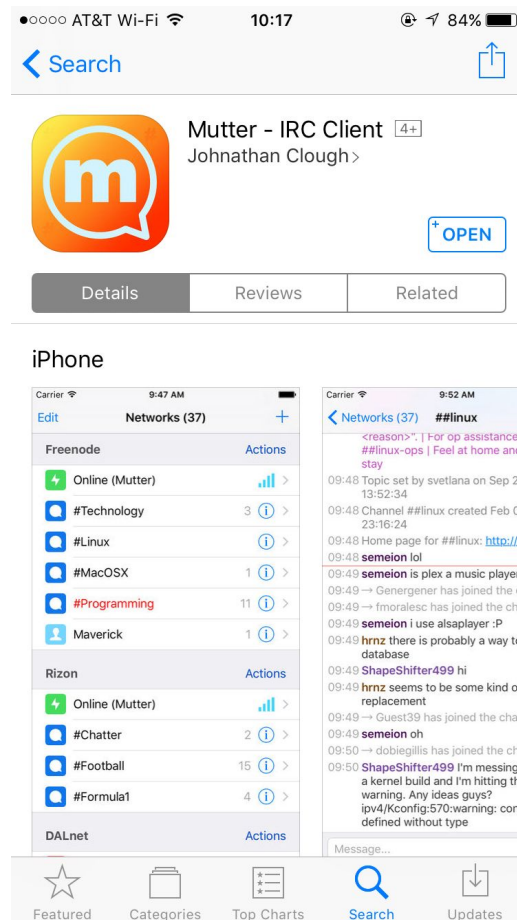
7. The *Join Rooms* field allows you to automatically join chatrooms, to add a room click the “+” and then type the room name into the new field (like #DC8)
8. Once complete, click *Connect* and then you should be connected. However, with recent versions of Colloquy, this will fail to connect.
9. Back on the network list, click on *Info* and uncheck the box labelled “SASL”.
10. Now you should be able to connect to the server from the network list.



## iOS Chat Tool Installation (iPhone and iPad):

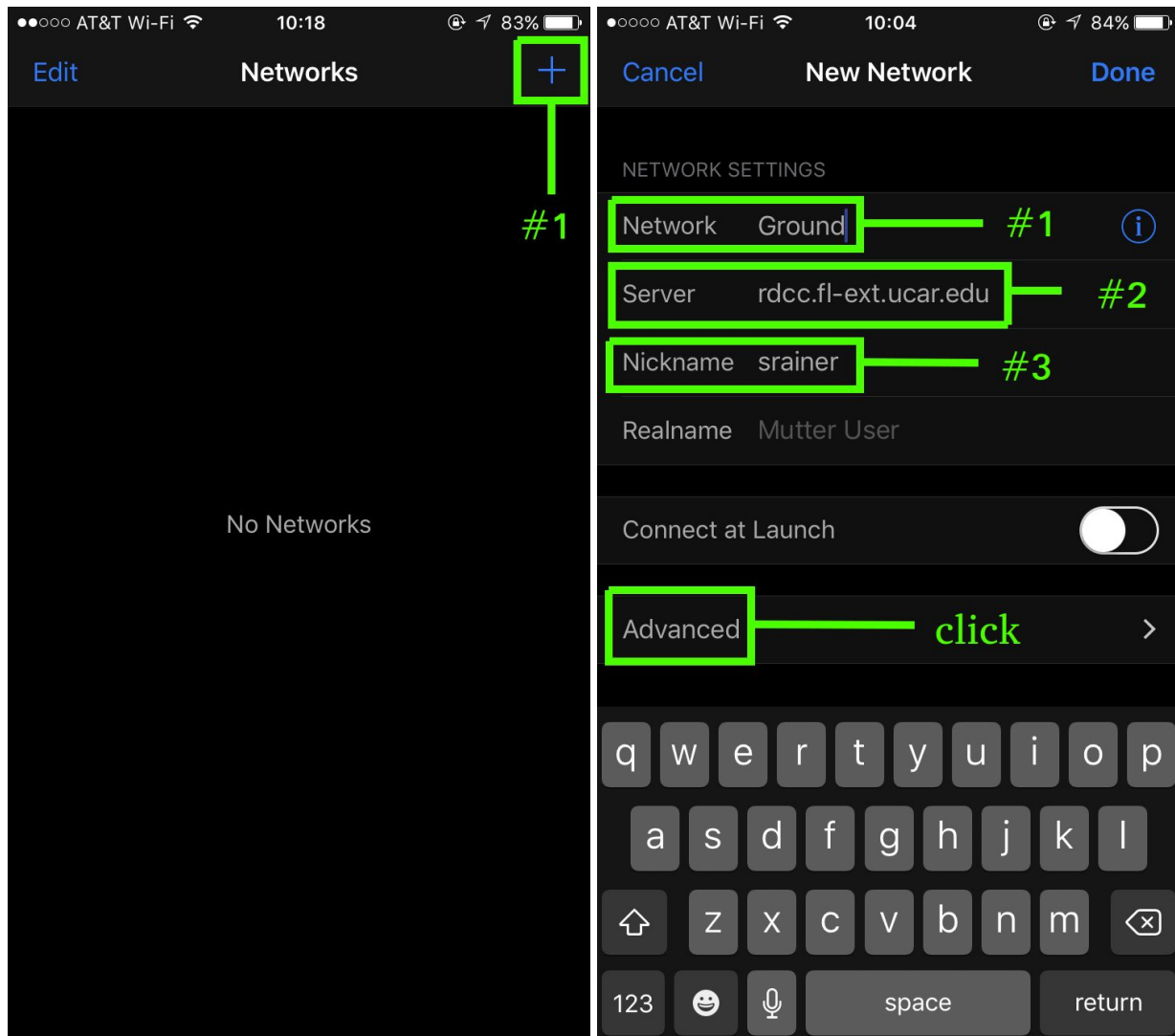
iOS has several chat clients available through the App Store. For the purpose of this guide, we use Mutter which is compatible with iPhones and iPads. Once the application is downloaded and installed on the device the following settings need to be entered to connect.

### Step 1 - Download Mutter:



Mutter can be found by searching the App Store and then downloaded like any other app.

## Step 2 - Create a new network:

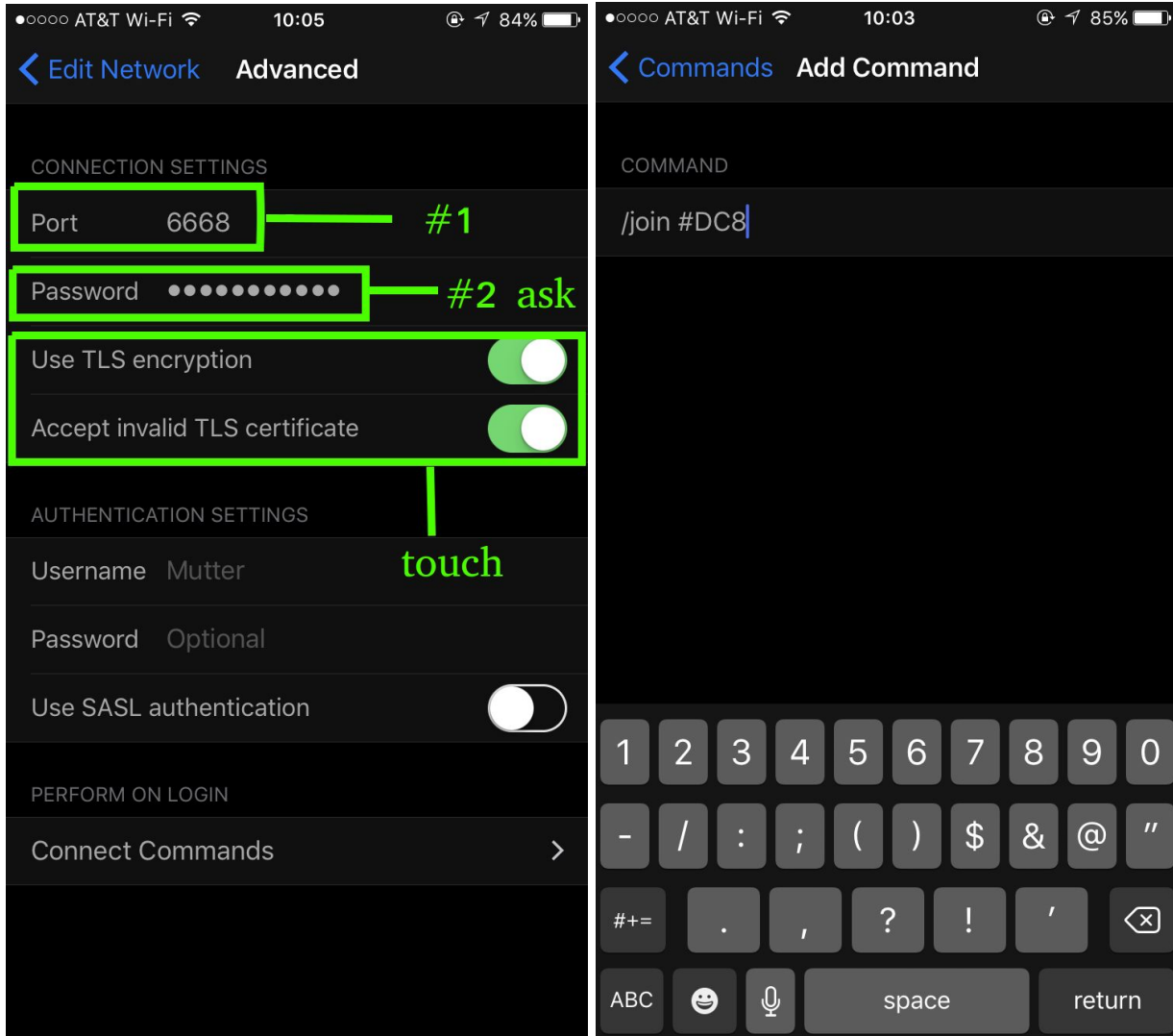


Once downloaded, opening Mutter will display a screen similar to this. Here we need to create a new network. Clicking the “+” in the upper right corner will allow us to do so.

1. In the *Network* field we can give this network a name, for example “Ground Chat” or “Onboard Chat”
2. In the *Server* field fill in the appropriate server, see the table above for a list of servers.
3. The *Nickname* field is where you give yourself a nickname, or username. Typically this is your first initial and last name with an indication of your location. (i.e. srainer-dc8 or srainer-pmd)

Because the server requires a password, we need to set some advanced settings. To do this, click on the “Advanced” button.

## Step 3 - Advanced Settings:



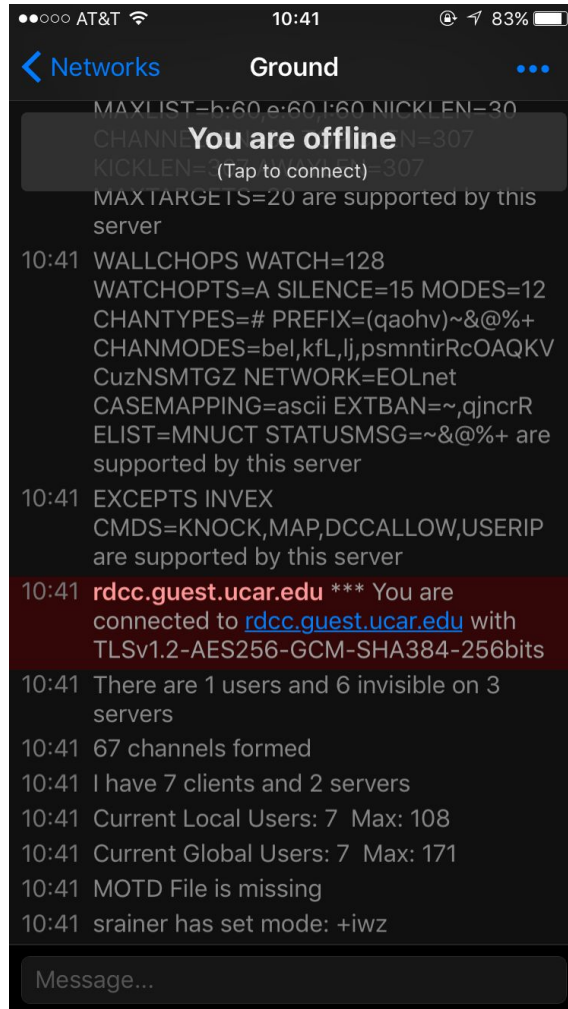
In the advanced settings we need to set several options.

1. The *Port* should be set to the corresponding port for the server. This can be seen in the table above.
2. Set the server password, for password information contact an administrator.
3. Use *TLS encryption* and *Accept invalid TLS certificate* (TLS is essentially the successor of SSL and provides better security)

We can also set connection commands. For example if you are supporting the DC8, you can add “/join #DC8” as a command so that you will automatically be connected to the DC8 chatroom.

Once all the settings have been entered, backing out to the New Network screen and clicking on “Done” will save the settings.

#### **Step 4 - Connect:**

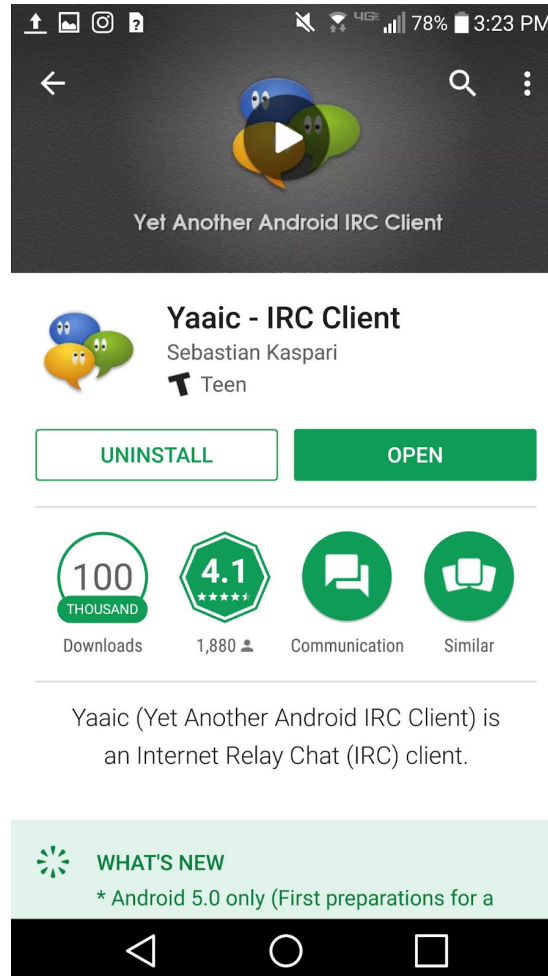


Now that the settings have been saved, you should see a screen similar to the one above. Clicking on the “You are offline” banner will attempt to connect to the server. If successful you should see a notification that you are connected.

## Android Chat Tool Installation:

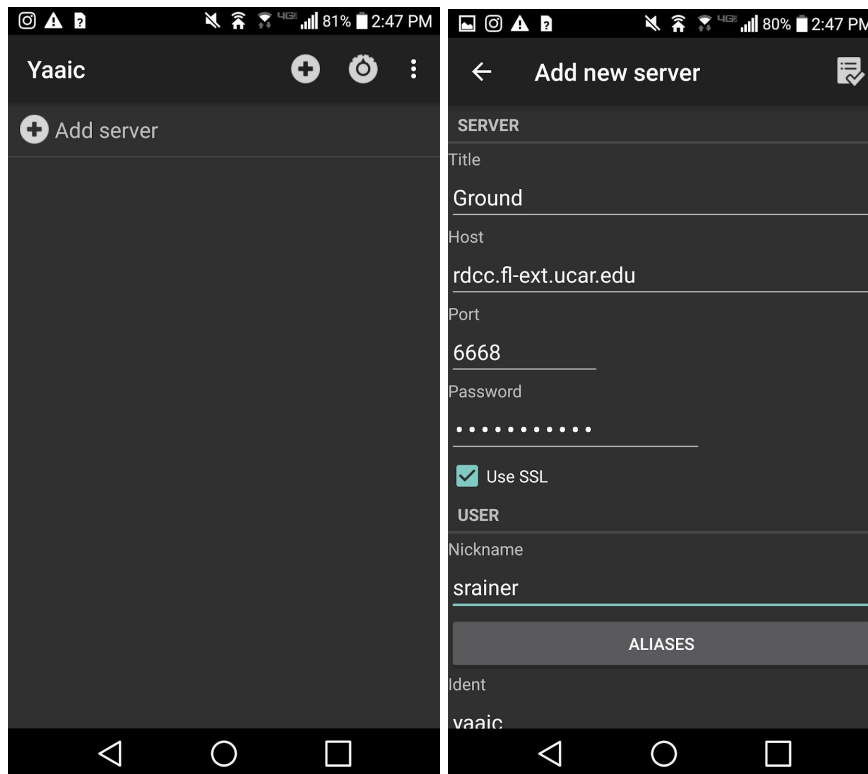
The Google Play Store has several different IRC clients, two of the most popular are #AndChat and YAAIC. Since #AndChat is no longer being updated we will be using YAAIC for this guide.

### Step 1 - Download YAAIC:



YAAIC can be found on the Google Play Store. The process to download and install the app are the same as any other app in the store.

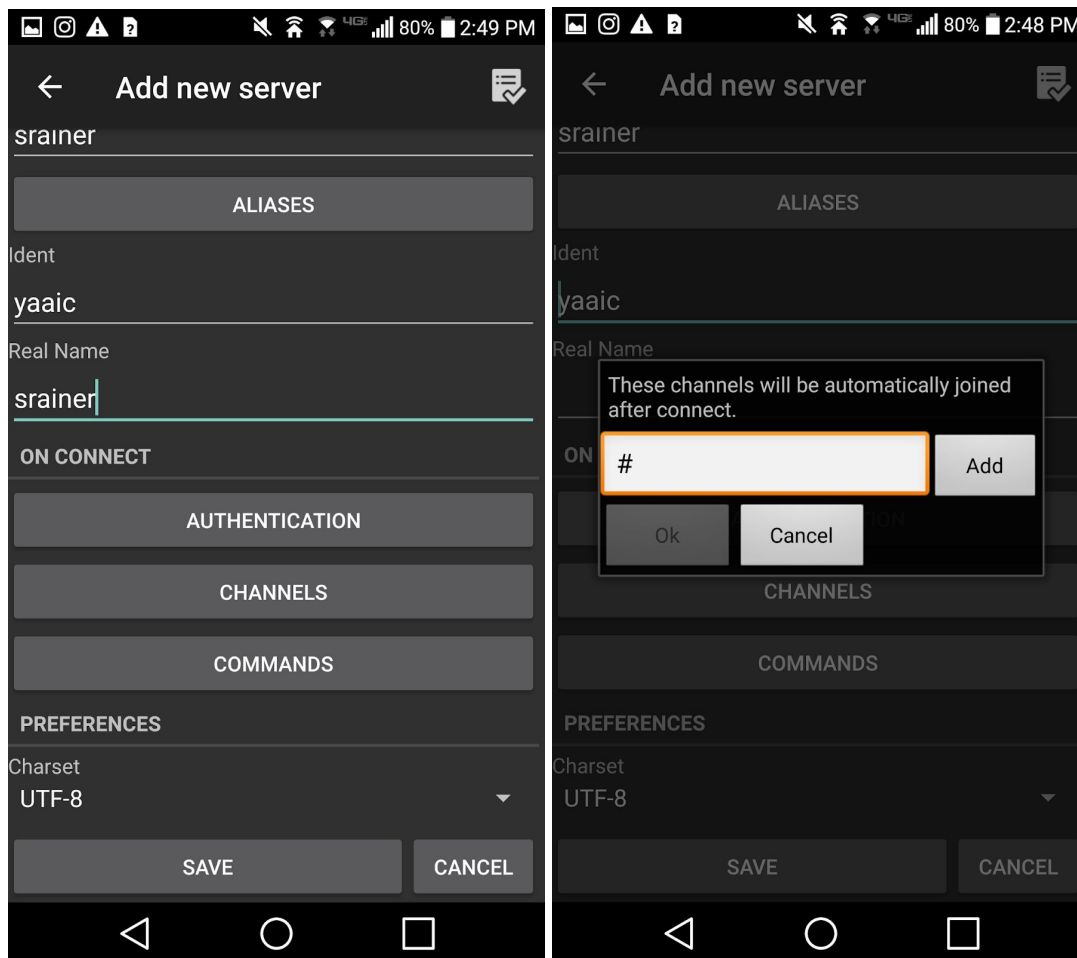
## Step 2 - Add New Server:



To add a new server after downloading and installing YAAIC click on the “Add server” button. This brings up a new screen where the server information can be entered.

1. In the *server title* we can give this network a name, for example “Ground Chat” or “Onboard Chat”
2. In the *host* field we fill in the appropriate server, see the table above for a list of servers.
3. The *port* should be set to the corresponding port for the server. This can be seen in the table above.
4. Set the server password, for password information contact an administrator.
5. The nickname field is where you give yourself a nickname, or username. Typically this is your first initial and last name with an indication of your location. (i.e. srainer-dc8 or srainer-pmd)

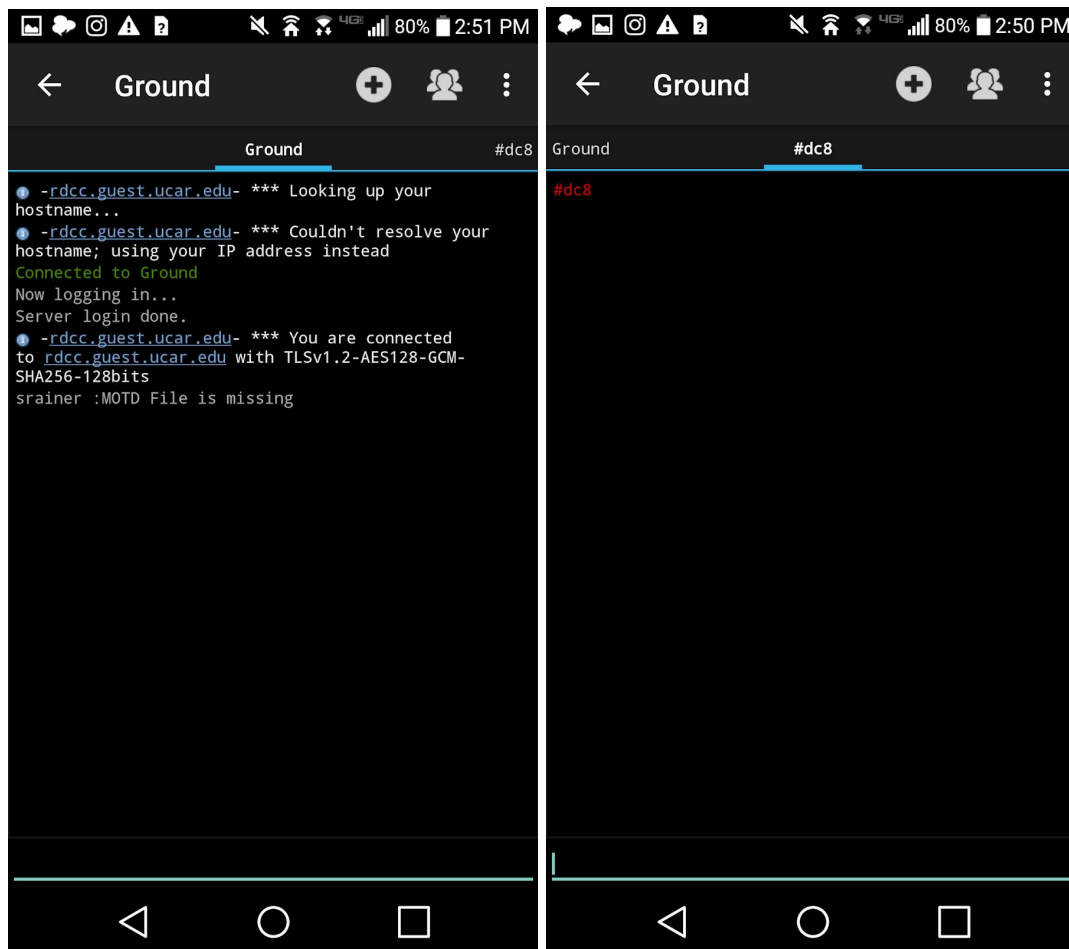
### Step 3 - Add Channels:



Scrolling down reveals several more options that we can set. Most importantly we can add channels that the application will automatically connect to by clicking on the *Channels* button. This pops up a prompt where you can enter a channel, like #DC8, and then clicking *Add* to add it and *Ok* to save.

Once that is complete, we are ready to save the settings by clicking on *Save* at the bottom of the page.

### Step 3 - Add Channels:



Once the settings have been saved, the application should display a screen that shows that you have successfully connected. Swiping to the left scrolls over to any of the channels that were added in the previous step.



## MIBBIT:

1. Expand the Server and Auth tabs on the login page.

The screenshot shows the Mibbit login page in a Chromium browser. The browser's address bar displays the URL `https://client00.chat.mibbit.com`. The page features a header with the Mibbit logo, a "Flirtwith" banner, and a "WATCH and CHAT" section. The main content area is titled "Home" and contains a "Welcome to Mibbit" message. Below the welcome message is a "Connect" section with a dropdown menu showing "Mibbit [webirc]" and three tabs: "Server", "Auth", and "Charset". The "Server" and "Auth" tabs are highlighted with green boxes. Below the dropdown are input fields for "Nick" and "Channel", and a "Connect" button. A "Search for channels" section is also visible at the bottom.

2. Enter the server name and port (asp-interface.info:+6668)
3. Select “Pass” from the authentication dropdown, and type the password.
4. Enter a nick, and specify the list of channels you want to connect to (starting with a #, and separated by a comma).



The screenshot shows the Mibbit web interface in a Chromium browser. The address bar displays "https://client00.chat.mibbit.com". The page features a navigation bar with the Mibbit logo (a green frog) and two buttons: "WATCH NOW" and "DOWNLOAD". Below the navigation bar is a "Home" tab. The main content area contains a "Welcome to Mibbit" message with a tip: "Choose a Nickname and channel to start chatting. Tip: Channels usually begin with #. If you don't know where you're going, try a search!". Below this is a "Connect" form with the following fields and options:

- Connect:** Mibbit [webirc] (dropdown menu) | [Server](#) | [Auth](#) | [Charset](#)
- Server:** asp-interface.info:+6668 (text input)
- Default port:** 6667. Specify SSL with a '+' before the port. eg irc.mibbit.net:+6697
- Pass:** Pass (dropdown menu) | ..... (password input)
- Nick:** estith (text input) | **Channel:** #p3b,#oib (text input)
- Connect:** (button)
- Footer:** You can specify multiple channels eg #foo,#bar

Below the "Connect" form is a "Search for channels" section with a search icon, a text input field, and a "Search" button.


5. Click Connect. It should bring up a window that looks like this:

Mibbit - Chromium

m Mibbit x

Secure | https://client00.chat.mibbit.com

Eric



**WATCH NOW** **DOWNLOAD**

Home asp-interface.info << #P3B (3) #oib (1)

Lag: 152ms

```

00:34 asp-interface.info *** Looking up your hostname...
00:34 asp-interface.info *** Found your hostname
00:34 asp-interface.info 002: | [0] estiith, [1] Your host is asp-interface.info, running version UnrealIRCd-4.0.17
00:34 asp-interface.info 003: | [0] estiith, [1] This server was created Sat Mar 17 2018 at 19:50:03 UTC
00:34 asp-interface.info 004: | [0] estiith, [1] asp-interface.info, [2] UnrealIRCd-4.0.17, [3] iowrsxzdHtIDZRqpWGTSB, [4]
lvhopsmntikraqbelzMQNRTOVKDdGLPZSCcf
00:34 asp-interface.info 005: | [0] estiith, [1] UHNAMES, [2] NAMESX, [3] SAFELIST, [4] HCN, [5] MAXCHANNELS=20, [6] CHANLIMIT=#:20,
[7] MAXLIST=b:60,e:60,l:60, [8] MAXNICKLEN=30, [9] NICKLEN=30, [10] CHANNELLEN=32, [11] TOPICLEN=307,
[12] KICKLEN=307, [13] AWAYLEN=307, [14] are supported by this server
00:34 asp-interface.info 005: | [0] estiith, [1] MAXTARGETS=20, [2] WALLCHOPS, [3] WATCH=128, [4] WATCHOPTS=A, [5] SILENCE=15, [6]
MODES=12, [7] CHANTYPES=#, [8] PREFIX=(qaohv)~&@%+, [9]
CHANMODES=bel,kLf,l,psmntirzMQNRTOVKDdGPZSCc, [10] NETWORK=EOLnet, [11] CASEMAPPING=ascii, [12]
EXTBAN=-,SOcaRnqj, [13] ELIST=MNUCT, [14] are supported by this server
00:34 asp-interface.info 005: | [0] estiith, [1] STATUSMSG=-&@%+, [2] EXCEPTS, [3] INVEX, [4]
CMDS=USERIP,STARTTLS,KNOCK,DCCALLOW,MAP, [5] are supported by this server
00:34 asp-interface.info 396: | [0] estiith, [1] eol-75ECA494.mibbit.com, [2] is now your displayed host
00:34 asp-interface.info *** You are connected to asp-interface.info with TLSv1-ECDHE-RSA-AES256-SHA-256bits
00:34 asp-interface.info 251: | [0] estiith, [1] There are 1 users and 4 invisible on 1 servers
00:34 asp-interface.info 254: | [0] estiith, [1] 6, [2] channels formed
00:34 asp-interface.info 255: | [0] estiith, [1] I have 5 clients and 0 servers
00:34 asp-interface.info 265: | [0] estiith, [1] 5, [2] 12, [3] Current local users 5, max 12
00:34 asp-interface.info 266: | [0] estiith, [1] 5, [2] 17, [3] Current global users 5, max 17
00:34 asp-interface.info 422: | [0] estiith, [1] MOTD File is missing
00:34 +++ estiith set to mode +iwxz

```

The channels are in the tabs at the top.