What is Second Life?

Second Life is an online 3D virtual world. While Second Life has the look and feel of a video game, it is not a game. There are no winners or losers, nor points to obtain or levels to achieve in Second Life. Instead, Second Life is a loosely structured online community where residents are free to communicate and interact with each other with few restrictions.

Second Life runs on servers owned by a company called Linden Lab that is based in San Francisco, California. Linden Lab also develops and maintains the software that makes Second Life possible. While Linden Lab owns the Second Life platform, the objects created in Second Life are owned by its residents. This has made it possible for the virtual world to develop its own in-world economy where objects are bought and sold. Second Life even has its own currency, the Linden dollar, which can used to buy and sell the objects created within the world. Linden dollars can be acquired in-world or they can be purchased with real world currency.

The Second Life world is divided into several areas that consist of inter-linked regions made up of virtual land, water and sky. Each region can support 15,000 prims, which are the basic 3D geometrical shapes that make up the virtual objects in Second Life (such as buildings, trees, etc). Using Linden Scripting Language (LSL) these objects can be animated and made interactive, bringing them to life in the virtual world. However, you do not have to know how to build objects from prims to enjoy Second Life. Many objects are already included in your Library when you join and you can also locate many free objects made available by other residents.

How do I get started?

In order to access Second Life, you must sign up for an account at the Second Life website. There are two types of accounts in Second Life: basic accounts and premium accounts.

Your first basic account can be obtained free of charge. Premium accounts and additional basic accounts require you to pay a small fee. The primary benefit of a premium account is that it will allow you to own land in Second Life. However, land ownership does require that you pay land taxes which will vary with the amount of land you own.

To sign up for a new account:
1. Go to http://secondlife.com and click on Get Started!
2. Click on one of the thumbnails to choose the starting look of your avatar.
3. Enter your desired Second Life name. You have some choice for your in-world first name, but you must choose your in-world last name from a list of pre-existing names.
4. Enter a valid email address where you can receive an account activation link. Your account will not be available until you click on the link to activate it.

5. Enter the required personal information, such as your country of residence, birthdate, real life first and last name, and gender.
6. In the Password section, enter a password and select a security question. The answer to this question will be used to verify your identity if you forget your user name or password.
7. Scroll down on the page and enter the code from the image in the reCaptcha field.
8. Check the box to indicate that you agree to the Terms of Service and click on Create Account.

An email with the activation link will be sent to the email address you provided. Click on the activation link to finish setting up your account.

Once you've signed up for an account, you will have to download a client program to access Second Life. Client programs are available for Windows, the Mac and Linux. Before you download the client, you should visit the system requirements page available at:

> http://secondlife.com/support/ sysreqs.php

The information on this page will help you determine if your computer meets the specifications required to run the Second Life client. In general, you will get the best performance from Second Life if you have a fast connection (broadband) and a fairly fast graphics card.
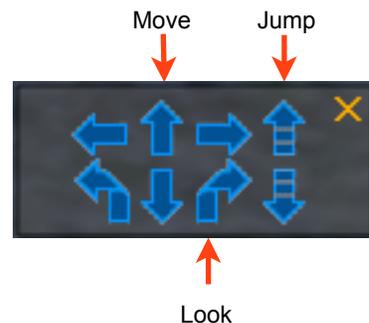
Getting Around in Second Life
When you first log into Second Life you can go through a brief tutorial in

Orientation Island to help you become familiar with the controls needed to move around in the virtual world:
- Up arrow: moves your avatar forward.
- Down arrow: moves your avatar back.

- Right arrow: turns your avatar to the right.
- Left arrow: turns your avatar to the left.
- Shift + Right arrow: moves your avatar right.
- Shift + Left arrow: moves your avatar left.
- Page Up: makes your avatar jump.
- Page Down: makes your avatar crouch down.
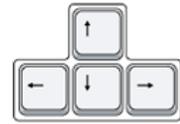
You are not limited to keyboard commands for moving in Second Life. You can also turn on the Movement Controls in the View menu. These controls are shown below:

Another way to move around in Second Life is by turning on Fly Mode. This allows you to use the arrow keys on your keyboard to fly around in the virtual word. To turn on Fly mode, click the Home key on your keyboard (or hold down the Page Up key until your avatar is flying). Once you are in Fly mode, you can go up and down by using the Page Up and Page Down keys. The arrow keys work the same

way in Fly mode as when you're on the ground. To exit Fly mode, click on the Home key once again. If you do this while you're just a few feet off the ground, your avatar will land safely on his or her feet. If you do it while you're flying higher up, your avatar will have a much rougher landing, but this will not cause any damage to him or her.

Mouselook

The default view in Second Life is to have the camera slightly behind and on top of your avatar. In this view, the camera's focus is indicated by the white dot in front of your avatar. If you left-click on your avatar and drag with the mouse, you will change the camera's focus and the direction your avatar is facing at the same time.

If you don't like the default view, you can switch the view so that you are in first person mode, looking through your avatar's eyes. This is known as Mouselook. To turn on Mouselook, select View > Mouselook or press the M key on your keyboard. You will see a small square pointer in the middle of the screen. You can use the mouse to turn in any direction and to look up and down, and the arrow keys to move forward/back and side to side. Note that the menus are not available in Mouselook. To exit Mouselook and bring back the menus, press the Escape key on your keyboard.

Another way to enter and exit Mouselook is by using the scroll wheel on a mouse. To enter Mouselook with the scroll wheel, scroll up until you zoom past your avatar's head and the pointer changes to a small square. To exit Mouselook, scroll back out until

you see your avatar. Using Mouselook can be helpful when you are in Fly mode, as you can quickly move in any direction by aiming the pointer and pressing the Up Arrow to move forward.

Using the Camera

When you are in the default third person view, you can click on your avatar and drag with the mouse to have your avatar and the camera look in the same direction. The camera controls can help you get a better view of the objects in the virtual world. These controls are shown below:

Move Camera Left/Right

Orbit Camera

Zoom In/Out
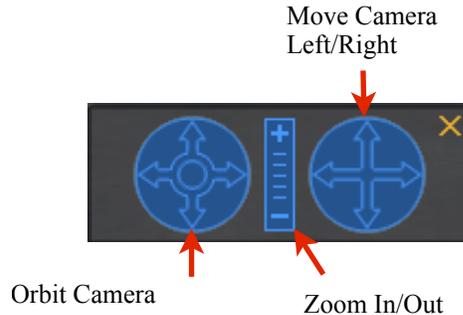
If you would rather use the keyboard shortcuts, they are as follows (Mac users should use Command instead of Control and Option instead of Alt):

- Alt-click: sets the focus for the camera (the point around which it will move/rotate).
- Alt-click and move the mouse left/right (or Alt-click and use the left/right arrow keys): moves the camera left and right.
- Alt-click and move the mouse forward/back (or Alt-click and use the up/down arrow keys): zooms in/out.
- Alt+Page Up/Page Down: moves the camera up/down
- Alt+Control-click: orbits the camera around the camera focus point.

- Double-click on avatar: resets the camera.

You can also zoom in and out without turning on the camera controls by using Control + 0 to zoom in and Control +8 to zoom out. Control + 9 resets the zoom.

To reset your view, choose View > Reset View or press the Escape key on your keyboard.

Teleporting and Landmarks
While you can explore a lot of the Second Life world just by walking and flying around, when you need to get to another island in the virtual world fast teleporting is the best option. To teleport to another location:
1. Click on the Search button at the bottom of the Second Life window.
2. Click on the Places tab at the top at the top of the Search window.
3. Enter a search term in the Find text field and click on Search. You will see a list of places matching your search criteria on the left side of the Search window. On the right, you will see a preview of the currently selected place, a brief description of what you will find there, and its Second Life location information.
4. To teleport to the selected place, click on the Teleport button. After a few seconds you will find yourself in the new location.

In addition to places, you can use the Search feature to find people, events and groups.

As you explore the virtual world of Second Life, you may want to save landmarks (the equivalent of favorites or bookmarks in your web browser) so you can return to your favorite locations.

To create a landmark, select World > Create Landmark here. This will add the landmark to your Inventory in a Landmarks folder. To go back to a location in Second Life using a landmark, open your Inventory by clicking on the Inventory button in the lower right corner of the screen (or use the keyboard shortcut Command/Control + I), then find the landmarks folder (under My Inventory) and double-click on a landmark. You will be prompted to confirm that you want to teleport to the location in the landmark. Once you click on Teleport you will be immediately taken to the location you saved as a landmark.

The Maps
If you get disoriented while navigating the virtual world, you can use the world map and the mini-map to get your bearings. The world map can also be used to teleport to a different location in the virtual world.

To teleport to another location using the world map:
1. Click on the Map button in the toolbar (or press Command/Control + M) to open the world map. You can zoom in and out on the world map by using the scroll wheel on your mouse. In the upper left corner of the screen you will see a legend showing what each symbol on the map represents. Your location on the map will be indicated by a white circle inside a yellow circle.
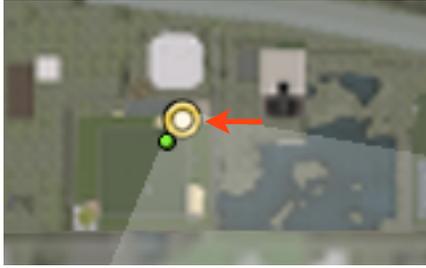
If you don't see this symbol on the map, click on Show My Location on the right side of the window to center the map on your current location. The location of other residents (avatars) will be indicated by green circles on the map.

2. Click on the location you wish to visit by clicking once on the map. This location will be marked with a red circle.

3. Click on the Teleport button on the right. After a few seconds you will be taken to the location you selected on the world map.

You can also use the map to teleport to a location you have saved as a landmark. To do this, select the landmark using the My Landmarks pulldown menu on the right side of the map window (below the map legend), then click on the Teleport button.

The Mini-Map provides a more localized view of your immediate surroundings. In the mini-map you can see the outlines of the structures around you.
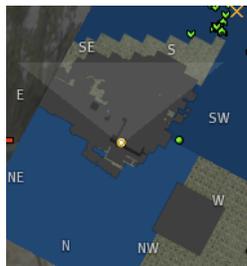
As on the world map, the location of other avatars is indicated by green dots. To open the Mini-map, click on the Mini-Map button in the toolbar or press Shift + Command/Control + M.

Going Home
You can set any location in the virtual world as your home by selecting World > Set Home to Here. To go back to your home location from another location in the virtual world, choose World > Teleport Home or press Shift + Command/Control + H. While viewing the world map, you can quickly teleport home by clicking on the Go Home button in the upper right corner of the screen (next to the map legend).

Chat and Instant Messaging
The Second Life client includes chat and instant messaging (IM) to allow you to communicate with the people you meet in the virtual world. The ability to effectively use these communication tools is an important skill to master as it will help you build meaningful relationships with other users and become an active community member in Second Life.

Chat is a public form of communication in Second Life. Chat messages can be seen by anyone within 20 meters of you in the virtual world. To begin a chat, click on the Chat button in the toolbar at the bottom of the screen. This will display the Chat bar where you can enter your message. As you type your message into the Chat bar your avatar will appear to be typing (you should also hear a typing sound if you have your sound turned on). When you press Enter or Return to finish your

message, it will appear above the Chat bar in a semi-transparent box. You can shout a message so it is viewable over a larger area around you (100 meters). To shout a message, type your message in the Chat bar, click the up arrow on the Say button and select Shout. This will allow your message to be seen by more people around you, but it is considered rude and should be avoided.

When there are too many people in the same area, it may be difficult to keep track of a conversation. If you think you've missed something someone has said, you can always view a transcript of the local chat by selecting View > Local Chat.

Instant Messaging (IM) allows for private communication in Second Life. Only the person you send the IM to can see it. To send an IM to someone near you, right-click on their avatar (Command-click on the Mac) and select Send IM from the pie menu.
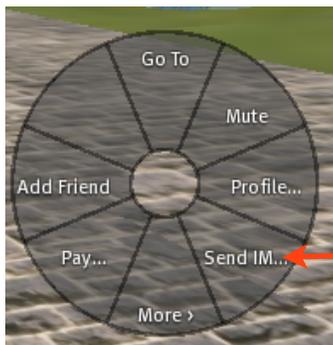
This will open an IM window where you can type your IM message. When you're ready to send your message, click on the Send button or press the Enter key (Return on the Mac). The other person will see an IM Received

notification in the lower left corner of the screen. He or she can click on this notification to see the message you've sent and to send you a reply. When you're finished with your IM session, click on the X in the upper right corner of the IM window to end the session.

To send an IM to someone who is not near you, you must add them as a friend (as described in the next section) or find them using the Search feature. To find another user in Second Life, click on the Search button and enter the other person's Second Life name in the Find field of the People tab. When their name shows up in the search results, select it and click on the Instant Message button on the right. You can send IM messages to other users even if they are not logged in at the same time as you. The message will be received the next time they log in.

Friends
You can add someone as a friend so that their name appears in your Contacts list and it is easier to communicate with them. To offer friendship to someone near you, right-click on their avatar (Command-click on the Mac) and choose Add Friend. The other person will see a prompt asking them to either Accept or Decline your offer of friendship.

To offer friendship to someone who is not near you, you will first have to find them using the Search feature. Open the Search window by clicking on the Search button in the toolbar, then enter the name of the person you're looking for in the Find field of the People tab. Once you've found the user you want to add as a friend,

select their name in the search results and click on Add Friend on the right.

Once the other person accepts your friendship offer, their name will be added to your Contacts list. To view this list, click on the up arrow on the Communicate button and choose Contacts.

To the right of each contact, you will see a series of check boxes you can use to assign friend permissions.

For example, you can prevent a user from seeing your online status by unchecking the box below the eye icon. Once you've added someone to your Contacts list you can use the buttons on the right side of the Contacts window to send them an IM or to Teleport to their location.

Voice Chat
Before you can start a voice chat session, you need to make sure it is enabled in the Second Life preferences. Select Edit > Preferences and click on the Voice Chat tab on the left. You will see several settings you can change:
• Enable voice chat: check this box to enable the voice chat feature.
• Hear Voice Chat from camera or avatar position: this setting will determine whether your sound will

get softer as you move your avatar or the camera away from the sound source (another avatar or an object).
• Push to talk in toggle mode: allows you to set the Talk button to toggle instead of having to hold down the trigger while you talk.
• Push to talk trigger: allows you to use a key as a trigger for starting a voice chat.
• Device settings: this is where you select the input and output devices as well as set the volume level.

Once you've set up voice chat, you can start talking with the people around you by pressing the Talk button (you may have to hold it down or toggle it on and off, depending on your preferences). When you're talking the white dot above your avatar will have green sound waves coming out of it. To enable hands-free voice chat, click on the lock icon on the left side of the Talk button.

As with text-based chat, you can also start a private voice chat with someone in your Contacts list. To start a private chat, open the Contacts list and select the name of the contact, click on the IM/Call button on the right side of the Contacts list and click on Call. The other person will see a prompt where they can either accept or decline your invitation. Once a connection is established, you can press the Talk button to talk to only the person on the call. When you're finished, click on End Call to hang up and end the session.

Gestures
Your body movements are also an important component of communication in the virtual world.

Gestures allow you to control how your avatar moves. To activate a gesture, click on the Gestures button in the Chat bar and select a gesture from the menu.

Once you know a few gestures you can activate them during a chat by entering the backslash character (/) followed by the name of the gesture.

To add more gestures to your avatar, open up your Inventory (click on the Inventory button in the toolbar or press Command/Control +I). Next, look for the Gestures folder in the Library section, choose the Gesture you want to add, and drag it onto your avatar. The gestures you've added will then appear in the Gestures menu.

Postcards
Postcards allow you to send a picture of any location you visit in Second Life to another user, along with a link to that location. Postcards can be sent to any valid email address, even if the recipient does not have a Second Life account. To send a postcard, click on the Snapshot button in the toolbar to take a snapshot of the screen, then make sure the Send via email radio button is selected. Next, click on the More button and set your image size and quality options and click on the Send button. This will open another window where you can address your postcard and enter the message you want to send along with the snapshot. When you're finished drafting your message, click on Send.

Second Life URLs
The website for the SLURL builder provides an easy way to share links to exact locations in Second Life. You will need to know two things to build a Second Life URL: the correct name of the region you want to link to (spacing and case sensitivity are important) and its X, Y and Z coordinates. This information appears in the menu bar at the top of the window.
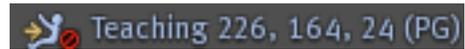
Once you have the required information go to http://slurl.com and click on the "Build your own SLurls" link. Next, enter the region name and the coordinates in the appropriate text fields and click on Generate SLurl. The SLurl will appear in the Your SLurl field . You can copy this URL and paste it into an email or post it on your website.

Modifying Your Avatar's Appearance
An avatar is a virtual representation of each resident in Second Life. It is also the primary way in which residents interact with the virtual environment by moving around in it and manipulating its objects.

One of the most popular things to do in Second Life is to change your avatar's appearance to reflect your personal preferences. You can make your avatar closely match your appearance in the real world, or you can experiment with a whole new persona.

Your avatar's appearance is made up of your body shape and other physical characteristics, your clothes, and any attachments (objects you've picked up during your exploration of Second Life).

To edit your avatar's appearance, right-click on your avatar and choose Appearance from the pie menu (or select Edit > Appearance). The appearance window will open, your avatar will turn to face you, and the words "Editing Appearance" will appear above it. This is to let other people know that you are busy editing your avatar's appearance.

Any changes you make in the Appearance window will change your avatar's appearance almost instantaneously (sometimes there is some lag depending on your system's performance). If you hover over your avatar, you will notice that the camera has been turned on. You can click and drag with the camera to change the zoom and move around your avatar for a better look.

The Appearance window has a series of tabs on the left side for modifying your avatar's body and clothing. When you click on a tab you will see a series of sliders and thumbnails on the right side. There are three ways to make a change using these controls:
• Drag a slider left or right to make gradual adjustments.
• Click on a thumbnail to either increase or decrease a setting by a value of ten.
• Enter a specific value in the text field to the right of a slider.

Some of the tabs will have buttons for making more specific adjustments to your avatar. For example, when you click on the Shape tab you should see a Body button for changing your avatar's height, body thickness and body fat, as well as buttons for

modifying each individual body part (head, eyes, chin, etc.).

The Randomize button at the bottom of each tab has Second Life choose random settings for you. Clicking on this button will only affect the settings for the currently selected tab and button. For example, if you have the Body button selected in the Shape tab, clicking on the Randomize button will change your body shape but it will not affect your eyes, ears and so on.

Some of the tabs will include boxes for adding an image. In the skin tab, clicking on these boxes will open a separate window where you can select an image uploaded to your Inventory to use as a tattoo. In the Eyes tab, the one box available allows you to choose an image to use for your avatar's pupils.

To change your avatar's gender, click on the Female or Male radio button in the Shape tab of the Appearance window. Your body shape and other characteristics will change to reflect the gender you choose.

If you find you don't like a change you've made, you can return to your last unsaved state by clicking on the Revert button. This is similar to clicking on Undo on another program. However, Revert will not work if you have saved your changes by clicking on the Save, Save As, or Save All buttons. These buttons each work differently as follows:
• Save: saves only the changes made in the currently selected tab and button. The previous settings will be overwritten with your changes when you click on this button.

- Save As: this button also only saves the changes made in the currently selected tab and button, but it does not overwrite your previous settings. When you click on this button, you can enter a name for the saved copy of your settings.
- Save All: this button saves the changes made in every tab and button. You should be careful with using this option.

Changing Your Clothing
The Appearance window also has tabs for changing the clothes worn by your avatar. Changing your avatar's clothing is done in a similar way as changing your body shape and other physical features.

The one difference is that the tabs in the Clothes section have Fabric and Color/Tint boxes. The Fabric box allows you to select a different texture from the Inventory. The Color/Tint box opens a Color Picker where you can choose different colors for your clothes.

There are several ways to change the color using the Color Picker:
- Click anywhere in the color ramp on the right side of the Color Picker window or click on a color square at the bottom of the Color Picker.
- enter an RGB value in the text fields on the left side of the color picker.
- Click on the eyedropper and sample any color in the Second Life window.

Once you've chosen a color, click on Select to apply it to the currently selected clothes.

It is recommended that you make a copy of your avatar's appearance,

including the clothes you're wearing, before you start making changes in the Appearance window. This can be done by clicking on the Make Outfit button at the bottom of the window. You should see a popup window where you can name your outfit and use checkboxes to select which body parts and articles of clothing you want to include in it. Your avatar will start wearing the new saved outfit as soon as you click on Save in the Make New Outfit window.

Managing Your Outfits
Each outfit you save is added as a folder to your Inventory. To see all of your outfits, open the Inventory (Command/Control + I) and locate the Clothing folder under My Inventory.

To view the contents of an outfit, click on the disclosure triangle to the left of its name. The currently worn items will have the word "worn" in parenthesis to the right of them.

You can use the Inventory to manage your outfits as follows:
- To stop wearing an item, right click on it and select Take Off (you can right-click and select Wear to put the item back on).
- To delete an item, you must first take it off. You can then right-click on it and select Delete.
- To remove an entire outfit, right-click on its folder and choose Take Off Items. Only do this in a private area (your avatar is going to be naked).
- To put on an entire outfit, right-click on its folder and choose Replace Outfit, or drag the outfit's folder from the Inventory to your avatar.

Another way to remove clothing, is to use the pie menu: right-click on your avatar and choose Take Off > Clothes, then choose the clothes you want to remove.

Your avatar must always have a shape. If you only have one shape in your Inventory you will not be able to delete it. You will have to create a new shape and wear that shape first before you can delete the old one.

Attachments

Attachments allow you to add jewelry and other items to your avatar. One popular use of attachments is adding what is known as "sim hair". This is hair that is worn by your avatar just like clothes.

To pick up an object you find while exploring the virtual world, right-click on it to bring up the pie menu and choose Buy. You will then see a popup showing you how much the item costs (it should say Buy for L$0 if the item is free). Next, click on Buy and the item will be added to your Inventory.

To attach the object to your avatar, locate it in the Objects folder in your Inventory, right-click on it, select Attach to and choose a body part where you want the object to appear. To detach the object, right-click on it in the Inventory and choose Detach From Yourself. You can also detach the object using the pie menu: select Take Off > Detach and choose the body part that has the object attached to it. To delete an object from your Inventory, right-click on it and choose Delete.

Second Life Sites for Educators
• International Spaceflight Museum
  SLurl: http://slurl.com/secondlife/ Spaceport%20Alpha/48/83/24 (Spaceport Alpha) and http:// slurl.com/secondlife/Spaceport %20Bravo/12/80/23 (Spaceport Beta)

The highlight of this virtual museum is the Rocket Ring, where students can explore virtual replicas of the most famous rockets involved in our exploration of space. Although not directly affiliated with NASA, this site has a lot of information that students can use to study the space program.

• National Oceanographic and Atmospheric Administration (NOAA) Island
  SLurl: http://slurl.com/secondlife/ Meteroa/178/160/27/

NOAA's website includes several simulations related to the weather and climate change. Students can view a real-time visualization of the US weather, ride through a hurricane inside a virtual plane, and view a simulation of glaciers.

• Exploratorium's Sploland
  SLurl: http://slurl.com/secondlife/ Sploland/185/75/25

This is an interactive science museum created by the Exploratorium based in San Francisco. One of the most popular exhibits on this site is Orbital Experience, where you can travel around the solar system on Halley's Comet. There are also many exhibits on optical illusions on this site.

- Genome Island
  SLurl: http://slurl.com/secondlife/
  Genome/180/64/33

This site includes a number of simulations and virtual experiments related to the study of genetics. On this site, students can find a large scale replica of an Eukaryotic Cell which they can enter and interact with, as well as models of DNA.

- Roma
  SLurl: http://slurl.com/secondlife/
  Roma////

Using the objects and notecards on this site, students can learn more about the buildings, lifestyle and politics of Ancient Rome.

Things to Consider Before Using Second Life in the Classroom
- Second Life works best when it runs on a computer with good hardware. Make sure to check the hardware requirements and test it out on your lab computers or laptops before planning an activity with your students.

- The virtual environment can be difficult to navigate for students with cognitive and other disabilities. Make sure you take this into account before you design your Second Life lessons. You may need to provide an alternative if you have students who are unable to participate in the virtual environment.

- Like the Web, Second Life is an open environment where your students may easily come across inappropriate content. Before you start a virtual world activity, you

should discuss online safety with your students and provide them with strategies for dealing with inappropriate content and behavior when they encounter it inworld. You can find some tips in the Teen Second Life page for parents at http://teen.secondlife.com/parents/safety. Teen Second Life (http://teen.secondlife.com) may be a great place to start exploring Second Life with your students if you are concerned about online safety in the virtual world.

- Second Life limits the number of accounts you can set up from one location to prevent abuse of the system. To get around this limitation, you may want to tell your students to set up their accounts at home prior to your lesson or activity.

If you're setting up Second Life in a computer lab, you may have to submit a support ticket to the Second Life team before you can register multiple accounts from a single location. You will need to know the IP addresses of the computers where you plan to install Second Life before you submit your ticket. A quick way to find out the IP address of any computer is to open a web browser on that computer and visit the website http://www.whatismyip.com.