

# Getting set up with Heidi SQL for Windows

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ICE-D tutorial SQL for Windows

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In this set up tutorial, we will be downloading Heidi SQL, generating a connection from your desktop to the database via an SSH tunnel, and showing users what it looks like when you are connected to ICE-D!



We will be using SSH ("secure shell") through an intermediate gateway host to talk to the database server. We will be using SSH "key-pair" authentication, which requires that you generate a code key on your machine and send it to me to be installed on the gateway host. Once the key pair is installed on both machines they can make a secure connection without the need to enter a password each time. Thus, the connection is machine-specific...a key pair installed on your laptop will not also work on your desktop.

**Step 1.** Begin the tutorial by navigating over to <https://www.heidisql.com/> and download the latest version of Heidi SQL (as of the date listed on this tutorial, I am successfully using version 11.3).

In addition, unlike Mac operating systems, Windows does not automatically have an SSH program installed so you must install one on your own. I use PuTTY (<https://www.putty.org/>). Installing PuTTY will also install an SSH key generator called PuTTY Key Generator or PuTTYgen for short.



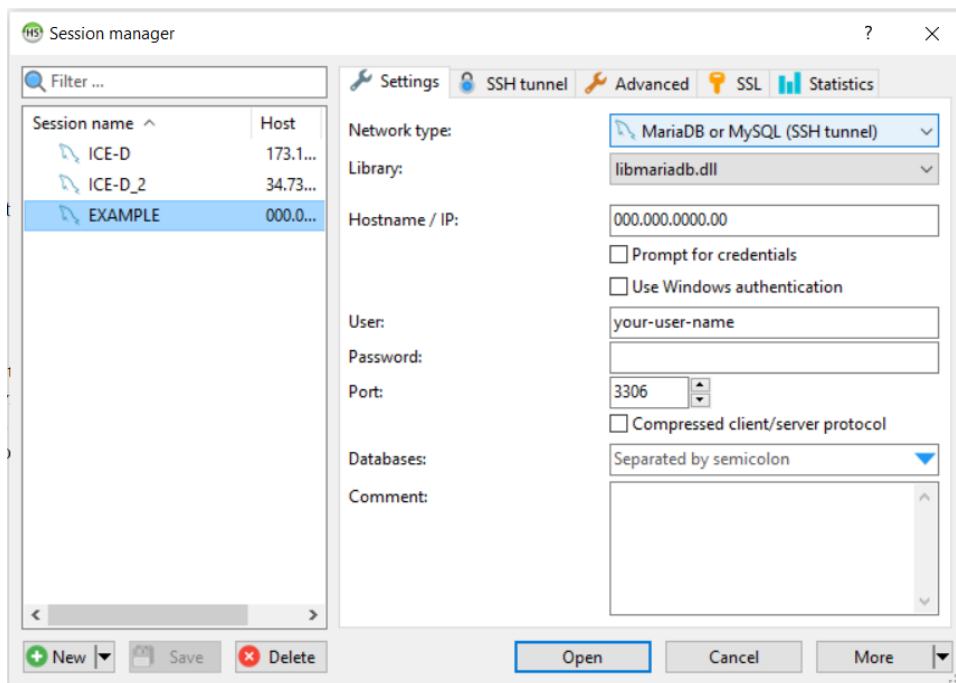
# PuTTY

**Step 2.** Open PuTTYgen and use the default settings to generate a key. This will involve making random movements with your mouse. This should have generated both a "public" and a "private" ssh key. The public key should be printed in the box near the top of the window. Copy this and email it to Greg Balco (balcs@bgc.org). Save the private key in the following directory:

C:\Users\[user]\.ssh

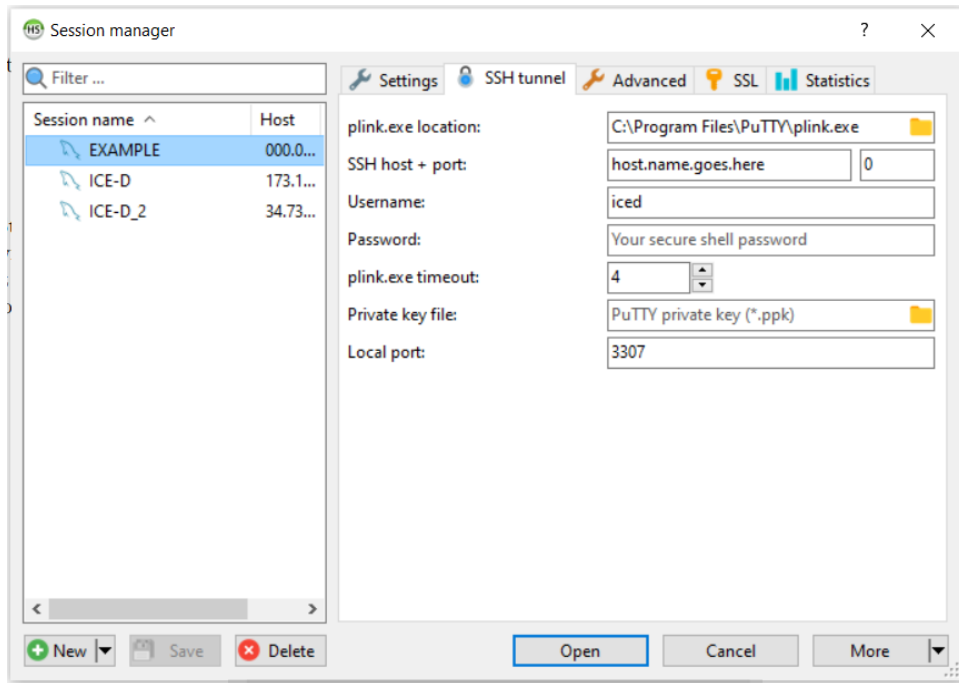
This is not a standard directory (i.e., you probably shouldn't try to make it yourself), but it should either already exist or it might be auto-generated when you use PuTTY.

**Step 3.** Now that we've dealt with SSH keys, open HeidiSQL to connect to the database. The Session Manager window will open, which is where you'll input the connection parameters. First, make a new Session and give it a sensible name (e.g., ICED\_remote). Use the template below for the Settings tab (make sure under network type you choose "MariaDB or MySQL (SSH tunnel)"; this option is *not* the default):



Ask Greg (balcs@bgc.org) for the correct IP address to put in the 'Hostname/IP' field. The User name and Password here are for your ICE-D MySQL account. Talk to Greg (balcs@bgc.org) about getting this set up if you haven't already. The Databases field can be left empty.

Use the following template for the SSH tunnel tab:



Set the plink.exe location to wherever plink.exe is installed locally on your machine. It will probably be very similar to the example above. Ask Greg for the correct host name to put in the 'SSH host+port' field. "Username" here pertains to your username on the SSH gateway machine, which is "iced." Leave the Password blank. It is not needed for key pair authentication. Set the Private key file to the location of the private SSH key that you generated using PuTTYgen.

**Step 4.** Okay, now try opening the connection. In theory, everything should work. Please email either Greg (balcs@bgc.org) or Joe (jtulenko@bgc.org) if you have any issues with the set up. Here is a screen shot of what the samples tab in ICE-D Alpine looks like when successfully connected and viewing the data:

ICE-D\ICED\_ALPINE\samples\ - HeidiSQL 11.3.0.6295

File Edit Search Query Tools Go to Help

Host: 173.194.241.211 Database: ICED\_ALPINE Table: samples Data Query\*

ICED-ALPINE.samples: 8,299 rows total (approximately), limited to 1,000

id	sample_name	lat_DD	lon_DD	elv_m	shielding	thick_cm	lithology	site	density	comments	what
1.802	BST-08-02	-44.029532	170.1185	872.62	0.995	2.17	Greywacke	BST	2.65	Outer moraine relative to lake	Moraine boulder
1.803	BST-08-10	-44.0468	170.12028	838.4	0.998	1.62	Greywacke	BST	2.65	Outer moraine relative to lake	Moraine boulder
1.804	BST-08-11	-44.03631	170.11805	857	0.993	2.38	Greywacke	BST	2.65	Outer moraine relative to lake	Moraine boulder
1.805	BST-08-03	-44.03131	170.11922	852	0.995	2.22	Greywacke	BST	2.65	Inner moraine relative to lake	Moraine boulder
1.806	BST-08-04	-44.03426	170.12025	839.3	0.996	2.35	Greywacke	BST	2.65	Inner moraine relative to lake	Moraine boulder
1.807	BST-08-05	-44.03728	170.12081	837.1	0.997	2.16	Greywacke	BST	2.65	Inner moraine relative to lake	Moraine boulder
1.808	BST-08-06	-44.03773	170.11992	835.1	0.997	1.07	Greywacke	BST	2.65	Inner moraine relative to lake	Moraine boulder
1.809	BST-08-07	-44.03985	170.11979	831.9	0.997	2	Greywacke	BST	2.65	Inner moraine relative to lake	Moraine boulder
1.810	BST-08-08	-44.04216	170.12218	831.4	0.998	1.31	Greywacke	BST	2.65	Inner moraine relative to lake	Moraine boulder
1.811	BST-08-09	-44.04446	170.12274	823.3	0.998	1.8	Greywacke	BST	2.65	Inner moraine relative to lake	Moraine boulder
1.813	14-SN-MACRPO-024	37.771571318	-119.270003797	3,125	0.993	2.5	Granite	MACRPO	2.65	(NULL)	Moraine boulder
1.814	14-SN-MACRPO-025	37.771673086	-119.269736494	3,123	0.988	1	Granite	MACRPO	2.65	(NULL)	Moraine boulder
1.815	14-SN-MACRPO-026	37.771738418	-119.26939493	3,119	0.992	1	Granite	MACRPO	2.65	(NULL)	Moraine boulder
1.816	14-SN-MACRPO-027	37.771738516	-119.268941927	3,117	0.994	2.5	Granite	MACRPO	2.65	(NULL)	Moraine boulder
1.817	14-SN-MACRPO-028	37.771750059	-119.268849113	3,118	0.987	1.5	Granite	MACRPO	2.65	(NULL)	Moraine boulder
1.818	14-SN-MACRPO-029	37.771776476	-119.268918491	3,117	0.993	1.5	Granite	MACRPO	2.65	(NULL)	Moraine boulder
1.819	14-SN-MACTIE-030	37.772261244	-119.269618812	3,126	0.992	2	Granite	MACTIE	2.65	(NULL)	Erratic boulder
1.820	14-SN-MACC-002	37.75062	-119.28387	3,572	0.978	5	Granite	MACC	2.65	(NULL)	Moraine boulder
1.821	14-SN-AGAE-033	38.85719	-120.16127	2,816	0.987	1.5	Granite	AGAE	2.65	(NULL)	Moraine boulder
1.822	14-SN-AGAE-034	38.85721	-120.16136	2,816	0.991	1.5	Granite	AGAE	2.65	(NULL)	Moraine boulder
1.823	14-SN-AGAC-037	38.85772	-120.16424	2,839	0.976	1.5	Granite	AGAC	2.65	(NULL)	Moraine boulder
1.824	14-SN-AGAC-038	38.85774	-120.16424	2,839	0.975	2	Granite	AGAC	2.65	(NULL)	Moraine boulder
1.825	14-SN-AGAC-041	38.85816	-120.1651	2,843	0.975	1.5	Granite	AGAC	2.65	(NULL)	Moraine boulder
1.826	14-SN-AGAW-045	38.86073	-120.16913	2,852	0.974	1.5	Granite	AGAW	2.65	(NULL)	Moraine boulder
1.827	14-SN-AGAW-046	38.860817	-120.16921	2,854	0.974	2	Granite	AGAW	2.65	(NULL)	Moraine boulder
1.828	14-SN-MACB-003	37.750597	-119.28359	3,573	0.978	3.5	Granite	MACB	2.65	(NULL)	Moraine boulder
1.829	14-SN-MACB-004	37.75068	-119.28349	3,571	0.978	4	Granite	MACB	2.65	(NULL)	Moraine boulder

Filter: Regular expression

```

28 SHOW ENGINES;
29 SHOW COLLATION;
30 SHOW CREATE TABLE `ICED_ALPINE`.`samples`;
31 SELECT `id`, LEFT(`sample_name`, 256), `lat_DD`, `lon_DD`, `elv_m`, `shielding`, `thick_cm`, LEFT(`lithology`, 256), LEFT(`site`, 256), `density`, LEFT(`comments`, 256), LEFT(`what`, 256), LEFT(`collect
32 SHOW TABLE STATUS LIKE `samples`;

```

r1: c1 Connected: 00:00 h MariaDB or MySQL 5.6.51 Uptime: 101 days, 03:51 h Server time: 8:44 PM Idle.

Thanks for following along!