RemoteLab 2.0 Admin Guide

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Getting Started with RemoteLab 2.0 (Server Configuration)

Download the latest version of RemoteLab from: http://mafudge.github.io/remotelab/

System Requirements:

- Active Directory
- Windows Server 2008 or higher running:
    - Web Server Role (IIS)
    - ASP.net 4.5 extensions installed (http://msdn.microsoft.com/en-us/library/5a4x27ek%28v=vs.110%29.aspx)
    - SQL Server 2008 or higher

Create your RemoteLab database:

- Login to your Database Server
- Create a new database - IE: RemoteLabDB
- Create a new SQL login – IE: RemoteLabDBUser and map it as db_owner to the database (RemoteLabDB) (This is used by the RemoteLab web application to access the Database)
- The RemoteLab Webapp will create the necessary tables in the database

Getting Started Checklist

You will need the information below to deploy and configure RemoteLab, for your convenience you can print this page and fill out the information below as you follow through the setup guide.

☐ Active Directory	
☐ IIS Webserver	
☐ ASP.net 4.5 Installed?	
☐ SQL Database Server:	
☐ SQL Database Name:	
☐ SQL Database User:	
☐ SQL Database Password:	
☐ AD Group for RemoteLab Admins:	
☐ Computers for RemoteLab (Physical or Virtual) bound to AD	

How to Deploy the RemoteLab Web Application:

Before we can deploy the RemoteLab App we will need a few things first:

1. A RemoteLab Database – This is used to store pools, computers, logins, reservations, and events.
   a. When setting up RemoteLab initially, we will need to create a database connection string. The setup script will do this for you but you will need to enter in some information:
      i. Database Server:
      ii. Database Name:
      iii. Database User:
      iv. Database User Password:
2. AD Groups
   a. A RemoteLab App Admins Group – This will be used to configure the Global RemoteLab Administrators.
   b. Pool Groups:
      i. 1 group for Pool Admin -
      ii. 1 group for Pool Users -
3. Determine the domain name of the site for RemoteLab (remotelab.myschool.edu)
   a. Configure CNAME for your webserver using the domain name for your RemoteLab web application.
4. Login to your IIS webserver, download the latest copy of RemoteLab from http://mafudge.github.io/remotelab/
5. Copy RemoteLab-Deploy contents to %SystemDrive%\inetpub\wwwroot\RemoteLab (or directory of your choosing)
6. Run RemoteLab\Setup\Setup.bat (This will configure your Web.config file)
7. Open IIS Manager
8. Create a new website using your domain name.
9. SiteName: Remotelab (or whatever you choose)
10. Physical Path: C:\inetpub\wwwroot\RemoteLab (or directory of your choice)
11. Host Name: remotelab.myschool.edu (or whatever you choose)
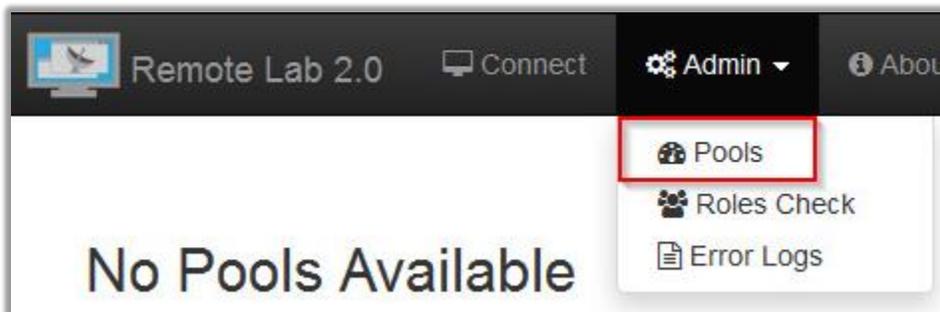12. You should now be able to Browse the application to test that it works
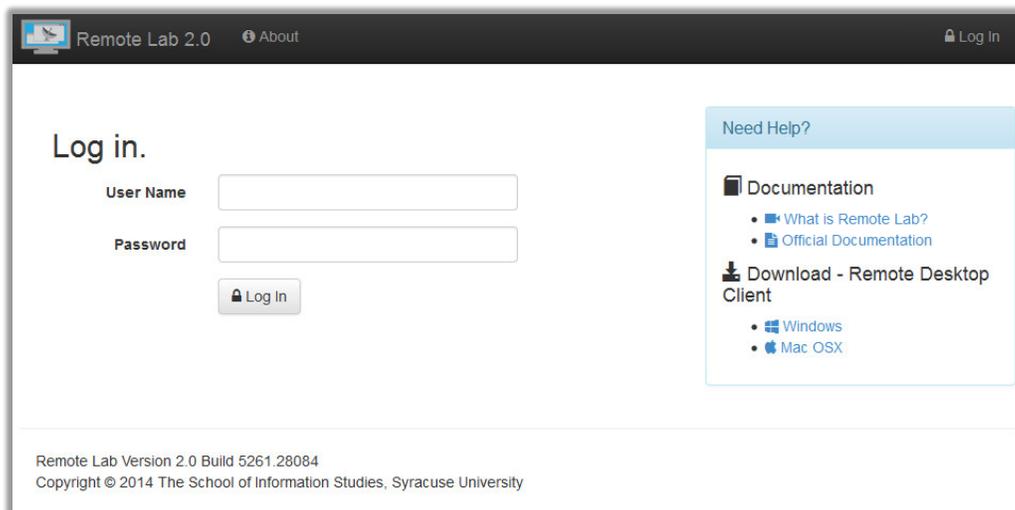
Setting up a new Pool

Login to RemoteLab App with a RemoteLab App Admin – this will be an AD account in the RemoteLab App Admin Group you created in step 2 above.

You should see the Admin Option in the menu.
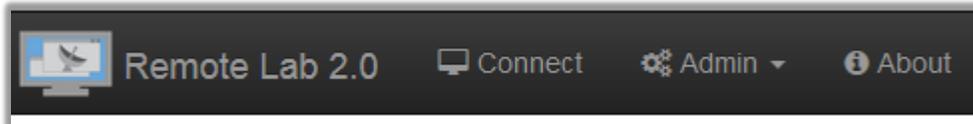
- Click Admin > Pools

- Choose New Pool

Pool Settings:

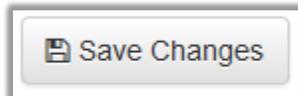Here are the required fields for setting up a new pool and what they do.

Description	Field
Name for the pool you are creating	**Pool Name**
AD group which the users in this group will be able to access the RemoteLab computers assigned to this Pool.	**Active Directory User Group**
AD group which the users will be Administrators of this Pool. Allows management of Pool settings.	**Active Directory Pool Admin Group**
comma delimited field to receive emails from RemoteLab system having to do with that pool.	**Email Notify List**
RDP Port used when writing out the Remote Desktop Connection file. Default is 3389 only change if your campus uses a different port for Remote Desktop.	**RDP TCP Port**
Sets the RemoteLab Database Auto-cleanup timer in Minutes. The auto-cleanup procedure will self-correct users that claimed a reservation but have never logged in. Default is 30.	**Cleanup (in Minutes)**
This should be an AD account which has Admin rights to computers used for RemoteLab. This account is used for management purposes of RemoteLab computers to reboot them when users are finished.	**Remote Administrator User**
The password for the username specified in Remote Administrator User. (This will be encrypted in the database)	**Remote Administrator Password**
This is where you can customize your welcome message in RemoteLab for that Pool. This way each Pool can have their own custom messages.	**Welcome Message (New Reservations)**

Pool Example:

Here is an example of pool settings.

Pool Name	iSchool
Active Directory User Group	iSchool-Users-RemoteLab-Users
Active Directory Pool Admin Group	iSchool-Users-RemoteLab-Admins
Email Notify List	user@my.edu
RDP TCP Port	3389
Cleanup (in Minutes)	30
Remote Administrator User	itadmin
Remote Administrator Password	••••••••••••••• Show

Click Save Changes

🖫 Save Changes

You have just created your first Pool.

Configuring Group Policy for your RemoteLab Hosts

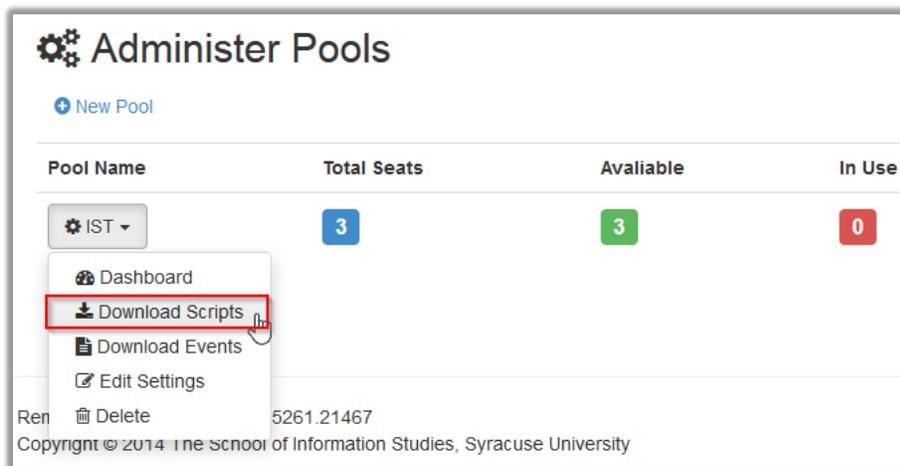Recommended to have your RemoteLab Computer Pools in their own OU.
You will need to create two group policies and scope them to your RemoteLab OU.

Now we need to configure Group Policy for RemoteLab Computers.

You should first setup a public share to use instead of the sysvol share. This is best practice and works best with the RemoteLab Computer scripts.
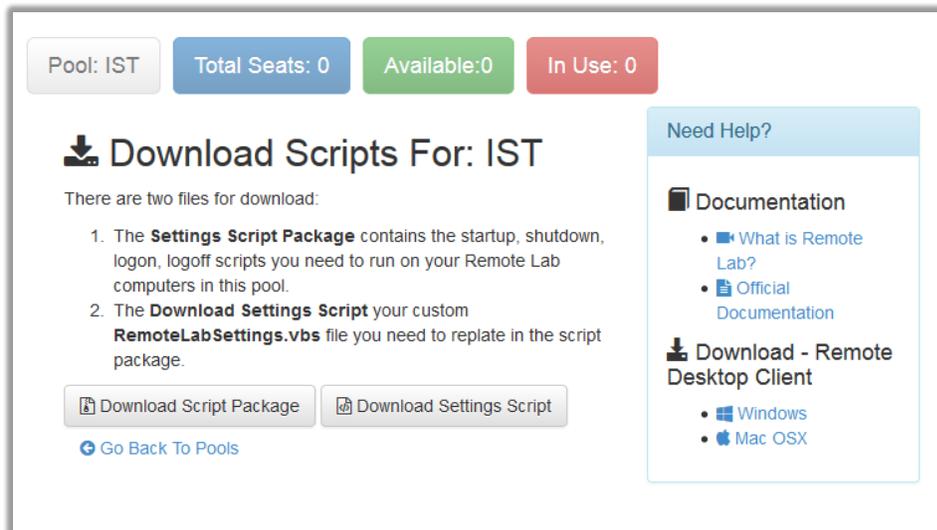
You will need to download your Pool's scripts.

Under Admin > Pools, Click on your pool and choose Download Scripts.

You will need to download both the Script Package and Setting Script.

You should extract and save these scripts to the public share which we will use to call the scripts via GPO. The scripts should be in their own folder. IE: \\yourshare\Remotelab

First GPO – Create a new GPO and Scope to your RemoteLab OU - Enable and Set Remote Desktop Users

- Add Domain Users to the Remote Desktop Users Group
  - Expand **Computer Configuration – Policies – Windows Settings – Security Settings – Restricted Groups**
  - Right Click and Add New Group: **Remote Desktop Users**
  - Add to this group **Domain Users**
- Configure Firewall for Remote Desktop (This only works if using RDP TCP Port 3389)
  - Expand **Computer Configuration – Policies – Administrative Templates – Network – Network Connections – Windows Firewall – Domain Profile**
  - **Enable** and set to ***** - **Windows Firewall: Allow inbound Remote Desktop exceptions**
- Configure Remote Desktop Sessions Host
  - Expand **Computer Configuration – Policies – Administrative Templates – Windows Components – Remote Desktop Services – Remote Desktop Session Host – Connections**
  - **Enable – Allow users to connect remotely by using Remote Desktop Services**
  - **Enable – Automatic reconnection**
  - **Enable** and set to anywhere from **10** to **20** (we chose 10) – **Configure keep-alive connection interval**
  - **Enable** and set to **1 – Limit number of connections**
  - **Enable – Restrict Remote Desktop Services users to a single Remote Desktop Services session**
- Configure Remote Desktop Session Environment
  - Expand **Computer Configuration – Policies – Administrative Templates – Windows Components – Remote Desktop Services – Remote Desktop Session Host – Remote Session Environment**
  - **Enable** and set to **Balances memory and network bandwidth – Configure compression for RemoteFX data**
  - **Enable – Remove "Disconnect" option from Shut Down dialog**
- Configure Session Time Limits
  - Expand **Computer Configuration – Policies – Administrative Templates – Windows Components – Remote Desktop Services – Remote Desktop Session Host – Session Time Limits**
  - **Enable – End session when time limits are reached**
  - **Enable** and set idle session limit to **1 hour – Set time limit for active but idle Remote Desktop Services sessions**
  - **Enable** and set End a disconnected session for **30 minutes – Set time limit for disconnected sessions**

Second GPO – Create a new GPO and Scope to your RemoteLab OU - RemoteLab Scripts

- Computer Startup/Shutdown Scripts
  - o Expand **Computer Configuration – Policies – Windows Settings – Scripts**
  - o **Startup** - \\yourshare\RemoteLab\RemoteLabStartup.wsf
  - o **Shutdown** - \\yourshare\RemoteLab\RemoteLabShutdown.wsf
- Configure Loopback
  - o Expand **Computer Configuration – Policies – Administrative Templates – System – Group Policy**
  - o **Enable** and set to **Replace – Configure user Group Policy loopback processing mode**
- User Logon/Logoff Scripts
  - o Expand **User Configuration – Policies – Windows Settings – Scripts**
  - o **Logon** - \\yourshare\RemoteLab\RemoteLabLogon.wsf
  - o **Logoff** - \\yourshare\RemoteLab\RemoteLabLogoff.wsf

With your GPOs now setup, you should be able to just restart your RemoteLab computers, and the scripts will do the rest.

Using RemoteLab

Now that you have configured your Pool, you can start using RemoteLab.

- Open your web browser and go to your remotelab website.
- Login with your Username and Password
- After successful logon, you will be brought to the pool page where you can pick your pool.
  - a. Note: If you only have access to one pool, you will be brought to the New Reservation page
- Select the pool you would like to access and you will then be brought to the New Reservation page

Reservation System

From the new reservation page, you can see a quick overview of your selected pool.

- Current Pool, Total Seats, Available Seats, and In Use Seats.
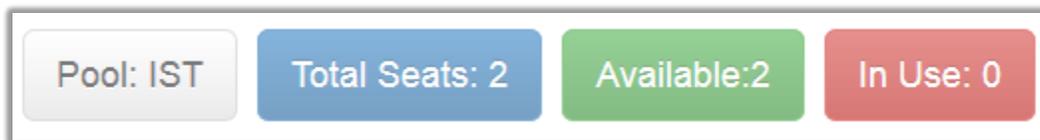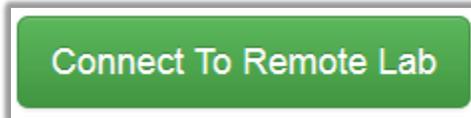

Make My Reservation

What it does:
- Queries the database for the next avaialble computer in your Pool
- Runs a TCP Check to make sure the computer is available via RDP

- Reserves that computer for the current user

Once a reservation has been made you can now Connect to Remote Lab. This will stream the Remote Destkop Connection file to you and initiate the connection.

Connect To Remote Lab

What it does:
- Generates and streams a RDP file for your reserved computer

Clear My Reservation

What it does:
- Removes current user from the database
- Restarts the current reserved computer to make it avaialble to the Pool again

Clear My Reservation is only needed if you are having an issue connecting to the current reservation. While we put in some verification measures, we can not account for network issues in your environment.

Note: Users will only be able to Clear their reservation once per login. The reasoning for this is since Clear My Reservation restarts the remotelab computer, they could just reserve and reboot your entire pool. So we decided to mitigate that possibility.

Administering Pools

When you logon to RemoteLab as a Pool Administrator you will have the ability to manage any of the pools you are an administrator off.

Dashboard

The Dashboard is a real-time view into your RemoteLab Pool. From the Dashboard you can click on either a user or Computer to filter events just for that user or computer.

Refresh Page – Refreshes the Dashboard

Go Back To Pools – This will take you back to the Administer Pool page.

Download Scripts

Download Script Package – This will generate and download a .zip file which contains all the scripts required for your Group Policy.

Download Settings Script – This will generate a custom script file which contains the information needed to identify your computers to the current pool. This should be downloaded and saved to your scripts share used by your Group Policy.
(Note: some web browsers may not save the file as a .vbs, but a .vbs.txt – please make sure to rename the file to .vbs)

Download Events

From the Download Events page, you have the ability to download logon information and statistics for RemoteLab into a CSV. With a little bit of data mining, you will have access to the raw information needed to build reports for RemoteLab.

Download Events – This will generate and download a .csv based on the start and end date specified.

Edit Settings

✎ Edit Pool Settings:

Allows you to make changes to various configurations for the current pool.

Name for the pool you are creating	**Pool Name**
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Delete

🗑 Delete Pool: IST

⚠ Are you sure you want to delete this pool?

This action cannot be undone and will remote all computers in the pool along with it.

🗑 Delete This Pool

This will permanently delete the current pool from the RemoteLab database.