

Eric Pitman Summer Workshop in Computational Science



0. Workshop environment

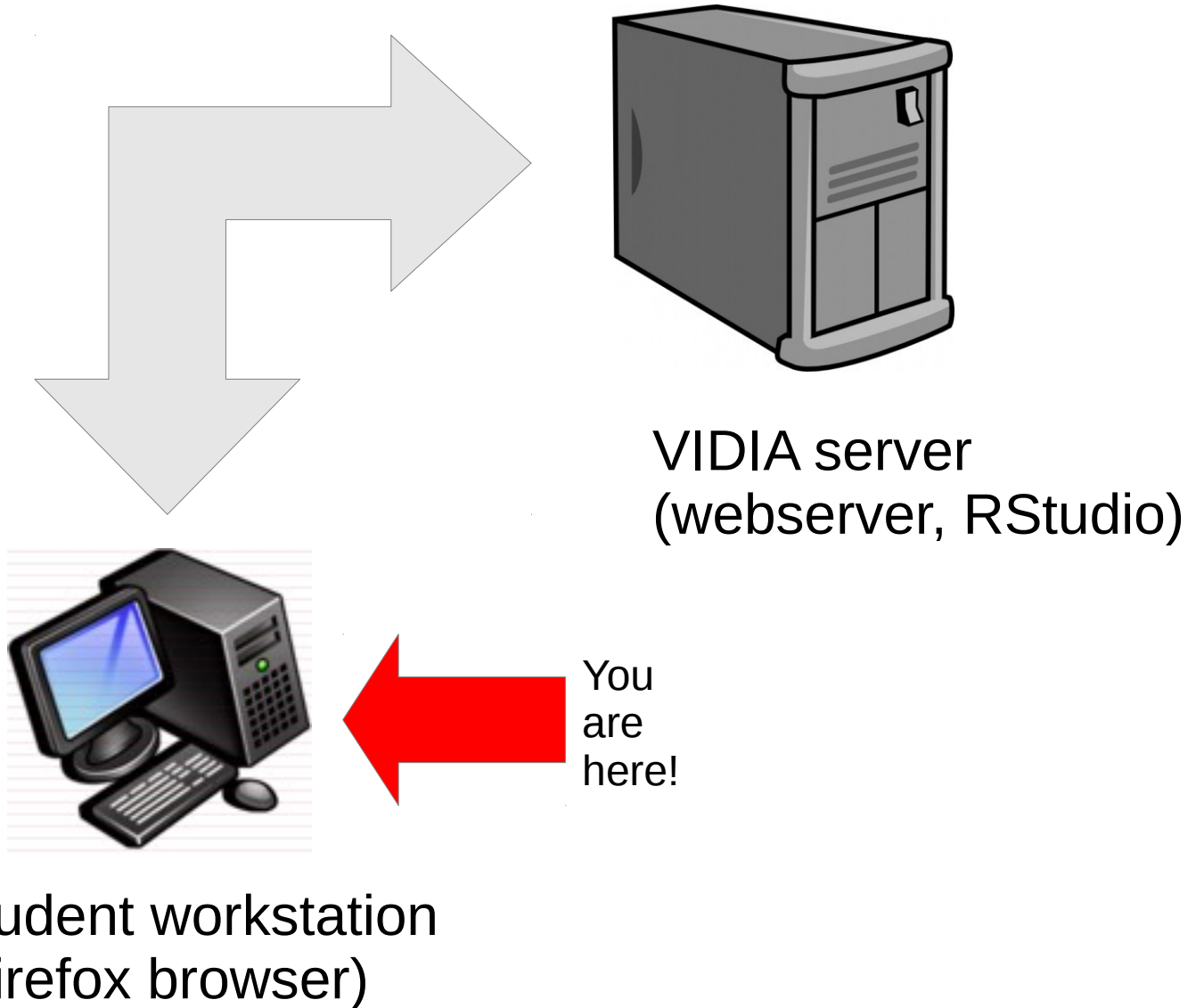


Intro to

0. Workshop environment: set up on vidia.ccr.buffalo.edu

- Register on VIDIA
- Starting the RStudio tool
- Setting up RStudio Projects: GitHub
- File transfer: using WebDAV
- Using groups on VIDIA

Workshop Computing Environment



Register on VIDIA

Use email address:

`firstname.lastname@workshop.ccr.buffalo.edu`

1. On `vidia.ccr.buffalo.edu`, click Register.
2. Specify your full name; choose username and password; specify email address; submit.
3. We will enable your account.



Create New Account screen

Create New Account

Login Information

User Login: **REQUIRED** Combination of lowercase letters and numbers. No spaces or punctuation.

Password: **REQUIRED** Confirm Password: **REQUIRED**

- Must contain at least 1 letter
- Must contain at least 1 number or punctuation mark
- Must be at least 8 characters long
- Must be no longer than 16 characters
- Must contain more than 4 unique characters
- Must not contain easily guessed words

Complete and submit:

- contact information
- username and password
- email address

Fill in required fields and submit

Login Information

User Login: **REQUIRED**
sally
User login name is available

Password: **REQUIRED**
.....

Contact Information

First Name: **REQUIRED**
Sally

Middle Name:
S

Valid E-mail: **REQUIRED**
jsperhac@yahoo.com

Confirm
jsperhac

Important! You **must** confirm receipt of e-mail from webmaster@hubdemo.com to complete registration.


Human Check

5X4x3
[Letters not clear?](#)
[Click to renew CAPTCHA.](#)

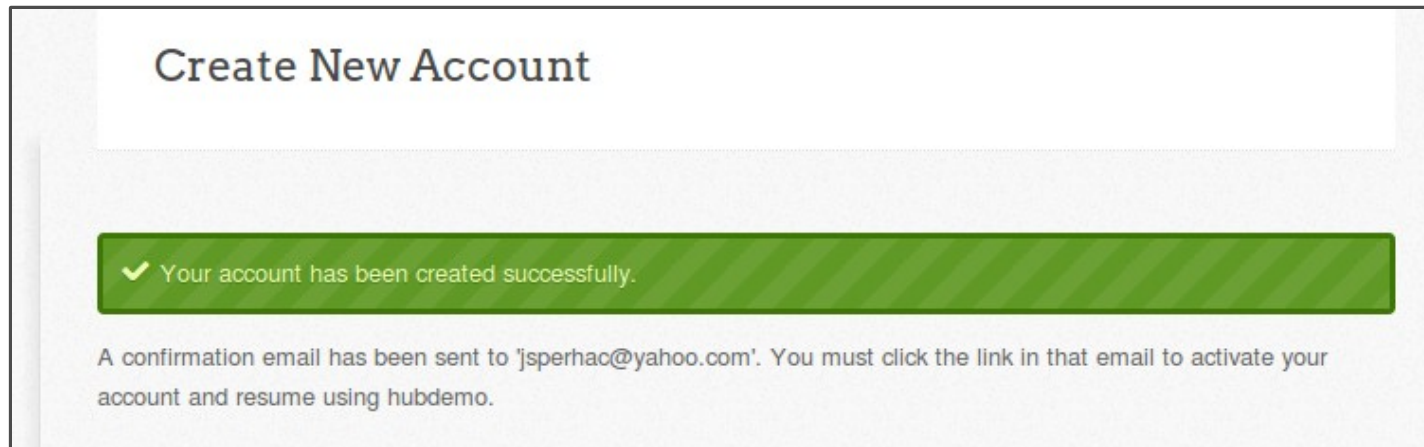
Please enter the following characters you see into the textbox below.
5X4x3

Terms & Conditions

REQUIRED Yes, I have read and agree to the [Terms of Use](#).



New account created



We will enable your account; then, you can sign in to VIDIA.

User Dashboard

Jnet Sperhac ▶ Dashboard Personalize Dashboard

My Groups

- [Workspace Access](#) approved

All My Groups (1) All Groups [New Group](#)

My Sessions

- [Orange](#) ▼

LAST ACCESSED:
May 06, 2014 @ 1:28pm

[▶ Open](#) [✖ Terminate](#)

- [Rapid Miner v5](#) ➤

Storage ([manage](#))

0% of 0.9GB

My Courses

- [CCR Summer Workshop](#)
Section: Default
Active student
- [Test Course for vidia v1.2.1](#)
Section: Default
Active student

All My Courses (2) All Courses [New Project](#)

My Projects

- [Jnet Test Project](#)
By me | manager
- [Orange Explorations for IITG](#)
By J M Sperhac | collaborator

All My Projects All Projects [New Project](#)

Resources

[Simulation Tools](#)

- [RapidMiner](#)
- [Orange](#)
- [RStudio](#)

[Publications](#)
[All Resources](#)

My Tools

Recent	Favorites	All Tools
Rapid Miner v5		
Workspace		
Orange		

These are your most recently used tools.

Running Rstudio tool on VIDIA

VIDIA Dashboard: RStudio Tool

The screenshot shows the VIDIA Dashboard for user J M Sperhac. The dashboard is organized into several sections:

- Header:** User name "J M Sperhac" and "Dashboard" label.
- Left Sidebar:** Navigation menu with items: Dashboard (selected), Profile, Groups (4), Account, Contributions (11), Collections (1), Messages (25), and Projects (2).
- My Tools:** A section with tabs for "Recent", "Favorites", and "All Tools". It lists tools: Rapid Miner v5, Workspace, Orange, and RStudio. Below the list is the text "These are your most recently used tools." A red arrow points to the RStudio entry.
- Resources:** A section titled "Simulation Tools" containing links for RapidMiner, Orange, and RStudio. Below this is a "Publications" link.
- My Courses:** A section listing courses: "CCR Summer Workshop" (Active, instructor) and "Test Course for vidia v1.2.1" (Active, instructor).
- My Groups:** A section listing groups: "POLS 200, Approaches to Political Science" (manager) and "SOCL-209, Social Research" (manager).



Improved Simulation Through Collaboration

Jeanette Sperhac (jsperhac)

Logout My Account 16 New Messages

Rensselaer Polytechnic Institute • Stony Brook University • University at Buffalo • Brookhaven National Laboratory • NYSERNet

- HOME
- USER INFO
- ACCOUNTS
- SOFTWARE
- ABOUT
- RESEARCH GROUPS
- HELP! (?)

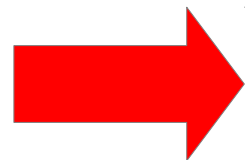
You are here: Home » Tools » R Studio Tool » About

R Studio Tool [edit](#)

By [Jeanette Sperhac](#)¹, [Steve Gallo](#)²

1. SUNY at Buffalo 2. Center for Computational Research, SUNY at Buffalo

RStudio is an IDE for the R language. It provides a multipane window environment for statistical computing and graphics in R.



Launch Tool

Version 1.0 - published on 12 Feb 2013

Open source: [license](#) | [download](#)

[View All Supporting Documents](#)

[Add to your favorites!](#)

Share: [f](#) [t](#) [g+](#) ...

0 Citation(s)

SEE ALSO

No results found.

- About
- Citations

Category

[Tools](#)

Published on

12 Feb 2013

Abstract

The R Studio Tool is a deployment of the RStudio IDE on the hpc2 hub. It provides a multipane window environment for statistical computing and graphics in R.

R Studio provides syntax highlighting, code completion, and smart indentation; ability to execute R code from the source editor; ability to easily manage multiple working directories using projects; and ability to quickly navigate code using type-ahead search.



Improved Simulation Through Collaboration

Jeanette Sperhac (jsperhac)

Logout My Account 16 New Messages

- HOME
- USER INFO
- ACCOUNTS
- SOFTWARE
- ABOUT
- RESEARCH GR...
- HELP! (?)

You are here: Home » resources » Tools » R Studio Tool » Session: 1123 "R Studio Tool"

RStudio session:
Terminate
Suspend



R Studio Tool

Terminate Keep for later

File Edit Code View Plots Session Project Build Tools Help

Go to file/function Project: (None)

Workspace History

Import Dataset

```
1 # plot examples from statmethods.net
2 # using mtcars dataset
3 # 3 May 2013
4 # JMS
5
6
7 # pch controls point selection
8 # col controls point color
9 plot(mtcars$wt, mtcars$mpg, xlab="Veh
10       ylab="Vehicle MPG, miles/gallon"
11       pch=8, col="darkblue")
12 abline(lm(mtcars$mpg~mtcars$wt), col=
13 title("Regression of Vehicle MPG on W
14
15 # ----- Histograms -----
16
```

Files Plots Packages Help

New Folder Delete Rename More

Home

Name	Size	Modified
.Rhistory	1.4 KB	May 13, 2013, 4:28 PM
apps		
checkSubmit		

hpc2 - resources: Tools: R Studio Tool: Session: 1123 "R Studio Tool" - Mozilla Firefox

hpc2 - resources: Tools: R Stud... +

https://hpc2.org/tools/rstudiotool/session/1123

Most Visited Getting Started

Disable Cookies CSS Forms Images Information Miscellaneous Outline Resize Tools View Source

```
6
7 # pch controls point selection
8 # col controls point color
9 plot(mtcars$wt, mtcars$mpg, xlab="Veh
10     ylab="Vehicle MPG, miles/gallon"
11     pch=8, col="darkblue")
12 abline(lm(mtcars$mpg~mtcars$wt), col=
13 title("Regression of Vehicle MPG on W
14
15 # ----- Histograms -----
16
```

1:1 (Top Level) R Script

Console ~

distribution details.

R is a collaborative project with many contributors.
Type 'contributors()' for more information and 'citation()' on how to cite R or R packages in publications.

Type 'demo()' for some demos, 'help()' for on-line help, or 'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

> |

Files Plots Packages Help

New Folder Delete Rename More

Home

Name	Size	Modified
.Rhistory	1.4 KB	May 13, 2013, 4:28 PM
apps		
checkSubmit		
data		
possum.RData	2.6 KB	May 13, 2013, 11:26 AM
R		

Storage (manage) 0% of 0GB

1024 x 768

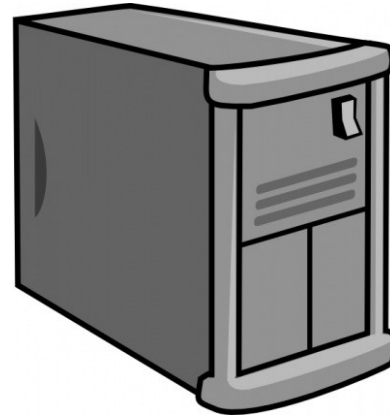
New Window

RStudio window:
Pop out
Refresh
Expand



Using Github

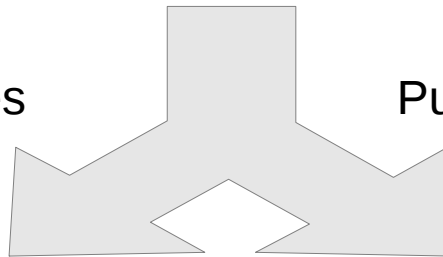
GitHub



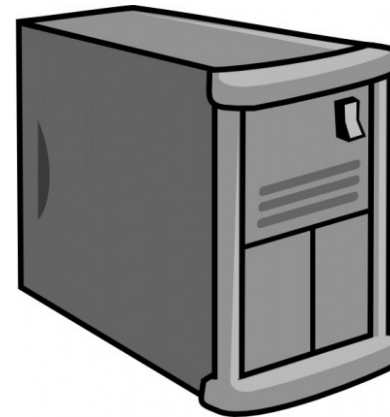
GitHub server

View files

Pull files and data

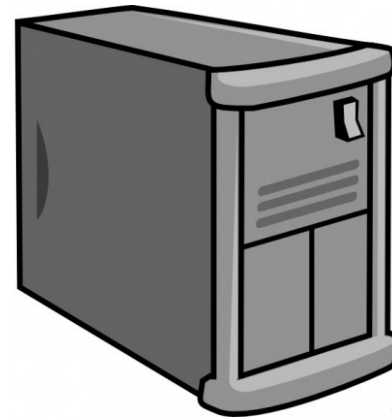


Student workstation



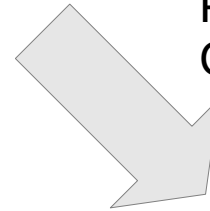
VIDIA server

Workshop Files and Data: GitHub

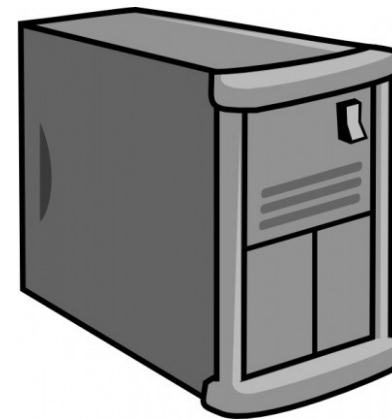


GitHub server

Pull R source files
Create RStudio project

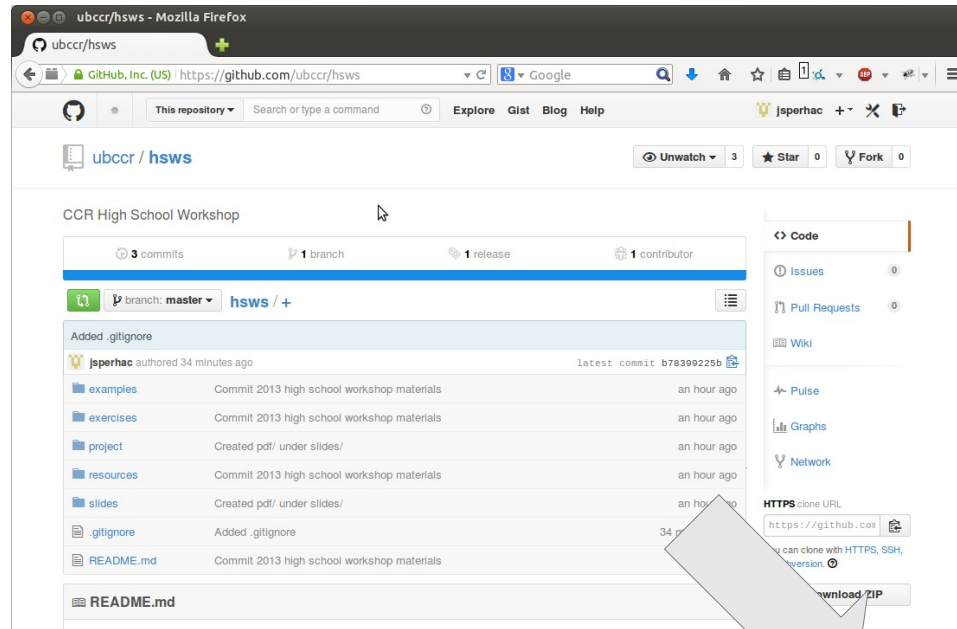


Student workstation

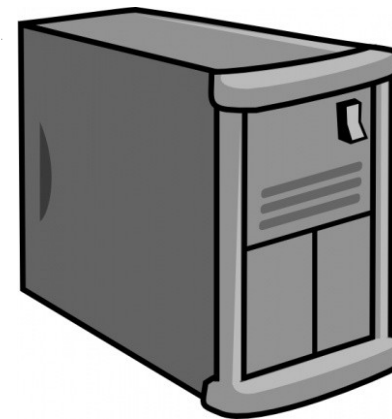


VIDIA server

Workshop Files and Data: GitHub



Student workstation

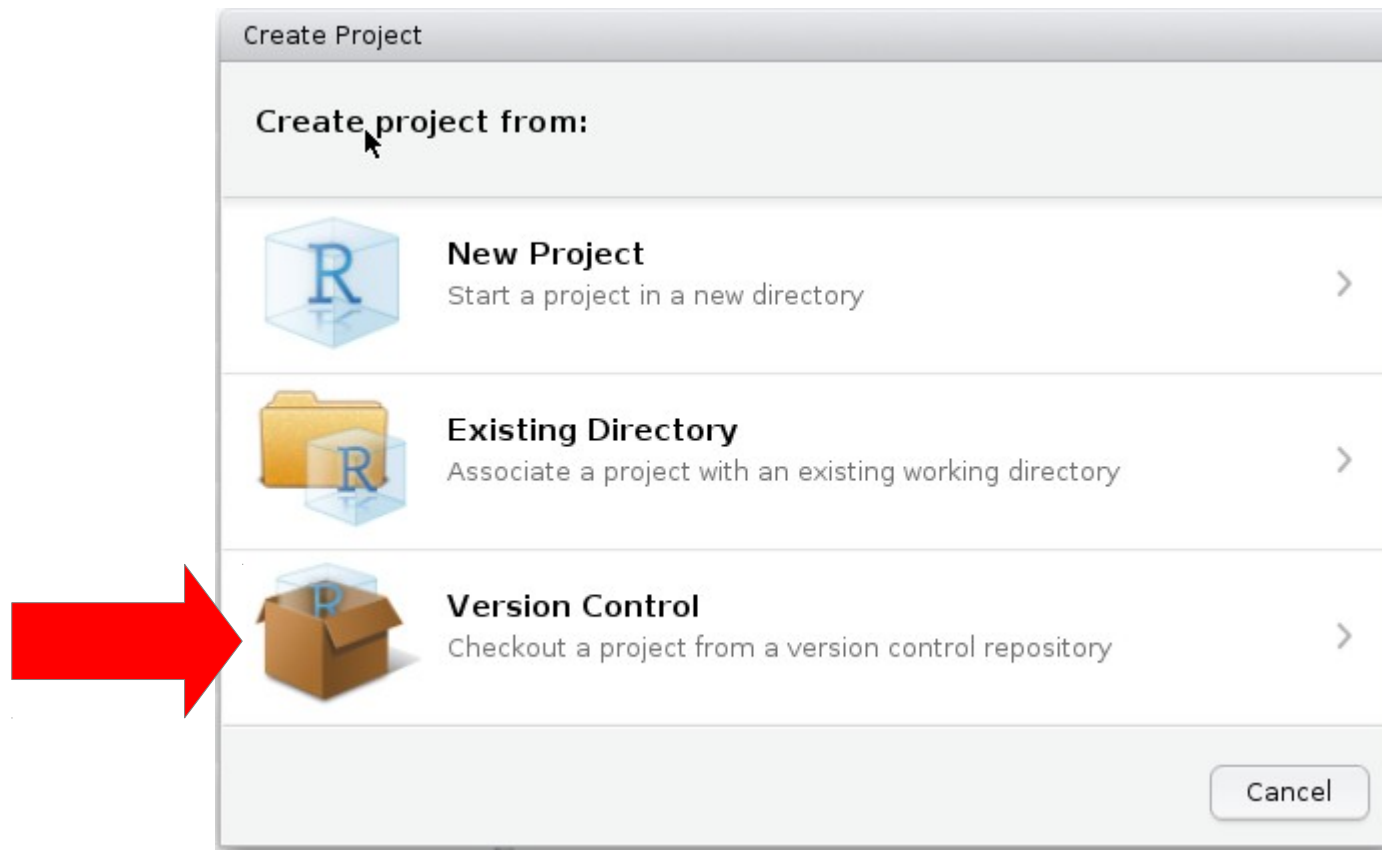


VIDIA server

Rstudio Project management

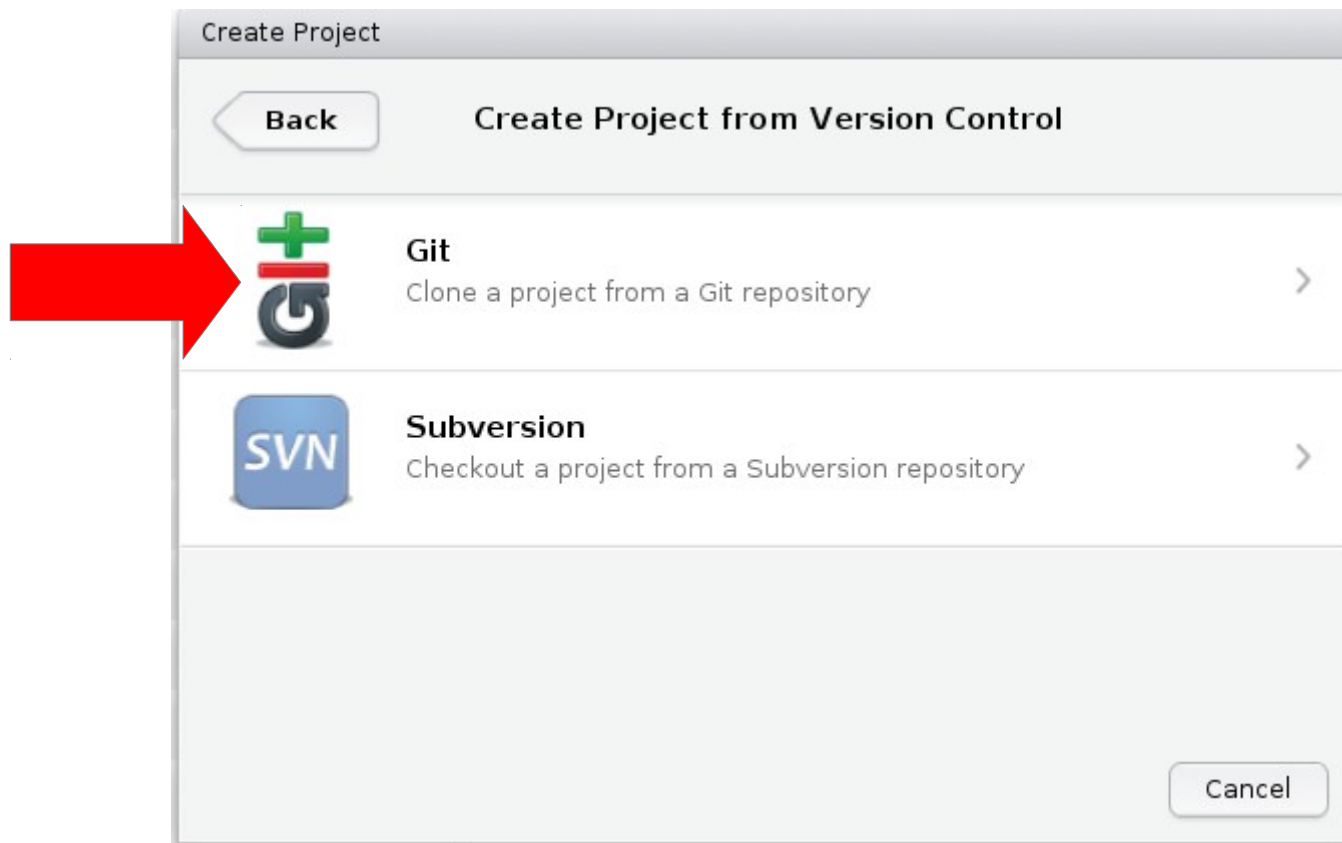
Create Project in RStudio

1. In the RStudio menu:
 - Select Project: Create Project
 - Select Version Control



Create Project in RStudio

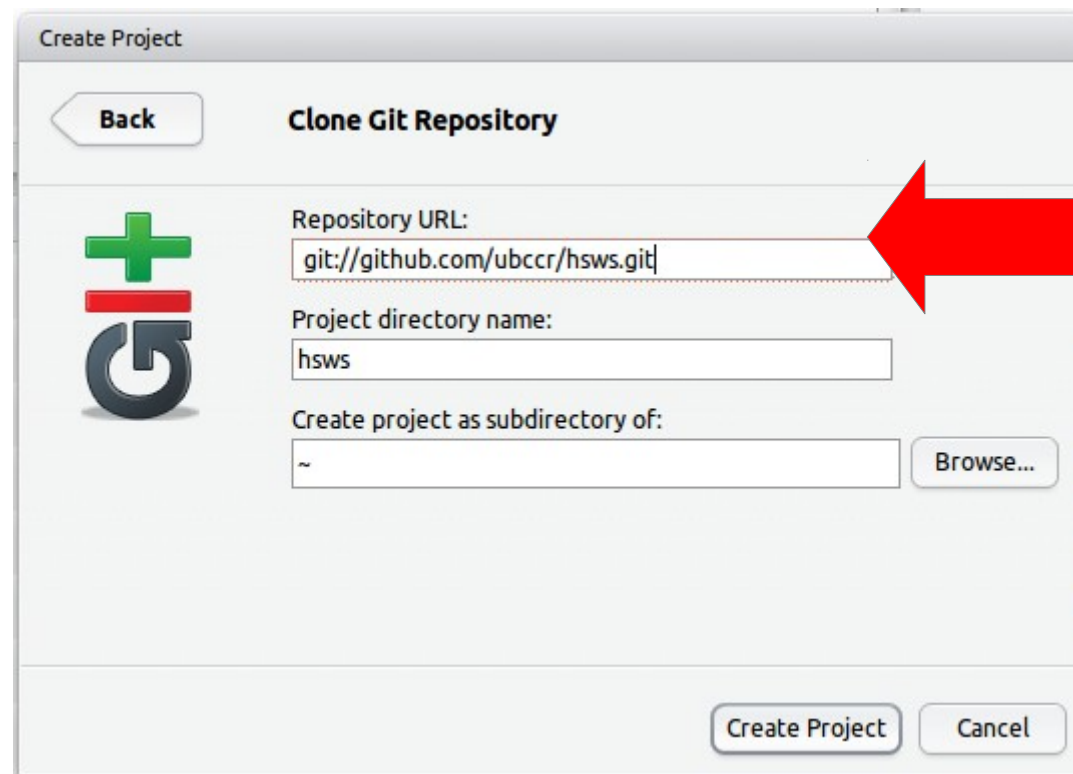
2. In RStudio:
Next, select Git



Create Project in RStudio

3. In RStudio:

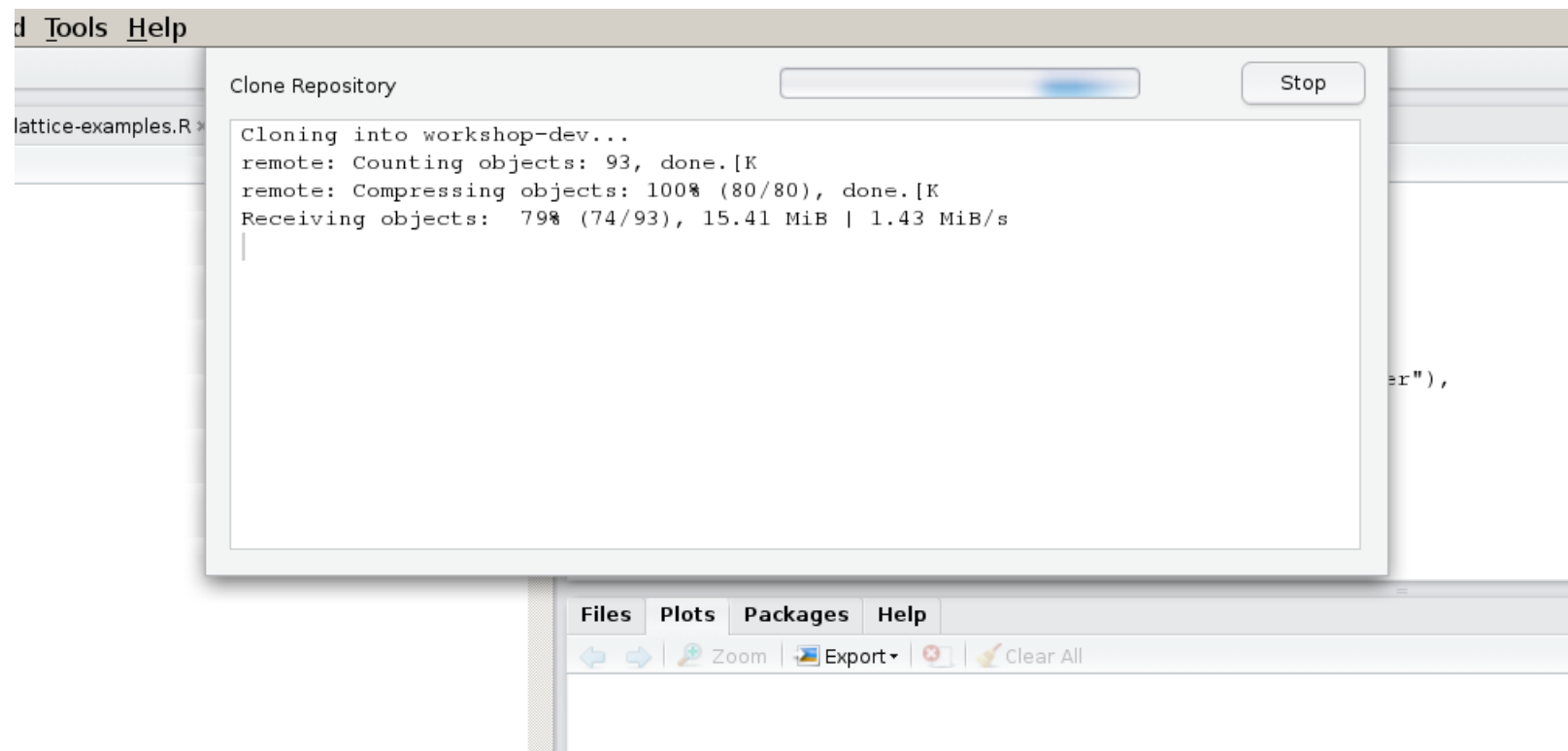
- Type the Repository URL as shown
- Use a unique project directory name



`git://github.com/ubccr/hsws.git`

Create Project in RStudio

4. RStudio copies the files from GitHub to your home directory on VIDIA.



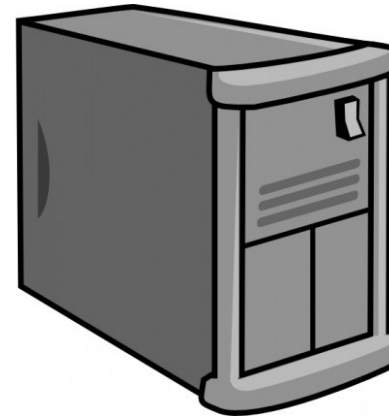
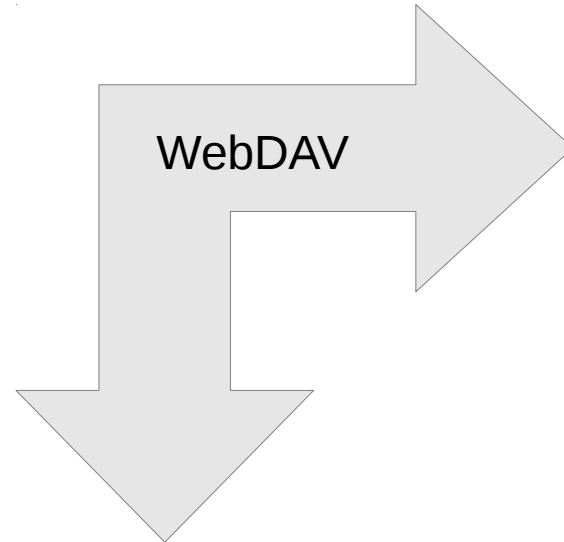


Create Project in RStudio

- Selecting the project sets the working directory
- Your RStudio project contains directories:
 - examples
 - exercises
 - project
 - resources

File transfer to and from VIDIA

File Transfer



VIDIA server



Student workstation

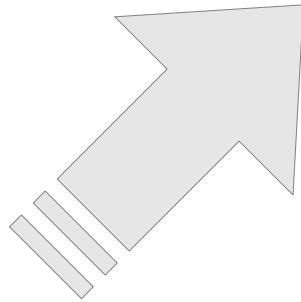
You'll need file transfer for adding graphics files to your presentation slides

File Transfer: WebDAV

Home folder



Student workstation

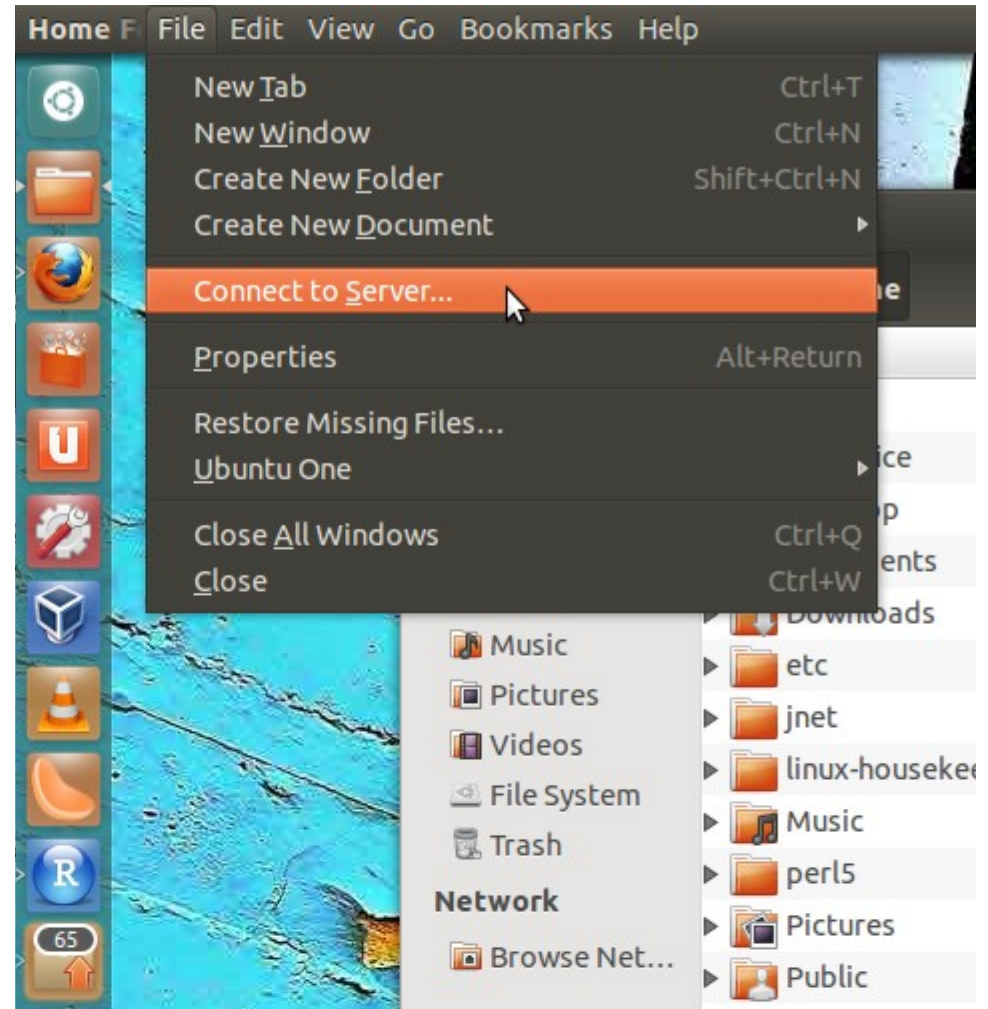
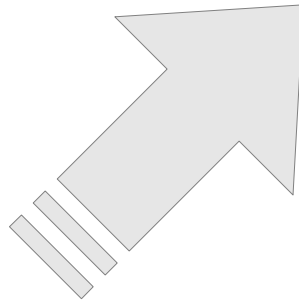


File Transfer: WebDAV

File: Connect to Server...



Student workstation

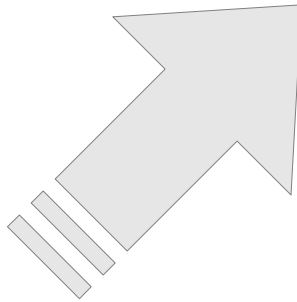


File Transfer: WebDAV

Use your VIDIA user credentials



Student workstation



Connect to Server

Server Details

Server: Port:

Type:

Folder:

User Details

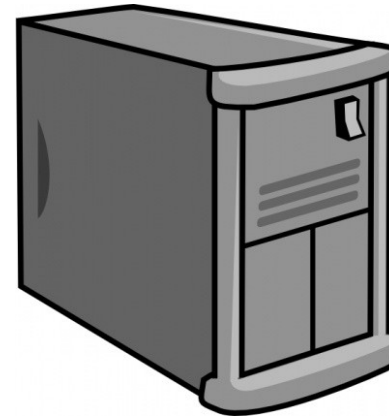
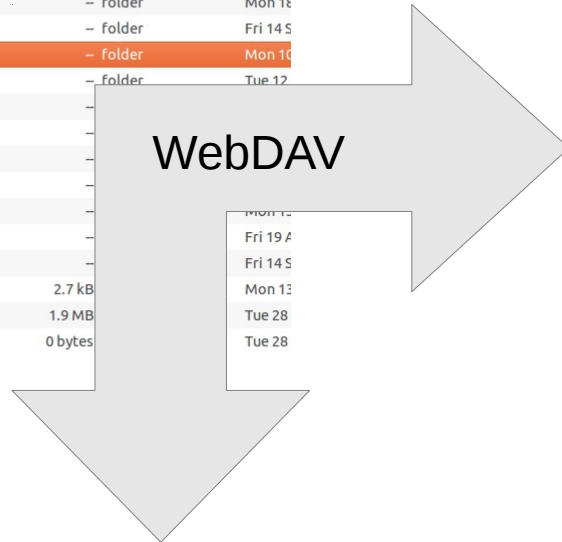
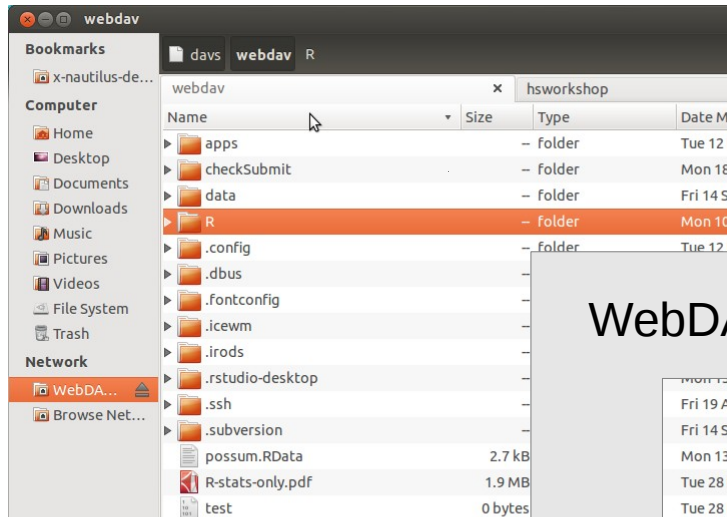
User name:

Password:

Remember this password

Server: vidia.ccr.buffalo.edu
Type: Secure WebDAV
Folder: /webdav

File Transfer



VIDIA server



Student workstation

Groups on VIDIA

Browse HUBzero Groups





Groups: Browse

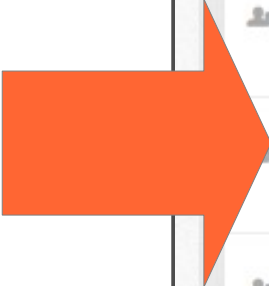
Search

All Open Restricted Invite only Closed | Alias | Title

Groups (1-5 of 5)

All A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

 A Test Group atestgroup	Invite Only
 jmsGroup jmsgroup	Open
 R Workshop rworkshop	Open
 R Workshop Staff rworkshopstaff	Closed



HUBzero Group Page

The screenshot displays the HUBzero Group Page for 'R Workshop'. On the left is a navigation sidebar with options: Overview (selected), Members (4), Wiki (1), Messages, Resources (2), Discussion, Blog, and Wish List. The main content area shows the group name 'R Workshop' with an 'Overview' tab and a breadcrumb trail: 'data visualization' > 'R programming' > 'statistics' > 'workshop'. Below this is the 'ABOUT THE GROUP' section, which includes an information icon and the text: 'The R Workshop group consists of students and instructors for the R Workshop.' The 'GROUP MEMBERS' section lists four members: Jnet Sperhac, J M Sperhac (UB CCR), Jeanette M Sperhac, and Sally S Smith. Each member has a profile picture placeholder.

R Workshop ▸ Overview

• data visualization • R programming • statistics • workshop

ABOUT THE GROUP

i The R Workshop group consists of students and instructors for the R Workshop.

GROUP MEMBERS

i

Jnet Sperhac

J M Sperhac
UB CCR

Jeanette M Sperhac

Sally S Smith

HUBzero Resources

Resources: Teaching Materials Teaching Materials Go

Tag Resources Sort by Title Info

[All]	> Introductory R References	>	Introductory R References
data structures (1)	> Lecture 1	>	Reference material: introductory R textbooks
data visualization (2)	> Lecture 2	>	Learn more >
R programming (7)	> Lecture 3	>	Download (PDF)
reference (1)	> Lecture 4	>	
statistics (1)	> Lecture 5	>	
variables (1)	> Plotting Examples	>	
	R Workshop Project		review(s) (Review this)
	R Workshop Staff Materials		Add to your favorites!

6 Scalars, Vectors, Arrays and Matrices

- 6.1 "Declarations"
- 6.2 Generating Useful Vectors with ":", seq() and rep()
- 6.3 Vector Arithmetic and Logical Operations
- 6.4 Recycling
- 6.5 Vector Indexing
- 6.6 Vector Element Names
- 6.7 Matrices
 - 6.7.1 General Operations
 - 6.7.2 Matrix Row and Column Names