These instructions are adapted from the SAS instructions for using JMP with SAS OnDemand for Academics at http://support.sas.com/ondemand/jmp.html
The instructions will integrate the installation and setup of the JMP software for NU students. **This setup and installation process will take two to three hours to complete in its entirety. Students should also note that we run JMP 9, not JMP 10, and hence they should follow the instructions for JMP 9.**

In the student testing of these instructions I have received conflicting feedback about user's default settings. Some students, but not all students, have reported that they needed to change a setting that was not included in the written instructions. Whenever there is a screen shot, make sure that your screen looks exactly like the screen shot.

Working with JMP®

If you have purchased and installed JMP® software (Version 9 or greater) in the United States, then you can use JMP to connect to the hosted SAS servers that are used by SAS® OnDemand for Academics. This will enable you to integrate JMP and SAS together. In order to integrate with SAS using this method, you must:

(1) Register to use SAS® OnDemand for Academics.

(2) Download and install the JMP software on your computer.

(3) Download specific jar files and place them in the appropriate directory.

(4) Create a SAS server profile within JMP.

(5) Connect to the SAS server from JMP.

(6)   Configuring JMP to allow ODS graphics and produce rtf output files.

(7) Testing your SAS OnDemad access and your JMP installation.

Before you begin your JMP install you should make sure that you understand and meet some basic IT requirements. If you are deficient in any of these requirements, complete the required updates before beginning your JMP installation.

Basic IT Requirements for the MSPA Program

Here is a brief overview of several IT requirements that student do not always meet. In a distance learning program it is important to make sure that your computer resources are correct. Otherwise, you will have a frustrating time getting everything to work.

(1) **You need to have your own computer on which you will have the administrative rights – i.e. YOU CANNOT USE A CORPORATE COMPUTER.** Some students have tried to use a corporate computer in this program. A corporate computer will probably work in some courses, but not all courses. One, some courses will require that you install software; hence you need to have administrative rights to your machine. Most corporate computers do not allow the user to have administrative rights. Two, in a SAS based course like PREDICT 410, your machine needs to have the ability to connect to a remote server (the SAS OnDemand server). Most corporate computers will not allow you to connect to a remote server.

(2) **You should be using Firefox as your browser.** Internet Explorer, Safari, etc. are not guaranteed to be Blackboard compatible. In fact I know that Internet Explorer is not completely Blackboard compatible. Firefox can be installed on both Windows and Mac OSX machines (and Unix or Linux). See http://www.mozilla.org/en-US/firefox/fx/.

(3) You need to have Adobe Acrobat Reader X installed. It's free and it's an easy install. See http://get.adobe.com/reader/.

(4) **Mac users are strongly encouraged to purchase a copy of MS Office for Mac.** Licenses can be purchased through the university at http://www.it.northwestern.edu/software/.

(5) You must be located in North America in order to be able to access the SAS OnDemand Server. If you are located outside of North America, then you will not be able to take PREDICT 410 or PREDICT 411 at this time.

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Step One: Registering to use SAS® OnDemand for Academics

Both students and instructors need to establish user accounts for SAS OnDemand. These user accounts will allow instructors to create a course on the SAS OnDemand server and allow students to register for these courses.

We are Northwestern University – Evanston campus.

Instructor Registration

If you are an instructor, perform the following steps:

    (1) Access [SAS® OnDemand for Academics](#).

    (2) Register as an instructor. During the registration process, a user ID and password will be created for you.

    (3) After you have registered, log on to your [SAS® OnDemand for Academics](#) home page using your e-mail address and SAS profile password.

    (4) Create a course. When prompted to select a client, choose **SAS Server Access for JMP**.

During this process, the information that you will need to create a SAS server profile will be identified.

Instructors are advised to register their courses using their last names as the section number, e.g. PREDICT 410-Bhatti. Courses do not expire. In order to have a course removed from the server, an instructor would have to file a ticket with SAS by sending an email to support@sas.com.

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Student Registration

Note that your instructor must have registered a course before you can register.

(1) Access SAS® OnDemand for Academics.

(2) Register as a student. Select the appropriate university and the course that is associated with your instructor.   During the registration process, a user ID and password will be created for you.

Students are welcome to register for PREDICT 410-Bhatti if they wish to set up JMP and use SAS before they register for PREDICT 410. Note: registering for a "course" on the SAS OnDemand server is not the same as registering for a course with Northwestern. Students can register for PREDICT 410-Bhatti even if they are not formally registered in Dr. Bhatti's 410 course with Northwestern.

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Step Two: Download and Install JMP Pro

Download JMP Pro from Northwestern University and install the JMP Pro software on your computer. There are PC/Windows and Mac/OSX versions for the JMP Pro software. You will need your Northwestern University netID and password to download the software and installation instructions.

The software (JMP PRO) is available to download for download from our site:
https://www.vmwwwfs.scsnu.northwestern.edu

Be patient when you see the message "Installing" because the installation can take 30 minutes or more, depending upon your computer system. During the installation process you will be asked to identify your computer type as being either PC/Windows = Win or MAC/OSX = OSX. You may be asked to indicate whether you have a 32- or 64-bit processor. If you do not know your processor type then...

Microsoft provides information for determining the processor type at:
http://windows.microsoft.com/en-US/windows-vista/32-bit-and-64-bit-Windows-frequently-asked-questions

Apple provides help with processor type identification at:
http://support.apple.com/kb/ht3696

Step Three: Downloading jar files and placing them in the appropriate directory

In order for JMP to work properly with the SAS® OnDemand for Academics hosted servers, you must have three "jar" files. The jar files are export controlled. They can only be used within the United States by United States citizens or legal residents of the United States. The files may not be shared with any party to whom the United States prohibits access to the file.

(1) Download a .zip file that contains the three jar files from the Jar File Download Page http://support.sas.com/demosdownloads/sysdep_t1.jsp?packageID=000747

(2) Expand the .zip file and place the three jar files in the appropriate location.

   i) If you are using a PC with the Microsoft Windows operating system, place the jar files in one of the following locations:
   If you are using JMP 9: **C:\Program Files\SAS\JMP\9\jmptojava\9.2**
   If you are using JMP 10: C:\Program Files\SAS\JMP\10\jmptojava\9.3

   ii) If you are using a Macintosh PC, then do the following:
   1. Navigate to the **Applications** folder.
   2. Press **Control** and then click on JMP 9 or JMP 10.
   3. Select **Show Package Contents** --> **Contents** --> **Frameworks** --> **jmptojava** --> **9.3** --> **jars** (if using JMP 9, navigate to **jmptojava** --> **9.2** --> **jars**).
   4. Place the jar files in this location.

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Step Four: Creating a SAS Server Profile within JMP®

Create the SAS OnDemand Metadata Server profile.
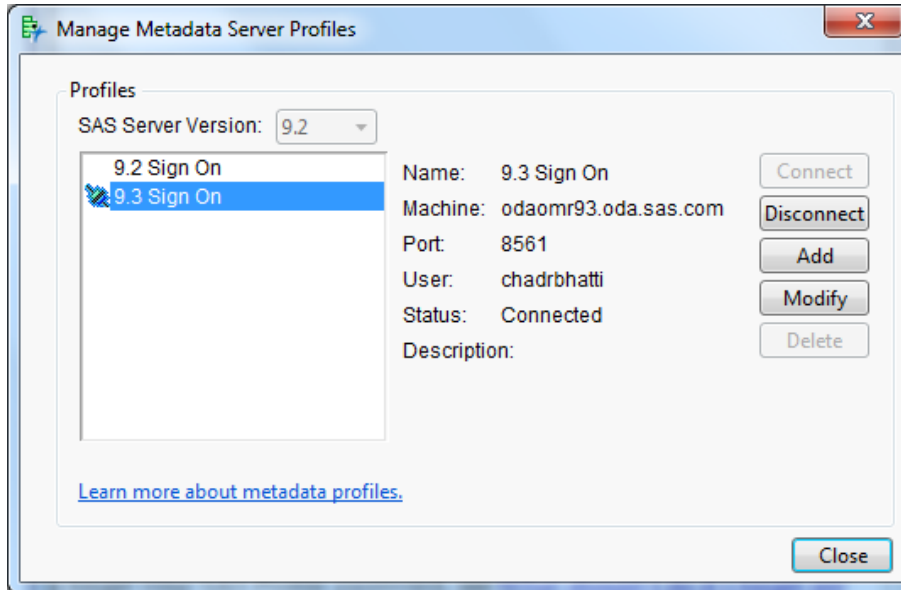
(1) Start JMP®.
(2) Select **File** --> **SAS** --> **Server Connections**.
(3) In the SAS Server Connections window, select **9.3** from the **SAS Server Version** drop down field. **Note:** If you have an older version of JMP 9 and **9.3** is unavailable from the drop down field, then select **9.2**.
(4) In the SAS Server Connections window, click **Metadata Server Profiles** to open the Manage Metadata Server Profiles window.
(5) Click **Add**. Enter a profile name and description.
  1. In the **Machine** field, enter **odaomr93.oda.sas.com**
  2. In the **Port** field, enter **8561**
  3. In the **User name** field, enter your SAS Server user ID. This user ID is also displayed on your [SAS® OnDemand for Academics](#) home page.
  4. In the **Password** field, enter your SAS Profile password. If you forget your SAS Profile password, see [What should I do if I forget my password?](#)
  5. In the **Authentication Domain** field, enter **DefaultAuth**.
  6. Click **Save**.

Step Five: Connecting to the SAS Server using JMP®

This step should be performed any time that you want to connect to hosted SAS servers.

(1) Start JMP®.
(2) Select **File** --> **SAS** --> **Server Connections**.
(3) In the SAS Server Connections window, click **Metadata Server Profiles** to open the Manage Metadata Server Profiles window. Click the name of the profile that you created for the SAS server.
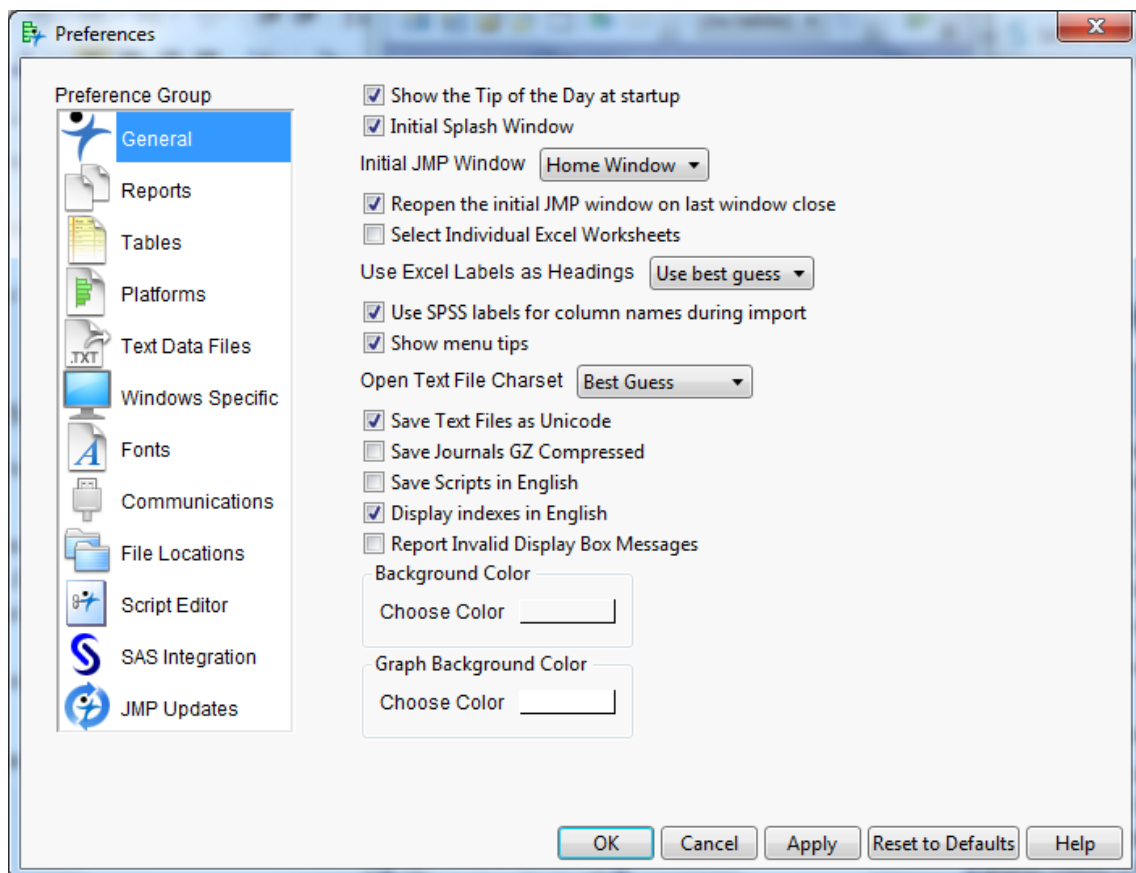(4) Click **Connect**.

Note: To disconnect from the SAS Server, return to the Manage Metadata Server Profiles window and click **Disconnect**.

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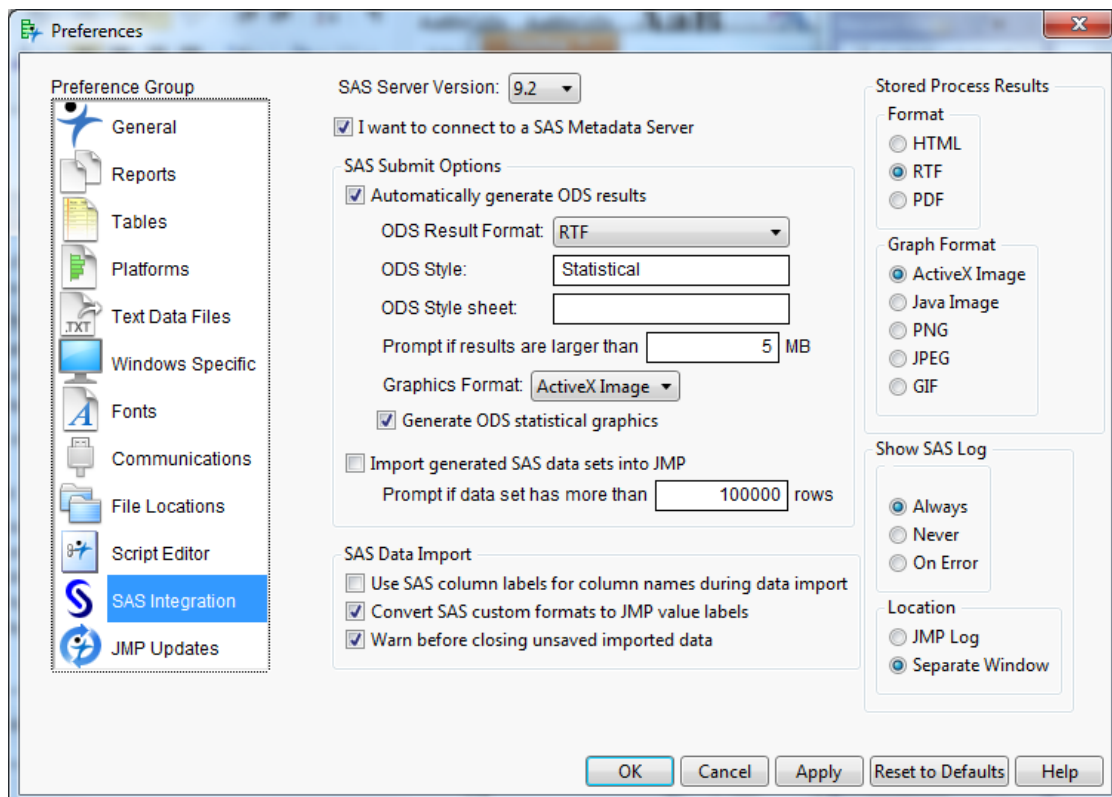## Step Six: Configuring JMP to allow ODS graphics and RTF output

We need to configure JMP to allow SAS ODS graphics (which are the newest and most advanced graphics available in SAS) and to allow JMP to produce RTF output files that can be easily manipulated when completing homework assignments.

JMP Configuration for ODS graphics and RTF Output:

(1) **File** -> **Preferences (PC) or JMP -> Preferences (Mac)**

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(2) Select **SAS Integration** and select RTF for **ODS Result Format** and **Stored Process Results**, check the **Generate ODS statistical graphics option**, set **Show SAS log** to **Always**, and set **Location** to **Separate Window**. When your configuration matches the picture below, then click OK to save the configuration.

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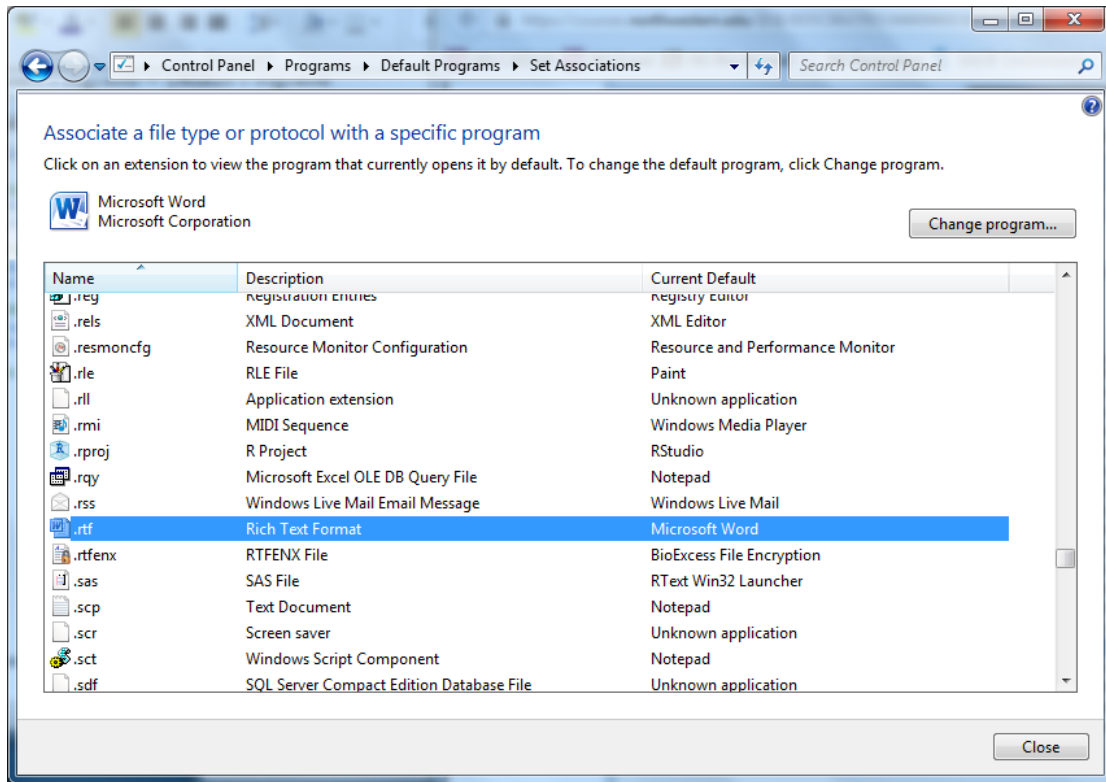**Set Microsoft Word as the default program to open RTF files:**

For Windows:

(1) Go to the Control Panel and select **Programs** -> **Default Programs**
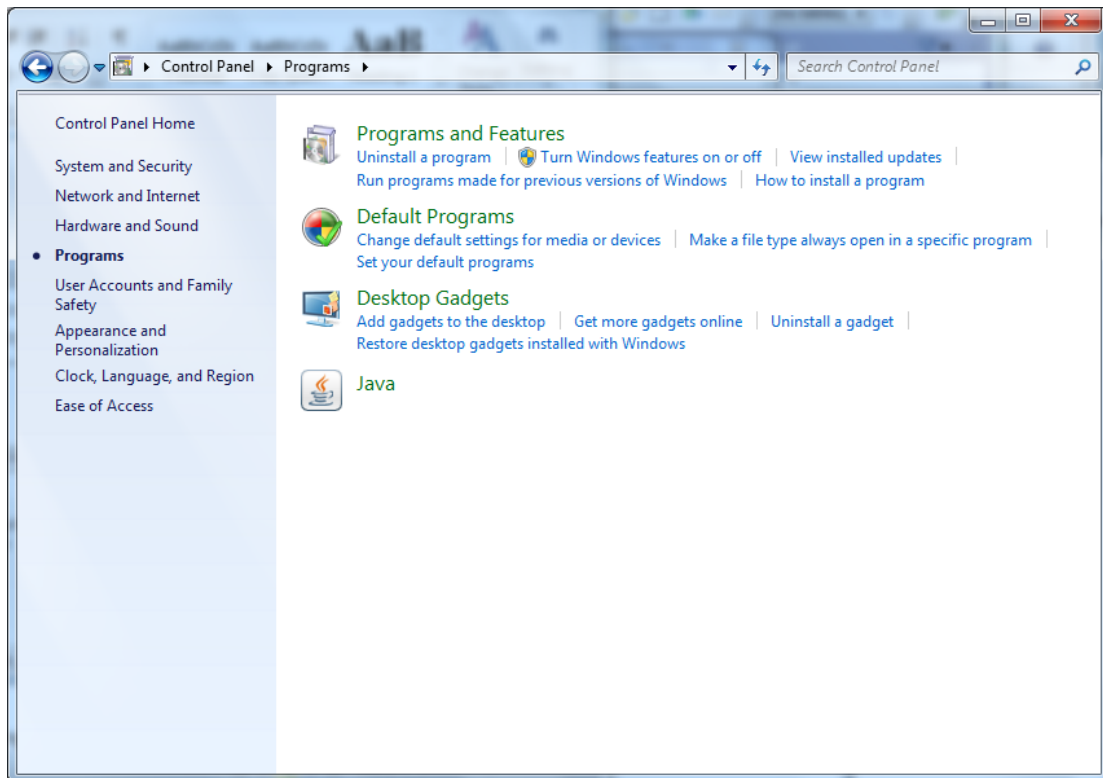
(2) Select 'Associate a file type or protocol with a program' and associate Microsoft Word with the .rtf file extension.

**Note that if you do not complete this step, then your SAS output will never contain any graphics.**

For Mac OSX:

**Mac users are strongly encouraged to purchase a copy of MS Office for Mac.**
Licenses can be purchased through the university at
http://www.it.northwestern.edu/software/. The rtf files are much easier to
manipulate than pdf files. Overall we have found that students are able to write
better reports in significantly less time if they are able to receive rtf output from
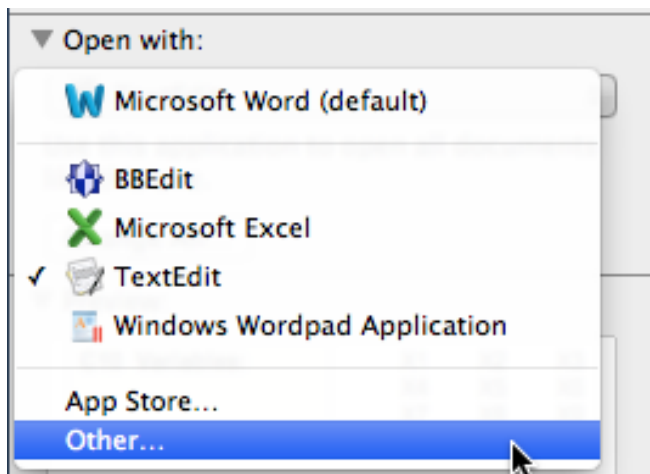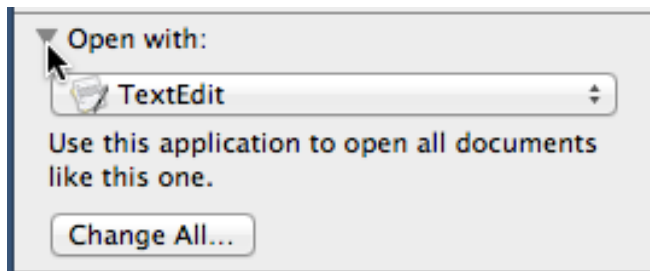JMP.

(1) Save any RTF file to your desktop.

(2) Control-click on the RTF file and select **Open With** and then select **Microsoft
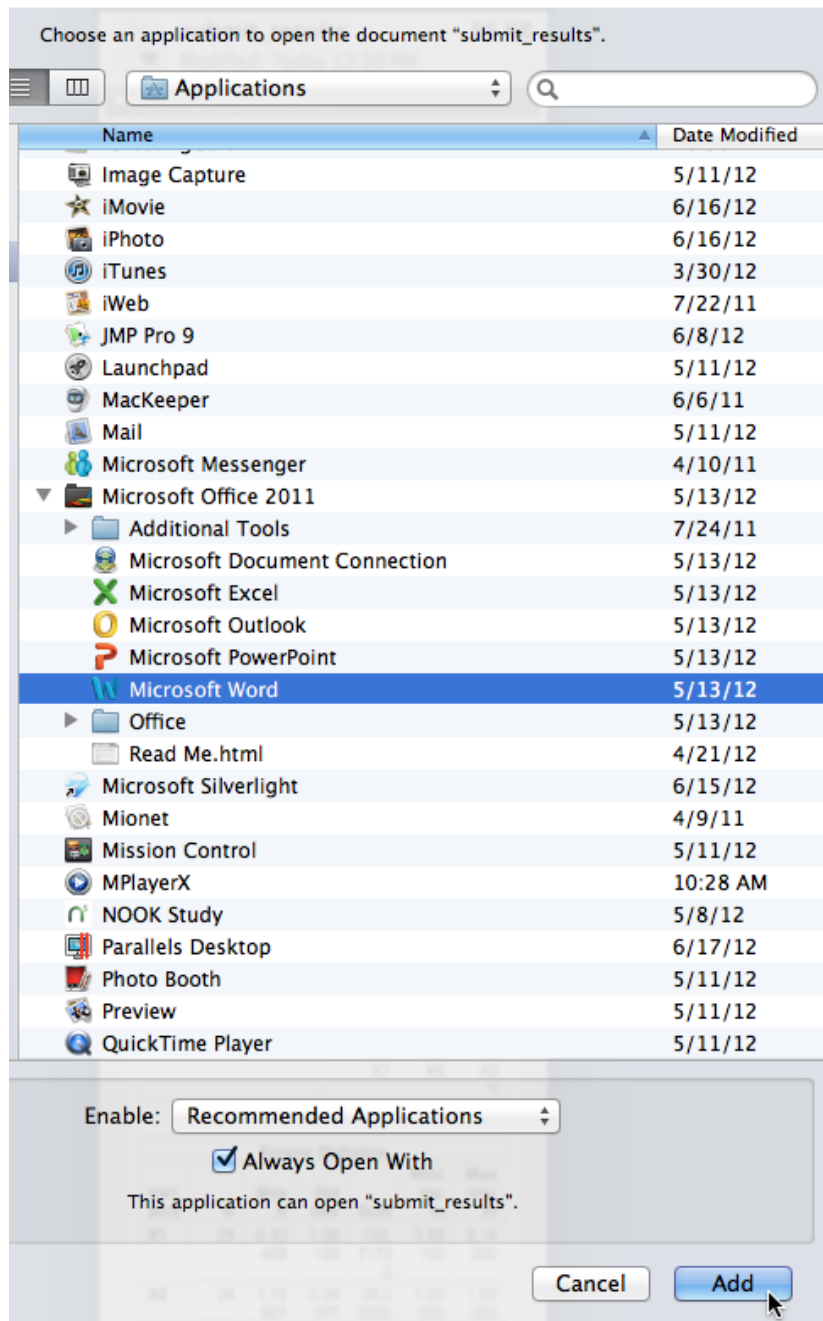Word**.
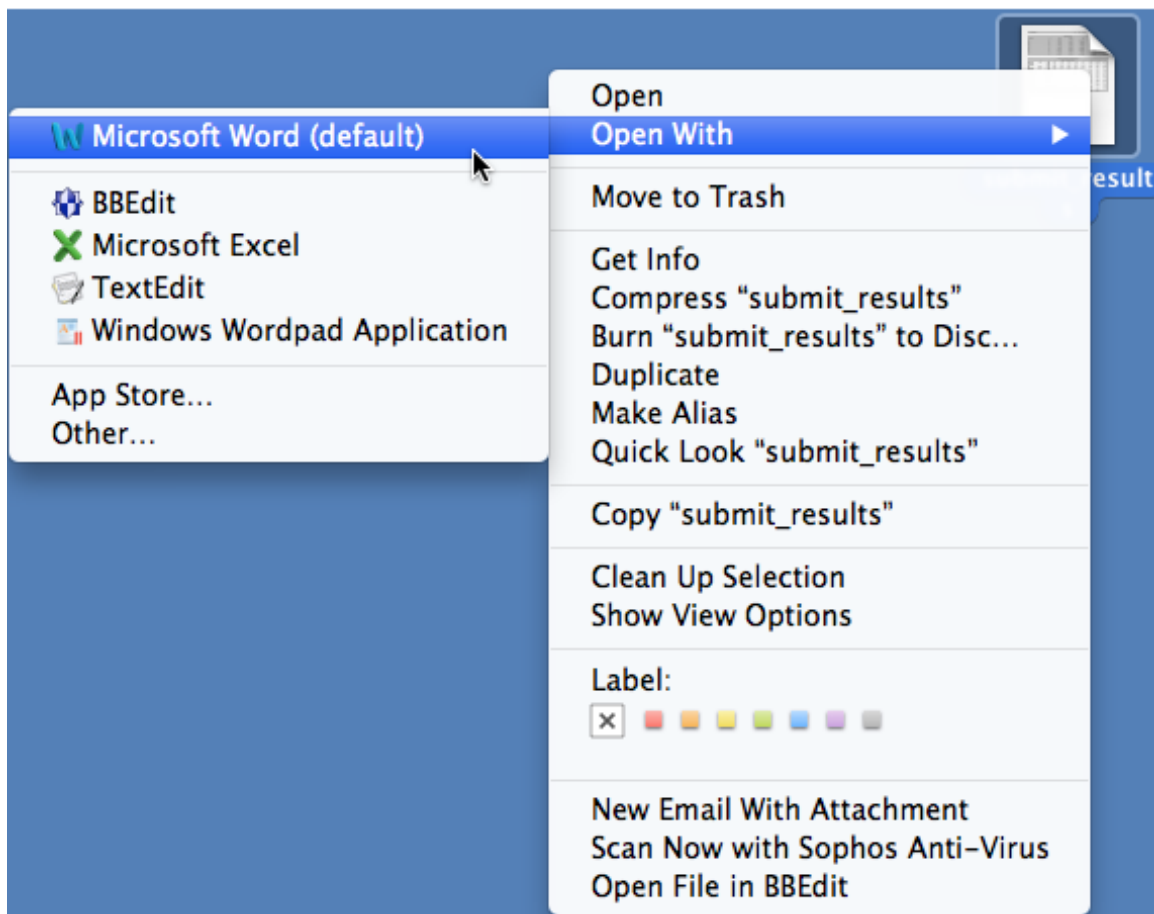
(3) Control-click on the RTF file again and select **Get Info**.
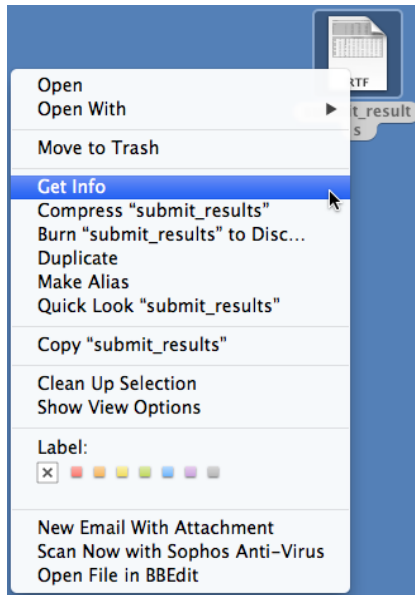
(4) In the dialogue box there is an **Open with:** section. Click the drop down menu and select **Other**…

(5) Select Microsoft Word and check the **Open With** checkbox and click **Add**.

(6) Confirm that Microsoft Word is set as the default program for RTF files by opening your RTF file.

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Step Seven: Testing your SAS OnDemand access and your JMP installation

Now it is time to test your JMP installation and configuration. In JMP go to **File** -> **SAS** -> **New SAS Program**, paste the following program into the text editor, and then hit F8 on a PC, or Shift-Open Apple-R on a Mac, or select **Edit** -> **Submit to SAS** to submit the program to the SAS OnDemand server.

```
TITLE "SAS SAMPLE PROGRAM";
DATA SAMPLE;
INPUT SAT GPA;
LABEL SAT="HIGH SCHOOL SAT"
      GPA="COLLEGE GPA";
DATALINES;
1480 3.12
1650 3.22
1790 3.44
1870 3.25
1950 3.50
2030 3.85
2090 3.01
2160 3.15
2240 4.00
2370 3.45
;

PROC PRINT data=sample; run; quit;

PROC GPLOT data=sample;
PLOT SAT*GPA;
RUN; QUIT;
```
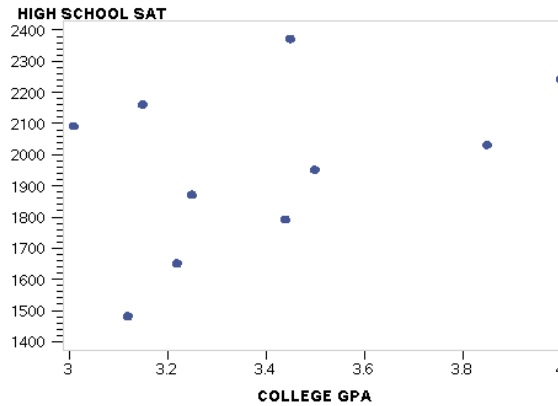
JMP should produce the following output in a RTF file that is automatically opened in Microsoft Word on your screen.

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Obs	SAT	GPA
1	1480	3.12
2	1650	3.22
3	1790	3.44
4	1870	3.25
5	1950	3.50
6	2030	3.85
7	2090	3.01
8	2160	3.15
9	2240	4.00
10	2370	3.45

If JMP did not return any output, then you probably have an installation error. Check the log file for a phrase such as 'access denied'. If JMP did not return an RTF file or the plot, then you have a configuration error and you need to correct Step 6.

If JMP returned the output just as expected, then you are setup and ready to go.

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Working with Data on the SAS OnDemand Server

There are three ways in which you can process data on the SAS OnDemand server.

(1) Your instructor will store SAS data sets on the server for you to access using a SAS *libname* (library name) statement. The libname statement for PREDICT 410-Bhatti is

```
libname mydata '/courses/u_northwestern.edu1/i_833463/c_3505/SAS_Data/'
access=readonly;
```

It is important that students use the *access=readonly* option when defining any libname for the SAS OnDemand server. The data sets stored in a particular library can be listed by using the PROC DATASETS procedure.

```
proc datasets lib=mydata; run; quit;
```

A data set stored on the server can be read into a temporary data set for processing as follows.

```
data temp;
set mydata.building_prices;
run;
```

(2) You can define a SAS data set using a **cards** statement or a **datalines** statement. See p. 38 in *The Little SAS Book* (4th Edition). We used this method to create our SAS test program.

(3) You can load a data set into JMP and push it up onto the SAS server.

1. Open your data file in JMP.
2. **File** -> **SAS** -> **Export Data to SAS**
3. Highlight **SASApp** under **Servers** and highlight **WORK** under **Libraries**.
4. Give your data set a name under **Name of data set to create** and click **Export**.
5. Check your data set using a PROC PRINT statement in SAS.

```
proc print data=temp; run; quit;
```

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These are the only ways in which a student can operate on a data set on the SAS OnDemand server. Your SAS reference books will frequently show data being read in using an INFILE statement. **Students cannot use an INFILE statement to read a data file into a SAS data set because students cannot load the raw data files onto the server. An INFILE statement can only be used when you are running SAS on your local machine or when you can place the raw data files onto the remote server.**

Any errors in this document should be reported to Chad R. Bhatti at chad.bhatti@northwestern.edu.

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