# SAS® University Edition: Quick Start Guide for Students with Visual Impairments

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**SAS® University Edition: Quick Start Guide for Students with Visual Impairments**

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# Preface: Introduction

## *About This Document*

The purpose of this document is to help students with visual impairments get up and running quickly with SAS University Edition. The primary audience is students with visual impairments who use screen readers. The secondary audience includes teachers, professors, and disability staff who work in disability support offices at institutions of higher education.

This document recommends the configuration to use for best results and provides guidance on installation, usage, training, and support. The document also provides tips and tricks for screen reader users and describes any accessibility barriers along with any workarounds.

This document is a supplement to the general documentation for SAS University Edition. Before proceeding, see *SAS University Edition Installation Guide for Windows*, *SAS University Edition Quick Start Guide for VMware Workstation Player*, and *SAS University Edition Help Center*.

## *About SAS University Edition*

SAS University Edition is free SAS software that can be used for teaching and learning statistics and quantitative methods. SAS University Edition includes the same world-class analytics software used by more than 80,000 business, government, and university sites around the world, including 93 or the top 100 companies on the Fortune Global 500® list. For more information about the benefits and features of SAS University Edition, see http://www.sas.com/universityedition.

# Chapter 1: Requirements

## *General System Requirements*

For information about general hardware and software requirements, see *SAS University Edition: Installation Guide for Windows*.

## *Recommended Configuration*

Many combinations of third-party software components could be used. However, the following combination has been tested by the SAS accessibility team and the results of that testing are reflected in this document.

- Operating system—Microsoft Windows 7
- Screen reader—JAWS 17
- Virtualization software—VMware Workstation 12 Player

The built-in Optical Character Recognition (OCR) feature of JAWS 17 can be used during the installation process because some of the windows are not fully accessible. Use the JAWS OCR feature to read the text in those windows.

# Chapter 2: Installation

The primary sources for information about installation are *SAS University Edition Quick Start Guide for VMware Workstation Player* and *SAS University Edition Installation Guide for Windows*. From this point forward, these documents are referred to as the quick start guide and installation guide, respectively. The instructions in this chapter supplement these primary sources with information specific to screen reader users.

## *Step 1: Create a folder named myfolders on your computer for storing your SAS work*

You must create at least one special folder that is shared between the host machine that is running VMware Workstation Player and the SAS University Edition vApp running within VMware Workstation Player. That folder is called myfolders, and it is used to store your settings. You can also use myfolders to share data files, results, and SAS programs between the SAS University Edition vApp and your host computer. Follow the instructions in the quick start guide to create this folder and configure the SAS University Edition vApp to access it.

## *Step 2: Download the SAS University Edition vApp*

Follow the instructions in the quick start guide to download the SAS University Edition vApp.

## *Step 3: Download and install VMware Workstation Player*

Follow the instructions in the quick start guide to download VMware Workstation Player. Although other virtualization software is supported by SAS University Edition, the SAS accessibility team recommends VMware Workstation Player. VMware Workstation Player is accessible using JAWS with these exceptions:

1. Using the screen reader, you cannot tell that the control labeled “Home” turns into a list after you import a vApp. When you first install VMware Workstation Player, the control simply says “home” when you tab to it. However, after you import a vApp, this control changes into a list and the screen readers says “Home, 1 of 2” when you tab to it. Press the down arrow to select other virtual machines.
2. The buttons on the Home screen are not labeled correctly. To locate the **Open a virtual machine** button referenced in the quick start guide, navigate to the “Home” control and then press Tab twice.

## *Step 4: Import SAS University Edition into VMware Workstation Player*

Follow the instructions in the quick start guide to add the SAS University Edition vApp to VMware Workstation Player. It might take several minutes to import the vApp. During the import process, VMware Workstation Player might not report the progress through JAWS. To work around this problem, press Alt+Tab to switch to another running application. Then press Alt+Tab again to return to the VMware Workstation Player window.

For a list of VMware Workstation Player keyboard shortcuts, see https://www.VMware.com/support/ws55/doc/ws_learning_keyboard_shortcuts.html.

## *Step 5: Create a shared folder named myfolders in VMware Workstation Player using the folder from Step 1*

Follow the instructions in the quick start guide to configure the SAS University Edition vApp to access the shared folder that you created in step 1.

## *Step 6: Start the SAS University Edition vApp*

Follow the instructions in the quick start guide to start the SAS University Edition vApp. The Welcome window referenced in the quick start guide is not accessible to screen reader users, but SAS University Edition creates a text file in your shared folder that is accessible to screen readers and can be used to start SAS University Edition. The text file is a .bat file that contains one line that is similar to the following code:

```
start “SAS University Edition” http://123.456.789.101
```

To start SAS University Edition using the text file, open a command prompt and enter the following command:

```
\sharedFolderName\.uestart\startSASUE.bat
```

You can also use JAWS to read the URL in the text file and enter it in your browser as described in the quick start guide.

Note: To use the text file, you must create the shared folder as described in steps 1 and 5.

Alternatively, you can use the OCR feature in JAWS to read the contents of the Welcome window. If you follow the naming instructions in the quick start guide, the title of this window should be SAS University Edition VMware Workstation Player.

1. Press Alt+Tab to select the Welcome window.
2. Press Insert+Spacebar, then the letter O, and finally W to convert the contents of that window into text that can be read by JAWS.

## *Step 7: Start SAS Studio*

After you start SAS University Edition, follow the instructions in the quick start guide to start SAS Studio.

# Chapter 3: SAS Studio

SAS Studio is the primary user interface for SAS University Edition. Using SAS Studio, you can import data, analyze that data, and create results that can be shared with others. As of SAS Studio 3.71, most features can be used with a screen reader and workarounds exist for many of the remaining features.

For information about the accessibility of SAS Studio, see Accessibility Features of SAS Studio 3.71. For information about the general usage and operation of SAS Studio, see the SAS Studio documentation and SAS University Edition Help Center.

# Chapter 4: Stopping SAS University Edition

After you are finished using the SAS University Edition vApp, stop the vApp so you can free memory on your system.

1. Press Alt+Tab until you find the Welcome window. The title of the Welcome window should be SAS University Edition VMware Workstation Player if you followed the naming instructions in the quick start guide.
2. Press Alt+4 to close the window, and then press the **Suspend** or **Shutdown** button.

# Chapter 5: Training

You have access to a collection of free e-learning courses that can help you learn the SAS programming language and much more. These e-learning courses are self-paced and can be completed online. To access these courses, see SAS e-Learning.

Several of the most popular e-learning courses have been designed with accessibility in mind. For best results, use Internet Explorer.

The e-learning courses include videos, text explanations, and quizzes. Some courses include a text transcript for each video. The text transcripts provide access to the sample code and output discussed in the video.

To navigate to a text transcript using JAWS:

1. Start the e-learning course (for example, SAS Programming 1).
2. Press B to navigate to the lesson of interest.
3. Press Spacebar or Enter to open the lesson.
4. Navigate toward the bottom of the page and click the **Open text version window** button. A new window appears with the transcript in focus.
5. Repeat this process as you complete each lesson.

# Chapter 6: Support

For general questions about SAS University Edition, ask a global community of users within the SAS Analytics U community. For questions about the accessibility of SAS products, visit the Accessibility community.

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