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# **SAS<sup>®</sup> 9.2**

## **Intelligence Platform**

### **Pre-installation Checklists**



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# What's New

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## Overview

*SAS Intelligence Platform: Pre-installation Checklists* is a companion to the *SAS Intelligence Platform: Installation and Configuration Guide*. The installation guide leads you step by step through the installation of the SAS Intelligence Platform and, in the course of doing so, has you complete a number of pre-installation checklists. In these checklists, you record information such as the user IDs for special SAS users and the installation locations of third-party products.

This document contains only the checklists, not the explanations of how to complete the checklists. For that, you use the *SAS Intelligence Platform: Installation and Configuration Guide*. We recommend that you use these generic checklists as an overview for the information that you will need to collect in planning for your enterprise system.

*Note:* These checklists are superseded by more complete and up-to-date checklists that can be found at: <http://support.sas.com/installcenter/plans>. This Web site also contains a corresponding deployment plan and an architectural diagram. △

This document contains new material on the following SAS 9.2 enhancements:

- new SAS servers
- new SAS deployment tools
- security enhancements
- deployment enhancements
- SAS port changes
- third-party software port changes
- groups for third-party software changes
- documentation enhancement

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## New SAS Servers

There are three new SAS 9.2 servers:

- SAS Content Server, a new WebDAV server that replaces Apache HTTP and Xythos
- SAS Table Server
- SAS Pooled Workspace Server

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## New SAS Deployment Tools

SAS 9.2 has new deployment tools:

- SAS Download Manager enables you to download your SAS order by using a secure HTTP connection over the Internet.
- SAS Deployment Wizard combines SAS installation and initial configuration into one wizard, replacing the SAS Software Navigator and the SAS Configuration Wizard.

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## Security Enhancements

SAS 9.2 has the following security enhancements:

- Fewer operating system accounts are required to run SAS 9.2.
- Internal accounts are new to SAS 9.2 and are used by default for some of the required users (such as sastrust and sasadm).
- Integrated Windows authentication (IWA) provides single sign-on functionality for Windows desktop users.
- You no longer have to manually grant the Windows user right **Log on as a batch job** to the sassrv user account. The SAS Deployment Wizard automatically does this for you.
- On Windows platforms supported by SAS 9.2, the Windows permission **Act as part of the operating system** is no longer required for SAS server users or the Platform Suite for SAS administrator.

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## Deployment Enhancements

SAS 9.2 has the following deployment enhancements:

- Automated, initial SAS configuration eliminates most post-installation manual configuration scripts.
- Up-front user inputs enable you to avoid having to monitor the entire wizard session.
- Installation includes an automated check for required third-party software.
- An electronic product registration feature sends customer installation data to SAS in order to better assist customers if they call SAS with problems or questions. Electronic registration is optional and secure, and does not impact the licensing or use of the software. For more information, see:  
**<http://support.sas.com/legaldocs/eregistration.html>**.
- The initial SAS installation data file is contained within the SAS Software Depot.
- Automated deployment is possible across multiple machines (capture-replay feature).
- Space and time estimates are provided for SAS software depot creation.
- You can create disc images of your SAS order, so that you can burn to CDs or DVDs at a later time.

- On z/OS, you no longer need to define a SAS/C executable library to be program controlled.

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## SAS Port Changes

The following SAS port changes have been made:

- A SAS Pooled Workspace Server port has been added: 8701.
- A SAS Table Server port has been added: 2171.
- Three new SAS Object Spawner port banks have been added: 8801, 8811, and 8821.
- The SAS Remote Services Application port has been changed from 5099 to 5091.
- The SAS Object Spawner load balancing port has been removed.
- A metadata utilities SAS Workspace Server port has been added: 8591.
- A SAS Deployment Tester Server port has been added: 10021.

In the November 2010 release of SAS 9.2, the following SAS port changes have been made:

- The RMI port for the BI Portlets registry has been removed: 9000.
- Three UDP ports for SAS Web Report Studio IP Scheduling have been added: 7570, 7571, and 7572.

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## Third-Party Software Port Changes

The following Platform LSF ports in the Platform Suite for SAS have been added or changed: 6878, 6881, 6882, 7869, 7870, 7871, 7872.

The following changes have been made to JBoss Web application server ports:

- RMI ports for managed servers have been added: 1099, 1199, (additional managed servers increment by 100).
- Listen ports for managed servers have been added: 8080, 8180, (additional managed servers increment by 100).
- Secure listen ports for managed servers have been added: 8443, 8543, (additional managed servers increment by 100).

The following changes have been made to Oracle WebLogic Web application server ports:

- A WebLogic Nodemanager port has been added: 5556.
- Secure listen ports for managed servers have been added: 7002, 7102, (additional managed servers increment by 100).

The following changes have been made to IBM WebSphere Web application server ports:

- A SOAP port for administrative console has been added: 8879.
- SOAP ports for application servers have been added: 8880, 8881, (additional application servers increment by one).
- Secure HTTPS port for administrative console has been added: 9043.
- A non-secure HTTP port for administrative console has been added: 9060.
- Secure HTTPS ports for application server administrative console have been added: 9044, 9045, (additional administrative consoles increment by one).
- An RMI port for administrative console has been added: 9809.

- RMI ports for application servers have been added: 9811, 9812, (additional application servers increment by one).

In the November 2009 release of SAS 9.2, the IBM WebSphere Portal Server listening port 10040 was added.

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## **Changes to Groups for Third-Party Software**

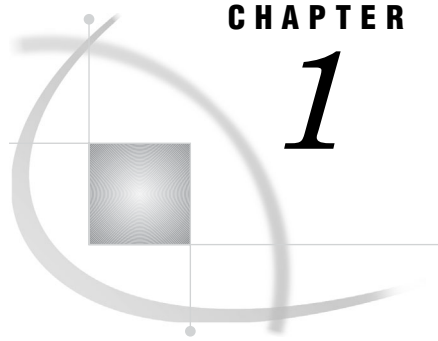
In the third maintenance release for SAS 9.2, for UNIX and z/OS it is recommended that the SAS Installer and the WebSphere Application Server installer be in the same operating system group in order to have the necessary permissions for writing to installation directories.

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## **Documentation Enhancement**

In the November 2010 release of SAS 9.2, the data direction for SAS and required third-party software ports was documented.





## CHAPTER

## 1

## Introduction

*How to Use These Checklists* 1

*Accessibility Features in the SAS Intelligence Platform Products* 2

## How to Use These Checklists

Before you begin installing the SAS Intelligence Platform, you should fill out the checklists included in this document (or those in the *SAS Intelligence Platform: Installation and Configuration Guide*). They give you a place to record information about operating system user accounts and groups that you must create, about TCP/IP ports that you must select, and about the installation of third-party products.

*Note:* If you are installing a SAS solution in addition to the SAS Intelligence Platform, please go to the following URL to determine whether there are any pre-installation instructions specific to your solution: <http://support.sas.com/documentation/onlinedoc>. Select your solution from the product selection list on the Documentation for SAS Products and Solutions page, and work through any solution-specific pre-installation checklist. △

*Note:* These checklists are superseded by more complete and up-to-date checklists that can be found at <http://support.sas.com/installcenter/plans>. This Web site also contains a corresponding deployment plan and an architectural diagram. △

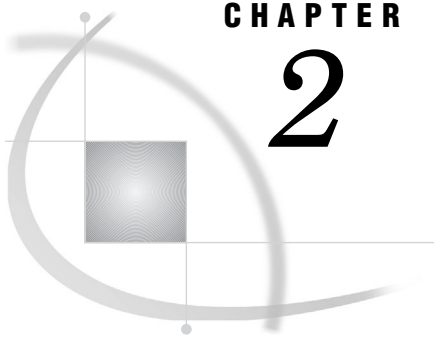
Follow these steps to best use the checklists:

- 1 Determine which checklists to use, based on your operating systems:
  - Windows, UNIX, or a combination:
    - Chapter 2, “SAS Users and Groups on Windows and UNIX,” on page 3
    - Chapter 3, “Third-Party Pre-installation Checklists,” on page 5
    - Chapter 4, “Ports for SAS on Windows, UNIX, and z/OS,” on page 13
  - z/OS:
    - Chapter 4, “Ports for SAS on Windows, UNIX, and z/OS,” on page 13
    - Chapter 5, “SAS Users, Groups, and Definitions on z/OS,” on page 17
- 2 Print out the appropriate checklists.
- 3 Complete the checklists.
- 4 Refer to the checklists during SAS deployment.

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## Accessibility Features in the SAS Intelligence Platform Products

For information about accessibility for any of the products mentioned in this book, see the documentation for that product. If you have questions or concerns about the accessibility of SAS products, send e-mail to [accessibility@sas.com](mailto:accessibility@sas.com) or visit the SAS accessibility site at <http://www.sas.com/govedu/accessibility.html>.



## CHAPTER

## 2

## SAS Users and Groups on Windows and UNIX

*External User Accounts for SAS on Windows and UNIX* 3  
*Groups for SAS on Windows and UNIX* 3

### External User Accounts for SAS on Windows and UNIX

Use the following pre-installation checklist to make sure that you have created the necessary external user accounts for SAS on Windows and UNIX.

For information about any user rights that external user accounts might require, see “Rights Required by External User Accounts (Third-Party)” in the *SAS Intelligence Platform: Installation and Configuration Guide*.

*Note:* These checklists are superseded by more complete and up-to-date checklists that can be found at <http://support.sas.com/installcenter/plans>. This Web site also contains a corresponding deployment plan and an architectural diagram. Δ

**Table 2.1** Pre-installation Checklist for External User Accounts for SAS on Windows and UNIX

Account	Recommended User ID	Actual User ID
SAS Installer	Windows: <i>my-domain\installer-ID</i> <sup>1</sup> UNIX: <i>sas</i> <sup>2,3</sup>	
SAS Spawnd Server account	Windows: <i>my-domain\sassrv</i> UNIX: <i>sassrv</i> <sup>2</sup>	

- 1 On Windows, the user ID should be available in the long term for future SAS maintenance.
- 2 On AIX, make sure that the **User can LOGIN?** setting is set to **true** for the user.
- 3 On UNIX, do not use root.

*Note:* On UNIX systems, the SAS Deployment Wizard requires that you supply the root password during configuration. Certain SAS products and features use functionality that requires SAS to check user ID authentication and file access authorizations. This in turn necessitates that certain files within your SAS installation have setuid permissions and be owned by root. Δ

### Groups for SAS on Windows and UNIX

Use the following pre-installation checklist to make sure that you have created the necessary user groups for SAS on Windows and UNIX.

*Note:* Creating a user group is not required on Windows. It is one suggestion for how to assign a required user right. △

For more information, see “The SAS Server Users Group (Windows)” in the chapter “Defining Groups” in the *SAS Intelligence Platform: Installation and Configuration Guide*.

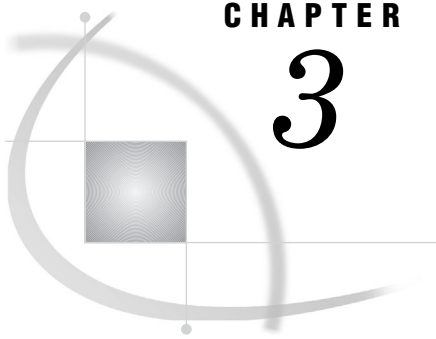
*Note:* These checklists are superseded by more complete and up-to-date checklists that can be found at <http://support.sas.com/installcenter/plans>. This Web site also contains a corresponding deployment plan and an architectural diagram. △

**Table 2.2** Pre-installation Checklist for Groups for SAS on Windows and UNIX

Recommended Group Name	Group Members	Operating System and Purpose	Actual Group Name
SAS Server Users <sup>1</sup>	SAS Spawned Server account	Windows— Suggested method for assigning the <b>Log on as a batch job</b> user right to the SAS Spawned Server account for the stored process server and pooled workspace server.	
	SAS First User Any other users	Suggested method for assigning the <b>Log on as a batch job</b> user right to the SAS First User and any other standard workspace server users.	
sas <sup>2</sup>	SAS Installer	UNIX— Primary group for the SAS Installer user. Enables the SAS Deployment Wizard to create the necessary log and configuration directories required by SAS.	
	SAS Spawned Server account	Through group membership, grants Write permissions to the SAS Spawned Server account for modifying SAS log and configuration directories.	

1 Unless Integrated Windows authentication (IWA) is implemented, add any other any external users accessing standard workspace servers.

2 Limit membership because this privileged group has operating system access to certain configuration files.



## CHAPTER

## 3

## Third-Party Pre-installation Checklists

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<i>About Ports and Additional Information for Third-Party Software</i>	6
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<i>JUNIT</i>	7
<i>WebLogic Server</i>	8
<i>WebSphere Application Server</i>	9
<i>JBoss Application Server</i>	11
<i>Platform Suite for SAS</i>	12

### External User Accounts for Third-Party Software

Use the following pre-installation checklist to make sure that you have created the necessary user accounts for third-party software.

For information about any user rights that external user accounts might require, see “Rights Required by External User Accounts (Third-Party)” in the *SAS Intelligence Platform: Installation and Configuration Guide*.

*Note:* These checklists are superseded by more complete and up-to-date checklists that can be found at <http://support.sas.com/installcenter/plans>. This Web site also contains a corresponding deployment plan and an architectural diagram. △

**Table 3.1** Pre-installation Checklist for External User Accounts for Third-Party Software

Account	Recommended User ID	Actual User ID
LSF Administrator	Windows: <i>my-domain</i> \lsfadmin UNIX: lsfadmin	
LSF User	Windows: <i>my-domain</i> \lsfuser UNIX: lsfuser	

### Groups for Third-Party Software

Use the following pre-installation checklist to make sure that you have created the necessary user groups on Windows and UNIX for third-party software.

For more detailed information, see “Defining Groups” in the *SAS Intelligence Platform: Installation and Configuration Guide*.

*Note:* These checklists are superseded by more complete and up-to-date checklists that can be found at <http://support.sas.com/installcenter/plans>. This Web site also contains a corresponding deployment plan and an architectural diagram.  $\Delta$

**Table 3.2** Pre-installation Checklist for Groups for Third-Party Software

Recommended Group Name	Group Members	Operating System and Purpose	Actual Group Name
SAS Server Users	Scheduling user (lsfuser)	Windows— Suggested method for assigning the <b>Log on as a batch job</b> user right to scheduling users.	
sas	SAS Installer (sas) WebSphere Application Server Installer	UNIX— Suggested method for assigning required permissions to write to certain installation directories.	
SASGRP	SAS Installer (sas) WebSphere Application Server Installer	z/OS— Suggested method for assigning required permissions to write to certain installation directories.	

## Ports and Additional Information for Third-Party Software

### About Ports and Additional Information for Third-Party Software

When you configure your system, the SAS Deployment Wizard needs to know certain information about the third-party products that you have installed in support of the SAS Intelligence Platform. The following topics indicate which products the SAS Deployment Wizard needs information about and what information it needs for each product. Completely fill in the pre-installation checklist for each product that you have installed, or will install.

On UNIX, we recommend that you document each third-party port that you reserve in the following standard locations on each machine: `/etc/services`. This practice will help to avoid port conflicts on the affected machines.

*Note:* These checklists are superseded by more complete and up-to-date checklists that can be found at <http://support.sas.com/installcenter/plans>. This Web site also contains a corresponding deployment plan and an architectural diagram.  $\Delta$

For more detailed information, see “Overview of Installing Third-Party Products” in the *SAS Intelligence Platform: Installation and Configuration Guide*.

*Note:* The Third-Party Software Downloads page at <http://support.sas.com/thirdpartysupport> explains which versions of these products are supported for your version of the SAS Intelligence Platform.  $\Delta$

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## Java Development Kit

For more information about JDK version requirements, go to <http://support.sas.com/thirdpartysupport/> and locate “Other Third Party Software Products ”under the applicable SAS release.

*Note:* These checklists are superseded by more complete and up-to-date checklists that can be found at <http://support.sas.com/installcenter/plans>. This Web site also contains a corresponding deployment plan and an architectural diagram. △

**Table 3.3** Java Development Kit

Description	Default Value	Actual Value
Product version	Dependent on the Web application server and the operating system. See <a href="http://support.sas.com/thirdpartysupport/">http://support.sas.com/thirdpartysupport/</a> .	
Installation directory	Not applicable	

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## JUNIT

JUNIT is an open-source software testing framework for Java, and the defacto standard for writing unit and regression tests. Some of the tests shipped with SAS products run under the SAS Deployment Tester framework and require JUNIT. For more information about JUNIT version requirements, go to <http://support.sas.com/thirdpartysupport/> and locate “Other Third Party Software Products ”under the applicable SAS release.

## WebLogic Server

For more information about pre- and post-installation configuration steps for the Oracle WebLogic Server, go to <http://support.sas.com/thirdpartysupport/> and locate “Web Application Servers and HTTP Servers” under the applicable SAS release. To change the default port, you must use the SAS Deployment Wizard **Typical** or **Custom** prompting level. For more information, see “Select Configuration Prompting Level” in the *SAS Intelligence Platform: Installation and Configuration Guide*.

*Note:* These checklists are superseded by more complete and up-to-date checklists that can be found at <http://support.sas.com/installcenter/plans>. This Web site also contains a corresponding deployment plan and an architectural diagram.  $\Delta$

**Table 3.4** WebLogic Server

Description	Default Value	Actual Value
Product version	9.2	
Installation directory	Not applicable	
Name of domain	SASDomain	
Name of managed servers	SASServer1, SASServer2, and so on	
WebLogic Nodemanager port	5556 (inbound and outbound)	
Non-secure listen port for managed servers	7001, 7101, (inbound and outbound) (additional managed servers increment by 100)	
Secure listen port for managed servers	7002, 7102, (inbound and outbound) (additional managed servers increment by 100)	
Listen port for administration server	7501 (inbound and outbound)	



## WebSphere Application Server

For more information about pre- and post-installation configuration steps for the IBM WebSphere Application Server, go to <http://support.sas.com/thirdpartysupport/> and locate “Web Application Servers and HTTP Servers” under the applicable SAS release. To change the default port, you must use the SAS Deployment Wizard **Typical** or **Custom** prompting level. For more information, see “Select Configuration Prompting Level” in the *SAS Intelligence Platform: Installation and Configuration Guide*.

*Note:* These checklists are superseded by more complete and up-to-date checklists that can be found at <http://support.sas.com/installcenter/plans>. This Web site also contains a corresponding deployment plan and an architectural diagram.  $\Delta$

**Table 3.5** WebSphere Application Server

Description	Default Value	Actual Value
Product version	7.0	
Name of application servers	SASServer1, SASServer2, and so on	
Profile name for managed nodes (contains node agent and Web application server)	SASlocal-hostname01, SASlocal-hostname02, and so on	
Node name for managed nodes	SASlocal-hostname01Node, SASlocal-hostname02Node, and so on	
Profile name for deployment manager	SASDmgr01 (on z/OS, DEFAULT)	
Cell name for deployment manager	SASDmgr01Cell	
Node name for deployment manager	SASDmgr01Node	
SOAP port for administrative console	8879 (inbound and outbound)	
SOAP ports for application servers	8880, 8881 (inbound and outbound) (additional application servers increment by one)	
Secure HTTPS port for administrative console	9043 (inbound)	

Description	Default Value	Actual Value
Secure HTTPS ports for application server	9044, 9045 (inbound) (additional application servers increment by one)	
Non-secure HTTP port for administrative console	9060 (inbound)	
Non-secure HTTP ports for application server	9080, 9081, (inbound) (additional application servers increment by one)	
RMI port for administrative console	9809 (inbound and outbound)	
RMI ports for application servers	9811, 9812, (inbound and outbound) (additional application servers increment by one)	
WebSphere Portal Server (WPS) listening port	10040 (inbound and outbound)	

## JBoss Application Server

For more information about pre- and post-installation configuration steps for the JBoss Application Server, go to <http://support.sas.com/thirdpartysupport/> and locate “Web Application Servers and HTTP Servers” under the applicable SAS release. To change the default port, you must use the SAS Deployment Wizard **Typical** or **Custom** prompting level. For more information, see “Select Configuration Prompting Level” in the *SAS Intelligence Platform: Installation and Configuration Guide*.

*Note:* These checklists are superseded by more complete and up-to-date checklists that can be found at <http://support.sas.com/installcenter/plans>. This Web site also contains a corresponding deployment plan and an architectural diagram.  $\Delta$

**Table 3.6** JBoss Application Server

Description	Default Value	Actual Value
Product version	4.3	
Name of managed servers	SASServer1, SASServer2, and so on	
RMI port for managed servers	1099, 1199, (inbound and outbound) (additional managed servers increment by 100)	
Listen port for managed servers	8080, 8180, (inbound and outbound) (additional managed servers increment by 100)	
Secure listen port for managed servers	8443, 8543, (inbound and outbound) (additional managed servers increment by 100)	

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## Platform Suite for SAS

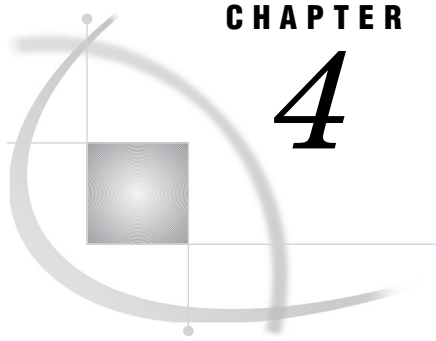
For more information about Platform Suite for SAS version requirements, go to <http://support.sas.com/thirdpartysupport/> and locate “Other Third Party Software Products” under the applicable SAS release.

*Note:* These checklists are superseded by more complete and up-to-date checklists that can be found at <http://support.sas.com/installcenter/plans>. This Web site also contains a corresponding deployment plan and an architectural diagram.  $\triangle$

**Table 3.7** Platform Suite for SAS

Description	Default Values	Actual Values
Platform Process Manager port	1966 (inbound)	
Product version	7.0	
Platform LSF ports	6878, 6881, 6882, 7869, 7870, 7871, 7872 (inbound)	
Product version	7.02	
Platform Grid Management Service port	1976 (inbound)	
Product version	7.0	

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## CHAPTER

## 4

# Ports for SAS on Windows, UNIX, and z/OS

Ports for SAS 13

## Ports for SAS

Use the following pre-installation checklist to make sure that you have designated the necessary ports for SAS.

For more information about the ports used by the SAS Intelligence Platform, see the appendix “Default SAS Ports” in the *SAS Intelligence Platform: System Administration Guide*.

On UNIX and z/OS, we recommend that you document each SAS port that you reserve in the following standard locations on each machine:

- UNIX—`/etc/services`
- z/OS—your TCP/IP PROFILE data set

This practice will help to avoid port conflicts on the affected machines.

On z/OS, the SAS servers are configured and initially started as TSO processes invoked from the USS shell using `/bin/tso`. When these servers are started under `tso`, the job name is the user ID that is starting the server with a character appended to the end. If your site makes use of the reserved ports facility in TCP/IP, each port definition should include the started task and this SAS installer ID job name as valid users of this port. You can use an asterisk (such as, `sas*`) in this definition.

*Note:* On all operating systems, the last digit of the default port number reflects the configuration level that you select in the SAS Deployment Wizard. For example, when you select **Lev1**, the default port for the metadata server is 8561. If you choose another level, such as **Lev2**, the wizard changes the default port to 8562. △

*Note:* These checklists are superseded by more complete and up-to-date checklists that can be found at <http://support.sas.com/installcenter/plans>. This Web site also contains a corresponding deployment plan and an architectural diagram.a003229422 △

**Table 4.1** Pre-installation Checklist for Ports (SAS)

Server or Spawner	Default Port	Data Direction	Actual Port
E-mail server	25	Outbound	
HTTP server	80	Inbound and outbound	

<b>Server or Spawner</b>	<b>Default Port</b>	<b>Data Direction</b>	<b>Actual Port</b>
HTTP server (secure port)	443	Inbound and outbound	
SAS Table Server	2171	Inbound	
SAS Remote Services application	5091	Inbound	
SAS OLAP Server	5451	Inbound	
Event Broker administration	6051	Inbound	
SAS/CONNECT server and spawner	7551	Inbound and outbound	
Web Report Studio IP Scheduling UDP Port 1	7570	Inbound and outbound	
Web Report Studio IP Scheduling UDP Port 2	7571	Inbound and outbound	
Web Report Studio IP Scheduling UDP Port 3	7572	Inbound and outbound	
Event Broker HTTP	8111	Inbound	
Operating System Services scheduler	8451	Inbound	
SAS/SHARE server	8551	Inbound	
Multicast (UDP port)	8561	Inbound and outbound	
SAS Metadata Server	8561	Inbound and outbound	
SAS object spawner: operator port	8581	Inbound	
SAS Workspace Server	8591	Inbound	
Metadata utilities SAS Workspace Server <sup>1</sup>	8591	Inbound	
SAS Stored Process Server: bridge connection	8601	Inbound	

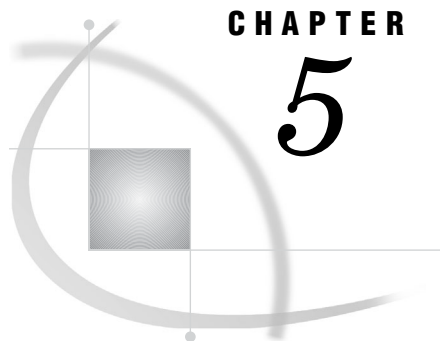
<b>Server or Spawner</b>	<b>Default Port</b>	<b>Data Direction</b>	<b>Actual Port</b>
SAS Stored Process Server: load balancing connection 1 (MultiBridge)	8611	Inbound	
SAS Stored Process Server: load balancing connection 2 (MultiBridge)	8621	Inbound	
SAS Stored Process Server: load balancing connection 3 (MultiBridge)	8631	Inbound	
SAS Pooled Workspace Server	8701	Inbound	
SAS object spawner: pooled workspace server port bank 1	8801	Inbound	
SAS object spawner: pooled workspace server port bank 2	8811	Inbound	
SAS object spawner: pooled workspace server port bank 3	8821	Inbound	
SAS Deployment Tester server	10021	Inbound	

1 In SAS 9.2, two or more workspace servers can share the same port even if they are running at the same time.

*Note:* If you are deploying the SAS Table Server, then the SAS configuration path should be a path local to the machine. The configuration path should not be on an NFS shared disk. For more information, see “Interactive Prompting Levels” in *SAS Intelligence Platform: Installation and Configuration Guide*. △







## CHAPTER

## 5

## SAS Users, Groups, and Definitions on z/OS

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### External User Accounts for SAS on z/OS

Use the following pre-installation checklist to create the necessary external user accounts to deploy and run SAS on z/OS.

*Note:* These checklists are superseded by more complete and up-to-date checklists that can be found at <http://support.sas.com/installcenter/plans>. This Web site also contains a corresponding deployment plan and an architectural diagram.  $\Delta$

**Table 5.1** Pre-installation Checklist for External User Accounts for SAS on z/OS

Account	Recommended User ID	Actual User ID
SAS Installer	sas	
SAS Spawnd Servers account	sassrv	

*Note:*

- For information about the user rights that each external account requires, see “Rights Required by External User Accounts for SAS” in the *SAS Intelligence Platform: Installation and Configuration Guide*.
- The SAS Installer and the SAS Spawnd Servers account must have a TSO segment defined.
- By default, the SAS Installer:
  - is the started task owner for the servers.
  - is the owner of the configuration directory structure.
  - must have a writable home directory in the UNIX file system.
  - must have an OMVS segment definition with the following *minimum* settings:

- ASSIZEMAX of at least 2GB
- CPUTIMEMAX of at least 5000 seconds
- PROCUSERMAX of at least 50 users

$\Delta$

---

## Groups for SAS on z/OS

Use the following pre-installation checklist to create the necessary user groups for SAS.

For more detailed information, see “Defining Groups” in the *SAS Intelligence Platform: Installation and Configuration Guide*.

*Note:* These checklists are superseded by more complete and up-to-date checklists that can be found at <http://support.sas.com/installcenter/plans>. This Web site also contains a corresponding deployment plan and an architectural diagram.  $\Delta$

**Table 5.2** Pre-installation Checklist for Groups for SAS on z/OS

Recommended Group Name	Group Members	Purpose(s)	Actual Group Name
SASGRP <sup>1</sup>	SAS Installer	Default group for the SAS Installer user.	
	SAS Spawned Server account	Through group membership, grants write permissions to the SAS Spawned Server account for modifying SAS log and configuration directories.	

1 The definition of this RACF group must include an OMVS segment. Limit membership because this privileged group has operating system access to certain configuration files.

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## Create a Configuration Directory and Define the SAS Library on z/OS

In addition to creating the necessary users, groups, and ports, to deploy the SAS Intelligence Platform on z/OS, you must also do the following:

- Create a directory that will serve as the configuration directory for the SAS server tier on the z/OS machine.
- Define the SAS executable library to be program-controlled.

Record this information in the following checklist:

*Note:* These checklists are superseded by more complete and up-to-date checklists that can be found at <http://support.sas.com/installcenter/plans>. This Web site also contains a corresponding deployment plan and an architectural diagram.  $\Delta$

**Table 5.3** Configuration Directory and SAS Executable Library Checklist on z/OS

Task	Actual Directory or Library Name
Create a configuration directory <sup>1</sup> for the SAS server tier	
Define the SAS executable library to be program-controlled	

1 A typical path is `/usr/lpp/SAS/SAS_9.2/config-directory`.

## Install the SAS 9.2 SVC Routine

In addition to creating the necessary users, groups, and ports, to deploy the SAS Intelligence Platform on z/OS, you must also install the SAS 9.2 SVC routine. To install the SAS 9.2 SVC routine, follow these steps:

- 1 Download the `instsvc.xmit` file from the SAS FTP Web site at `ftp://ftp.sas.com/techsup/download/mvs/`.
- 2 Using FTP, transfer the `instsvc.xmit` file (in binary mode) to your z/OS system. You should preallocate the target data set with the following DCB characteristics:
 

```
LRECL=80
BLKSIZE=3120
RECFM=FB
```
- 3 Use the following `RECEIVE` command to create a PDS that will contain the JCL members that are required to install the SVC routine, where `sas92.instsvc.xmit` is the name of the file to which you transferred the `instsvc.xmit` file, using FTP.
 

```
receive indataset(sas92.instsvc.xmit)
```

Respond with the name of a data set that will contain the JCL members (that you will use to complete the installation) by issuing the following command:

```
da(sas92.instsvc.cntl)
```
- 4 Create the library that will contain the load modules by issuing the following command, where `SAS92.INSTSV.CNTL` is the data set that you created in the previous step:
 

```
receive indataset(sas92.instsvc.cntl(svcmod))
```
- 5 Respond with the name of a data set that will contain the load modules by issuing the following command:
 

```
da(sas92.instsvc.library)
```
- 6 Continue your SVC installation by following the instructions in “Installing the SAS 9.2 SVC Routine” in the *Configuration Guide for SAS 9.2 Foundation for z/OS*, with the following exceptions:
  - Anywhere that the documentation references the `BAMISC` data set, use the `CNTL` data set that you created in step 3.
  - Anywhere that the documentation refers to the `SAS.LIBRARY` data set, use the data set that you created in step 4.

The *Configuration Guide for SAS 9.2 Foundation for z/OS* is located on the SAS Install Center Web site at <http://support.sas.com/idsearch?ct=200000> (search for the document title).

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## Install the SASCP Module

In addition to creating the necessary users, groups, and ports, to deploy the SAS Intelligence Platform on z/OS, you must also install the SAS 9.2 SASCP module. To install the SAS 9.2 SASCP module, follow these steps:

- 1 Download the instsascp.xmit file from the SAS FTP Web site at **ftp://ftp.sas.com/techsup/download/mvs/**.
- 2 Using FTP, transfer the instsascp.xmit file (in binary mode) to your z/OS system. You should preallocate the target data set with the following DCB characteristics:  
LRECL=80  
BLKSIZE=3120  
RECFM=FB
- 3 Use the following RECEIVE command to create a PDS that will contain the SASCP load module, where sas92.insascp.xmit is the name of the file to which you transferred the instsascp.xmit file, using FTP.

```
receive indataset(sas92.insascp.xmit)
```

Respond with the name of the target data set to contain the SASCP load module by issuing the following command:

```
da(sas92.insascp.load)
```

- 4 Copy the SASCP module to a load library that contains TSO commands. This can be a STEPLIB library defined in a LOGON procedure, a system link list library, or a link pack area library. For more information about the SASCP module see “Implementing SAS TSO Support” in the *Configuration Guide for SAS 9.2 Foundation for z/OS* located on the SAS Install Center Web site at **http://support.sas.com/idsearch?ct=200000** (search for the document title).

# Your Turn

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