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*Technical Paper*

**Adding Additional SAS® Workspace Servers  
to Support Multiple Encodings**

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## Introduction

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The SAS® System supports the use of multilingual data and the associated encodings for that data. As such, you must choose the proper SAS session encoding to handle different data encodings. Incompatible encodings between the SAS session encoding and the data set encoding causes transcoding errors and data loss. For example, if you use an English WLATIN1 session to handle Chinese data, problems occur because of encoding incompatibility.

In most situations, the client applications in SAS® Business Intelligence (BI) environments do not control which SAS session encoding is used on the SAS® server. The configuration for the default SAS server encoding is defined on the SAS server side. Administrators can modify the default SAS server encoding, but only one type of encoding can be used as the server encoding. This behavior limits users on the client side to dealing with multiple-encoding data through the BI environments.

This paper presents a cost-saving technique for adding an additional SAS® Workspace Server (or servers) that helps you connect your BI client machine to multiple, custom-encoded SAS application servers that use a single installation of SAS® Foundation software. SAS® 9.3 is the release used for the purposes of discussion.

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## Add a Secondary Workspace Server

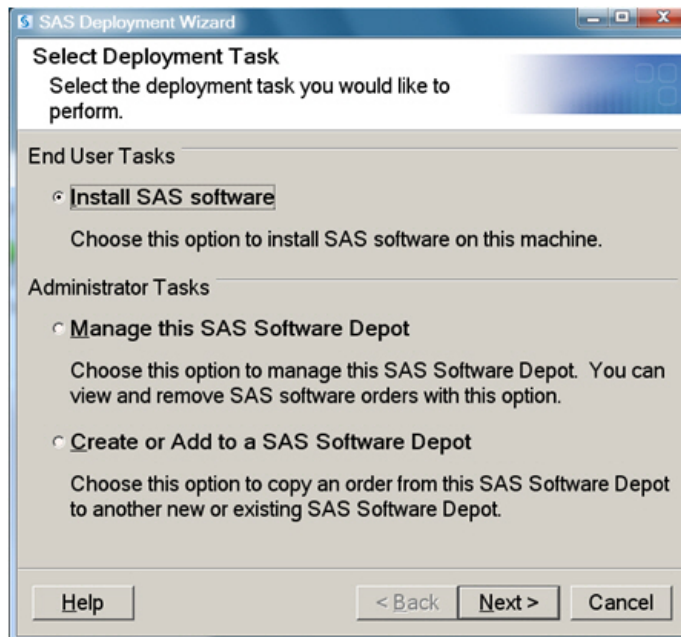
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This section provides steps for adding an additional SAS Workspace Server to your current configuration. To install multiple workspace servers, repeat these steps as many times as necessary. You also have to perform the post-installation configuration and verification steps for each added server.

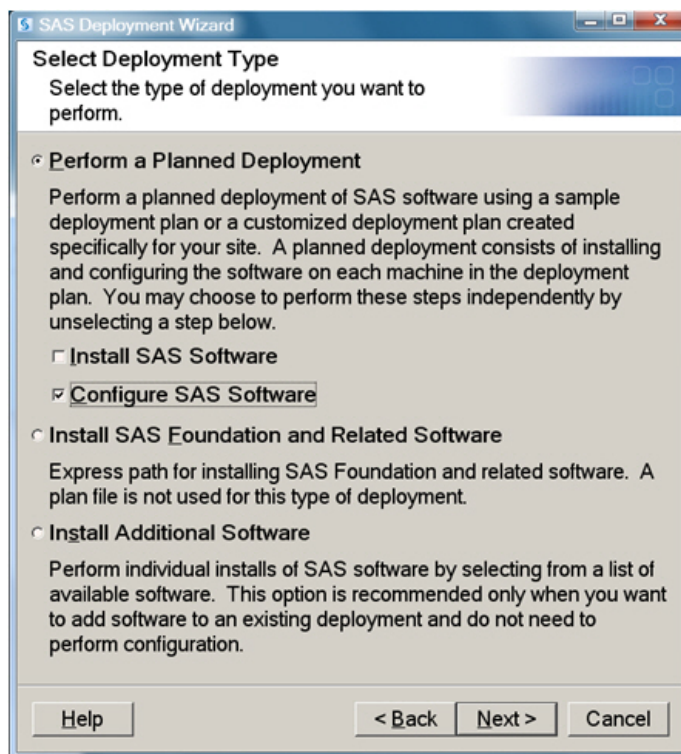
1. Invoke the SAS® Deployment Wizard.



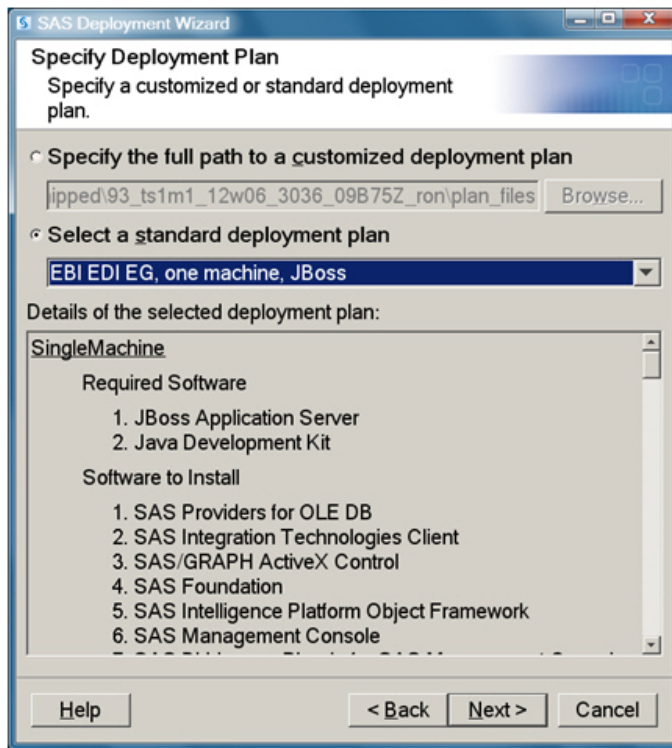
2. Select **Install SAS software**. Click **Next**.



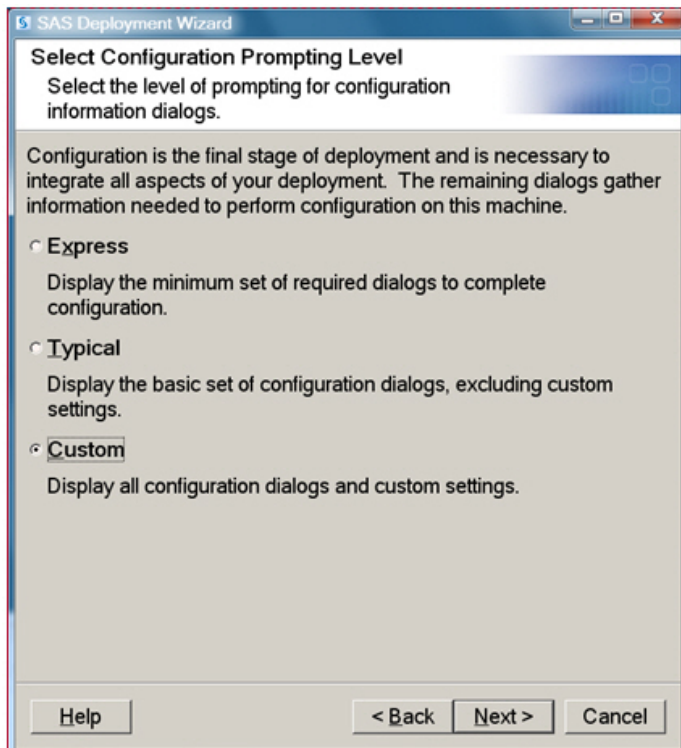
3. Select **Perform a Planned Deployment** as shown below. Also select the check box that is labeled **Configure SAS Software**. Then click **Next**.



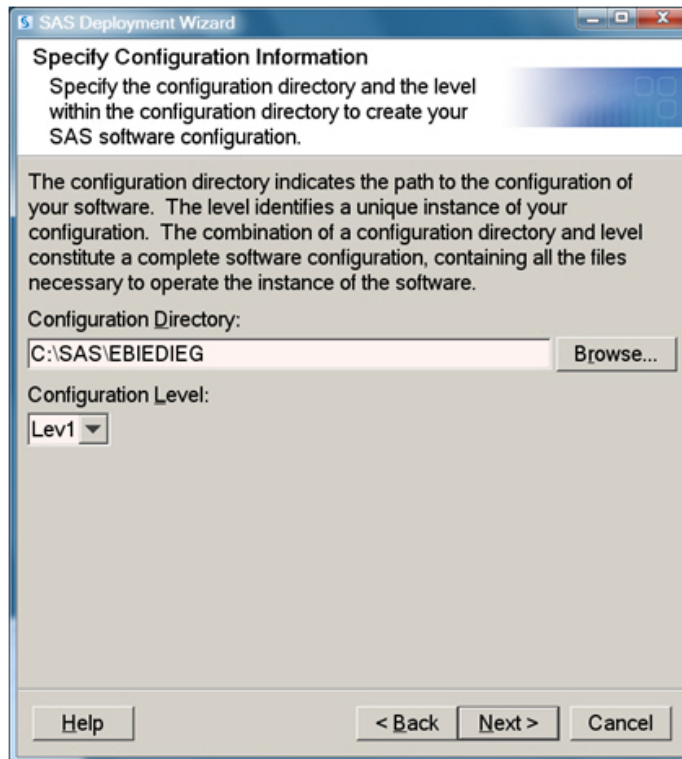
4. Select the same deployment plan that you used in the original deployment. Click **Next**.



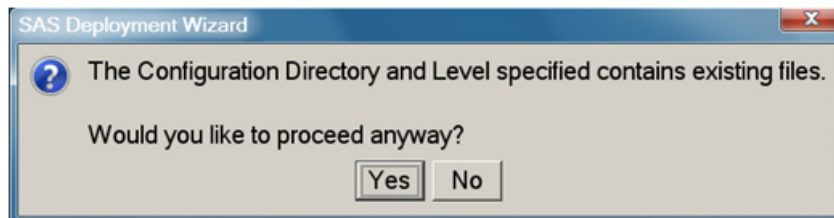
5. Follow the wizard prompts as normal until you reach the step **Select Configuration Prompting Level**. Select **Custom** for the prompting level. Then click **Next**.



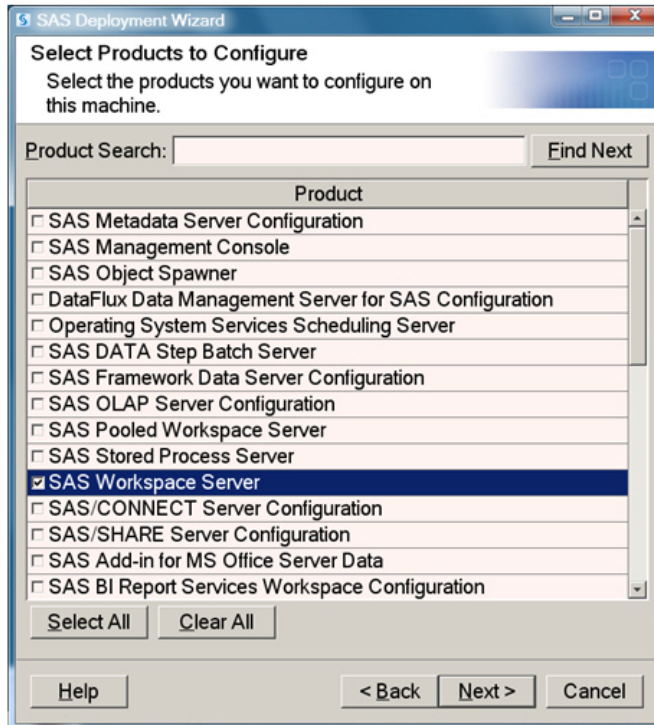
6. Enter the path to the configuration directory. This path should be the same path that you used in your original deployment. Then click **Next**.



You should receive a message dialog box similar to the following. Click **Yes**.

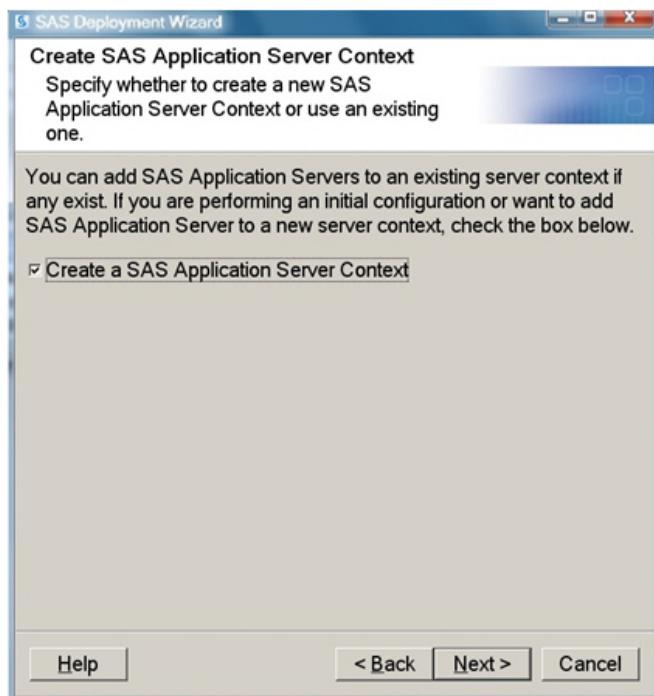


On the Select Products to Configure page, select **SAS Workspace Server**. Then click **Next**.

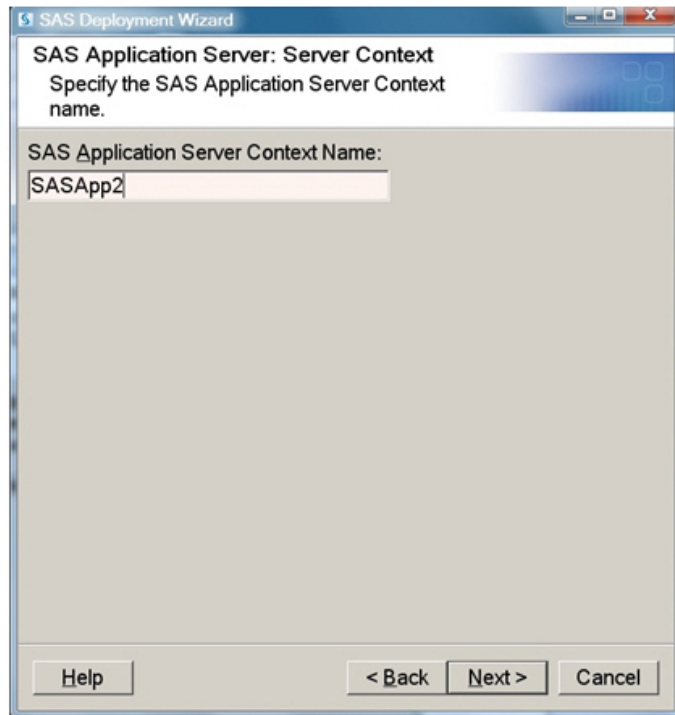


**Important:** From this point on, you might encounter some prompts for steps that are not specifically listed below. When you encounter such a step, accept the default value and continue on to the next step in the sequence.

7. On the Create SAS Application Server Context page, select the check box **Create a SAS Application Server Context**. Then click **Next**.



8. In the **SAS Application Server Context Name** text box, enter a new name for the new SAS application Server. **Do not accept the default name SASApp.** Then click **Next**.



9. Follow the remaining prompts to finish the deployment.

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## Perform Post-Installation Configuration

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After you add each server, you need to configure each one individually, as described in this section.

### Configuring a Secondary Workspace Server in Microsoft Windows Operating Environments

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After you add a new server, you might want to modify its configuration. To do that, follow these steps:

1. Locate the configuration file (sasv9.cfg) for your server. The file resides in the path that you supplied previously in step 6. For example, in the step 6, the configuration file for SASApp2 is located in this directory:

**C:\SAS\EBIEDIEG\Lev1\SASApp2**

2. Open the sasv9.cfg file and modify it as necessary. For example, you might want to configure a SAS Workspace Server with the Unicode encoding. If so, locate the following line in the sasv9.cfg file:

`-config "C:\Program Files\SASHome\SASFoundation\9.3\sasv9.cfg"`

Replace that line with the following line:

```
-config "C:\Program Files\SASHome\SASFoundation\9.3\nls\u8\sasv9.cfg"
```

For details about setting up a SAS session encoding, see “Setting the Encoding of a SAS Session” in the SAS® 9.3 *National Language Support (NLS): Reference Guide*. ([support.sas.com/documentation/cdl/en/nlsref/63072/PDF/default/nlsref.pdf](http://support.sas.com/documentation/cdl/en/nlsref/63072/PDF/default/nlsref.pdf))

3. Close the configuration file and restart the Windows object-spawner service so that it picks up the new server definition.

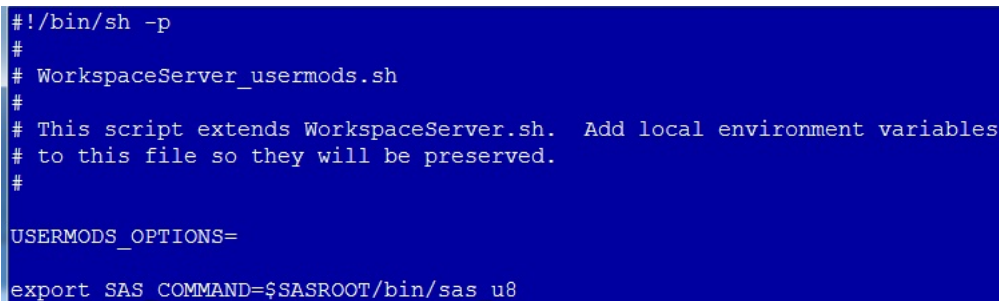
## Configuring a Secondary Workspace Server in UNIX Operating Environments

After you add a new server, you might want to modify its configuration. To do that, follow these steps:

1. Locate the WorkspaceServer\_usermods.sh file, which resides in your **WorkspaceServer** directory that is under the new SAS Application Server that you added.

**Example directory:** /config/Lev1/SASApp2/WorkspaceServer

2. Open the WorkspaceServer\_usermods.sh file, and modify it as necessary. For example, to define your new server as a UTF-8 server, you need to export the SAS\_COMMAND= environment variable and set its value to \$SASROOT/bin/sas\_u8. For example, set the contents, as shown in the following display:



```
#!/bin/sh -p
#
# WorkspaceServer_usermods.sh
#
# This script extends WorkspaceServer.sh.  Add local environment variables
# to this file so they will be preserved.
#
USERMODS_OPTIONS=
export SAS_COMMAND=$SASROOT/bin/sas_u8
```

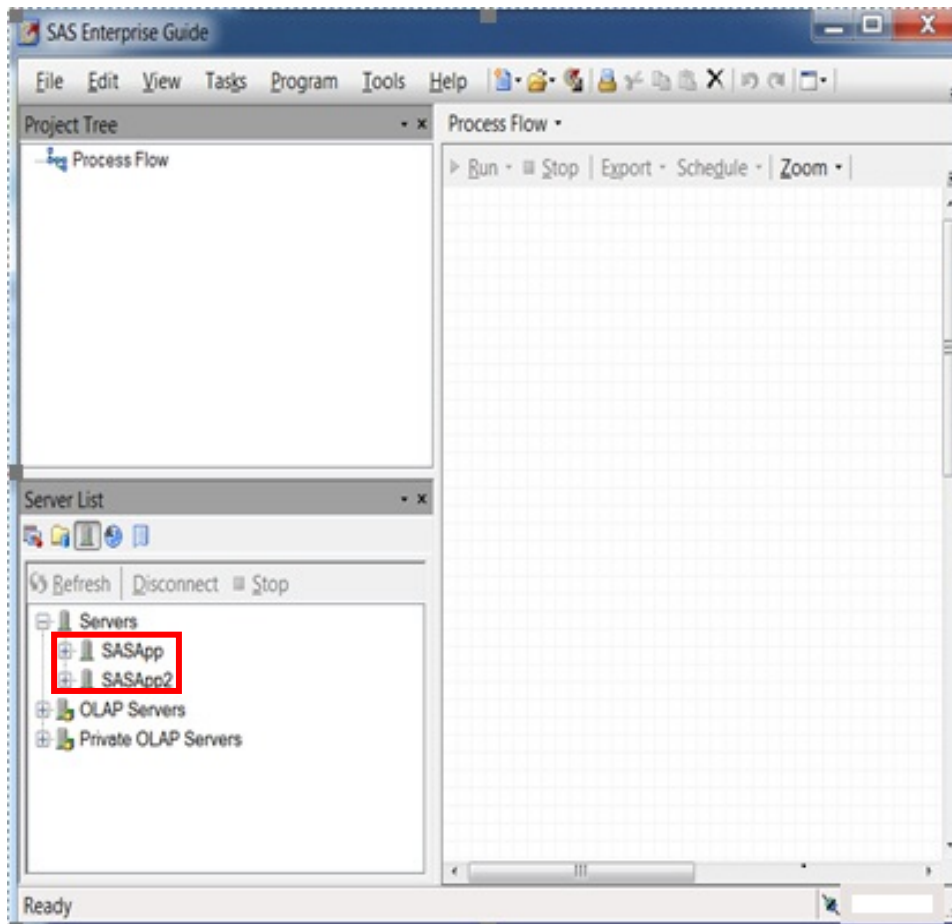
For details about setting up a SAS session encoding, see “Setting the Encoding of a SAS Session” in the SAS® 9.3 *National Language Support (NLS): Reference Guide*. ([support.sas.com/documentation/cdl/en/nlsref/63072/PDF/default/nlsref.pdf](http://support.sas.com/documentation/cdl/en/nlsref/63072/PDF/default/nlsref.pdf))

3. Restart the UNIX object-spawner service so that it picks up the new server definition.

## Verify the Secondary Workspace Server's Configuration

After you complete the post-installation steps, you need to verify the secondary workspace server's configuration. For the purpose of this discussion, the configuration test is performed in SAS® Enterprise Guide®.

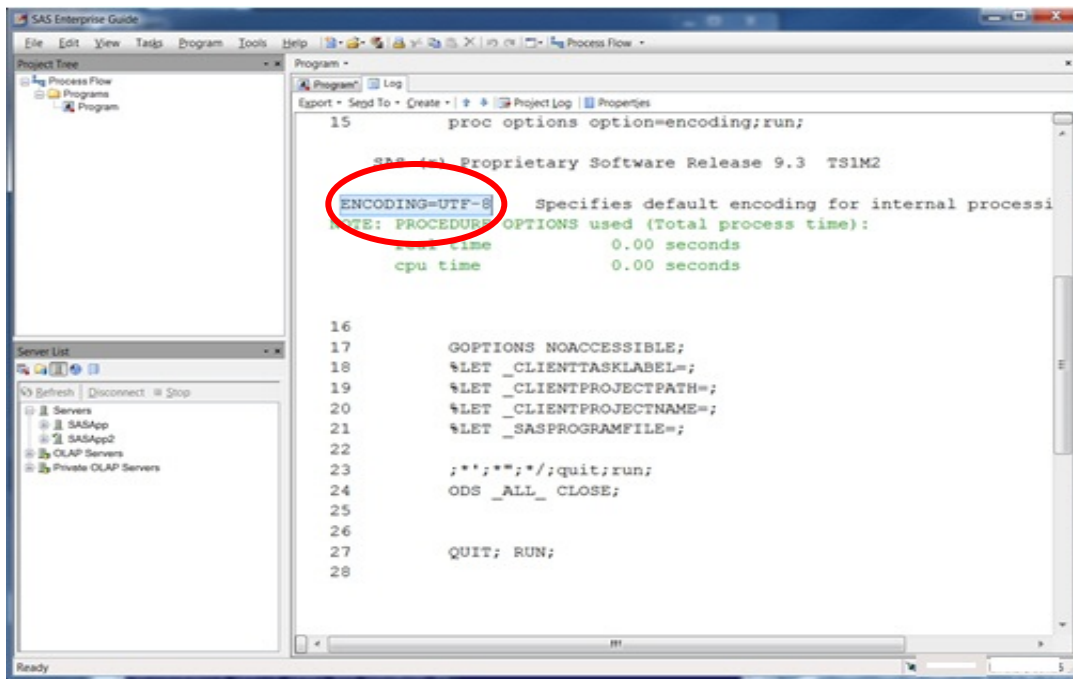
1. Log on to your metadata server account from SAS Enterprise Guide.
2. Expand **Servers** in the **Server List**. The expanded list should contain two SAS Application Server identities: **SASApp** and **SASApp2**.



3. Run a simple program for the SASApp2 server. For example, you might run the following OPTIONS procedure:  

```
proc options option=encoding;  
run;
```

4. Check the SAS log. You should see the new encoding value, as shown below:



## Conclusion

The SAS Foundation installation is limited to only one instance for the same release. Therefore, you can use only one encoding at a time. However, as explained in this document, it is possible to have multiple workspace servers. Configuring multiple workspace servers is an efficient and cost-effective way to support multiple encodings. In addition, you can also use this same method to add multiple stored process servers or OLAP servers.

## Recommended Reading

SAS Institute Inc. 2011. "Setting an Encoding in a SAS Session" in SAS 9.3 National Language Support (NLS): Reference Guide. Cary, NC: SAS Institute Inc. Available at [support.sas.com/documentation/cdl/en/nlsref/63072/PDF/default/nlsref.pdf](http://support.sas.com/documentation/cdl/en/nlsref/63072/PDF/default/nlsref.pdf).

