

Troubleshooting ArcSDE Service Startup Issues for Windows

Transcript

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Hello, and welcome to the ESRI Instructional Series Podcast for Troubleshooting ArcSDE Service Startup Issues for Windows. I am Steve Clark with ESRI Support Services located in Redlands, California.

Now, for the next few minutes, we will be discussing some of the more common issues associated with the failed startup of the ArcSDE service on Windows, and how to troubleshoot these issues. While this discussion will focus on the ArcSDE service for the Windows platform, much of the information can also be applied to ArcSDE startup issues for the UNIX and Linux platforms. This podcast is intended for enterprise geodatabase administrators, ArcGIS Server users, and GIS managers who would like some general guidance on troubleshooting ArcSDE service startup on Windows.

First, before we get into troubleshooting some of these issues, it is important to understand some of the basic properties that make up an ArcSDE service on the Windows platform. First of all, it is a service that runs in the background like many other Windows Services do, and its primary function is to start the ArcSDE giomgr, or GIO Manager process, which will listen for incoming client requests to the ArcSDE server. When it is created, the information about the service—such as the database, instance name, the SDEHOME path, and the encrypted SDE user password—is stored within the Windows registry. The SDEHOME is actually an environment variable that contains the path to where the ArcSDE files are stored, and this information is necessary for the ArcSDE service.

The ArcSDE service is also dependent upon the database service that is running. This database dependency is also stored within the registry and can be viewed through the properties of the ArcSDE service within the Windows Services panel. Because of this information that gets stored in the registry, it is important that the ArcSDE service be registered properly within the Windows registry. An incorrectly registered ArcSDE service can lead to various startup issues.

The two most common ways to start the ArcSDE service on Windows are through the Windows Services panel or with the SDE command called `sdemon -o start`. When an ArcSDE service fails to start, the first thing you are going to want to do is to examine the initial error message that is returned. When starting this service through the Windows Services panel, you will typically see a generic pop-up message containing some kind of an error. And in most cases, the error is a non-ArcSDE-related Windows servicing message, such as "Service failed to respond in a timely fashion."

When you try to start the ArcSDE service with the `sdemon` command and it fails, you may sometimes see a more specific error message directing you to examine the ArcSDE error logs and other resources. Now this message could contain a specific ArcSDE error code number that you can look up in the ArcSDE documentation. The message might also contain a specific database error message that you can look up in the database vendor's documentation. So trying to understand this first error message will be the most helpful to you in trying to troubleshoot this startup failure. However, in most cases, the first error message will be fairly general, and is usually not quite descriptive enough to completely troubleshoot the issue. Keep in mind that starting with the `sdemon` command will sometimes give you that more descriptive error message, and will definitely point you to the ArcSDE error logs, which is what we will be talking about next.

After examining the first initial error message, you are going to want to then examine the ArcSDE error log files that are stored within the `%SDEHOME%\etc` folder. These error logs are very helpful when troubleshooting any ArcSDE issue. There are two primary error log files, and each of these files is prefixed with an `SDE_` or `GIOMGR_` and will contain the ArcSDE service name as part of their file name. For example, if my ArcSDE service is called `ESRI_SDE`, then the ArcSDE error log will be called `SDE_ESRI_SDE.log`. This file contains error messages that ArcSDE records when something goes wrong within the software. This file will also usually contain an ArcSDE error code number and any associated database error messages, should there be any.

Many times, from examining this file, you'll be able to determine what the problem is, but another good place to check is the `GIOMGR_ESRI_SDE.log` file, which contains ArcSDE service startup information and other connection-related information. The ArcSDE service will typically go through about 10 different steps as part of its startup process. And by looking at each of these steps and seeing where the service startup procedure stopped, you can sometimes ascertain what the problem might be. For example, a normal startup process will include the validation of the ArcSDE license to ensure that ArcSDE is properly authorized. So if you notice that the startup process failed just before it got to this step, then you have a pretty good indication that the ArcSDE service failed the license validation check. Under some circumstances, it could also be helpful to examine the Windows Event Viewer, which records messages regarding startup problems for any Windows service.

Next, we want to discuss some of the more common causes of a failed ArcSDE service startup, and what you might see in the ArcSDE error logs under these conditions. So the first thing we want to take a look at is that the database dependency does not exist. Now remember, ArcSDE—as we mentioned before—is

dependent upon the database existing and running on your machine. So you can immediately determine if the database dependency does not exist by examining the properties of the ArcSDE service in the Windows Services panel. When the dependency does not exist, you will typically see a database-specific error message in the ArcSDE error log, depending on the database that you are using. You will also see in the GIO Manager log file that the startup process stopped just before reaching the step of reading the ArcSDE Server_Config table within the database.

Now the only way to fix this situation is to delete and recreate the ArcSDE service using the SDE command called `sdeservice`. When you are recreating the service with this command, you want to make sure you specify the database instance name correctly with the `-d` option. This will restore the database dependency that is required for the ArcSDE service to start. You are going to want to also ensure that you do not use the `-n` option when creating this service with this `sdeservice` command, because this option will disable the database dependency for the ArcSDE service, and without that dependency being there, the service is not going to start.

Now let's take a look at a situation where the SDE password is incorrect. In this case, the log file will show an ArcSDE error -93 error, which means an invalid password for the SDE user was passed to the database. So first, make sure you can log into the database as the SDE user so that you know what the correct SDE password is. If the -93 error occurred while starting the service through the Windows Services panel, then the incorrect SDE password was provided when the service was initially created. So, in this situation, you're going to need to modify the service with the `sdeservice -o modify` command and specify the correct SDE password for the service. If you receive this error while only using the `sdemon -o start` command, then you probably typed the SDE password incorrectly. So run the `sdemon -o start` command again and specify the correct SDE password.

Now let's take a look at a situation where the service name is incorrect. There are two places where the ArcSDE service name is listed: one is in the `services.sde` file located in the `%SDEHOME%\etc` folder, and the other is in the Windows Services file, which is typically located in the `C:\WINDOWS\system32\drivers\etc` folder. If the service name is incorrect in the Windows Services file, then the service will fail to start with an error that says, "Service name not found in System services file." Now, to fix this issue, you will need to modify the service name in the Windows Services file to correctly reflect the true name of the ArcSDE service. Always make sure that the service name and port number found in the Windows Services file matches what is found in the `services.sde` file.

Another situation that we want to take a look at is when the ArcSDE database is not properly authorized. If the ArcSDE database has not been authorized, you will see a -51 error recorded in the SDE error log with a message that states, "Error getting ArcSDE Server license." If ArcSDE has been authorized, but the license information is either incorrect or the license has expired, then you will see a -327 error in the ArcSDE error logs, along with a message that reads, "ArcSDE Server license not found." To rectify these situations, you will need to make sure your database is properly authorized with the authorization file that you received from ESRI. This file has the extension .ecp. If you have received this file, try to authorize ArcSDE again by using the `sdesetup -o update_key` command. If this command runs successfully, then you should be able to start the ArcSDE service. If your ArcSDE authorization has expired, or you do not currently have a proper license, contact ESRI Customer Service for assistance.

For the past few minutes, we have covered the basics of an ArcSDE service and how you can begin to troubleshoot an ArcSDE service when it fails to start. Now remember the key location to look for help is in the ArcSDE error log files located in the `%SDEHOME%\etc` folder. Particularly helpful will be the `SDE_ESRI_SDE.log` file (i.e., `SDE_<service name>.log`) that we discussed earlier. This is the file that records any errors that occur while using the ArcSDE software.

Now, if after troubleshooting the startup failure, you are still unsure of what might be causing this service to fail, simply delete and recreate the service. In many cases, this will fix the problem. This can be done with the `sdeservice` command. Please see the ArcSDE command reference for more information about using this command. You can access this documentation from the Start menu: go to Programs > ArcGIS > ArcSDE > Command References.

You will also want to examine the current ArcSDE 9.2 documentation for information on the ArcSDE service and what happens when a service starts. This help can be found online at <http://webhelp.esri.com>. For additional troubleshooting information, please see the topic entitled, "Troubleshooting the ArcSDE service" (from the Web Help, navigate to Geodatabases and ArcSDE > Administering ArcSDE geodatabases > Connecting to an ArcSDE geodatabase > Troubleshooting the ArcSDE service). The ESRI support site, located at <http://support.esri.com>, can also be of value to you. Here you can search other ArcSDE documentation and the ESRI Knowledge Base. ESRI Support Services is also available to assist you when needed.

We hope that you have found this podcast on troubleshooting ArcSDE service startup issues for Windows helpful. Thank you for listening, and stay tuned for future podcasts.