
SqlConnectionStringProvider plugin

HPC Pack 2016 Update 1 supports the plugin to provide a customized SQL connection string. This is mainly for managing the SQL connection strings in a separate security system from HPC Pack 2016 Update 1. For example, the connection strings change frequently or it contains secret information that it is improper to save it in windows registry, or the service fabric cluster property store.

How to develop the plugin assembly.

You need create a project referencing assembly %CCP_HOME%\Bin\HpcCommon.dll on either of the head nodes, or copy the referenced assembly to your local development environment, and add a class which implement the interface Microsoft.Hpc.ISqlConnectionStringProvider.

The GetConnectionStringAsync method will be called by the HPC services each time when they require a SQL connection string. The key parameter indicates which database the service is trying to connect to. A CancellationToken is passed in by the token parameter since the method is an async method, and the implementation should follow the .NET async programming model and respect the CancellationToken.

The key parameter's value is among the following constants and represents the database correspondingly:

```
HpcConstants.ManagementDbStringRegVal,  
HpcConstants.SchedulerDbStringRegVal,  
HpcConstants.ReportingDbStringRegVal,  
HpcConstants.MonitoringDbStringRegVal,  
HpcConstants.DiagnosticsDbStringRegVal,
```

Upon checking the key parameter, the method should return the connection string to the specific database.

Check the following for a sample implementation of this method:

```
namespace SqlConnectionStringProvider  
{  
    using System;  
    using System.Threading.Tasks;  
    using System.Threading;  
  
    using Microsoft.Hpc;  
  
    public class SqlConnectionStringProvider : ISqlConnectionStringProvider  
    {  
        public async Task<string> GetConnectionStringAsync(string key, CancellationToken  
token)  
        {  
            if (string.Equals(key, HpcConstants.SchedulerDbStringRegVal,  
StringComparison.Ordinal))  
            {  
                // return a customized connection string here  
                return @"Data Source=evanfabric05\COMPUTECLUSTER;Initial  
Catalog=HPCScheduler;Integrated Security=True;";  
            }  
  
            // return the original connection string  
        }  
    }  
}
```

```
        return await
HpcContext.Get().Registry.GetValueAsync<string>(HpcConstants.HpcSecurityRegKey, key,
token);
    }
}
```

Note that, the

```
HpcContext.Get().Registry.GetValueAsync<string>(HpcConstants.HpcSecurityRegKey, key,
token);
```

is the way to get the original connection string stored in HPC.

Proper tracing is recommended to better troubleshooting the problems in this plugin.

[How to deploy the plugin to the system.](#)

- 1, Copy the "SqlConnectionStringProvider.dll" to %CCP_HOME%\Bin on each head nodes.
- 2, Kill all Hpc*Stateful.exe process on each head node.
- 3, The newly created process will load the plugin.