

Cloud Task Parallelization in .NET (Server Components)

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Version: 1.0.0.0

Project Website

<http://concurrency.ch/Projects/TaskParallelism>

Prerequisites

Service:

- Microsoft .NET Framework 4.5
- Microsoft HPC 2012 Client Components
- Microsoft IIS 6.2 or higher

Cluster:

- Microsoft HPC 2012 with at least .NET Framework 4 or 4.5

Installation

- 1) Cluster Task Kernel: Install the binaries of the folder “Cluster” in a folder of the HPC Cluster. This serves as HPC Job run executable which loads and runs the distributed tasks.
- 2) WCF Service: Install the service binaries of the folder “Service” as a WCF service in IIS.

Configuration

The following configurations need to be specified in “web.config” of the WCF service:

Parameter	Example	Explanation
HpcHeadAddress	myhpc.com	Domain name / IP address of MS HPC 2012 head node
HpcFilePath	\\myhpc\workfolder	Path of shared working folder on the cluster where the service can write input data and read output data from the cluster.
HpcKernelPath	\\myhpc\taskkernel	Path of the “Cluster Task Kernel” (cf. installation above) to run distributed tasks as HPC jobs
HpcKernelExe	HSR.CloudTaskParallelism.Server.Hpc.TaskKernel.exe	Fix name of the “Cluster Task Kernel” executable
HpcUserName	hpcuser	Username for accessing the HPC. The password is defined via Windows credentials.
GrantedAuthorizationTokens	Secret1; Secret2	Semicolon-separated list of authorization tokens that are allowed to use the web service for distributed task execution.

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