

# Course : PowerShell Desired State Configuration

*Practical course - 2d - 14h00 - Ref. DSC*

*Price : 1370 € E.T.*



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In a DevOps approach aimed at increasing operational efficiency between developers and administrators, you need to implement a mechanism that guarantees identical configuration on all machines. You'll learn how to quickly reconfigure your servers with PowerShell 5/4 (DSC and workflow).



## Teaching objectives

**At the end of the training, the participant will be able to:**

- ✓ Guarantee standard configuration on all machines in a specific environment
- ✓ Designing and setting up a PowerShell DSC script
- ✓ Implementing Pull and Push modes in PowerShell DSC
- ✓ Writing a workflow in the Windows PowerShell scripting language

## Intended audience

Systems and network technicians, administrators and engineers.

## Prerequisites

Good knowledge of Windows, PowerShell and AD, or equivalent to the course [ PowerShell 5/4, automating Windows administration " (ref. ATU).

## Course schedule

### 1 DSC (Desired State Configuration) overview

- DSC fundamentals.
- Push mode, pull mode.

### Storyboarding workshops

## PARTICIPANTS

Systems and network technicians, administrators and engineers.

## PREREQUISITES

Good knowledge of Windows, PowerShell and AD, or equivalent to the course [ PowerShell 5/4, automating Windows administration " (ref. ATU).

## TRAINER QUALIFICATIONS

The experts leading the training are specialists in the covered subjects. They have been approved by our instructional teams for both their professional knowledge and their teaching ability, for each course they teach. They have at least five to ten years of experience in their field and hold (or have held) decision-making positions in companies.

## ASSESSMENT TERMS

The trainer evaluates each participant's academic progress throughout the training using multiple choice, scenarios, hands-on work and more.

Participants also complete a placement test before and after the course to measure the skills they've developed.

## 2 Push mode

- Push mode principle.
- Configuration scripts, MOF files (DMTF standard).
- Presentation of nodes.
- Compile and deploy with basic DSC cmdlets.

### Hands-on work

Create a script for configuring and deploying a website, compiling and deploying it to a set of servers.

## 3 DSC and associated cmdlets

- Default configuration resources (localconfigurationManager).
- Display and modify configuration.
- Compilation, execution (start-dsconfiguration).

### Hands-on work

Create a software package deployment script (copy file, create local groups, local users, modify registry key, decompress zip file).

## 4 Pull mode

- Pull mode principle.
- The xPSDesiredStateConfiguration module.
- HTTPS, SMB server.

### Hands-on work

Create a server configuration script. Install and configure Pull mode.

## 5 Customized resources

- Schema and properties (schema.mof).
- PowerShell module, manifest, folder structure, nested modules.
- Get/Set/Test-TargetResource functions.
- Creating new resources, using a configuration script.

## 6 Introduction to workflow

- Workflow in PowerShell. Jobs.
- The different modes of workflow operation.
- PowerShell variables dedicated to workflow.

## 7 Simple workflow

- The different operating modes.
- Workflow declaration, different cmdlets.
- Generated jobs.
- Suspend, resume, restart a workflow.

### Hands-on work

Create a simple workflow (copying files, installing roles and functions, restarting servers and resuming workflows).

### TEACHING AIDS AND TECHNICAL RESOURCES

- The main teaching aids and instructional methods used in the training are audiovisual aids, documentation and course material, hands-on application exercises and corrected exercises for practical training courses, case studies and coverage of real cases for training seminars.
- At the end of each course or seminar, ORSYS provides participants with a course evaluation questionnaire that is analysed by our instructional teams.
- A check-in sheet for each half-day of attendance is provided at the end of the training, along with a course completion certificate if the trainee attended the entire session.

### TERMS AND DEADLINES

Registration must be completed 24 hours before the start of the training.

### ACCESSIBILITY FOR PEOPLE WITH DISABILITIES

Do you need special accessibility accommodations? Contact Mrs. Fosse, Disability Manager, at psh-accueil@orsys.fr to review your request and its feasibility.

- Scripts in a workflow (inlinescript).
- Workflow variables (\$using, \$psParentactivityID).
- Parallel mode, sequences. Jobs.

### Hands-on work

Create a parallel workflow (massive ping of 250 ip addresses in 3 seconds, role installation, parallel mode functionality on multiple servers with sequencers).