Tatsoft.FrameworX PowerShell Module Reference

Native PowerShell cmdlets for FrameworX — lifting IT deployment from raw `.exe + /silent` calls to one-liner cmdlets with `Get-Help`, parameter validation, pipeline composition, and structured exit-code handling.

Release Notes **IT Deployment RunBook** Tatsoft.FrameworX PowerShell Module Reference

Version 10.1.5+

Overview

`Tatsoft.FrameworX` is a single PowerShell module that wraps three existing FrameworX surfaces:

Surface	Wrapped CLI / endpoint	Audience
Product lifecycle	`FrameworX-Setup.exe`, `unins000.exe` (Inno Setup)	IT / DevOps deploying FrameworX
Service lifecycle	`TManageServices.exe` (per-service install / uninstall verbs)	IT / DevOps managing Windows Services
SolutionCenter API	`https://<host>:10108/api/v1/...` (TWebServices)	Fleet operators, OEM admin tooling, central monitoring

Compatible with **PowerShell 5.1** (Windows PowerShell, ships with Windows) and **PowerShell 7+** (cross-platform). The module is signed by Tatsoft and exports 33 cmdlets.

Install

```
# All-users (typical IT deployment, requires admin):
Copy-Item -Recurse '\\fileshare\Tatsoft.FrameworX' 'C:\Program Files\WindowsPowerShell\Modules\Tatsoft.
FrameworX'
Import-Module Tatsoft.FrameworX
```

From FrameworX 10.1.6, the installer places the module under `<InstallDir>\Tools\PowerShell\Tatsoft.FrameworX\`. Import it by its path; nothing has to be registered on the machine:

```
Import-Module 'C:\Program Files\Tatsoft\FrameworX\Tools\PowerShell\Tatsoft.FrameworX'
```

Windows 10 and Windows 11 start with the execution policy `Restricted`, which refuses every script module. Windows Server starts with `RemoteSigned`, which loads the module. On a `Restricted` machine, run `Set-ExecutionPolicy -Scope Process -ExecutionPolicy RemoteSigned` first. It applies to the current shell only and changes no machine setting.

Quick start

Install on a fresh box

```
Install-FrameworX -InstallerPath C:\Setup\FrameworX-Setup.exe -InstallDir 'C:\Program Files\Tatsoft\FrameworX'
Install-FrameworXWebServices
Install-FrameworXRuntime -SolutionPath 'C:\Solutions\Plant1.tproj' -Profile Production
```

Manage solutions remotely

These cmdlets call the SolutionCenter API. They work on FrameworX 10.1.6 and later once an administrator enables the API. See the Activation gate section below.

```
Connect-FrameworX -Endpoint https://plant1-srv07:10108 -ServiceAccountToken $env:FX_TOKEN
Get-FrameworXSolution
Start-FrameworXSolution -Name Plant1SCADA -Profile Production
Get-FrameworXSolution | Where-Object status -eq running | Stop-FrameworXSolution
Disconnect-FrameworX
```

Cmdlets

Product lifecycle

Cmdlet	Wraps	Notes
`Install-FrameworX -InstallerPath -InstallDir -LogPath`	`FrameworX-Setup.exe /VERYSILENT /SUPPRESSMSGBOXES /NORESTART /DIR= /LOG=`	Maps Inno exit codes to a structured result. Exit code 3010 = success + reboot required.
`Uninstall-FrameworX [-InstallDir]`	`unins000.exe /VERYSILENT`	From FrameworX 10.1.6: without `-InstallDir`, uses the installation the module sits in, then the default folder under Program Files. No registry value is read. The service-lifecycle cmdlets below use the same lookup.

Service lifecycle (machine-local, requires admin)

Cmdlet	Wraps
`Install-FrameworXRuntime -SolutionPath -Profile`	`/installtstartup /solution:"..." /profile:n` — installs `TStartup-<SolutionName>`
`Uninstall-FrameworXRuntime -SolutionName`	`/uninstalltstartup /solution:"..."`
`Install-FrameworXWebServices` / `Uninstall-FrameworXWebServices`	`/installtwebservices`, `/uninstalltwebservices`
`Install-FrameworXSecureGateway` / `Uninstall-FrameworXSecureGateway`	`/installtsecuregateway`, `/uninstalltsecuregateway`
`Install-FrameworXMqttBroker` / `Uninstall-FrameworXMqttBroker`	`/installtmqttbroker`, `/uninstalltmqttbroker`
`Install-FrameworXHardkey` / `Uninstall-FrameworXHardkey`	`/installthardkey`, `/uninstallthardkey`
`Install-FrameworXRuntimeMcpHttp` / `Uninstall-FrameworXRuntimeMcpHttp`	`/installruntimemcphttp`, `/uninstallruntimemcphttp`
`Remove-FrameworXAllServices`	`/removeallservices` — every FrameworX service in one call

Session

Cmdlet	Calls
`Connect-FrameworX -Endpoint -ServiceAccountToken`	(no HTTP — stores JWT and base URL in module state)
`Connect-FrameworX -Endpoint -OidcProvider`	Opens browser to `/api/v1/auth/oidc/login`; receives the JWT the API posts to a localhost listener
`Disconnect-FrameworX`	(no HTTP — clears module state, restores TLS validation)

The session object the module keeps after `Connect-FrameworX` does not display the access token.

Solutions

Cmdlet	Calls
`Get-FrameworXSolution`	`GET /api/v1/solutions/`
`Get-FrameworXSolution -Name X`	`GET /api/v1/solutions/X/info` (enriched with `isRunning` + `runningProfiles`)
`Test-FrameworXSolutionRunning -Name X`	`GET /api/v1/solutions/X/isrunning` (returns `[bool]`)
`Start-FrameworXSolution -Name -Profile`	`POST /api/v1/solutions/X/run`
`Stop-FrameworXSolution -Name`	`POST /api/v1/solutions/X/stop`
`Set-FrameworXSolutionAutoStart -Name -AutoStart`	`PUT /api/v1/solutions/X/autostart`

License

Cmdlet	Calls
`Get-FrameworXLicenseInfo`	`GET /api/v1/license/info`
`Get-FrameworXSiteCode`	`GET /api/v1/license/site-code`
`Set-FrameworXLicenseKey -LicenseKey`	`PUT /api/v1/license/key`
`Invoke-FrameworXLicenseActivation -ActivationCode [-SerialNumber] [-SiteCode] [-Upgrade]`	`POST /api/v1/license/activate`
`Invoke-FrameworXLicenseDeactivation -ActivationCode`	`POST /api/v1/license/deactivate`

Machine settings

Cmdlet	Calls
`Get-FrameworXMachineSetting`	`GET /api/v1/machine/settings` (lists the allowlist)
`Get-FrameworXMachineSetting -Filename`	`GET /api/v1/machine/settings/{filename}`
`Set-FrameworXMachineSetting -Filename -Content`	`PUT /api/v1/machine/settings/{filename}` (requires `installation:admin`)

Server

Cmdlet	Calls
`Get-FrameworXServerInfo`	`GET /api/v1/server/info`
`Get-FrameworXConnection`	`GET /api/v1/server/connections` (requires `installation:admin`)
`Disconnect-FrameworXConnection -Guid`	`DELETE /api/v1/server/connections/{guid}` (requires `installation:admin`)

Discovery

Cmdlet	Calls
`Get-FrameworXOpenApi [-OutFile]`	`GET /api/v1/openapi` (anonymous, bypasses the activation gate)

Authentication

The SolutionCenter API requires a JWT Bearer token on every call (RFC 9068 `at+jwt`). Two issuance paths:

- **Service-account JWT** — pre-issued by your OEM admin tool, dropped on the box as a config file or held in an environment variable. Pass via `Connect-FrameworX -ServiceAccountToken <jwt>`.
- **OIDC interactive** — `Connect-FrameworX -OidcProvider <name>` opens the default browser to the configured IdP via `/api/v1/auth/oidc/login`, then receives the JWT, which the API posts as the form field `token` to a localhost `HttpListener`. The named provider must be configured in `SolutionCenterApi-OidcProviders.json` in the installation folder of the target installation.

Scopes (assigned at issuance time): `installation:read`, `installation:control`, `installation:files`, `installation:license`, `installation:machine`, `installation:admin`. Scopes do not subsume each other.

Activation gate

The SolutionCenter API ships **OFF**. On FrameworX 10.1.6 and later, an administrator enables it in `SolutionCenterApi-Settings.json` in the installation folder of the target installation, and the API cmdlets on this page then work. Until then, API cmdlets surface `503 service-unavailable`. The API cannot be enabled on FrameworX 10.1.5. See SolutionCenter API Reference for the settings file and the TLS requirement. Product-lifecycle and service-lifecycle cmdlets (`Install-FrameworX*` / `Uninstall-FrameworX*`) do not use the API and are unaffected by the gate. `Get-FrameworXOpenApi` is anonymous and bypasses the gate.

TLS notes

- **PowerShell 7+**: `Connect-FrameworX -SkipCertificateCheck` is honored per-call (`Invoke-RestMethod -SkipCertificateCheck`). Production deployments should use a properly-signed certificate.
- **PowerShell 5.1**: In FrameworX 10.1.6, `-SkipCertificateCheck` is not supported and the command stops before it sends anything. Use a certificate the computer trusts, or run the command in PowerShell 7. From FrameworX 10.1.7, `-SkipCertificateCheck` on `Connect-FrameworX` and on `Get-FrameworXOpenApi -Endpoint` skips the check for the requests of that command or session only. The module sends these requests itself, each with a certificate check of its own, on a connection that no other request reuses. Every other request in the window, including your own commands, still validates. Such a request waits up to 100 seconds for the server, and Ctrl+C does not stop it while it waits. The module also force-enables TLS 1.2 (the PS 5.1 default rejects modern endpoints).
- **Both editions, from FrameworX 10.1.7**: a session you build yourself (a hashtable or an object, for example one read with `Import-Csv`) skips the check only when its `SkipCertificateCheck` is the Boolean `$true` or a set switch. Text such as `'False'`, `'0'` or `'True'` does not skip, and a number such as `1` does not either. The module writes a warning that names such a value, on each request, until the value is a Boolean. Empty text asks for nothing and writes no warning. To use a text value, compare it first, for example `SkipCertificateCheck = ($row.SkipCertificateCheck -eq 'True')`.

Error handling

API calls failing with non-2xx responses raise terminating errors of id `FrameworX.Api.HttpError`. The error message includes the RFC 7807 Problem Details payload from the server. Catch with `try { ... } catch { ... }`:

```
try {
    Get-FrameworXLicenseInfo
}
catch {
    Write-Warning "License query failed: $($_.Exception.Message)"
}
```

CLI cmdlets (`Install-*` / `Uninstall-*`) raise terminating errors when `TManageServices.exe` reports a non-zero exit code (= number of failed operations) or when the Inno Setup installer reports a failure exit code.

Out of scope (v1.0 of this module)

- File operations (`/api/v1/files/...`) — chunked upload / download, exists, delete-solution. Wrapped in v1.1.
- Visual dashboard UI — tracked in a separate Tatsoft v2 work item.
- MSI distribution package.
- Bulk fan-out (managing many machines from a single shell).

Related

- IT Deployment RunBook — the broader IT Ops guide.
- SolutionCenter API Reference — full API spec, OpenAPI doc, scope model.
