

# Web Server Administration

Web Deployment Console



# Why is it needed?



- ✓ Launch of v12 creates a more complex environment with web services and web applications
- ✓ System integrators can no longer be expected to be able to manage the components and their settings manually
- ✓ Monitoring that system is working and configured as expected

# Why is it needed?

- ✓ For larger projects
  - ✓ Performance
  - ✓ Scaling out
  - ✓ Load balancing
- ✓ Security of the system can be managed
- ✓ The services can be run in an isolated system on a non SV-32 computer
- ✓ Environment can be isolated from the
  - ✓ Supervisor station
  - ✓ Automation network



# How can it be achieved?



- ✓ Deployment is relatively easy, no deep knowledge needed
  - ✓ Correctly configured environment
    - ✓ Save time on hunting errors
  
- ✓ Clean installation
  - ✓ Installing only the needed components
    - ✓ No garbage
  
- ✓ Having knowledge everything
  - ✓ is configured as expected
    - ✓ Diagnosis
  - ✓ is working as expected (Monitoring)
    - ✓ Logging & Tracing configuration
    - ✓ (+ Log Monitor)

# How can it be achieved?



- ✓ Manage your server architecture / system environment
  - ✓ Build your architecture with visual blocks
- ✓ Take advantage of the microservice architecture to allow
  - ✓ Load balancing
  - ✓ Scaling out
- ✓ User access management
  - ✓ OAuth2





# What do we have for that?

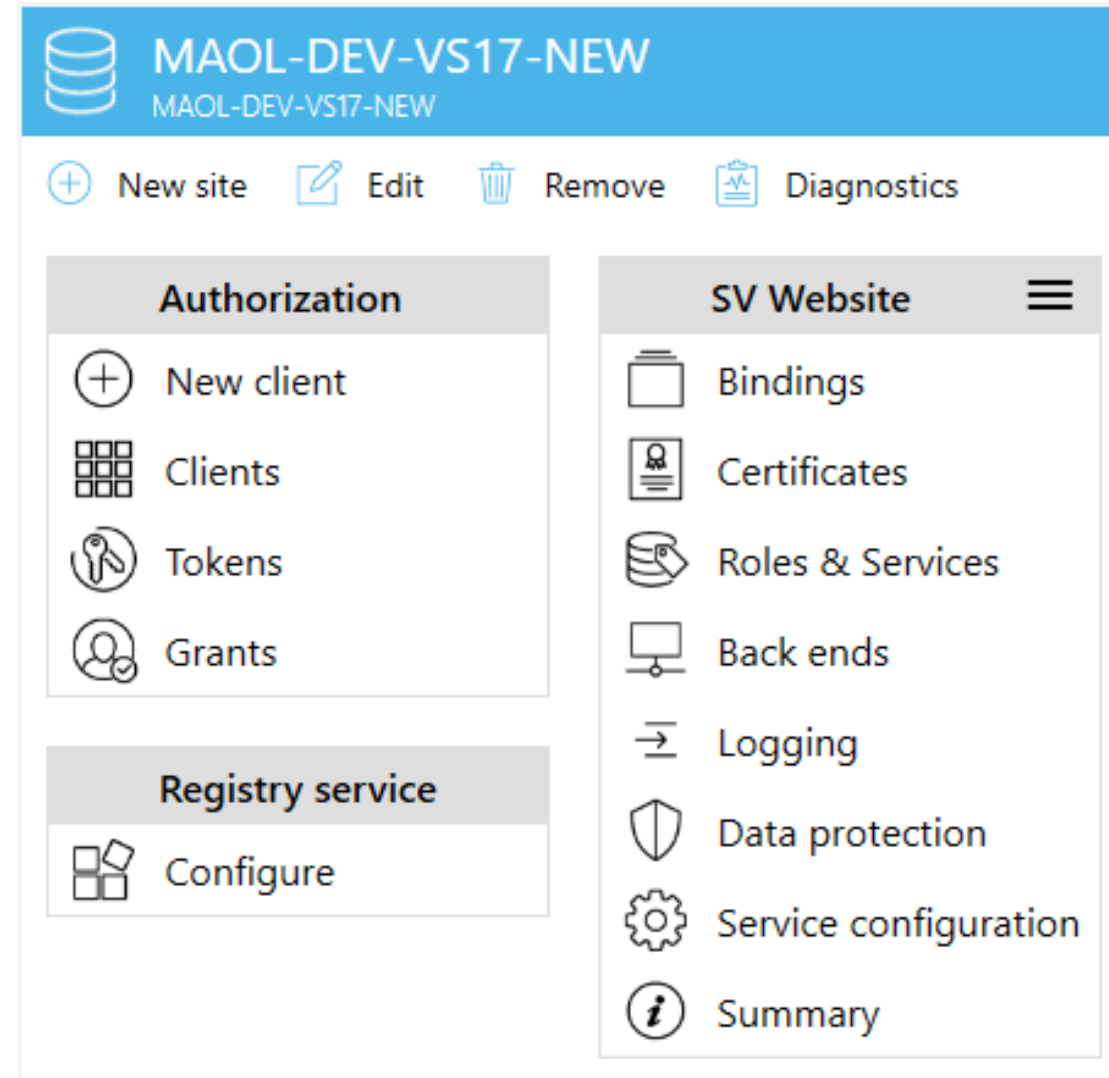
- ✓ Web Deployment Console
  - ✓ Deployment Wizard (Role based)
  - ✓ Configuration Management
  - ✓ Certificate Management
  - ✓ System Monitoring Configuration

The screenshot shows the MAOL-DEV-VS17-NEW Web Deployment Console interface. At the top, there is a blue header with the text "MAOL-DEV-VS17-NEW" and a database icon. Below the header, there are four action buttons: "New site" (with a plus icon), "Edit" (with a pencil icon), "Remove" (with a trash icon), and "Diagnostics" (with a monitor icon). The main content area is divided into three sections: "Authorization", "Registry service", and "SV Website". The "Authorization" section contains four items: "New client" (with a plus icon), "Clients" (with a grid icon), "Tokens" (with a key icon), and "Grants" (with a person icon). The "Registry service" section contains one item: "Configure" (with a grid icon). The "SV Website" section contains seven items: "Bindings" (with a folder icon), "Certificates" (with a document icon), "Roles & Services" (with a document icon), "Back ends" (with a monitor icon), "Logging" (with a document icon), "Data protection" (with a shield icon), "Service configuration" (with a gear icon), and "Summary" (with an information icon).



# What do we have for that?

- ✓ Web Deployment Console
  - ✓ Registry Service
  - ✓ Oauth2 and Access management
  - ✓ Data Protection Management
  - ✓ Environment Management (Diagnosis)
    - ✓ Replaces and expands
      - ✓ Component registration tool
      - ✓ Sv32 installer (binaries deployment)

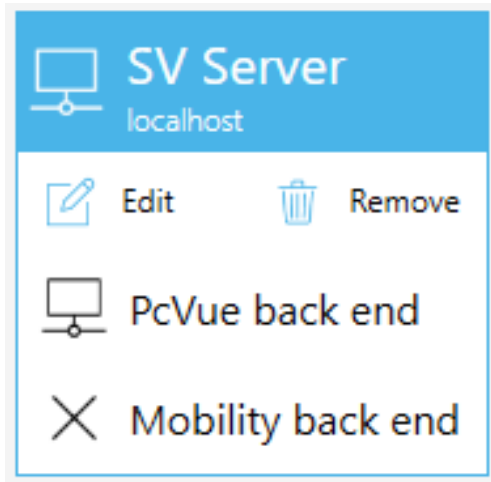


# Target Group

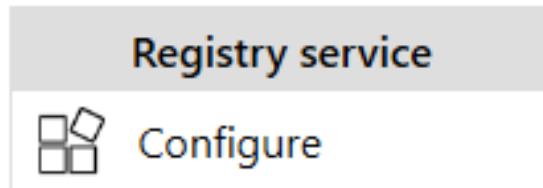
- ✓ Big Projects
  - ✓ Enterprise level IT staff
  - ✓ ARC Informatique services team referent and developers
- ✓ Mid-size to small Projects
  - ✓ Enterprise level IT staff
  - ✓ System integrator SCADA engineers
  - ✓ ARC Informatique services team
- ✓ In Short:
  - ✓ System Administrators / System Integrators



# Server Architecture



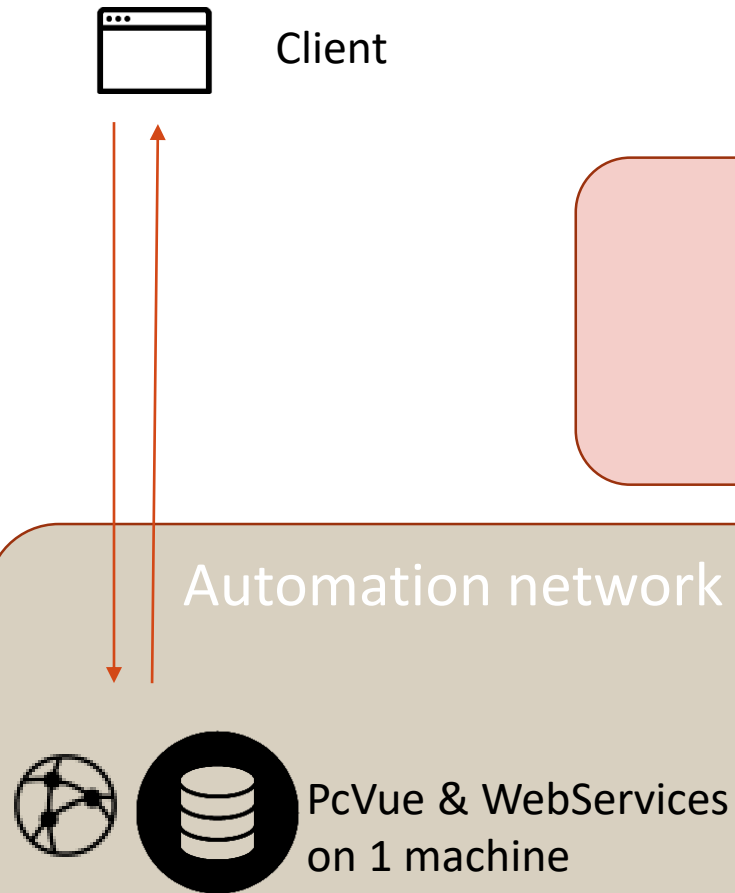
- ✓ Building blocks
- ✓ Back ends
  - ✓ Configure the end points of
    - ✓ Sv32
    - ✓ SvMobileServices Host



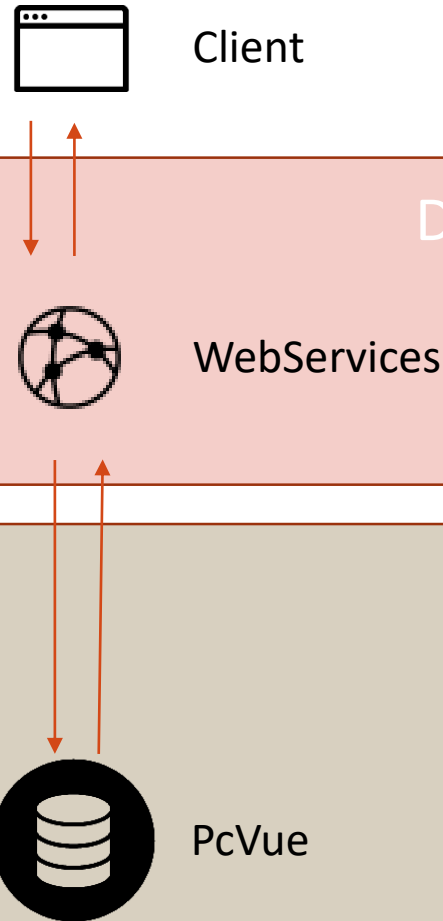
- ✓ Registry Service
  - ✓ Configure end points of the services

# Supported Architectures

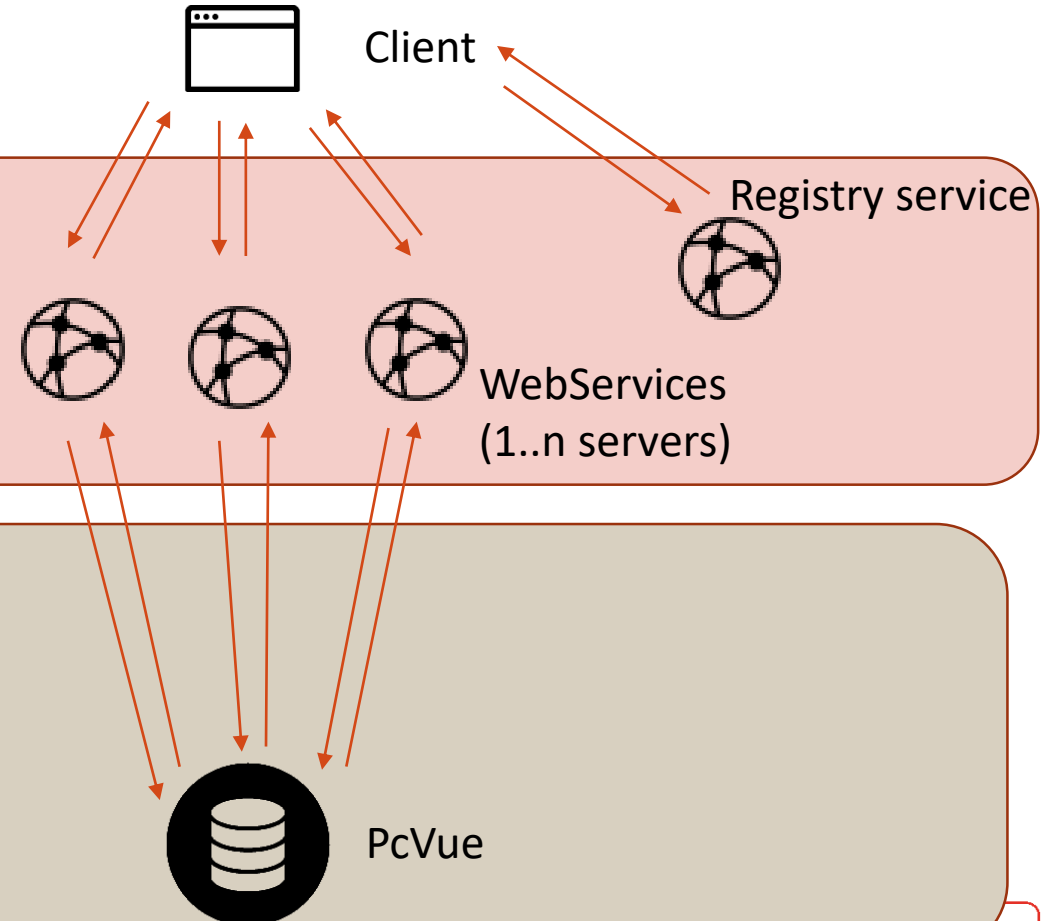
Single Station Architecture



Multistation Architecture

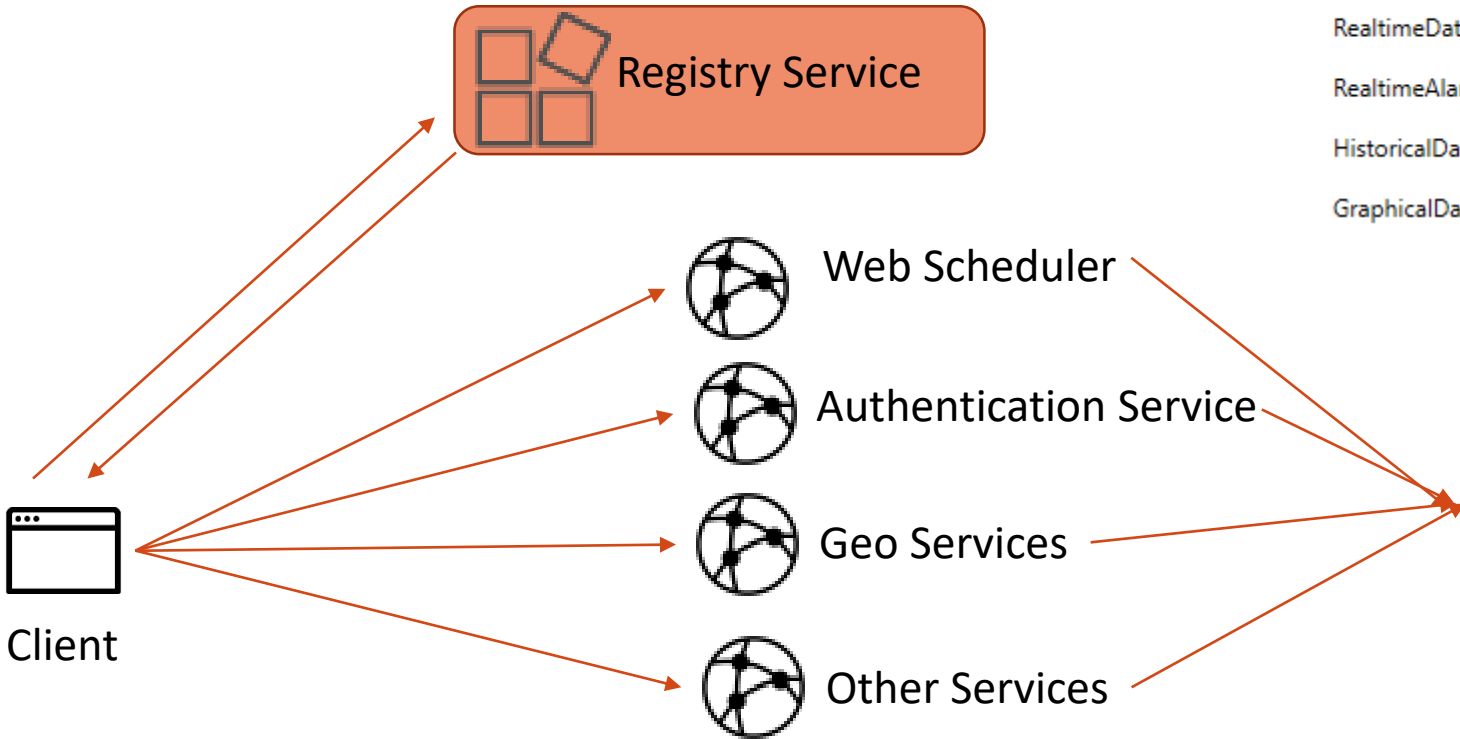


Multistation Architecture



# Registry Service

- ✓ Microservice architecture
  - ✓ Load balancing
- ✓ Dedicated servers for each service or clusters
  - ✓ Performance
  - ✓ Scaling



SV Website

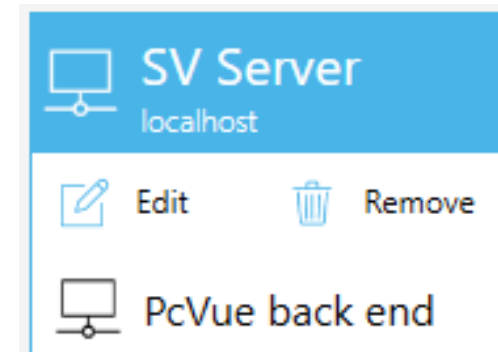
## Registry service



Configure the registry service. The registry service determines which web server provide which services.

Set all **Manual** | Local

OAuth	<input type="text" value="https://authentication.com"/>	<input type="checkbox"/> Manual
RealtimeData	<input type="text" value="https://realtimeservices.com"/>	<input type="checkbox"/> Manual
RealtimeAlarm	<input type="text" value="https://realtimeservices.com"/>	<input type="checkbox"/> Manual
HistoricalData	<input type="text" value="https://realtimeservices.com"/>	<input type="checkbox"/> Manual
GraphicalData	<input type="text" value="https://graphicalservices.com"/>	<input type="checkbox"/> Manual



# Standard and customized deployment

- ✓ **Role-based deployment with Wizard**
- ✓ Deployment of web services and web apps on IIS
  - ✓ Automatic configuration of the IIS during the wizard deployment
  - ✓ Application pool management
  - ✓ Set up of virtual directories and web application folders
  - ✓ Selective installation of only a subset of services and applications in a role-based manner
  - ✓ Installation of web/mobile components binaries (web services & applications)

# Roles




✓ Roles are mostly 1 to 1 with our Products

✓ With custom role only the desired services can be deployed if the knowledge of the user is more advanced, this is only possible in custom mode of deployment wizard

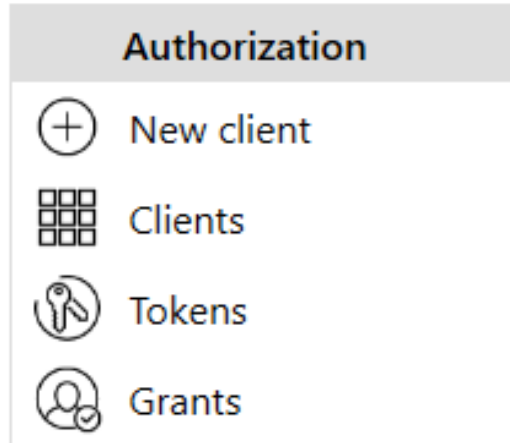
SV Website

## Roles Services

 Select the roles for the site. The corresponding necessary services will be deployed.

	Select	None		All
Registry	<input type="checkbox"/>	No		
Authorization	<input type="checkbox"/>	No		
WebScheduler	<input type="checkbox"/>	No		
WebVue	<input checked="" type="checkbox"/>	Yes		
TouchVue	<input checked="" type="checkbox"/>	Yes		
Web Services Toolkit	<input type="checkbox"/>	No		
Custom	<input type="checkbox"/>	No		
Mobility	<input type="checkbox"/>	No		
Messaging	<input type="checkbox"/>	No		

# Security of the system

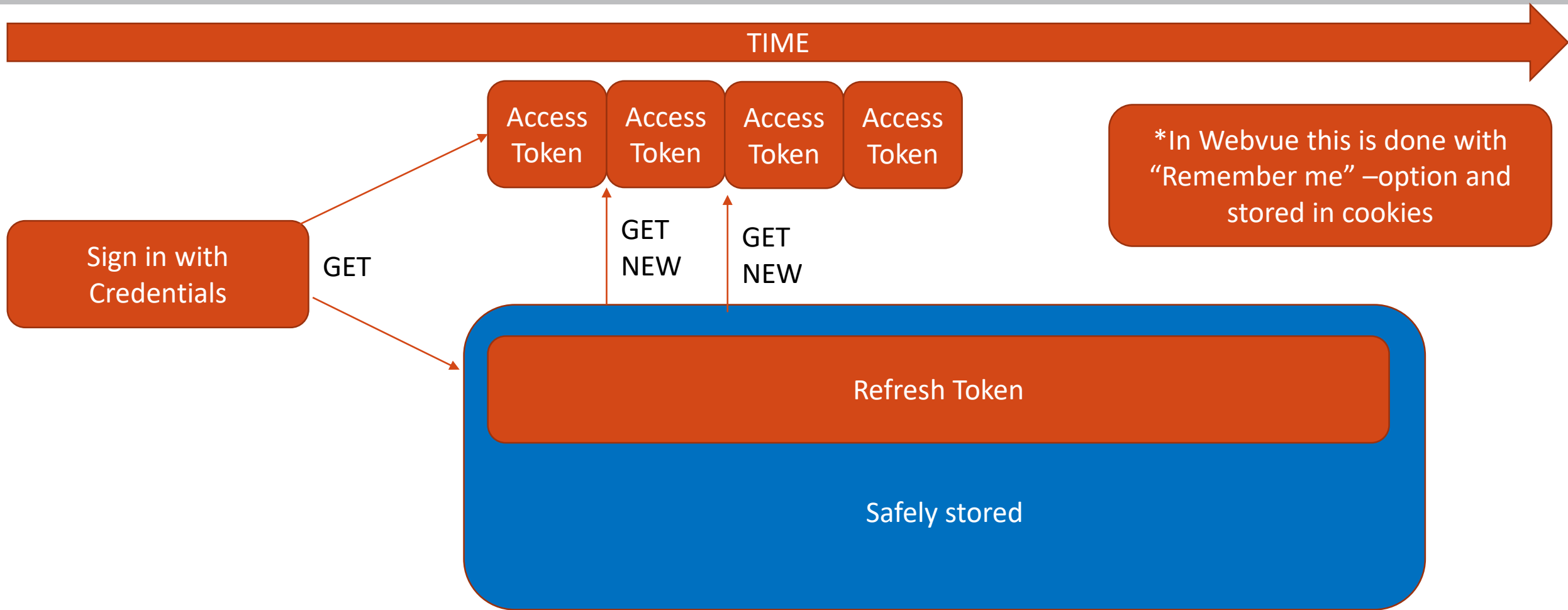


- ✓ User access management
  - ✓ Client registration (i.e. 3<sup>rd</sup> party client)
  - ✓ Client edit / removal
  - ✓ Token revocation
  - ✓ Grants overview / revocation
  - ✓ Access Token- / Refresh Token- lifetime



- ✓ Data Protection management
  - ✓ Establishment and management of a trusted relationship
  - ✓ between apps and services
    - ✓ Data Validation
    - ✓ Data Decryption
    - ✓ More info at:
      - ✓ [https://msdn.microsoft.com/en-gb/library/w8h3skw9\(v=vs.85\).aspx](https://msdn.microsoft.com/en-gb/library/w8h3skw9(v=vs.85).aspx)

# OAuth2 in a nutshell



- ✓ Access to the services is enabled by access token and a grant
  - ✓ A TOKEN is valid for accessing specific service that is GRANTED to a specific USER
  - ✓ Grant or a Token can always be revoked from the user access management

# System monitoring

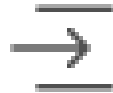
## ✓ Diagnosis



- ✓ IIS Auditing / Diagnosis
- ✓ Detect proactively errors on configuration, before going to production
- ✓ Diagnostics runnable on IIS level and Site level
- ✓ Check IIS configuration and identify the most common mistakes
- ✓ Export the configuration for documentation purpose and auditing

| IIS Manager | Event Viewer | Log Monitor |

## ✓ Logging, Tracing



- ✓ Set up desired logging levels
- ✓ Integrate with syslog
- ✓ Integrate with Windows event viewer
- ✓ Integrate with Log Monitor

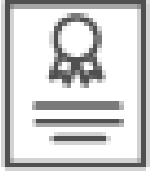
### Logging

**i** Select the logging range. The Log Monitor helps you view and analyze your logs. Logging applies to all deployed services.

Custom | All | None



# Certificate management



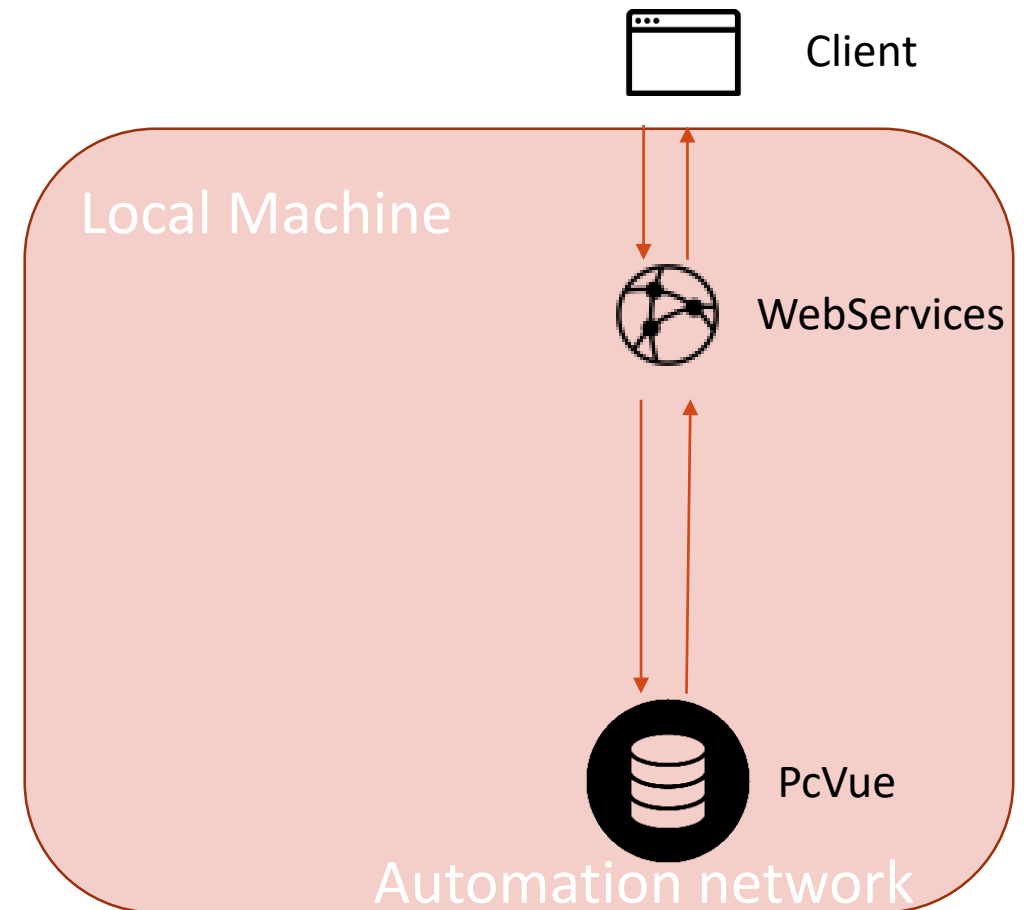
- ✓ Creation of Certificate Signing Requests
- ✓ Certificate import
- ✓ Certificate renewal
- ✓ Creation of self-signed certificates
- ✓ Lets Encrypt<sup>®</sup>



- ✓ Limited performance may be experienced when using invalid (partly trusted or untrusted) certificates because files are not cached by the web client (web browser).
- ✓ Warning about certificate expiration

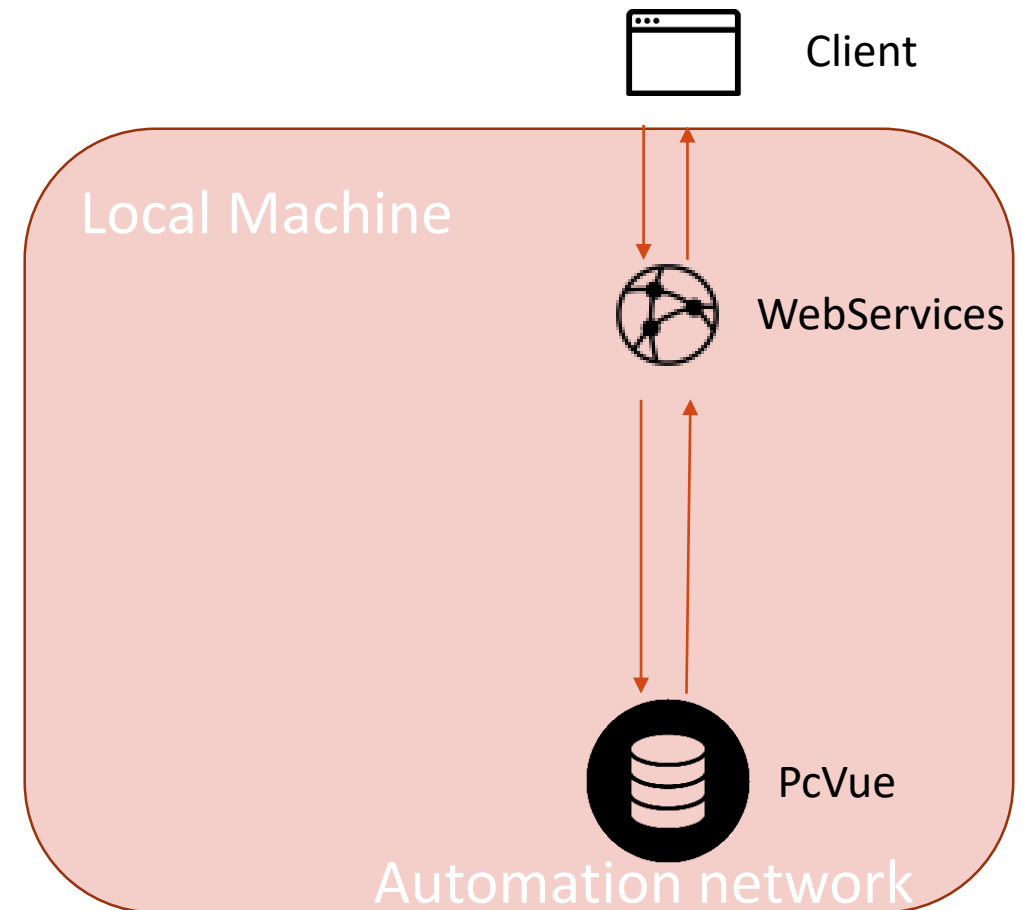
# Demo-time

- ✓ We will install the WebClient using Single Station Architecture.
- ✓ Please make sure you have an installation of PcVue running on your local machine.



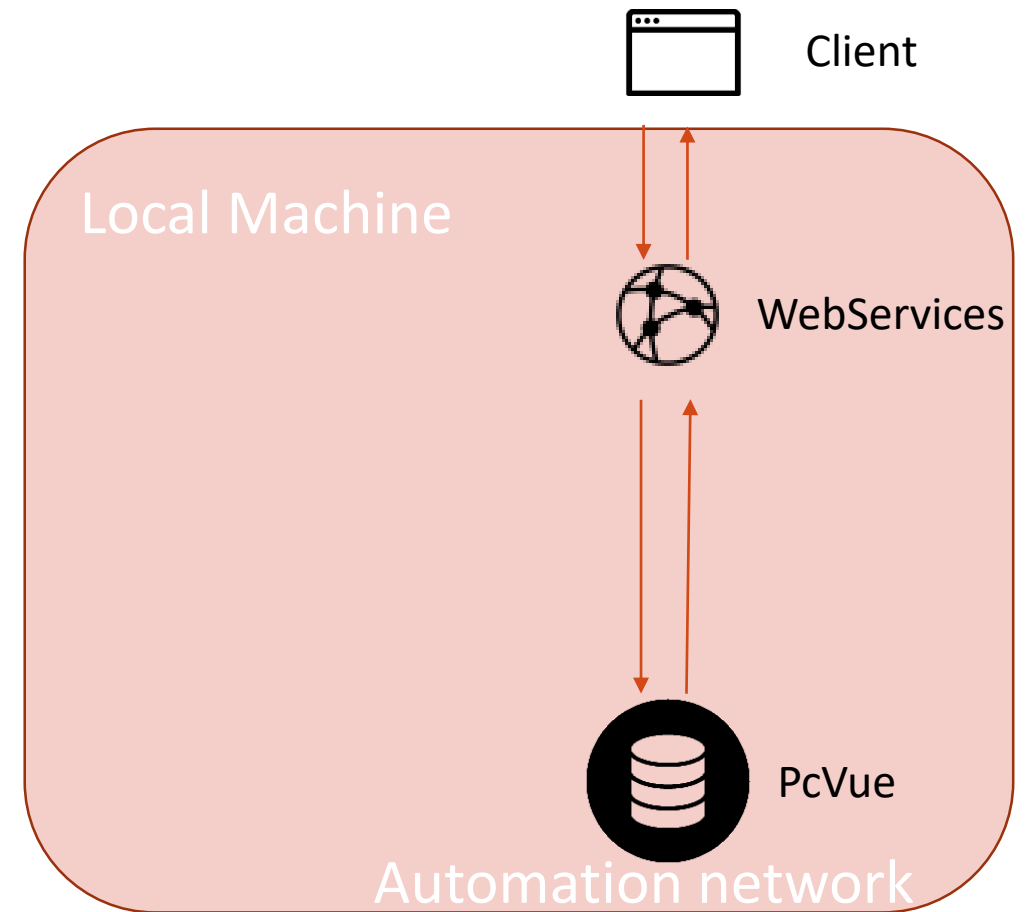
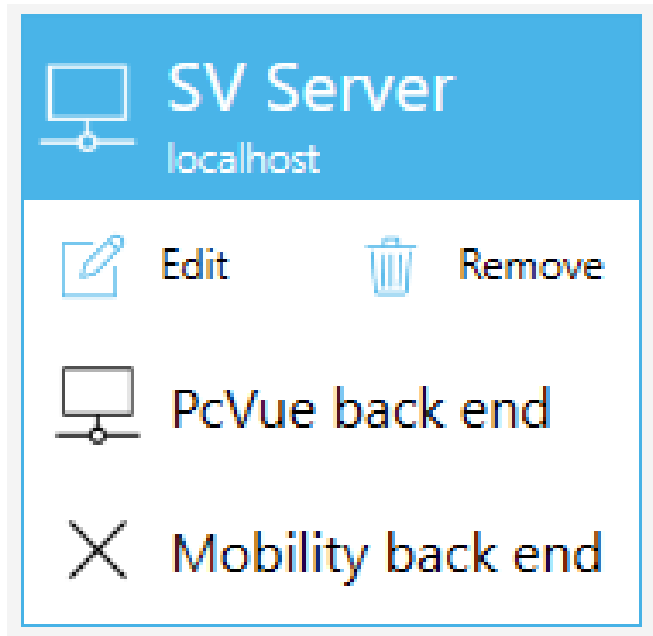
# Demo-time

- ✓ C:\Arc Informatique folder
  - ✓ DEV-User must have write rights.
- ✓ Upgrade the version to the latest nightly build
  - ✓ SV
  - ✓ SV\_WebBackend
  - ✓ SV\_WebDeploymentTools
- ✓ Start PcVue
  - ✓ Project DEMO\_EN



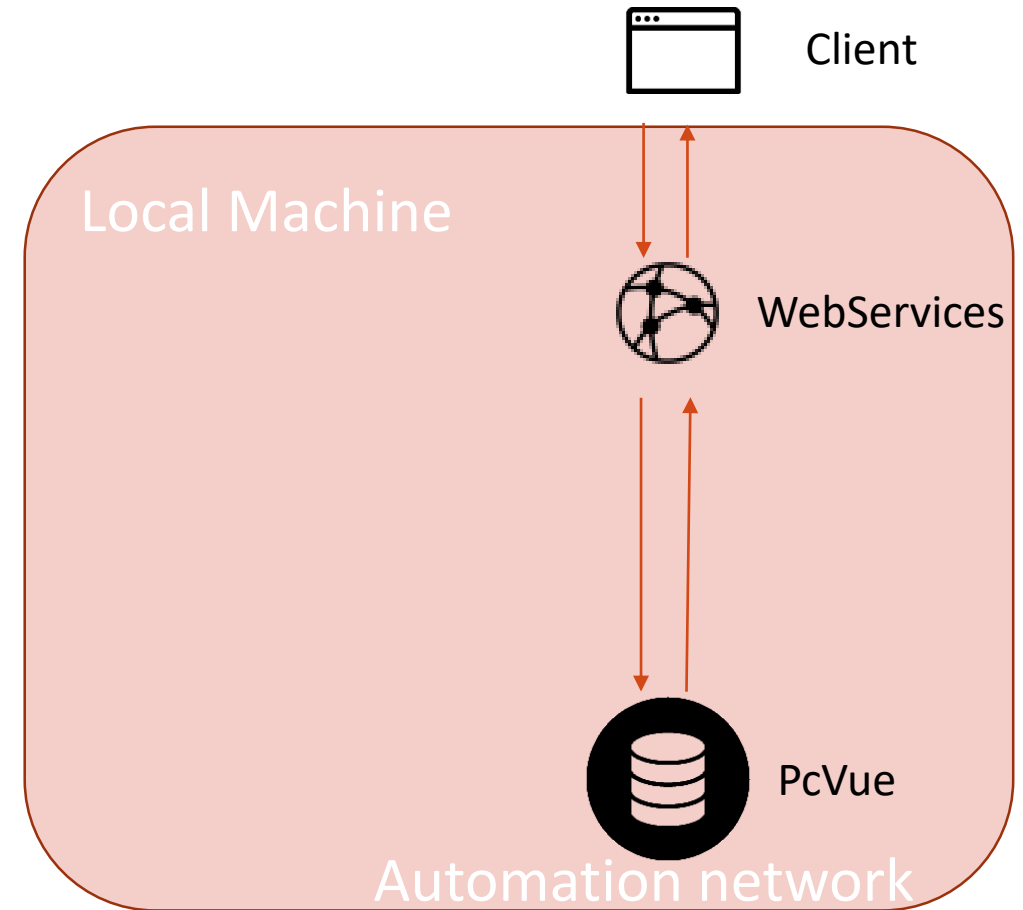
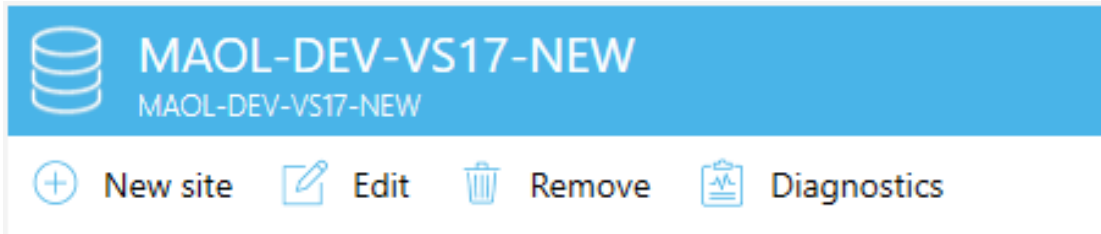
# Demo-time

- ✓ Please select the Back ends -tab
  - ✓ Please add PcVue as your Back end
    - ✓ (You can use localhost, since PcVue is running locally)



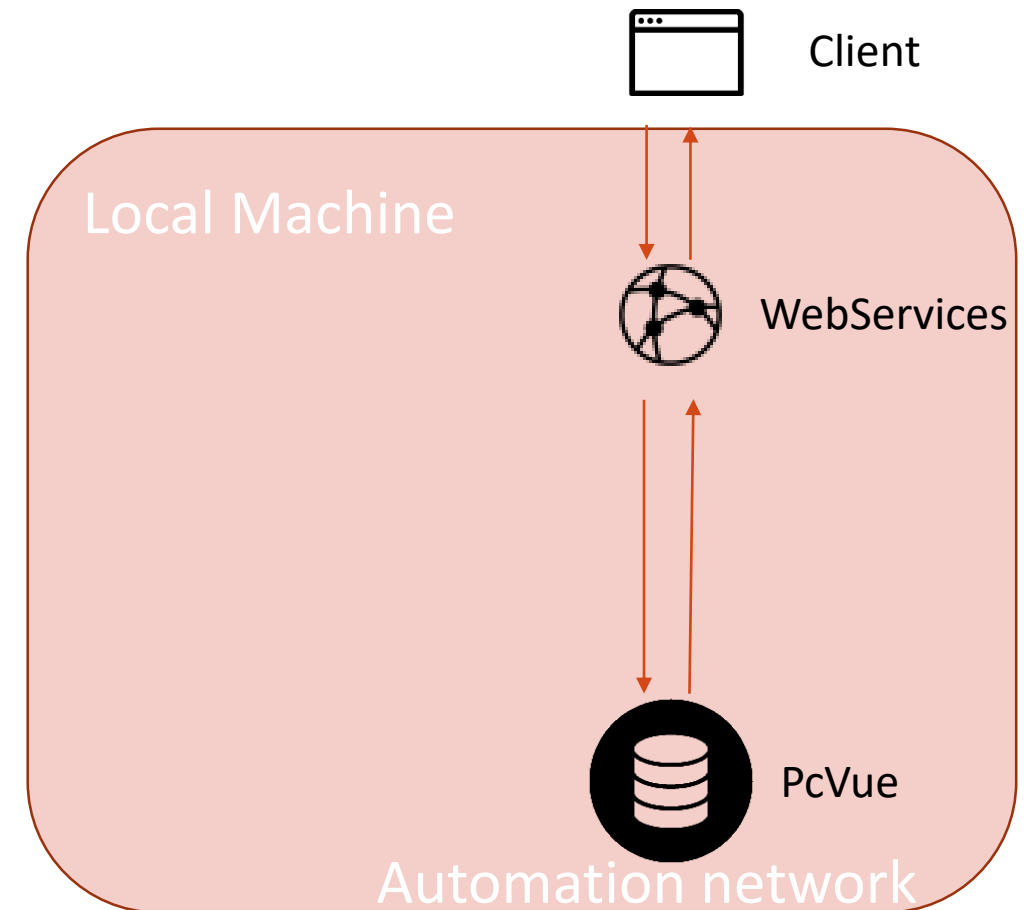
# Demo-time

- ✓ Please navigate back to the Web Servers -tab
  - ✓ Create a new Server
    - ✓ Select no to not deploy the site
    - ✓ You can see a new toolbar
    - ✓ Click Diagnostics to check your IIS configuration



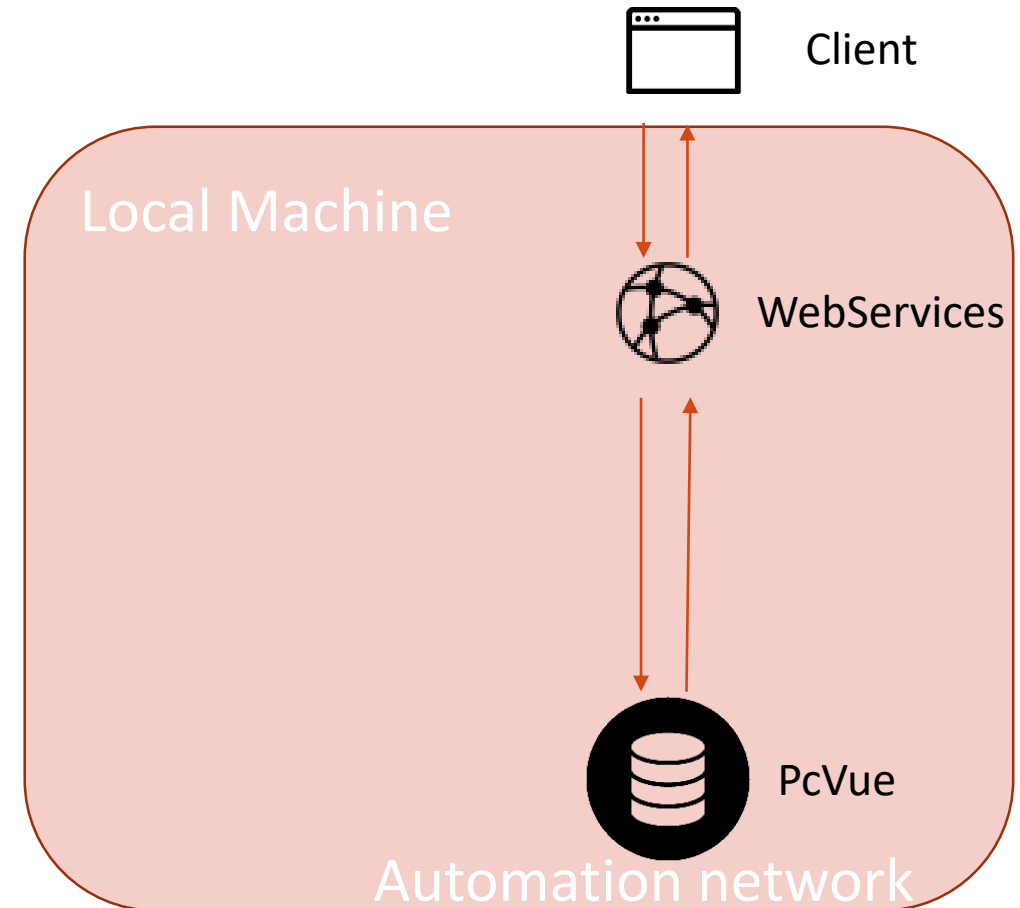
# Demo-time

- ✓ Please open ServerManager
  - ✓ Dashboard – 2) Add roles and features
    - ✓ Features -> .NET 4.6
    - ✓ Server Roles
      - ✓ Install / Uninstall the needed features
- ✓ Repeat until you have no errors on diagnostics.
- ✓ ! Make sure WebDAV is not ticked in Common HTTP Features



# Demo-time

- ✓ Please create a new Site
  - ✓ Select Standard Mode
  - ✓ Configure a local IP-address as binding
    - ✓ Bind using hostname - Off
  - ✓ Please create a self signed certificate to be used
  - ✓ Choose the WebVue role to be deployed
- ✓ Click Deploy and everything should be green
- ✓ Click Service Configurations
  - ✓ Click Browse on WebClient to check Webvue is running fine
- ✓ Credentials
  - ✓ webvue\_en
  - ✓ webvue\_en



WebVue®



12

Lighter. Faster. Better.

## Full native **HTML5-based** client

### Advantages over Java based client

- ✓ Better and faster graphics rendering
- ✓ Modern user experience
- ✓ Modern Look ' n' Feel
- ✓ User context / Session variables
- ✓ Cross-browser compatibility for desktop and mobile web browsers
- ✓ Less resource intensive
- ✓ More secure



## Full native **HTML5-based** client

### Full-featured

- ✓ Pure HTML / JavaScript
- ✓ IT friendly – Secured
- ✓ Mobile friendly
- ✓ No specific development for mimics
- ✓ Cross-platform
- ✓ Event driven – faster
- ✓ Scalable & open



## Benefits for the **end user**

- ✓ Zero installation, zero configuration
- ✓ Better performance, better responsiveness
- ✓ Ability to monitor mimics on any device with a web browser
- ✓ Ability to monitor multiple mimics concurrently on multiple screens



# Web Deployment Console difficult topics

- ✓ OS supported
  - ✓ **Windows Server 2012** and Windows 8 - IIS 8.0
  - ✓ **Windows Server 2012 R2** and Windows 8.1 - IIS 8.5
  - ✓ **Windows Server 2016** (Recommended)
  - ✓ and **Windows 10** - IIS 10.0
- ✓ OS not supported (for the moment)
  - ✓ Windows Server 2008 R2 – IIS 7.5
  - ✓ Windows 7 – IIS 7.5
- ✓ Workstation OS – limited to 20 connection
- ✓ IIS < 8 – No WebSockets



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