

# **PLC Next Web-Server for WebVisit HMI – Howto copy HMI**

## **Part: Manual**

# **545.10**

# Version

Version	Date	Comment	Author
1.00	23.01.20	First Version	ma
1.01	07.02.20	Add information for OPC UA server configuration.	ma
1.02	10.02.20	OPC UA variable configuration	ma
1.03	10.03.20	Deactivate user authentication	ma
1.04	08.04.20	Reboot	ma
1.05	18.09.20	Add port authentication	ma
1.06	16.11.20	Add information for Alarm/Trend and URL	ma
1.07	11.01.21	Add addressing information	ma
1.08	20.05.21	Add Scada Editor project information	ma
1.09	27.05.21	Update ua_auth.xml	ma

# Content

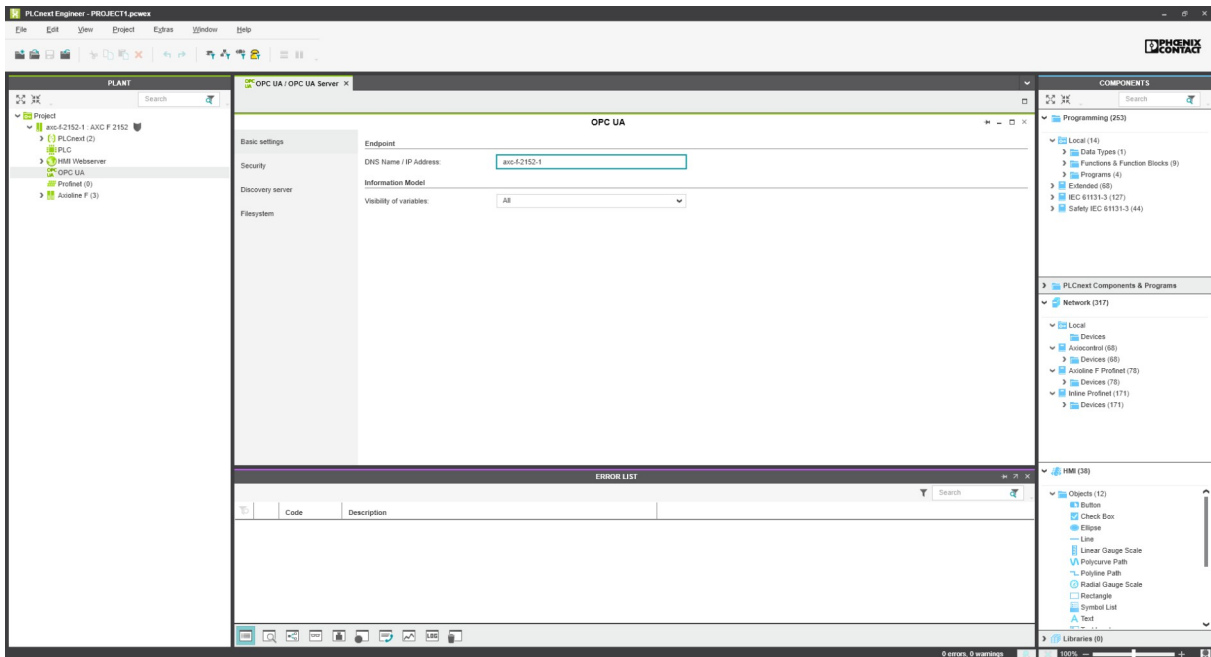
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# 1. Introduction

With application Web-Server for WebVisit HMI you can use WebVisit HMIs with PLCnext platform.

## 2. Prepare PLCnext Engineer Project

You need to enable opc ua variable visibility to all. Select OPC UA on left side. Goto register “Basic settings”. Select for Visibility of Variables “All”.



Select OPC on left side. Change to register Data List. Set OPC checkbox for all variables you want use in HMI.

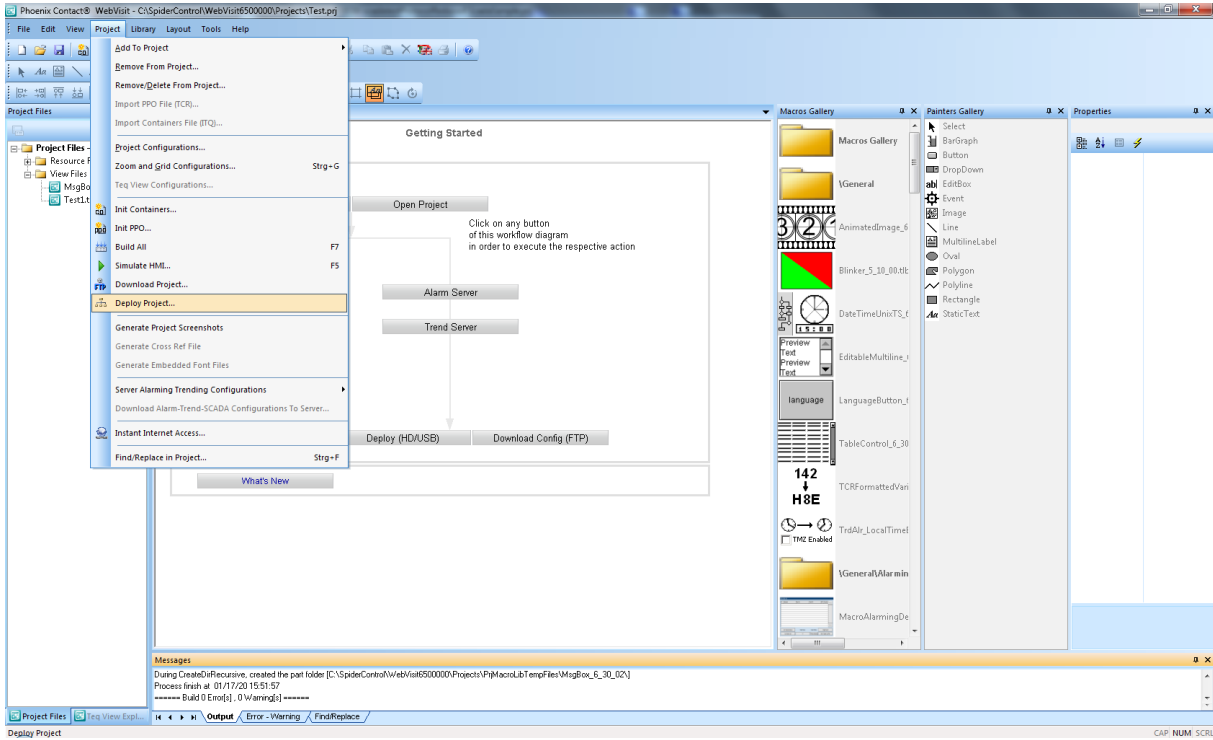
The screenshot displays the 'Data List' configuration window in the PLCSnext Engineer software. The window is titled 'OPC UA / OPC UA Server' and shows a list of variables to be registered for the HMI. The 'OPC' column contains checkboxes, all of which are checked, indicating that all listed variables are selected for OPC registration.

Variable (PLC)	Type	Usage	Comment	Int	Ratio	OPC	Unit	Profibus	Process Data Item	HMI Tag
axc-42152-1 / PLC.TemperatureMaximum	INT	Global		INT#60		<input checked="" type="checkbox"/>			Select Process Data Item here	TemperatureM
axc-42152-1 / PLC.TemperatureCurrent	INT	Global		INT#0		<input checked="" type="checkbox"/>			Select Process Data Item here	TemperatureC
axc-42152-1 / PLC.TemperatureMinimum	INT	Global		INT#50		<input checked="" type="checkbox"/>			Select Process Data Item here	TemperatureM
axc-42152-1 / PLC.LevelCurrent	INT	Global		INT#0		<input checked="" type="checkbox"/>			Select Process Data Item here	LevelCurrent
axc-42152-1 / PLC.LevelMinimum	INT	Global		INT#200		<input checked="" type="checkbox"/>			Select Process Data Item here	LevelMinimum
axc-42152-1 / PLC.LevelMaximum	INT	Global		INT#60		<input checked="" type="checkbox"/>			Select Process Data Item here	LevelMaximum
axc-42152-1 / PLC.ActiveMode	SFC_OP...	Global		SFC_OPERA...		<input checked="" type="checkbox"/>			Select Process Data Item here	ActiveMode
axc-42152-1 / PLC.ActiveSteps	STATES_...	Global				<input checked="" type="checkbox"/>			Select Process Data Item here	ActiveSteps
axc-42152-1 / PLC.ErrCode	INT	Global		INT#0		<input checked="" type="checkbox"/>			Select Process Data Item here	ErrCode
axc-42152-1 / PLC.ContainerStatus	STRING	Global		*		<input checked="" type="checkbox"/>			Select Process Data Item here	ContainerStat
axc-42152-1 / PLC.ContainerValues	STRING	Global		*		<input checked="" type="checkbox"/>			Select Process Data Item here	ContainerValu
axc-42152-1 / PLC.ContainerStates	Container...	Global				<input checked="" type="checkbox"/>			Select Process Data Item here	ContainerStat
axc-42152-1 / PLC.ContainerLevelMonitoring	Container...	Global		ContainerStar...		<input checked="" type="checkbox"/>			Select Process Data Item here	ContainerStat
axc-42152-1 / PLC.ContainerTrends	LongTer...	Global				<input checked="" type="checkbox"/>			Select Process Data Item here	ContainerTren
axc-42152-1 / PLC.ContainerStart	BOOL	Global		TRUE		<input checked="" type="checkbox"/>			Select Process Data Item here	
axc-42152-1 / PLC.ApplicationStart	BOOL	Global		FALSE		<input checked="" type="checkbox"/>			Select Process Data Item here	
axc-42152-1 / PLC.EnvironmentOK	BOOL	Global		FALSE		<input checked="" type="checkbox"/>			Select Process Data Item here	
axc-42152-1 / PLC.PressureOK	BOOL	Global		FALSE		<input checked="" type="checkbox"/>			Select Process Data Item here	
axc-42152-1 / PLC.PumpsStandby	BOOL	Global		FALSE		<input checked="" type="checkbox"/>			Select Process Data Item here	

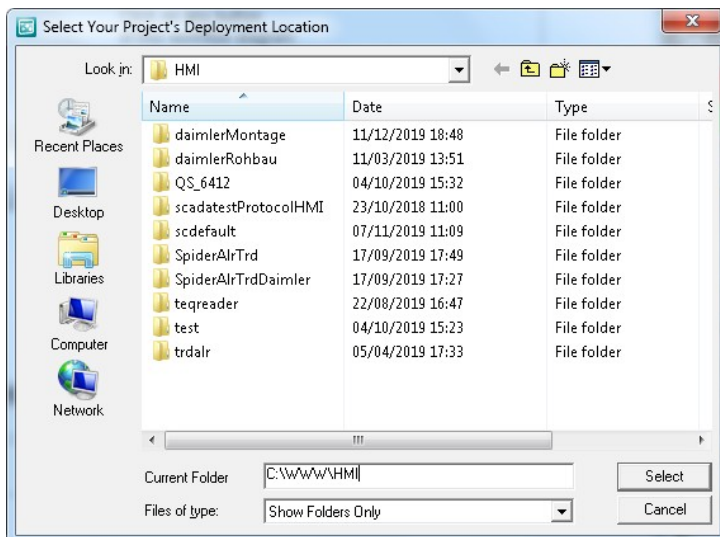
The interface also shows an 'ERROR LIST' at the bottom, which is currently empty. On the right side, there is a 'COMPONENTS' panel with a search bar and a list of available HMI components such as Buttons, Check Boxes, and various Gauge Scales.

### 3. Copy files with WebVisit

Please install PLC Next Web-Server for WebVisit HMI on your device and start application on target. Open your HMI project with software WebVisit. Select option “Deploy Project ...” (German-Version: Projekt ausliefern)



Select output folder on your local PC to deploy HMI files.



Copy complete deployed files to folder /opt/plcnext/appshome/data/60002172000191/HMI on PLCnext controller via SSH/SFTP. You can use e.g. software FileZilla. It is important to copy files of deploy folder SpiderAlrTrd/Config into /opt/plcnext/appshome/data/60002172000191/HMI/SpiderAlrTrd/Config.

If you have activated port authentication in web management tool of your PLCnext you need to edit file ua\_auth.xml in folder /opt/plcnext/appshome/data/60002172000191. You can access the file via SSH/SFTP.

File ua\_auth.xml has following content:

```
<?xml version="1.0" encoding="utf-8"?>
<login>
<!-- please remove this line to activate user authentication
<ua_auth user='admin' password='password' certificate='ua_cert.der' private_key='ua_key.pem'
security_mode=2 policy='Basic256Sha256' />
please remove this line to activate user authentication -->
</login>
<!-- UA Security Settings
security_mode is either 0: Unspecified, 1: None, 2: Sign, 3: Sign & Encrypt
policy is either 'None', 'Basic128Rsa15', 'Basic256' or 'Basic256Sha256'
```

Remove the yellow lines above and you need to replace string password against your individual password.

Copy file ua\_auth.xml to folder /opt/plcnext/appshome/data/60002172000191 on PLCnext controller via SSH/SFTP.

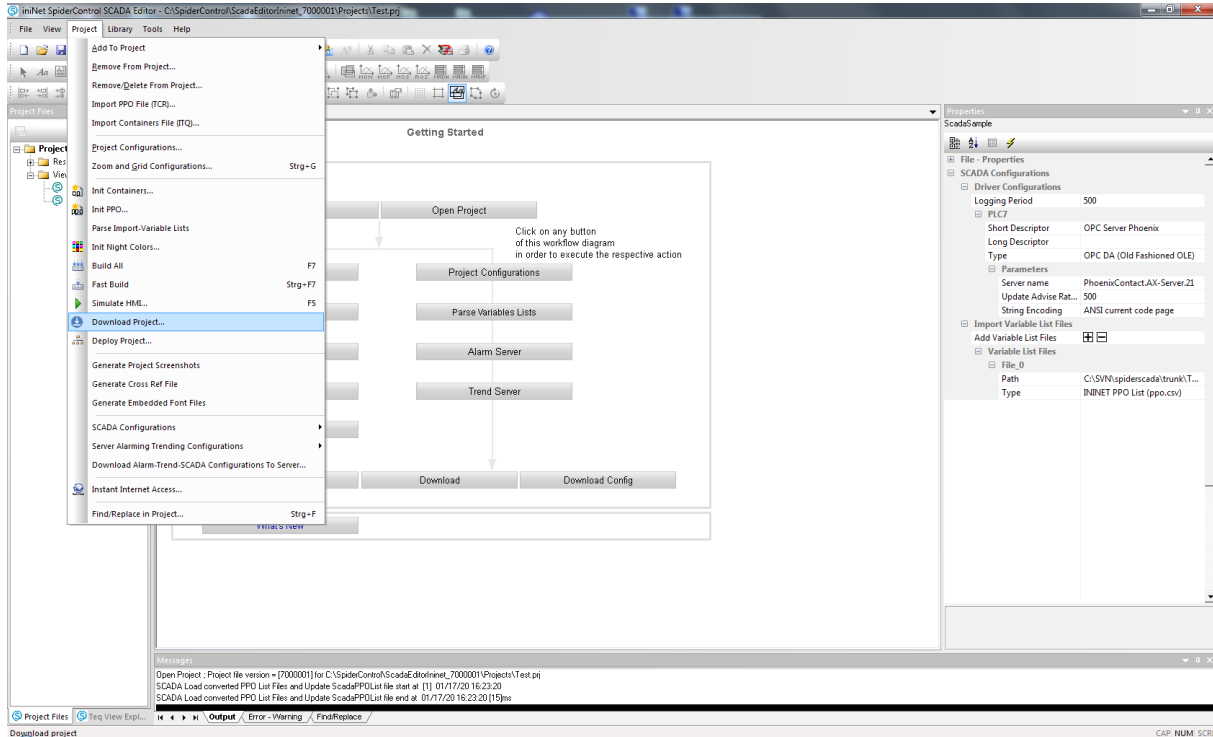
Reboot software of PLC Next to activate new HMI settings. You can access your HMI by using URL <http://IP:8080/entry.html> where IP is your ip address of your PLC Next hardware.

**Please note:**

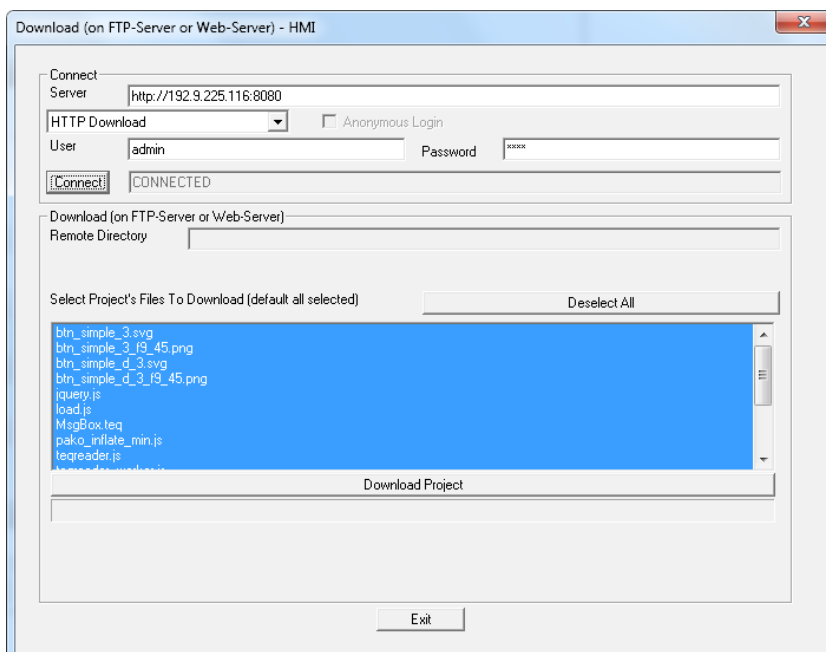
- 1.) If you are disconnecting power supply after copying files these files will loose sometimes their content. Please use software reboot command to avoid this issue.
- 2.) Pressing Stop and Start app button in PLC Next WBM interface deletes all HMI files.
- 3.) The password of ua\_auth.xml file will be hashed automatically after first reboot of server application to avoid illegal access.
- 4.) If you change admin password in PLCnext web management tool you although need to update content of file ua\_auth.xml.
- 5.) OPC variables beginning with prefix ns=4;s=Arp.Plc.Eclr/ can be accessed with relative addressing. For variables with another prefix is a complete addressing necessary e.g. for ns=3;s=ThisDevice.Model

## 4. Copy files with iniNet SCADA-Editor

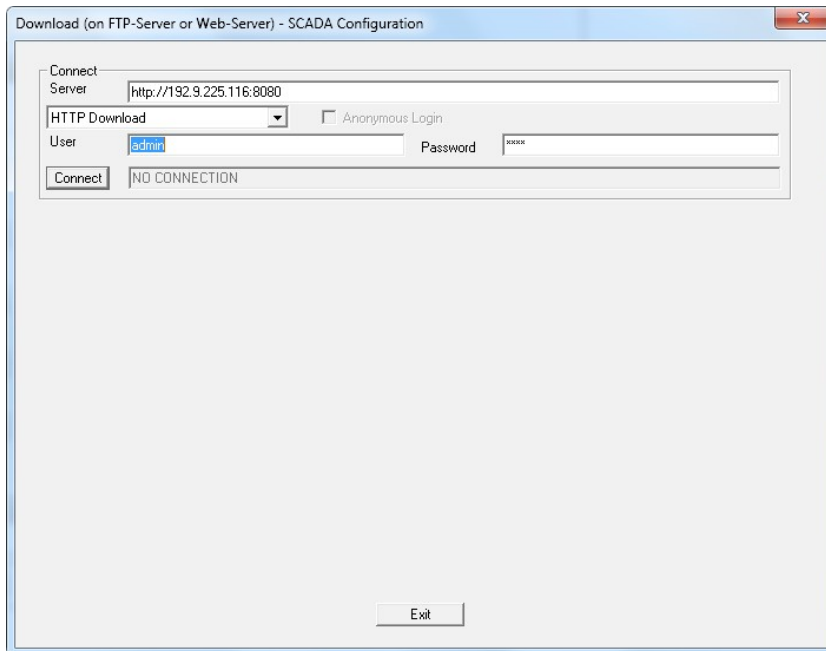
Please install PLC Next Web-Server for WebVisit HMI on your device and start application on target. Open your HMI project with software WebVisit. Select option “Download Project ...”



Select option HTTP Download and set server URL, user name and password. Press Connect button and press Download Pages to copy HMI files to PLCnext. Push button Exit to close window.



Skip Configuration Download. Press button Exit.



If you have activated port authentication in web management tool of your PLCnext you need to edit file `ua_auth.xml` in folder `/opt/plcnext/appshome/data/60002172000191`. You can access the file via SSH/SFTP.

File `ua_auth.xml` has following content::

```
<?xml version="1.0" encoding="utf-8"?>
<login>
<!-- please remove this line to activate user authentication
&ltua_auth user='admin' password='password' certificate='ua_cert.der' private_key='ua_key.pem'
security_mode=2 policy='Basic256Sha256' />
please remove this line to activate user authentication -->
</login>
<!-- UA Security Settings
security_mode is either 0: Unspecified, 1: None, 2: Sign, 3: Sign & Encrypt
policy is either 'None', 'Basic128Rsa15', 'Basic256' or 'Basic256Sha256'
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Remove the yellow lines above and you need to replace string password against your individual password.

Copy file `ua_auth.xml` to folder `/opt/plcnext/appshome/data/60002172000191` on PLCnext controller via SSH/SFTP. You can use e.g. software FileZilla.

Reboot software of PLC Next to activate new HMI settings.

**Please note:**

- 1.) If you are disconnecting power supply after copying files these files will loose sometimes their content. Please use software reboot command to avoid this issue.
- 2.) Pressing Stop and Start app button in PLC Next WBM interface deletes all HMI files.
- 3.) The password of `ua_auth.xml` file will be hashed automatically after first reboot of server application to avoid illegal access.



- 4.) If you change admin password in PLCnext web management tool you although need to update content of file ua\_auth.xml.
- 5.) OPC variables beginning with prefix ns=5;s=Arp.Plc.Eclr/ can be accessed with relative addressing. For variables with another prefix is a complete addressing necessary e.g. for ns=3;s=ThisDevice.Model