



3S-Smart Software Solutions GmbH

CODESYS Automation Server and CODESYS Automation Server Connector

Last update: Beta version V1.0.0, 04/30/2019

www.codesys.com

3S-Smart Software Solutions GmbH

Memminger Straße 151

87435 Kempten

Germany

Telefon: 0049(0)831/54031-0

Telefax: 0049(0)831/54031-50

E-Mail: info@codesys.com

Internet: www.codesys.com

1, en_US

Table of contents

1	CODESYS Automation Server	4
1.1	Getting Started.....	4
1.2	Creating an Edge Gateway on the Server and Entering Controllers.....	5
1.3	Uploading a Boot Application to the Server and Deploying to a Controller	7
1.4	Creating a Template for the Deployment of the Appli- cation to Controllers.....	9
1.5	Updating the Project and Boot Application on Server and Controller.....	11
1.6	Reading and Writing of Variables on the Controller....	12
1.7	Exchanging the Controller.....	13
1.8	Reference: CODESYS Automation Server Con- nector	15
1.8.1	Commands.....	15
1.9	Reference: CODESYS Automation Server	21
1.9.1	Views.....	21
2	Index.....	27

1 CODESYS Automation Server

1.1 Getting Started

To use the CODESYS Automation Server platform for communication with controllers and the CODESYS Development System, you need the following products which are available in the CODESYS Store:

- **CODESYS Automation Server Tenant**

With the tenant, you get access to the CODESYS Automation Server platform for communicating from the CODESYS Automation Server with network controllers.

- **CODESYS Automation Server Connector:**

Add-on for the CODESYS Development System in order to communicate with the CODESYS Automation Server from the CODESYS Development System

How to order the CODESYS Automation Server tenant in the CODESYS Store

1. ➤ Open the CODESYS [Store](#))
2. ➤ In the CODESYS Store, click the CODESYS Automation Server tab.
3. ➤ Click the CODESYS Automation Server Tenant product.
⇒ Detailed product information is shown.
4. ➤ In the “*Host name (used in the URL)*” field, type in a unique name for your CODESYS Automation Server Tenant.
For “*Platform*” and “*Region*”, list boxes will be available in a later version.
5. ➤ Click “*Order now*”.
6. ➤ In the next step, provide the payment details, accept 3S-Smart Software Solutions GmbH's terms and conditions and privacy policy, and give your consent for your business information to be shared with third parties for specific purposes.
7. ➤ Then click “*Buy now*” to complete the order.
8. ➤ Afterwards, you get a confirmation email for your order and an email with the activation link for your CODESYS Automation Server Tenant "<host name>".

In the confirmation email, you will find a link to your user account where you can always view the current article data and cost information for your CODESYS Automation Server Tenant. In the user account, you can also make changes and cancel your CODESYS Automation Server Tenant.

- 9.** ➤ The first time you connect to the CODESYS Automation Server, in the *"Add initial admin account"* dialog, type in your email address as username and specify a secure unique password. The password has to meet the following requirements:
- At least 8 characters long
 - At least 6 different characters
 - At least one number (0–9)
 - At least one uppercase letter
 - At least one lowercase letter
- Then click the *"Create initial administrator"* button.
- ⇒ Now you can log in to the CODESYS Automation Server using your email address and password.
- 10.** ➤ Then, according to the instructions in this help, you can enter controller on the CODESYS Automation Server and connect the server to them. Using the CODESYS Automation Server Connector package, you can now add an edge gateway from the CODESYS Development System to the server and upload CODESYS Development System projects and boot applications to the CODESYS Automation Server.

1.2 Creating an Edge Gateway on the Server and Entering Controllers

Creating a gateway on the server and creating a connection to the controller

Requirements

- Using the CODESYS Automation Server Tenant, you have created a user account with a user name and password for accessing the CODESYS Automation Server. For the exact procedure, see the "Getting Started" chapter.
- The CODESYS Automation Server Connector package is installed in the CODESYS Development System on your computer.
- The CODESYS Development System is open.
- The gateway that should be added to the server as an edge gateway is running.

- 1.** ➤ In CODESYS, click *"Automation Server ➔ Connect Edge-Gateway"*.
- 2.** ➤ In the *"Connect-Edge Gateway"* dialog, in the *"Edge-Gateway Communication Settings"* area, in the *"Gateways"* list box, select the gateway that should be configured as an edge gateway. The list box contains that gateways that are already configured in CODESYS.

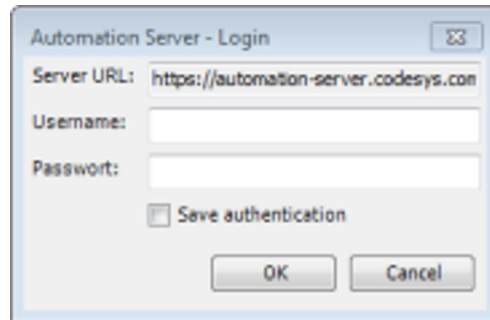
When you select the gateway, CODESYS fills in the *"Address"* and *"Port"* fields automatically.

- 3.** ➤ Click *"Test Connection"* to check if a connection can be established to the specified *"Gateway"*.
- ⇒ CODESYS reports *"Connection is OK"*.

CODESYS Automation Server

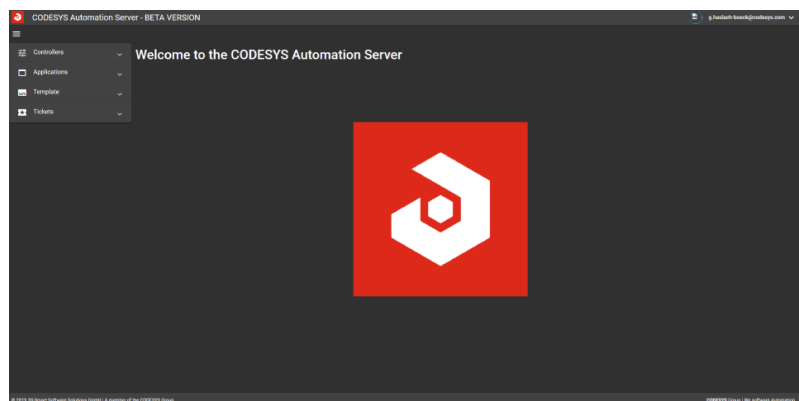
Creating an Edge Gateway on the Server and Entering Controllers

4. ➤ Now specify the missing information in the “*Connect Edge-Gateway*” dialog.
 - “*Sever URL*”: URL of the CODESYS Automation Server
 - “*Name*”: Name of the gateway on the CODESYS Automation Server
 - “*Description*”: Description of the gateway
5. ➤ Click “OK”.
 - ⇒ The following dialog opens in CODESYS for signing in to the CODESYS Automation Server:



You have already specified the “*Server URL*” in the “*Connect Edge-Gateway*” dialog. You cannot change it in this step.

6. ➤ In this dialog, enter your user name and password for the CODESYS Automation Server and click OK.
 - ⇒ A dialog opens with the message: “*Added Edge-Gateway successfully*”.
 - The new edge gateway has been added to the CODESYS Automation Server.
7. ➤ In the “*Sign in*” dialog, use your user name and password to sign in to the CODESYS Automation Server.
 - ⇒ The start page of the CODESYS Automation Server opens.



8. ➤ Click *"Controllers ➔ Gateways"*.
 - ⇒ The recently created gateway is shown and is identified by a solid green circle (which means that it is currently running).
9. ➤ In the next steps, you specify a controller on the CODESYS Automation Server for the new gateway.
10. ➤ To establish the connection from the CODESYS Automation Server to your controller, first make sure that the controller is running. In the menu of the CODESYS Automation Server, click *"Controllers ➔ Network Scan"*.
11. ➤ In the *"Network Scan"* view, select your recently created gateway and click  refresh.
 - ⇒ All available controllers in the network are displayed.
12. ➤ Select your controller from this list.
 - ⇒ The *"Last seen"*, *"Serial"* (serial number), and *"Node address"* information are displayed for this controller.
13. ➤ Click *"Add to server"*.
14. ➤ In the *"Add PLC to Automation Server"* dialog, click *"Add to server"* to confirm.
 - ⇒ The *"Controllers List View"* view opens and also shows the recently added controller. This controller is identified by a solid green circle  (which means that the CODESYS Automation Server is connected to the controller). By contrast, controls that are not currently connected to CODESYS Automation Server are identified by a solid red circle .

See also

-  [Chapter 1.8.1.1 "Command 'Connect Edge-Gateway'" on page 15](#)
-  [Chapter 1.9.1.5 "Automation Server - View 'Controllers - Gateways'" on page 25](#)
-  [Chapter 1.9.1.3 "Automation Server - View 'Controllers - List View'" on page 24](#)

1.3 Uploading a Boot Application to the Server and Deploying to a Controller

Uploading a CODESYS project to the CODESYS Automation Server for the first time

Requirements

- The CODESYS Automation Server Connector package is installed in the CODESYS on your computer.
- Using the CODESYS Automation Server Tenant, you have created a user account with a user name and password for accessing the CODESYS Automation Server. For the exact procedure, see the "Getting Started" chapter.

CODESYS Automation Server

Uploading a Boot Application to the Server and Deploying to a Controller

1. In CODESYS, open the project that you want to upload to the CODESYS Automation Server.
2. In CODESYS, click *Automation Server* → *Connect To Server*.
3. In the *Connect To Server* dialog, specify the *Server URL*, *Project Name* that the project should have on the CODESYS Automation Server, and a *Commit Message*. Then click *OK*.
4. In CODESYS, in the *Automation Server - Login* dialog, specify your *Username* and *Password* for the CODESYS Automation Server. Then click *OK*.

If you select the *Save authentication* option, then the credentials are saved until the next time CODESYS is restarted.

⇒ The source code of your project and the project information are uploaded to the CODESYS Automation Server.

Now your project is listed on the CODESYS Automation Server in *Applications* → *CODESYS Projects*. When you click the *Details* for your project, the *Project details* view opens with the *General* and *Applications* tabs. There is no entry in *Applications* because a boot application of the project has not been loaded to the CODESYS Automation Server yet.

Uploading a boot application to the CODESYS Automation Server and deployed to a controller

Requirements:

- The CODESYS Automation Server Connector package is installed and your CODESYS project has already been uploaded to the CODESYS Automation Server.
- On the CODESYS Automation Server, the *Synchronize Applications* option is selected in the *PLC details* view on the *Configuration* tab. This configuration has been saved there by means of the *Save configuration* command.
- The CODESYS Automation Server is connected to the controller.
To check this, click *Controllers* → *List View* in the CODESYS Automation Server.

1. Open the project in the CODESYS Development System.
2. In the device tree, select the *Application* object and click *Upload boot application to Server* in the context menu.
 - ⇒ The message *Application: upload has completed successfully* is displayed in the message view (*Automation Server* category).

In the CODESYS Automation Server, the boot application is displayed in *Applications* → *Applications* and identified by a solid gray circle ●. This indicates that this boot application does not exist yet on any controller registered on the CODESYS Automation Server.
3. Click the *Details* button for your application.

4. ➤ Click the *“Deploy”* tab.
 - ⇒ Those controllers are displayed which are compatible with the application.
5. ➤ Select the *“Deploy”* option for the controllers where the application should be deployed, and then click the *“Deploy on selected PLCs”* button.
 - ⇒ The *“Deploy completed”* message is displayed and highlighted in green.

Now the controllers where you have deployed the application are listed on the *“Deployed on”* tab.

See also

- 🔗 *“View ‘PLC details’” on page 24*

1.4 Creating a Template for the Deployment of the Application to Controllers

With the help of a template for an application and the commissioning ticket, a service technician can deploy the application on suitable controllers in the specified gateway. The service technician deploys the application on controllers that have not been registered yet on the CODESYS Automation Server.

Requirements

- You are logged in to the CODESYS Automation Server.
- The application for which a template will be created has already been uploaded to the CODESYS Automation Server.

1. ➤ In the CODESYS Automation Server, open the *“Applications ➔ Applications”* view.
 - ⇒ All applications of the CODESYS Automation Server are shown.
2. ➤ Click the *“Details”* button for the application.
 - ⇒ The information about the project and the controller of the application is displayed.
3. ➤ Click *“Create as Template”*.
 - ⇒ The *“Template Structure for Application ID: <no>”* view opens.
4. ➤ Here you can change the displayed names so that they are unique.
 - *“Template name”*: Name of the template
 - *“PLC role name”*: Name of the controller that should be shown on the CODESYS Automation Server in the *“Controllers ➔ List View”* after commissioning the controller.
 - *“App role name”*: Name of the application

5. ➤ Click *"Add template structure"*.
 - ⇒ The message confirms that the template structure has been added.
6. ➤ Open the *"Template → Applications"* view.
 - ⇒ The template that has just been created is displayed.
7. ➤ Click ☒ for the template and then click *"Details"*.
 - ⇒ The following view opens:

Template Application: Application_Test1

General Parameter

Application_Test1

Application details:

Name: Application

Author:

Version:

Description:

Template PLC:

Role Name: PLC_Test1

Device Identification:

Name: CODESYS Control Win V3

Vendor: 3S - Smart Software Solutions GmbH

Type: 4096

Version: 3.5.15.0

Target-ID: 1

Create Commissioning Ticket

8. ➤ Click *"Create Commissioning Ticket"*.
 - ⇒ The *"Create Commissioning Ticket"* view opens and shows the information about the commissioning ticket.

In this view, you can also select a registered service technician.
9. ➤ Select the gateway where the controller will be searched for during commissioning.
10. ➤ Click *"Create Ticket"*.
 - ⇒ The commissioning ticket is created.

11. ➤ Open the “*Tickets* ➔ *All Tickets*” view.
⇒ The template that has just been created is displayed.
12. ➤ Print out the ticket.
With this ticket, the application can now be deployed to a desired controller.
13. ➤ Scan the QR code with a smartphone or tablet, or click the ticket link.
⇒ The “*Commissioning Template PLC with ID: <id number>*” dialog opens.
14. ➤ Type in the serial number of the new controller and a “*Feedback*”, meaning a message to the tenant of the CODESYS Automation Server. Then click “*Commissioning this PLC*”.
⇒ After commissioning, this controller is displayed on the CODESYS Automation Server in “*Controllers* ➔ *List View*” as the name that you specified in Step 4 as “*PLC role name*”.

See also

- 🔗 Chapter 1.9.1.2 “Automation Server - View ‘Applications - Applications’” on page 22
- 🔗 Chapter 1.9.1.6 “Automation Server - View ‘Tickets - All Tickets’” on page 26

1.5 Updating the Project and Boot Application on Server and Controller

Requirements:

- The CODESYS project already exists on the CODESYS Automation Server, and the corresponding project has been changed afterwards in CODESYS.
 - On the CODESYS Automation Server, the “*Synchronize Applications*” option is selected in the “*PLC details*” view on the “*Configuration*” tab.
1. ➤ Open the changed project in CODESYS.
 2. ➤ In CODESYS, click “*Automation Server* ➔ *Synchronize*”.
 3. ➤ In the “*Resolve update conflicts*” dialog, click the “*Keep local changes*” button.
⇒ In the dialog, the text “*content conflict*” is highlighted in green for the application and “*OK*” can be selected.
 4. ➤ Click “*OK*”.

5. ➤ In the *"Push changes to CODESYS Automation Server"* dialog, specify a commit message and click *"Push changes"*.
 - ⇒ In the message view, the successful transfer to the server is reported by *"Commit <number> successful"*.

The project is updated in the CODESYS Automation Server. The update is displayed in the *"Applications ➔ CODESYS Projects"* view for the corresponding project.
6. ➤ To update the boot application on the CODESYS Automation Server also, select the application in the device tree in CODESYS and click *"Upload boot application to server."* in the context menu.
7. ➤ Now the application is identified by the blue symbol, not the green symbol in *"Applications ➔ Application"* on the CODESYS Automation Server. This indicates that there are controllers that do not have the latest state of the boot application.
8. ➤ To update the application on the controllers, click the *"Details"* of the application and open the *"Deploy"* tab.
9. ➤ Select the *"Deploy"* option for the controllers and click the *"Deploy on selected PLCs"* button.
 - ⇒ The color of the circle of the application changes from blue to green when you have updated the application on all controllers. If the application has not been updated on at least one controller, then the symbol remains blue.

1.6 Reading and Writing of Variables on the Controller

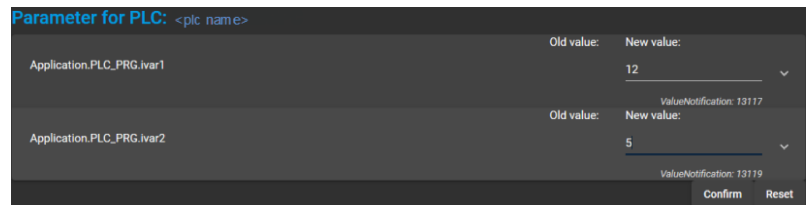
Reading and writing of parameters

Requirement

- Your project contains a symbol configuration with symbols for project variables.
 - The same state of the project and the boot application exists on the CODESYS Automation Server as on the controller.
 - On the CODESYS Automation Server, the *"Synchronize Parameter"* option is selected in the *"PLC details"* view on the *"CONFIGURATION"* tab. Moreover, this configuration has been saved there by means of the *"Save configuration"* command.
 - The CODESYS Automation Server is connected to a controller.
1. ➤ In the CODESYS Automation Server, click *"Controllers ➔ List View"*.
 2. ➤ Click *"Details"* for the corresponding controller.
 - ⇒ The *"PLC Details"* view opens.

3. Click the “Parameters” button.

- ⇒ The “Parameters for PLC: <plc name>” dialog opens and shows the project variables that can be read and written. The value after “ValueNotification” is the current value of the variable on the controller.



4. Click into the input line and type in a new value.

- ⇒ When the first character is typed in, the display is extended and the “Old value” and “New value” displays appear.

For “Old value”, the value is displayed that was used when the variable was written previously.

5. To write the new value to the controller, click “Confirm”.

- ⇒ The CODESYS Automation Server reports whether the write operation was successful or not.

See also

- [Chapter 1.9.1.3 “Automation Server - View ‘Controllers - List View’” on page 24](#)

1.7 Exchanging the Controller

Requirement: You are registered on the CODESYS Automation Server as a service technician. The registered service technicians are listed in the “Tickets → Service Technicians” view. If this is not the case, then add a new service technician and specify the corresponding information in “Tickets → Service Technicians”.

1. In the CODESYS Automation Server, click “Controllers → List View → General”.

2. Click the “REPLACE PLC” button.

- ⇒ The “Create Ticket: Replace PLC” dialog opens.

3. Check the displayed information.

4. In in “Service Technician”, in the “Ticket infos” section, select the service technician.

5. Click “Create Ticket”.

6. Open the “Tickets → All Tickets” view.

7. Print out the ticket that was just created.

8. Remove the old controller from the network and connect the new controller.

9. ➤ Scan the QR code with a smartphone or tablet, or click the ticket link.

⇒ The “Replace PLC with ID: <id number>” dialog opens.

CODESYS Automation Server

Ticked-ID: xOdNLL1Dqzn0rjMkUIkYMB0Zf8uOfJ6uCvOBC57xf-5u

Replace PLC with ID: 2

Step 1 of 2

Description	
Device identification	00000001
Device type	CODESYS Control Win V3
Device vendor	3S - Smart Software Solutions GmbH
Device version	3.5.15.0
Serial number of the old PLC	16EC6C2A-EC4B8952-50906F67-BA337796
Serial number of the new PLC	

Feedback

Reject Request Feedback Submit

10. ➤ Type in the serial number of the new controller and a “Feedback”, meaning a message to the tenant of the CODESYS Automation Server. Then click “Submit”.

⇒ Now the new controller is configured automatically with the data of the previous controller, and the boot applications of the old controller are copied to the new controller.

See also

- 🔗 Chapter 1.9.1.7 “Automation Server - View 'Tickets - Service Technicians'” on page 26
- 🔗 Chapter 1.9.1.6 “Automation Server - View 'Tickets - All Tickets'” on page 26

1.8 Reference: CODESYS Automation Server Connector

1.8.1	Commands.....	15
-------	---------------	----

1.8.1 Commands

1.8.1.1	Command 'Connect Edge-Gateway'.....	15
1.8.1.2	Command 'Checkout from Server'.....	16
1.8.1.3	Command 'Connect to Server'.....	17
1.8.1.4	Command 'Update from Server'.....	18
1.8.1.5	Command 'Upload boot application to server'.....	19
1.8.1.6	Command 'Synchronize'.....	19
1.8.1.7	Command 'Disconnect project'.....	20

1.8.1.1 Command 'Connect Edge-Gateway'

Symbol: 

Function: The command opens the “*Connect Edge-Gateway*” dialog for configuring the edge gateway. Via the edge gateway, the controller network is connected to the cloud of the CODESYS Automation Server.

Call: CODESYS menu: “*Automation Server*”

Requirement:

- The CODESYS Automation Server Connector package is installed.
- The gateway of the current controller is running.

Table 1: Dialog “*Connect Edge-Gateway*”

“CODESYS Automation Server”	
“Server URL”	URL of the CODESYS Automation Server
“Edge Gateway Communication settings”	
“Gateways”	List box with the gateways that are already configured in CODESYS The selected gateway has to be reachable via the network. When you select a gateway here, the “Address” and “Port” fields are filled in automatically.
“Address”	IP address or host of the “Gateways”
“Port”	Port of the “Gateway”
“Test Connection”	Tests whether the connection to the edge gateway can be established and reports the test result.
“Edge Gateway details saved on the CODESYS Automation Server”	
“Name”	Name that the edge gateway will have on the CODESYS Automation Server

CODESYS Automation Server

Reference: CODESYS Automation Server Connector > Commands

"Description"	This description is displayed with the gateway on the CODESYS Automation Server.
"OK"	The edge gateway is created. When the edge gateway is successfully created, a corresponding message is displayed in the message view in CODESYS. The recently created gateway is displayed on the CODESYS Automation Server in "Controllers → Gateways". The root certificate of the server is transferred to the Certificate Store as a trustworthy certificate. The corresponding certificate is generated there and the thumbprint is transferred to the CODESYS Automation Server.

1.8.1.2 Command 'Checkout from Server'

Symbol: 

Function: The command checks out a project from the CODESYS Automation Server, saves it in the local file system, and opens it in CODESYS.

Call: CODESYS menu: "Automation Server"

Requirement:

- The CODESYS Automation Server Connector package is installed.
- A CODESYS project exists on the CODESYS Automation Server.

Table 2: Dialog "Checkout from Server"

"New Project"	
"Name"	Name that the project should be saved as in CODESYS
"Location"	File path in the local file system where the project should be saved The input is also possible by means of the list box or Input Assistant.
"Automation Server"	
"Server URL"	URL of the CODESYS Automation Server
"Refresh"	If you are not already connected to the CODESYS Automation Server, then the "Automation Server - Login" dialog opens. The "Projects" tab is updated when it is open. The "PLCs" tab is updated when it is open.
"Projects"	Display of all projects, including "Name" and "Modified at", which exist on the CODESYS Automation Server The project selected from this list is the one to be saved in the local file system

"PLCs"	Display of the controllers for which a connection is configured in the CODESYS Automation Server A project-compatible controller can be selected from this list for the project selected in "Projects".
"OK"	The project of the CODESYS Automation Server is opened in CODESYS and saved in the local file system.

Table 3: Dialog "Automation Server - Login"

"Server URL"	Displays the URL that was specified in the "Connect to Server" dialog. Cannot be edited.
"Username"	Input field of the user name for the CODESYS Automation Server
"Password"	Password for the CODESYS Automation Server
"Save authentication"	 : The authentication data is saved until this connection to the CODESYS Automation Server is terminated.
"OK"	In the "Checkout from Server" dialog, the "Projects" tab is updated when it is open. In the "Checkout from Server" dialog, the "PLCs" tab is updated when it is open.

1.8.1.3 Command 'Connect to Server'

Symbol: 

Function: The command establishes the connection from the CODESYS Development System to the CODESYS Automation Server, and uploads the source code and project information of the open project to the CODESYS Automation Server.

Call: CODESYS menu: "Automation Server"

Requirement:

- The CODESYS Automation Server Connector package is installed.
- A CODESYS project is open which has not yet been located on the CODESYS Automation Server.

Table 4: Dialog "Connect to Server"

"Server URL"	URL of the CODESYS Automation Server Example: https://automation-server.codesys.com
"Project Name"	Name of the project on the CODESYS Automation Server
"Commit Message"	This message is displayed with the project on the CODESYS Automation Server.
"OK"	 : The "Automation Server - Login" dialog opens.

CODESYS Automation Server

Reference: CODESYS Automation Server Connector > Commands

Table 5: Dialog “Automation Server - Login”

“Server URL”	Displays the URL that was specified in the “Connect to Server” dialog. Cannot be edited.
“Username”	User name for the CODESYS Automation Server
“Password”	Password for the CODESYS Automation Server
“Save authentication”	☒ : The authentication data is saved as long as CODESYS is open.
“OK”	☒ : The project is uploaded to the CODESYS Automation Server and it is visible there in the “Applications → CODESYS Projects ” view.

1.8.1.4 Command 'Update from Server'

Function: The command opens the “Resolve update conflicts” dialog for updating the project in CODESYS Development System with the state of the project on the CODESYS Automation Server.

Call: CODESYS menu: “Automation Server”

Requirement:

- The CODESYS Automation Server Connector package is installed.
- The project is open in CODESYS.
- The project on the CODESYS Automation Server has another state than the project in the CODESYS Development System.

Dialog 'Resolve update conflicts'

Column “Items that require action”	Object that has another state in the project in the CODESYS Development System than on the CODESYS Automation Server
Column “Conflicts”	Type of conflict: ■ “Content conflict”:
“Get server changes”	The entries in “Conflicts” are highlighted in orange. ☒ : The project in the CODESYS Development System should be updated with the state of the project on the CODESYS Automation Server.
“Keep local changes”	The entries in “Conflicts” are highlighted in green. ☒ : The changes made in the CODESYS Development System should be transferred to the CODESYS Automation Server. Then the “Push changes to the CODESYS Automation Server” dialog opens after you click the “OK ” button.
“OK”	CODESYS executes the selected action, either “Get server changes” or “Keep local changes”.

1.8.1.5 Command 'Upload boot application to server'

Function: The command creates a boot application in CODESYS and transfers it to the CODESYS Automation Server.

Call: Context menu of the *"Application"* object in the device tree in CODESYS

Requirement:

- The CODESYS Automation Server Connector package is installed.
- The CODESYS project has already been successfully transferred to the CODESYS Automation Server.

The success (or failure) of the transfer is displayed in the message window of CODESYS

1.8.1.6 Command 'Synchronize'

Symbol: 

Function: The command synchronizes the project on the CODESYS Automation Server with the project open in the CODESYS Development System.

Call: CODESYS menu: *"Automation Server"*

Requirement:

- The CODESYS Automation Server Connector package is installed.
- In the CODESYS project, which already exists on CODESYS Automation Server, changes have been made in CODESYS.

Dialog 'Resolve update conflicts'

Column <i>"Items that require action"</i>	Object that has another state in the project in the CODESYS Development System than on the CODESYS Automation Server
Column <i>"Conflicts"</i>	Type of conflict: ■ <i>"Content conflict"</i> :
<i>"Get server changes"</i>	The entries in <i>"Conflicts"</i> are highlighted in orange.  : The project in the CODESYS Development System should be updated with the state of the project on the CODESYS Automation Server.
<i>"Keep local changes"</i>	The entries in <i>"Conflicts"</i> are highlighted in green.  : The changes made in the CODESYS Development System should be transferred to the CODESYS Automation Server. Then the <i>"Push changes to the CODESYS Automation Server"</i> dialog opens after you click the <i>"OK"</i> button.
<i>"OK"</i>	CODESYS executes the selected action, either <i>"Get server changes"</i> or <i>"Keep local changes"</i> .

CODESYS Automation Server

Reference: CODESYS Automation Server Connector > Commands

Table 6: Dialog “Push changes to the CODESYS Automation Server”

“Push <n> outgoing changes to the server?”	
Input field for a commit message	Manual entry of a message or selection from the “Previous Messages” list box
“Push Changes”	Selectable only when a commit message has been specified Transfers the project change to the CODESYS Automation Server

1.8.1.7 Command 'Disconnect project'

Function: The command deletes the metadata stored in the project which contains information about the CODESYS Automation Server. As a result, a connection to the CODESYS Automation Server no longer exists.

Call: CODESYS menu: “Automation Server”

Requirement:

- The CODESYS Automation Server Connector package is installed.
- The project is open in CODESYS.
- The project has been uploaded to the CODESYS Automation Server by means of the “Connect To Server” command.

1.9 Reference: CODESYS Automation Server

1.9.1 Views.....	21
------------------	----

1.9.1 Views

1.9.1.1 Automation Server - View 'Applications - CODESYS Projects'.....	21
1.9.1.2 Automation Server - View 'Applications - Applications'.....	22
1.9.1.3 Automation Server - View 'Controllers - List View'.....	24
1.9.1.4 Automation Server - View 'Controllers - Network Scan'.....	25
1.9.1.5 Automation Server - View 'Controllers - Gateways'.....	25
1.9.1.6 Automation Server - View 'Tickets - All Tickets'....	26
1.9.1.7 Automation Server - View 'Tickets - Service Technicians'.....	26

1.9.1.1 Automation Server - View 'Applications - CODESYS Projects'

Function: The view shows all CODESYS projects that exist on the CODESYS Automation Server and provides information and commands for each project.

Call: "CODESYS Automation Server → Applications → CODESYS Projects"

List of CODESYS projects	
"Details"	Opens the "Project details" dialog

Dialog 'Project details'

"Delete Project"	Opens the "Delete Project" dialog for prompting whether the project should be deleted ■ "Delete": The project will be deleted on the CODESYS Automation Server. ■ "Close": The project will not be deleted.
------------------	---

Table 7: Tab "General"

List of commits with "ID" and "Message"	
"Open with CODESYS"	This feature has not been implemented yet.

CODESYS Automation Server

Reference: CODESYS Automation Server > Views

Table 8: Tab “Applications”

Shows the boot applications of this project which exist on the CODESYS Automation Server

“Details”	Opens the “Applications” view
-----------	-------------------------------

See also

- [Chapter 1.9.1.2 “Automation Server - View ‘Applications - Applications’” on page 22](#)

1.9.1.2 Automation Server - View ‘Applications - Applications’

Function: The view shows all boot applications that exist on the CODESYS Automation Server and provides commands for handling each boot application.

Call: “CODESYS Automation Server → Applications → Applications”

Display of the boot applications	■ : This boot application does not exist on any controller that is connected with the CODESYS Automation Server. ■ : This boot application exists on one or more controllers that are connected with the CODESYS Automation Server. The current state of the boot application exists on all of these controllers. ■ : This boot application exists on one or more controllers that are connected with the CODESYS Automation Server. The current state of the boot application does not exist on all of these controllers.
“Delete Application”	Opens the “Delete Application” dialog for prompting whether the application should be deleted ■ “Delete”: The application will be deleted on the CODESYS Automation Server. ■ “Close”: The application will not be deleted. If the boot application is already downloaded to a PLC, then it first has to be removed from the PLC by means of the “Remove from selected PLCs” command. Then the application can be deleted from the CODESYS Automation Server by means of the “Delete Application” command.

Table 9: Tab "General"

Display of information about the boot application and the corresponding project	
"Create as Template"	Opens the "Template Structure for Application ID: <nr>" view with the following information: ■ "Template name": Name of the template ■ "PLC role name": Name that the controller will have on the CODESYS Automation Server after commissioning ■ "App role name": Name of the application Button "Add template structure": Generates a template for the application. With this template, the application can be deployed to controllers by means of the commissioning ticket. The generated template is displayed in the "Template → Applications" view. There you can generate the ticket for commissioning.

Table 10: Tab "Deployed on"

Shows the controllers on which the boot application has been deployed	
"Details"	Opens the "PLC details" dialog of the "List View"
"Remove from selected PLCs"	Removes the boot application from the selected controller

Table 11: Tab "Deploy"

Shows the controllers on which the boot application can be deployed	
Option "Deploy"	✓: The boot application should be deployed to this controller.
"Deploy on selected PLCs":	The boot application is deployed to the selected controllers (✓). Requirement: On the CODESYS Automation Server, the "Synchronize Applications" option is selected in the "PLC details" view on the "Configuration" tab.

Table 12: Tab "Update all"

Display of all versions of the boot applications that exist on the server and display of all information whether the respective version has already been deployed to controllers	
"Deployed on <n> controllers"	The boot application has been deployed on <n> controllers.
"Not deployed"	The boot application has not been deployed on any controller.
▼	The extended view shows the controllers where the boot application exists.
"Update all"	The boot application is updated on all controllers with this application version. Requirement for update: On the CODESYS Automation Server, the "Synchronize Applications" option is selected in the "PLC details" view on the "Configuration" tab.

CODESYS Automation Server

Reference: CODESYS Automation Server > Views

Table 13: Tab “Parameters”

Shows the parameters of the boot application that can be read and written to a controller from the CODESYS Automation Server. These parameters have to be configured in the symbol configuration of the CODESYS project.

See also

- [Chapter 1.9.1.3 “Automation Server - View 'Controllers - List View'” on page 24](#)
- [Chapter 1.4 “Creating a Template for the Deployment of the Application to Controllers” on page 9](#)

1.9.1.3 Automation Server - View 'Controllers - List View'

Function: The view shows all controllers that are configured on the CODESYS Automation Server and provides dialogs for configuring and handling the controllers.

Call: “CODESYS Automation Server → Controllers”

Display of controllers registered on the CODESYS Automation Server

- : The CODESYS Automation Server is connected to the controller.
- : The CODESYS Automation Server is not connected to the controller.

“Details”

Opens the “PLC details” view

View 'PLC details'

Table 14: Tab “General”

Shows information about the controller and the connection

“Replace PLC”	Opens the “Create Ticket: Replace PLC” dialog
“Parameter”:	Opens the “Parameter for PLC: <plc name>” dialog where you can specify values for the displayed variables which are written to the controller
“Remove PLC”	Opens a dialog prompt asking whether the displayed controller should really be removed

Table 15: Dialog “Parameter for PLC: <plc name>”

Variables of the boot applications of the controller that can be read and written

Example:

```
Application.PLC_PRG.i  
var1
```

The last written value is shown on the right side in the input line.

When the input line is edited, “Old value: ” “New value” appears.

“Confirm”: The recently specified value is written on the controller.

“Reset”:

: The “Description”, “Data type”, and “Default value” are also displayed for the variable.

Table 16: Tab "Configuration"

"Synchronize Applications"	✓: The boot applications on the controller can be synchronized with the boot applications of the CODESYS Automation Server. ■: The boot applications on the controller cannot be synchronized with the boot applications of the CODESYS Automation Server. This means that the "Update all" and "Deploy" commands trigger the transfer or synchronization on the CODESYS Automation Server, but they are not executed on the controller. The execution occurs only after the option is selected. Note: If this option is not selected, then the "Update all" and "Deploy" commands cannot be executed on this controller.
"Synchronize Parameters"	✓: Variable values can be written to this controller. ■: Variable values cannot be written to this controller.
"Save Configuration"	Saves the set options "Synchronize Parameters" and "Synchronize Application"

1.9.1.4 Automation Server - View 'Controllers - Network Scan'

Function: The view shows all controllers that are found for the selected gateway.

Call: "CODESYS Automation Server → Controllers"

Table 17: Found Controllers

List box for the gateway	
	The display of found controllers is refreshed for the selected gateway.
	Displays the advanced information about the respective controller
"Add to server"	Opens the "Add PLC to Automation Server" dialog: Button "Add to server": The controller is added to the Automation Server and displayed in the "Controllers → List View".

See also

- [Chapter 1.9.1.3 "Automation Server - View 'Controllers - List View'" on page 24](#)
- [Chapter 1.2 "Creating an Edge Gateway on the Server and Entering Controllers" on page 5](#)

1.9.1.5 Automation Server - View 'Controllers - Gateways'

Function: The view shows the edge gateways with their descriptions which are available in the network. They can also be modified here.

Call: "CODESYS Automation Server → Controllers"

CODESYS Automation Server

Reference: CODESYS Automation Server > Views

Table 18: "Gateways"

	The edge gateway is running.
	The edge gateway is not running.
	The "+ Add Gateway" command appears below the displayed edge gateway.
	Opens the "Gateway Configuration" dialog The dialog displays the thumbprint of the private key that has been generated in the local Certificate Store on the computer for the root certificate of the controller.
	Opens a dialog for editing the name and description of the edge gateway
	Opens the "Delete Gateway" dialog prompt for deleting the edge gateway

See also

-  Chapter 1.8.1.1 "Command 'Connect Edge-Gateway'" on page 15
-  Chapter 1.2 "Creating an Edge Gateway on the Server and Entering Controllers" on page 5

1.9.1.6 Automation Server - View 'Tickets - All Tickets'

Function: The view displays the tickets for the CODESYS Automation Server.

Call: "CODESYS Automation Server → Tickets → All Tickets"

List box for filtering the displayed tickets

- "Active"
- "Complete"
- "Rejected"
- "Feedback requested"
- "Archived"
- "Unknown"

1.9.1.7 Automation Server - View 'Tickets - Service Technicians'

Function: The view displays is used for displaying and adding service technicians.

Call: "CODESYS Automation Server → Tickets → Service Technicians"

"+ Add"

Opens a dialog for specifying the data of the service technician to be added.

List of the specified service technicians

2 Index

C

CODESYS	
connect to CODESYS Automation Server	5
CODESYS Automation Server	4
add gateway	5
connect to controller	5
deploy boot application	7
exchange controller	13
getting started	4
transfer project	7
update boot application	11
update project	11
Configuration	24
connect	
to CODESYS Automation Server	5

E

edge gateway	15
------------------------	----

G

gateway, CODESYS Automation Server	5
--	---

N

network scan	25
------------------------	----

O

option synchronize	24
------------------------------	----

P

PLC details	24
-----------------------	----

S

show controllers	25
show tickets	26
synchronize	
application	24
parameter	24
synchronize project	19

V

variable value	
write	24

W

write	
values	24