OCS Training Workshop
LAB14

Email Setup

Introduction

The objective of this lab is to provide the skills to develop and trouble shoot email messaging.

Overview

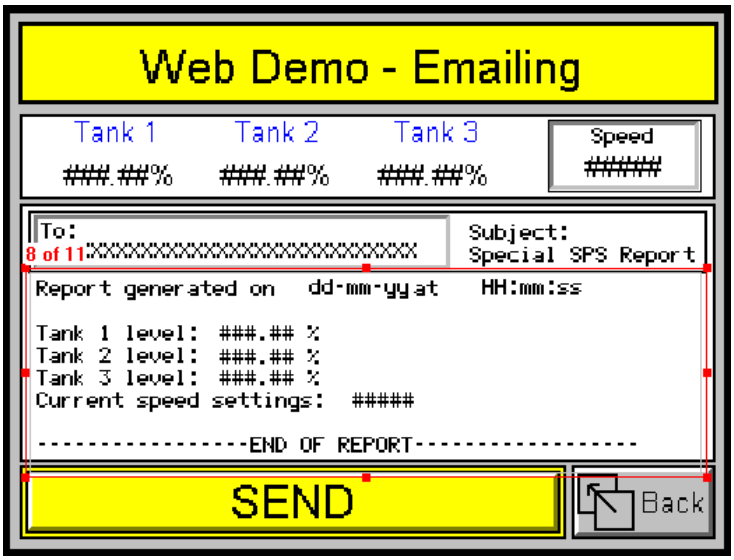
Electronic mail (email**)** is a method of exchanging digital messages, designed primarily for human use.

An email message consists of two components, the message *header*, and the message *body*, which is the email's content. The message header contains control information, including, an originator's email address and one or more recipient addresses. Usually additional information is added, such as a subject header field.

This feature is designed to send email messages embedding real time data of the controllers and can be configured using Cscape.

Requirements:

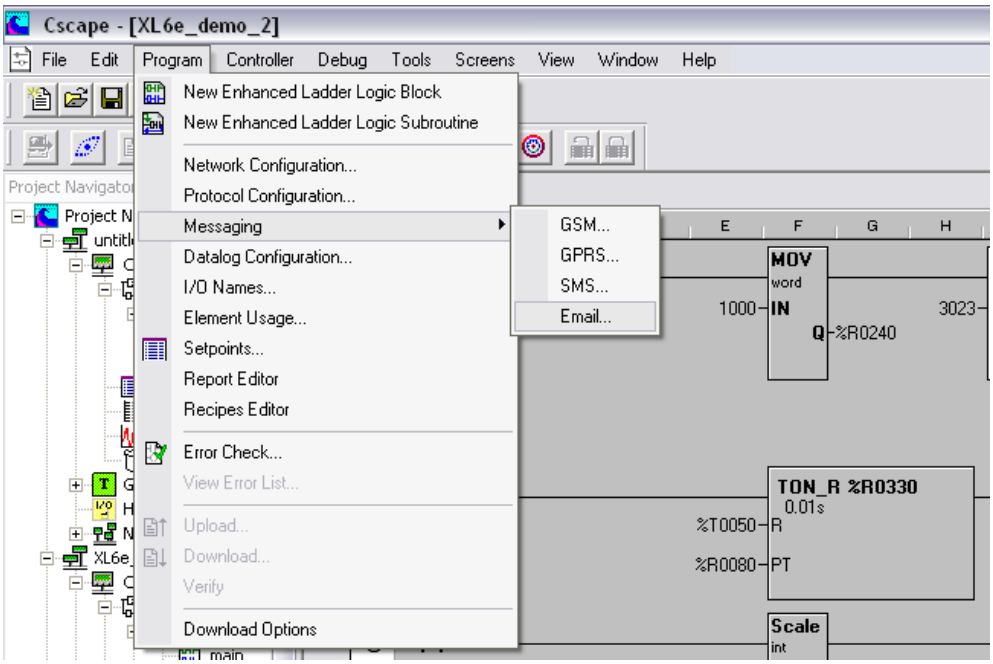
- NX, QX and XL6e with Ethernet port on board
- Cscape 9 or higher
- Firmware version 12.6 or higher



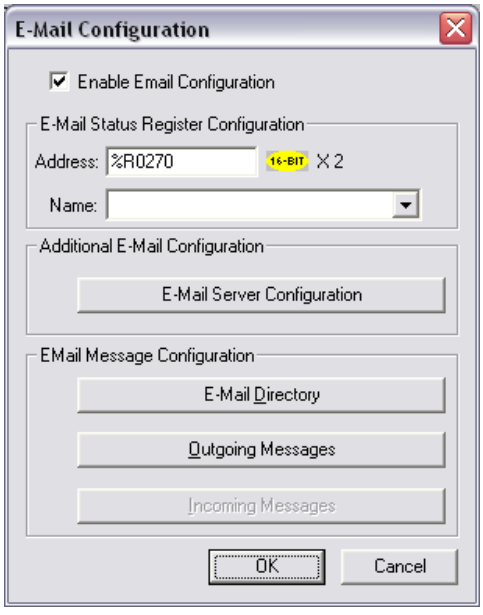
Cscape Configuration

PART 1 – Email Service configuration

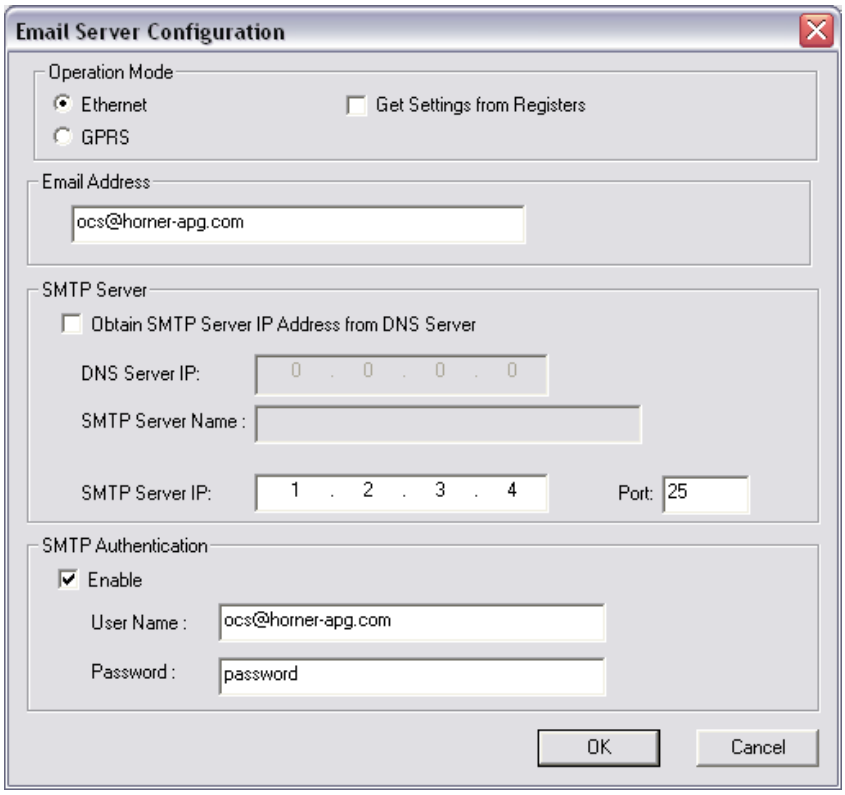
1. Click Program -> Messaging -> Email



2. Select **Enable Email Configuration** to begin email configuration
3. Specify the starting register location for **Email Status register**



4. Click on **E-Mail Server Configuration** to configure Email address, Server Address and Authentication.

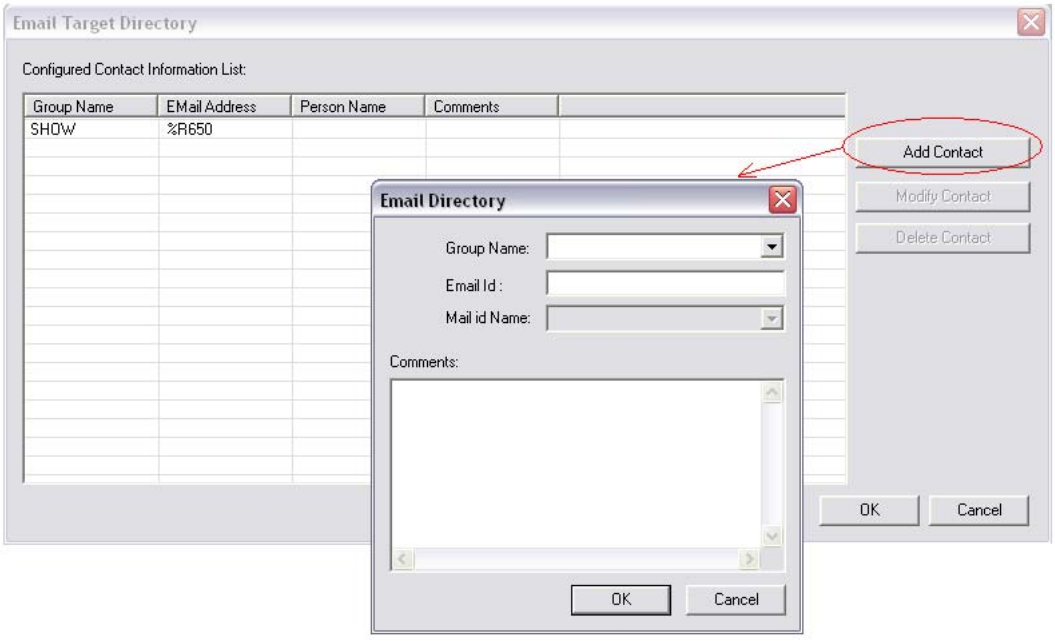


By enabling '**Get Settings from Register**' checkbox the entire configuration data is taken from registers.

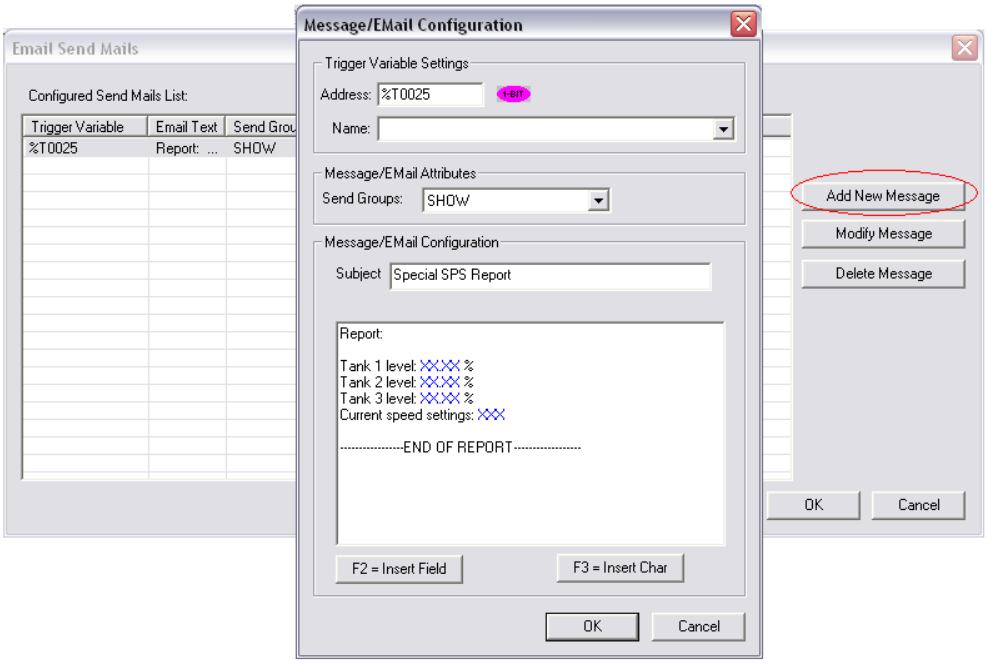
Click OK.

Email Server Settings	
E-Mail Address	The Email address of the controller can be configured here. If the user wants to provide email address through register, the **Get Settings from Register** checkbox can be clicked and register reference can be provided in **E-mail Address** edit-box. The register mentioned here should contain the email address followed by null termination or space.
SMTP Server	**SMTP Server IP:** The SMTP Server IP address of the email service provider needs to be provided here. In case SMTP server IP needs to be obtained from DNS server, select **Obtain SMTP Server IP Address from DNS Server** checkbox. This will enable **DNS Server IP** and **SMTP Server Name** edit-boxes. Configure these with the information provided by email service provider. **Port:** The default port for email configuration is set to 25 but can be changed by user if required. If '**Get Settings from Register**' is checked: **DNS Server IP** and **SMTP Server IP** needs to be provided in 32-bit IP format in the defined register location. **Port** number needs to be provided in 16-bit numeric format at the defined register location. **SMTP Server Name** (if required) needs to be provided at the register mentioned followed by null termination or space.
SMTP Authentication	The firmware for E-Mail also supports Login type of SMTP authentication. To use this feature, the **Authentication SMTP** checkbox should be checked. The username and password for authentication needs to be provided here. If '**Get Settings from Register**' is checked: **User Name** and **Password** needs to be provided at the register location mentioned followed by null termination or space.

5. Configure Contacts and Groups by clicking on **E-mail Directory** (similar to SMS setup)



6. Configure **Outgoing Messages** (similar to SMS setup)

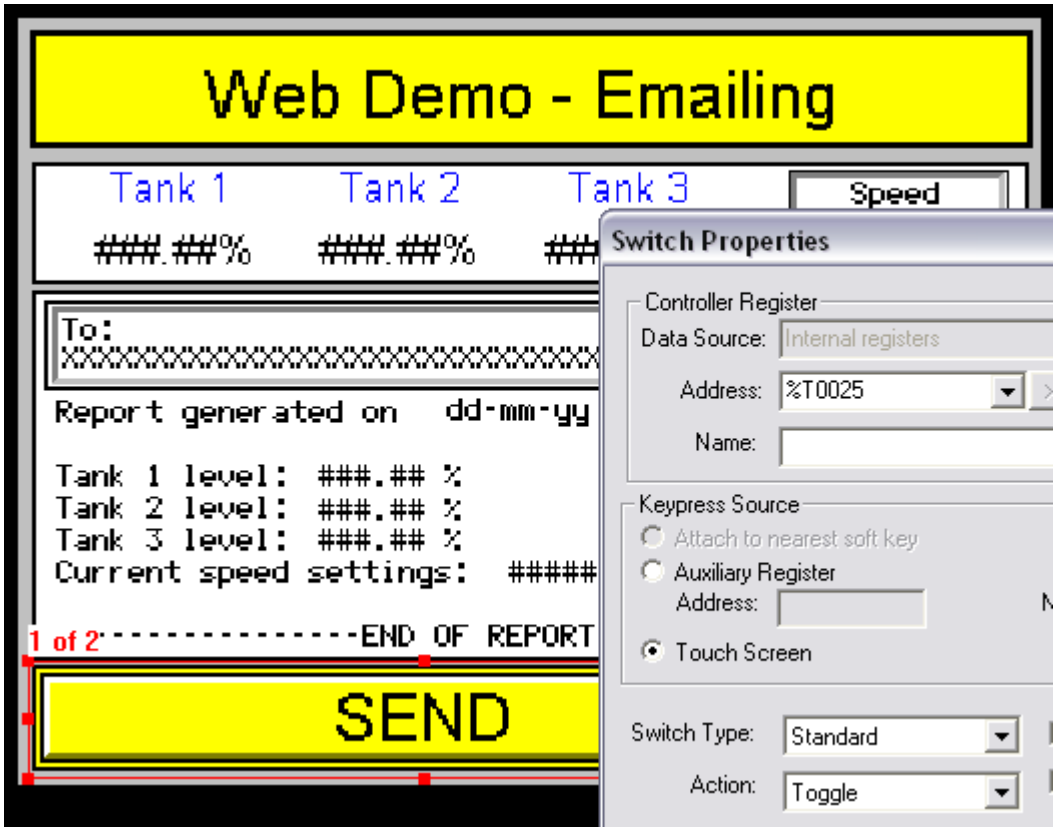


Note: Initially only sending through the built-in Ethernet port is supported (Receiving, GPRS support & file attachments: in the future)

PART 2 - Creating the Screen

1. Create the screen with all the data used in the body of configured email message

2. Place a button object on the screen and assign the appropriate trigger to it (here: the %T25 is used as before configured in the 'Outgoing Messages' window)



Note:
As in SMS configuration, the trigger should be SET permanently until it is RESET by the firmware. That's why the Action here is configured as Toggle (could be ON as well).

End of LAB14

APPENDIX 1 - Supported Parameters

Email Status Register Details

Email Status Register is 32bit long entity and details are as follows

Bit No	Error	Reason	Remedy
1	Invalid Configuration Error	User downloaded Cscape configuration is invalid.	Check and re-download Email configuration.
2	Invalid IP or Port address	Configured Email Server IP or Port address is incorrect.	Verify configured Email server IP Port address.
3	Socket Error	Internal TCP Resource Error.	Reduce number of TCP connection in use by device and retry.
4	Bind Error	Internal TCP Resource Error.	Reduce number of TCP connection in use by device and retry.
5	Connection Timeout Error	Device is not able to connect specified Email server within 30sec of timeout value.	Check configured Email server name (or IP address) and Port address.
6	Transmit Buffer Error.	Internal Memory resource Error.	Reset the device and retry.
7	Transmit Error.	Internal resource or connection break can cause this error.	Check configured Email server name (or IP address) and Port address.
8	UDP Resource Error	Internal Resource Error.	Reduce number of UDP connection in use by device and retry.
9	DNS Error Response.	Erroneous response received from DNS server.	Check configured DNS server IP address and Email Server Name.
10	DNS Response Timeout	No response received from DNS server.	Check configured DNS server IP address.
11	SMTP Command Timeout	No response received from Email server for Email command sent.	Check configured Email server name (or IP address), Port address, Email address (To and From), Username and Password.
12	SMTP Error Response	Error response received from Email Server for Email command sent.	Check configured Email server name (or IP address), Port address, Email address (To and From), Username and Password.

13 to 16	SMTP Error State code.	This field provides SMTP State (or command) code where Error occurred.	1= DNS query State. 2= DNS Response State. 3= Establish Connection State. 4= SMTP HELO Command State. 5= SMTP Authentication State. 6= SMTP Username State. 7= SMTP Password State. 8 = SMTP From Mail Address State. 9 = SMTP Receiver Mail Address State 10=SMTP Data Command State. 11=SMTP Send Data State. 12=SMTP End Data State. 13=SMTP Quit State. 14=Waiting for Response.
17 to 32	SMTP Server Error Response code.	This field provides SMTP Error response code received from SMTP server.	Details of different error codes can be found in RFC 821 and RFC 2554 documents. Eg: '500' Syntax error, command unrecognized.

Note: In Email feature transmit trigger bit should get reset within 30sec of time or Error status should get updated indicating error information. If there is no status it means either Device is not in RUN mode or Email feature is not configured or invalid Email configuration is downloaded.