

SmartGate

Installation Guide

Version 0.2

Contents

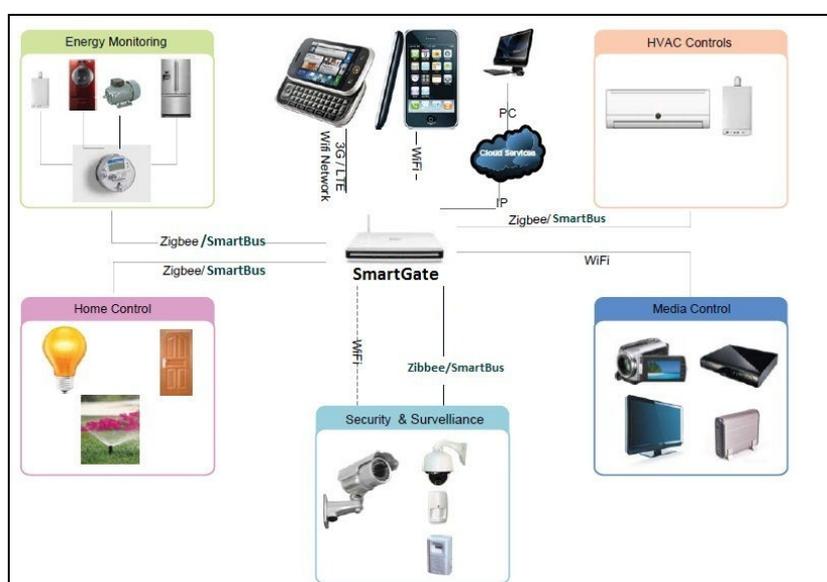
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CHAPTER 1

Introduction

SmartGate is a comprehensive home automation solution that empowers a user to remotely control multiple home appliances, manage media, monitor and optimize energy consumption, and monitor security surveillance at home. SmartGate Web application allows you to access and control home devices attached to SmartGate, which is a connected home gateway. You can run the SmartGate application on android-based mobile devices and Personal Computers (PC).

Figure 1-1: SmartGate Environment



SmartGate allows a home owner to control various home appliances, such as:

- Lights
- Televisions (TV)
- Sensors (Door, Motion, and Smell)
- Air Conditioners (AC)
- Water Heaters
- Fans
- Mosquito Controllers
- Projectors
- Smell and Smoke Detectors
- Sprinklers
- Digital Video Disc (DVD) Players
- Shades

SmartGate also provides the following features:

- Allows android-based mobile calendar synchronization with SmartGate with support for up to 4 mobile devices.
- Provides chat based support to control home devices.
- Provides Community features; provision to select the service providers, such as Carpenter, Plumber, Electrician and send a service request to specified service provider through e-mail
- Supports weather feed from 4 different configurable news providers.
- Provides photo viewer functionality.
- Allows Multiple Access Control; Administrator User, Privilege User and Normal User.

About this Guide

This guide provides detailed information for administrators to setup SmartGate at a home location. The guide also describes the instructions for administrators to configure the SmartGate application.

Audience

The information in this guide is primarily intended for:

- Administrators

Abbreviations and Conventions

Table 1-1 describes conventions used in this document:

Element	Description
Bold	Terms in the user interface including options, menus, buttons, and dialog boxes.
Note	Additional information.
Tip	Suggestions and recommendations.

Table 1-2 describes abbreviations used in this document:

Abbreviation	Description
URL	Uniform Resource Locator
XMPP	Extensible Messaging and Presence Protocol
SMTP	Simple Mail Transfer Protocol
TLS	Transport Layer Security
SSL	Secure Socket Layer
PLAIN	Plain Language Action and Information Network
PAN	Personal Area Network
USB	Universal Serial Bus

Product Specifications

Table 1-3 describes the specification list for SmartGate:

Element	Specification	Description
SD-Card interface	Up to 4 GB	Micro -SD
Bluetooth	1 - Bluetooth 2.0	Module with built-in stack
RS-232 port	2	Each with 3 signals: COM GRD, Tx, Rx
		Baud Rate: MIN (<=4800), MAX (>=115200)
		Terminal type connector
Ethernet	One 10/100 Base-T Ethernet	
Zigbee Controller	1 - ZigBee-Pro compliant stack	
USB interface	1 high-speed USB 2.0 host/OTG	
LED	4	GREEN – Power
Power Supply	5V DC / 1A	External Power Adaptor
Browser	PC: IE8.0 & above, Firefox 3.6 & above	
	Mobile: Android and iPhone native browsers	

CHAPTER 2

Working with SmartGate

Before a user can start using the SmartGate application, you need to make sure that the administrator settings are configured to enable the application to run properly. This section allows you to install SmartGate and configure administrator settings of the SmartGate application.

Installing SmartGate

To install SmartGate at your home, you first need to assemble the SmartGate kit and then configure the home router such that it identifies SmartGate. You also need to configure the ZigBee and SmartBus home devices, such as lights and sensor such that SmartGate can interact with these devices.

Assembling SmartGate Kit

You need to setup the SmartGate kit in the connected home environment.

To assemble the SmartGate kit:

- 1 Unpack the SmartGate kit.
- 2 Insert the MicroSD memory card into the MicroSD card slot on SmartGate.

Figure 2-1: SmartGate



- 3 Connect SmartGate to the Internet-enabled home router using the Local Area Network (LAN) wire.
- 4 Press the power button on SmartGate.
- 5 Connect the power adapter to SmartGate and press the power button on SmartGate.

Configuring Home Router

You need to configure home router settings to enable identification of SmartGate connected to the home router.

To configure home router for SmartGate, you need to:

- Discover IP address of SmartGate
- Enable Port Forwarding
- Enable Host Name

Note: Internet-enabled home router must support Port Forwarding and Dynamic Domain Naming Service (DDNS) such that SmartGate administrator can configure the SmartGate application at a home location.

Discover IP address of SmartGate

You need to discover IP address of SmartGate to identify SmartGate on the Internet-enabled home router.

To discover IP address of SmartGate:

- 1 Log on to the user interface of home router.
- 2 Open the LAN Setup page. The Address Reservation table appears.

Table 2-1 describes the format of a typical Address Reservation table.

S.No	IP Address	Device Name	MAC Address
1	192.XXX.X.X XX	XXX	XX:XX:XX:X X:XX:XX
2	192.XXX.X.X XX	XXX	XX:XX:XX:X X:XX:XX
3	192.168.0.200	SmartGate	70:F1:A1:B1:C 7:72
4	192.XXX.X.X XX	XXX	XX:XX:XX:X X:XX:XX

- 3 Note the IP address for the Device Name as SmartGate.

Enable Port Forwarding

You need to enable Port Forwarding for SmartGate on the home router.

To enable Port Forwarding for SmartGate:

- 1 Log on to the user interface of home router.
- 2 Open the Port Forwarding Settings page.
- 3 Enter IP address of SmartGate, such as 192.168.0.200.
- 4 Enter Port Number as 8080.
- 5 Save the Port Forwarding settings.

Enable Host Name

A host name signifies an alias name, such as myhome.com, for the IP address of a device. You need to specify DDNS settings on home router to enable host name for SmartGate. Enabling host name for SmartGate allows privilege and normal user to access the SmartHome application using the specified host name in place of URL.

To enable host name:

- 1 Log on to the user interface of home router.
- 2 Open the Dynamic DNS page.
- 3 Select name of the DDNS service provider.
- 4 Enter host name, such as myhome.com.
- 5 Enter username and password for the DDNS account.
- 6 Click Apply to start the DDNS service.

Logging on to SmartGate Application

After discovering SmartGate IP address, enabling port forwarding, and enabling host name for SmartGate, you need to log on to the SmartGate application to configure ZigBee and SmartBus devices.

To log on to the SmartGate application:

- 1 Open the SmartGate application Uniform Resource Locator (URL) in a Web browser. The **Login** page appears.

Figure 2-2: The Login Page

UserName

Password

LOGIN

[Mobile Login](#)

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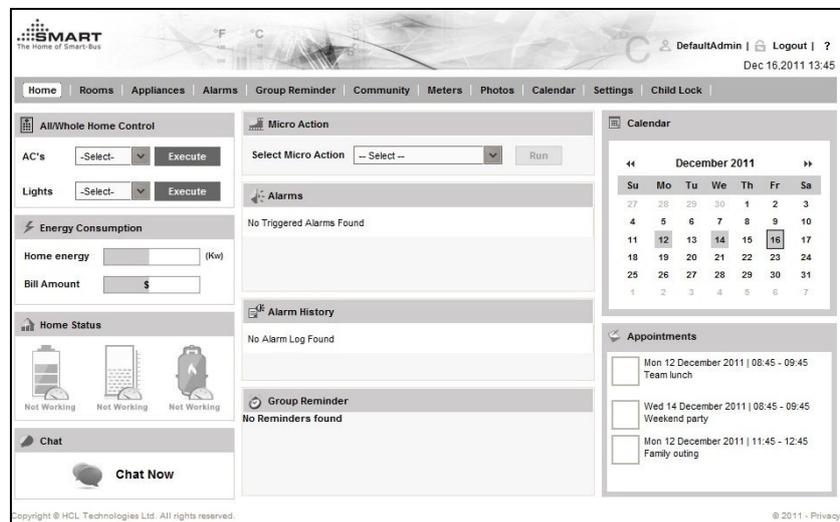
Note: Cookies and Javascript must be enabled in the Web browser used to access the SmartGate application.

- 2 Enter the **admin** in the **UserName** text box.
- 3 Enter **Admin@SmartGate** in the **Password** text box.

Note: The username and password are case sensitive.

- 4 Click **LOGIN** to log on to the SmartGate application. The **Home** page appears.

Figure 2-3: The Home Page



Tip: You can create up to 20 users in the SmartGate application and a maximum of 4 users can access the SmartGate application simultaneously.

Configuring ZigBee Devices

Before a user can start using the SmartGate application, you first need to configure ZigBee devices connected to SmartGate. For example, to monitor door activities of living room, you first need to configure Zigbee door sensor installed at the living room door.

To configure Zigbee Door Sensor device with SmartGate:

- 1 Connect ZigBee adapter to power outlet.
- 2 Insert ZigBee door sensor into the ZigBee adapter.
- 3 Log on to SmartGate application as an administrator. The **Log in** page appears.

Tip: To know more about the SmartGate application log on process, refer to the [Logging on to SmartGate Application](#) section.

- 4 Click **Settings** and then click **Zigbee Filtering**. The **ZigBee Filtering** tab appears.

Figure 2-4: The ZigBee Filtering Tab

The screenshot displays the SmartGate web application interface. At the top left is the SMART logo with the tagline 'The Home of Smart-Bus'. To the right, there are temperature indicators for Fahrenheit and Celsius, and user information: 'Administrator | Logout | ?' and the date/time 'Sep 25, 2011 14:00'. Below this is a navigation bar with tabs: 'Email', 'Zigbee Config.', 'Zigbee Filtering' (selected), 'Weather', 'Maintenance', 'Firmware Upgrade', and 'Set Date'. On the left side, there is a vertical menu with icons and labels: 'Rooms', 'Devices', 'Appliances', 'Micro Action', 'Meters', 'Settings' (highlighted), 'User Management', 'Child Lock Policy', and 'Change Password'. The main content area is titled 'Zigbee Filtering' and contains two configuration fields: 'MAC Address:' with an input box and a 'Save' button, and 'Controller Permit Join:' with an input box and a 'Save' button. At the bottom of the page, there is a red error message: 'Error in fetching Zigbee Mac Filter Configuration!' and a copyright notice: 'Copyright © HCL Technologies Ltd. All rights reserved. © 2011 - Present'.

- 5 Enter **MAC Address**, which specifies a 16-character MAC address of a ZigBee Device which you want to connect to your home router.
- 6 Click **Save** to save the MAC address.
- 7 Enter **Control Permit Join**, which specifies the time interval in seconds up to which ZigBee Devices are allowed to join your home router.

Note: The Control Permit Join text box takes a value in seconds ranging from 1 to 224. Entering a value of 0 disables the ZigBee network connected to SmartGate. Entering a value of 255 enables the ZigBee network to allow synchronization of ZigBee devices with SmartGate for an infinite time interval.

- 8 Click **Save** to save the permit join duration.

Configuring SmartBus Devices

Before a user can start using the SmartGate application, you first need to configure ZigBee devices connected to SmartGate.

To configure SmartBus devices with SmartGate:

- 1 Verify that all the SmartBus devices are connected to the SmartBus Data Controller.
- 2 Connect the SmartBus Data Controller to the Internet-enabled home router.

Configuring Administrator Settings

You need to configure the administrator settings, such as adding users, rooms and devices, before starting to use the SmartGate application.

Note: You need to have administrator rights to configure the administrator settings of the SmartGate application.

Rooms

A room, such as living and bed room, identifies a virtual room in a home and contains a set of home devices, such as fans, shades, and lights. An administrator creates a room and adds required devices to the room such that a normal or privileged user can control the room devices using the SmartGate application.

To create a room:

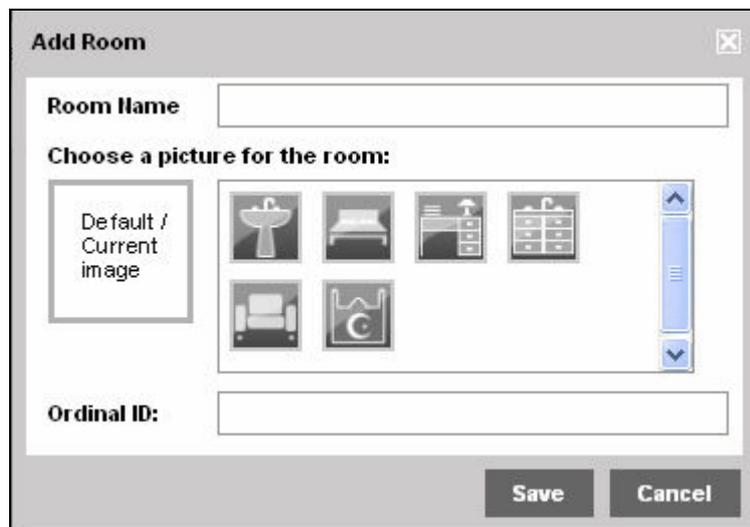
- 1 Log on to the SmartGate application as an administrator. The **Home** page appears.
- 2 Click **Settings**. The **Rooms** screen in the administrator section appears.

Figure 2-5: The Rooms Screen



- 3 Click **Add** to add a room, such as living and dining room. The **Room Properties** dialog box appears.

Figure 2-6: The Room Properties Dialog Box



- 4 Enter **Room Name**.

Note: Room name must be unique.

- 5 Select a display image for the room from image gallery.
- 6 Enter **Ordinal ID**, which specifies the sorting order of rooms list on the **Rooms** screen.
- 7 Click **Save**.

Note: You can edit room settings by selecting a room and clicking **Properties**. Further, you can delete a room by selecting the specified room and clicking **Remove**.

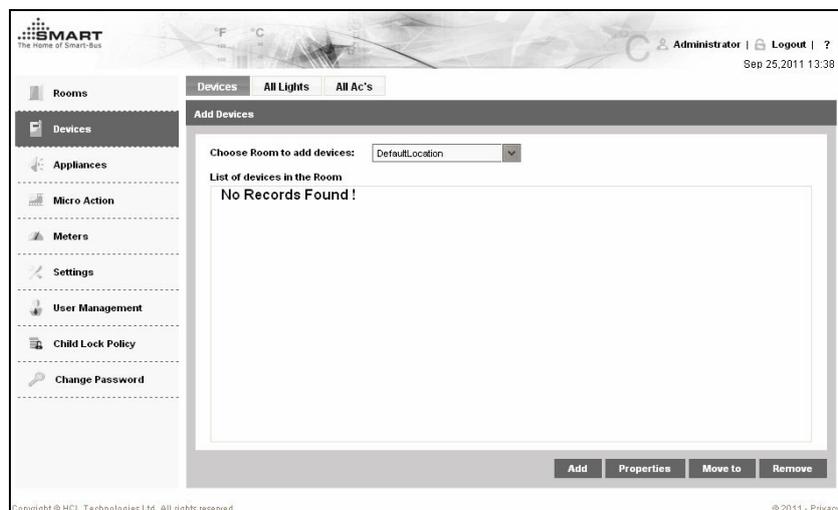
Devices

A device, such as fan, water heater, sensor, and washing machine, identifies a room-specific electronic device connected to SmartGate. An administrator selects an existing room and creates required devices in the room. After adding a device, you first need to configure device properties, such as subnet ID and device ID, so that a normal or privileged user can control the room devices using the SmartGate application.

To add a device to a room:

- 1 Log on to the SmartGate application as an administrator and click **Settings** on the **Home** page. The **Rooms** screen appears.
- 2 Click **Devices**. The **Devices** screen appears.

Figure 2-7: The Devices Screen



- 3 Select a room, such as living room, from the **Choose Room to add devices** drop down list and click **Add**. The **Select Devices to be added** dialog box appears.

Figure 2-8: The Select Devices to be Added Dialog Box

Device Type	No of Devices
<input type="checkbox"/> Light (SmartBus)	<input type="text"/>
<input type="checkbox"/> AC (SmartBus)	<input type="text"/>
<input type="checkbox"/> Sensor(9 in 1)	<input type="text"/>
<input type="checkbox"/> Sensor(4 Zone)	<input type="text"/>
<input type="checkbox"/> Appliances	<input type="text"/>
<input type="checkbox"/> Exhaust Fan	<input type="text"/>
<input type="checkbox"/> Fan	<input type="text"/>
<input type="checkbox"/> Fountain	<input type="text"/>
<input type="checkbox"/> Mosquito Control	<input type="text"/>
<input type="checkbox"/> Projection	<input type="text"/>
<input type="checkbox"/> Shade	<input type="text"/>
<input type="checkbox"/> Smell	<input type="text"/>
<input type="checkbox"/> Smoke Machine	<input type="text"/>
<input type="checkbox"/> Socket	<input type="text"/>

Total Devices: 0

Add **Cancel**

Note: The **DefaultLocation** option in the **Choose Room to add devices** drop down list is only visible to an administrator. The **DefaultLocation** option displays the Zigbee devices that are connected to SmartGate. To control these Zigbee devices using the SmartGate application, you need to move the ZigBee devices to a specific room.

- 4** Select **Device Type**, such as fan and shade, and enter **No of Devices** to specify the number of devices you want to add for a specific device type.
- 5** Click **Add**.

Note: You can delete a device by selecting the specified device from device list and clicking **Remove**. Further, you can move a specific device to a desired room by selecting a device and clicking **Move To** and then specifying the room to which you want to move the selected device.

Light

SmartBus light devices added to a room need to be configured before a user can use those devices.

To configure a SmartBus light device:

- 1** Log on to the SmartGate application as an administrator and click **Settings** on the **Home** page. The administrator section appears.

- 2 Click **Devices**. The **Devices** screen appears.
- 3 Select a room containing SmartBus light devices from the **Choose Room to add devices** drop down list.
- 4 Select a SmartBus light device from the list of devices in the room.
- 5 Click **Properties**. The **Light Properties** dialog box appears.

Figure 2-9: The Light Properties Dialog Box

The screenshot shows a dialog box titled "Light Properties" with a close button in the top right corner. The dialog contains the following fields and controls:

- Light Name:** Text input field containing "SmartBusLight 43".
- Ordinal ID:** Text input field containing "1".
- Subnet ID:** Text input field containing "0".
- Device ID:** Text input field containing "0".
- Channel:** Text input field containing "0".
- Running Time (ON) (MM:SS):** Text input field containing "00:00".
- Running Time (OFF) (MM:SS):** Text input field containing "00:00".
- Settings for Dimmer:** A checkbox (unchecked) followed by a spin box containing the value "100".

At the bottom right of the dialog are two buttons: "Save" and "Close".

- 6 Enter **Light Name**, such as Wall Light.
- 7 Enter **Ordinal ID**, which specifies the sorting order of the device in device list.
- 8 Enter **Subnet ID**, which specifies the ID of subnet to which SmartBus light device belongs.
- 9 Enter **Device ID**, which specifies the ID of SmartBus light device.
- 10 Enter **Channel**, which specifies the channel number on which device node is operational.
- 11 Enter **Running Time (ON)**, which specifies the ramp up time to start a device.
- 12 Enter **Running Time (OFF)**, which specifies the ramp down time to switch off a device.
- 13 Select **Settings for Dimmer** and specify a desired dimmer value.
- 14 Click **Save**.

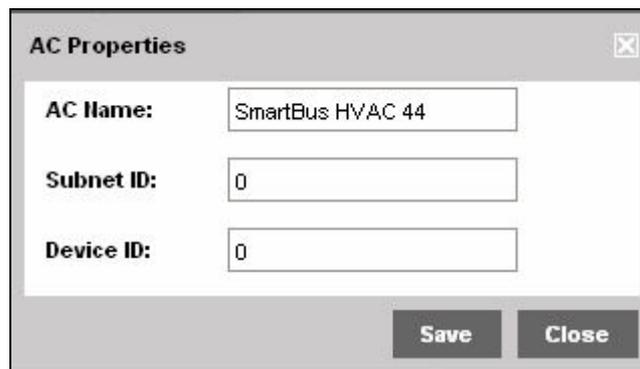
AC

SmartBus AC devices added to a room need to be configured before a user can use those devices.

To configure a SmartBus AC device:

- 1 Log on to the SmartGate application as an administrator and click **Settings** on the **Home** page. The **Rooms** screen appears.
- 2 Click **Devices**. The **Devices** screen appears.
- 3 Select a room containing SmartBus AC devices from the **Choose Room to add devices** drop down list.
- 4 Select a SmartBus AC device from the list of devices in the room.
- 5 Click **Properties**. The **AC Properties** dialog box appears.

Figure 2-10: The AC Properties Dialog Box



The screenshot shows a dialog box titled "AC Properties". It has a close button in the top right corner. The dialog contains three input fields: "AC Name" with the text "SmartBus HVAC 44", "Subnet ID" with the value "0", and "Device ID" with the value "0". At the bottom right of the dialog are two buttons: "Save" and "Close".

- 6 Confirm **AC Name**.
- 7 Enter **Subnet ID**, which specifies the ID of subnet to which SmartBus AC device belongs.
- 8 Enter **Device ID**, which specifies the ID of SmartBus AC device.
- 9 Click **Save**.

Sensors

Sensor (9 in 1) and Sensor (4 Zone) devices added to a room need to be configured before a user can use those devices.

To configure a Sensor (9 in 1) device:

- 1 Log on to the SmartGate application as an administrator and click **Settings** on the **Home** page. The **Rooms** screen appears.
- 2 Click **Devices**. The **Devices** screen appears.
- 3 Select a room containing a sensor device from the **Choose Room to add devices** drop down list.
- 4 Select a Sensor (9 in 1) device from the list of devices in the room.
- 5 Click **Properties**. The **Alarm Properties** dialog box appears.

Figure 2-11: The Alarm Properties Dialog Box

- 6 Enter **Alarm Name**, such as Door Alarm.
- 7 Enter **Ordinal ID**, which specifies sorting order of the device in device list.
- 8 Enter **Subnet ID**, which specifies the ID of subnet to which sensor device belongs.
- 9 Enter **Device ID**, which specifies the ID of sensor device.
- 10 Enter **Contact No**, which specifies the contact number on which the sensor device is operational.
- 11 Enter **Contact Type**, which specifies the status, such as closed and open, of the sensor device.
- 12 Click **Save**.

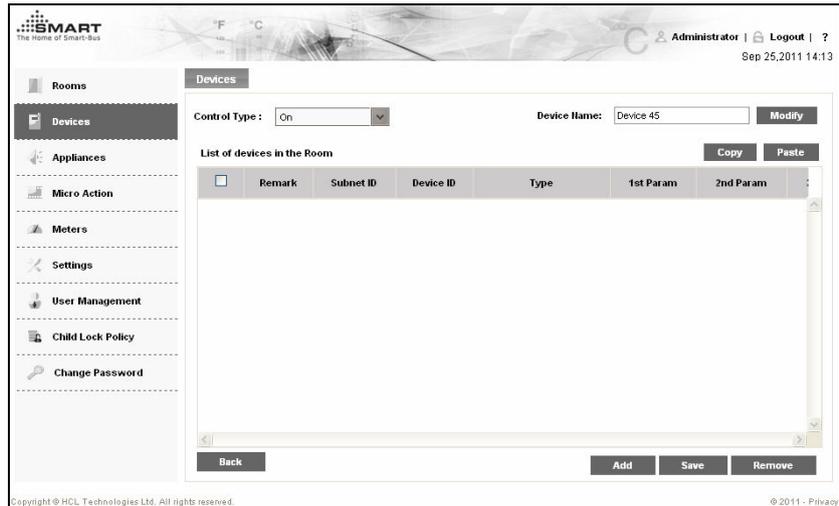
Other Devices

Other devices, such as fan and water heater, added to a room need to be configured before a user can control those devices. These other devices consist of one or more commands. A command allows you to provide device specific properties to identify and configure a device connected to SmartGate. You need to add at least one command to such a device to configure its properties. Further, you can create a group of commands under a single device if you want to configure and control more than one device, such as light and shades, along with the specified device. For example, you can add 3 commands to a water heater device to control light and shade of bathroom along with water heater.

To configure other devices, such as **Fan**:

- 1 Log on to the SmartGate application as an administrator and click **Settings** on the **Home** page. The **Rooms** screen appears.
- 2 Click **Devices**. The **Devices** screen appears.
- 3 Select a room containing a fan device from the **Choose Room to add devices** drop down list.
- 4 Select a fan device from the list of devices in the room.
- 5 Click **Properties**. The **Fan** properties appear.

Figure 2-12: The Fan Properties



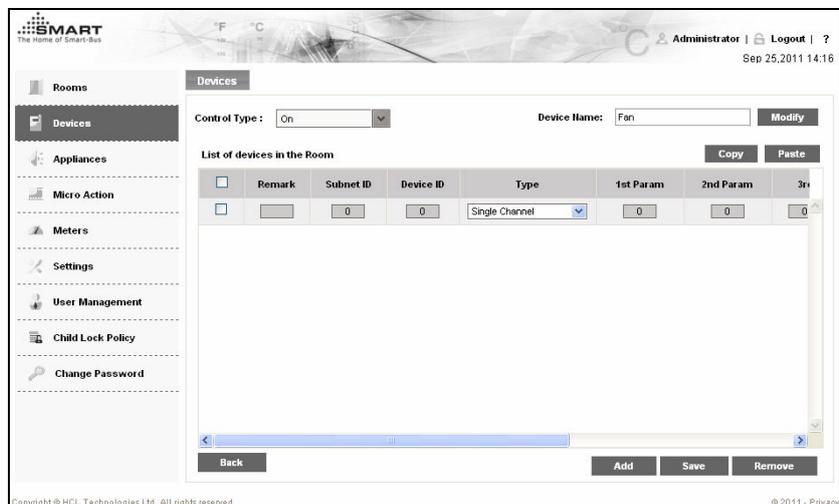
- 6 Select **Control Type** to specify the initial state of the fan to be switched on or off.
- 7 Confirm **Device Name** and then click **Modify** if you want to change name of the fan device.
- 8 Click **Add**. The **Add Commands** dialog box appears.

Figure 2-13: The Add Command Dialog Box



- 9 Enter the number of commands you want to add to the fan device in the **How many commands you want to add** text box.
- 10 Click **Add** to add commands to the fan device. The commands appear under the **List of devices in the Room** section.

Figure 2-14: The Fan Command



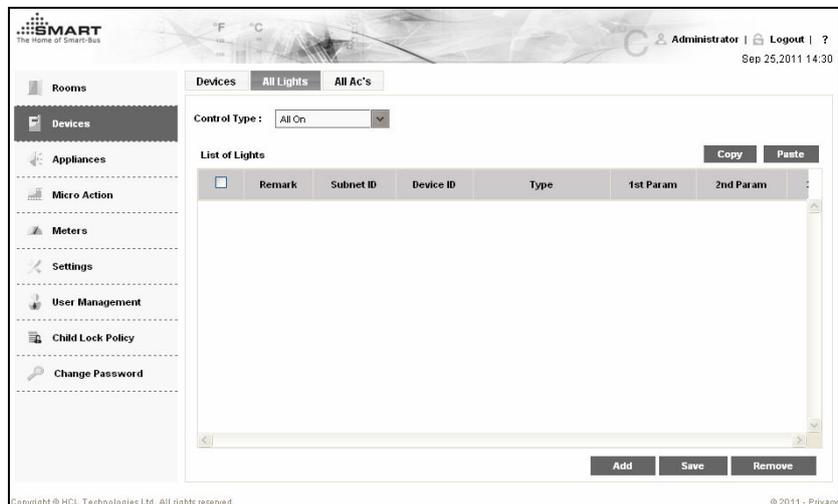
- 11 Select the command and enter description of the command in the **Remark** text box.
- 12 Enter **Subnet ID**, which specifies the ID of subnet to which the fan device belongs.
- 13 Enter **Device ID**, which specifies the ID of the fan device.
- 14 Select **Type**.
- 15 Enter **1st Param**, which specifies first additional parameter.
- 16 Enter **2nd Param**, which specifies second additional parameter.
- 17 Enter **3rd Param**, which specifies third additional parameter.
- 18 Enter **Delay After Sent**, which specifies the delay time to execute the next command in the list.

All Lights

All Lights is a group of lights that a user can control from the **All/Whole Home Control** widget on the **Home** page of the SmartGate application. You can add various lights, such as wall and spot light, from different rooms of the home to the **All Lights** group. To manage **All Lights** group:

- 1 Log on to the SmartGate application as an administrator and click **Settings** on the **Home** page. The **Rooms** screen appears.
- 2 Click **Devices**. The **Devices** screen appears.
- 3 Click **All Lights**. The **All Lights** screen appears.

Figure 2-15: The All Lights Screen



- 4 Select **Control Type**, which specifies the initial control type, such as on or off, of the lights to be added in the **All Lights** group.
- 5 Click **Add** to create a group of lights which you can control from the **Home** page. The **Add Commands** dialog box appears.

Figure 2-16: The Add Commands Dialog Box



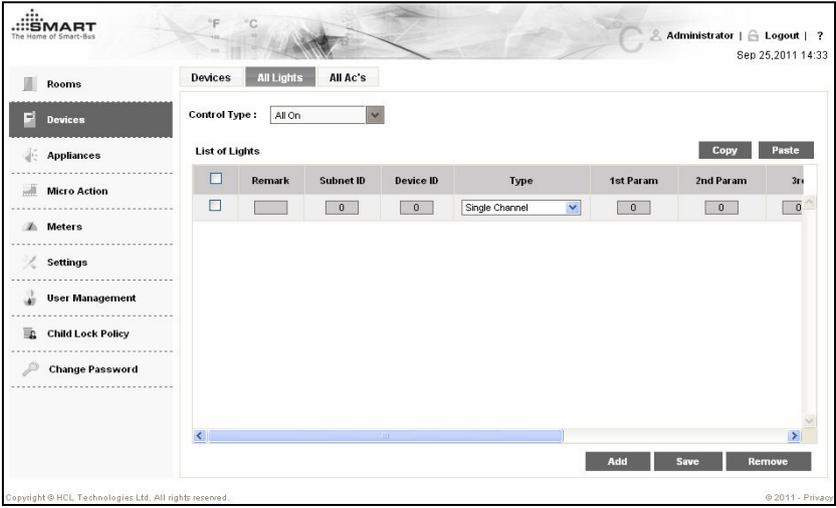
Add Commands

How many commands you want to add ?

Add **Cancel**

- 6 Enter number of commands you want to add to the All Lights group and then click **Add**. The commands appear in the **List of Lights** list.

Figure 2-17: The List of Lights List



The screenshot shows the SmartGate web interface. The left sidebar contains navigation options: Rooms, Devices (selected), Appliances, Micro Action, Meters, Settings, User Management, Child Lock Policy, and Change Password. The main content area is titled 'Devices' and has tabs for 'All Lights' and 'All Ac's'. Below the tabs, there is a 'Control Type' dropdown set to 'All On'. A 'List of Lights' table is displayed with columns: Remark, Subnet ID, Device ID, Type, 1st Param, 2nd Param, and 3rd Param. A single row is visible with values: Remark (empty), Subnet ID (0), Device ID (0), Type (Single Channel), 1st Param (0), 2nd Param (0), and 3rd Param (0). At the bottom right of the table area are buttons for 'Add', 'Save', and 'Remove'. The top right corner shows the user is logged in as 'Administrator' on 'Sep 25, 2011 14:33'.

Note: A command allows you to provide device specific properties to identify and configure a device connected to SmartGate. You can add multiple commands in the **All Lights** group to control respective lights.

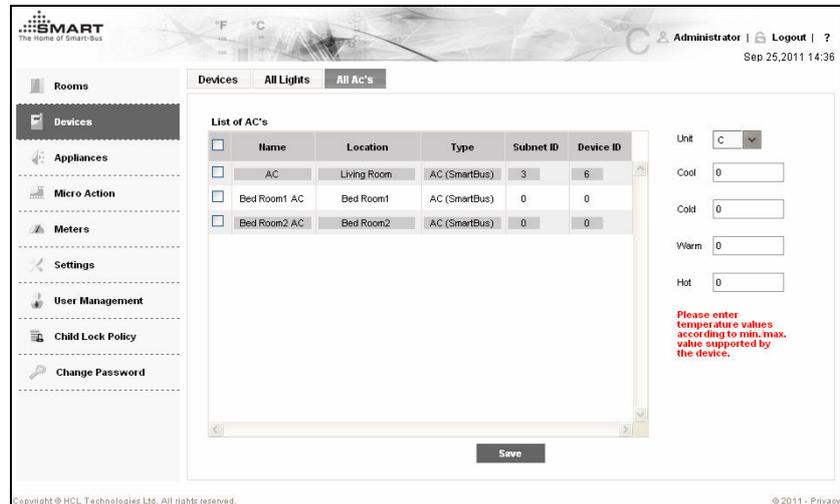
- 7 Enter description of **All Lights** group in the **Remark** text box.
- 8 Enter **Subnet ID**, which specifies the ID of subnet to which a light device belongs.
- 9 Enter **Device ID**, which specifies the ID of a light device.
- 10 Enter **1st Param**, which specifies first additional parameter.
- 11 Enter **2nd Param**, which specifies second additional parameter.
- 12 Enter **3rd Param**, which specifies third additional parameter.
- 13 Enter **Delay After Sent**, which specifies the delay time to execute the next command in the **List of Lights** list.
- 14 Click **Save** to save the details.

All ACs

All ACs is a group of ACs that a user can control from the **All/Whole Home Control** widget on the **Home** page of the SmartGate application. You can add various ACs from different rooms of the home to the **All ACs** group. To manage **All ACs** group.

- 1 Log on to the SmartGate application as an administrator and click **Settings** on the **Home** page. The administrator section appears.
- 2 Click **Devices**. The **Devices** screen appears.
- 3 Click **All AC's**. The **All AC's** screen appears.

Figure 2-18: The All AC's Screen



- 4 Select the ACs you want to add in the **All ACs** group.
- 5 Select **Unit**, which specifies the room temperature type, such as Celsius and Fahrenheit
- 6 Enter temperature units to set cooling level of ACs in the **Cool** and **Cold** text boxes.
- 7 Enter temperature units in the **Warm** and **Hot** text boxes to set warm and hot level of ACs.
- 8 Click **Save** to save the settings.

Appliances

An appliance is a home-specific group of devices that can be scheduled as per requirement. For example, you can add light and shade of a bed room to an appliance group. You can then schedule the appliance such that the bed room light gets switched on and shades are opened at 06:30 am every day.

To create an appliance:

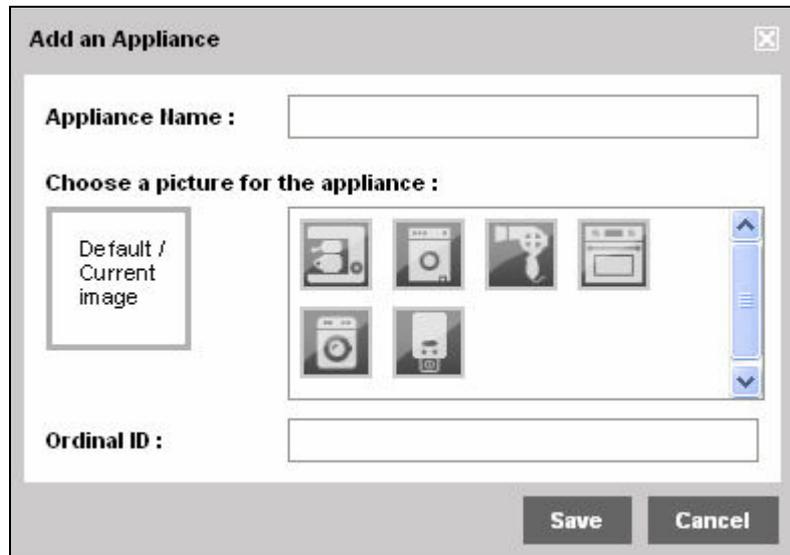
- 1 Log on to the SmartGate application as an administrator and click **Settings** on the **Home** page. The **Rooms** screen appears.
- 2 Click **Appliances**. The **Add Appliances** screen appears.

Figure 2-19: The Add Appliances Screen



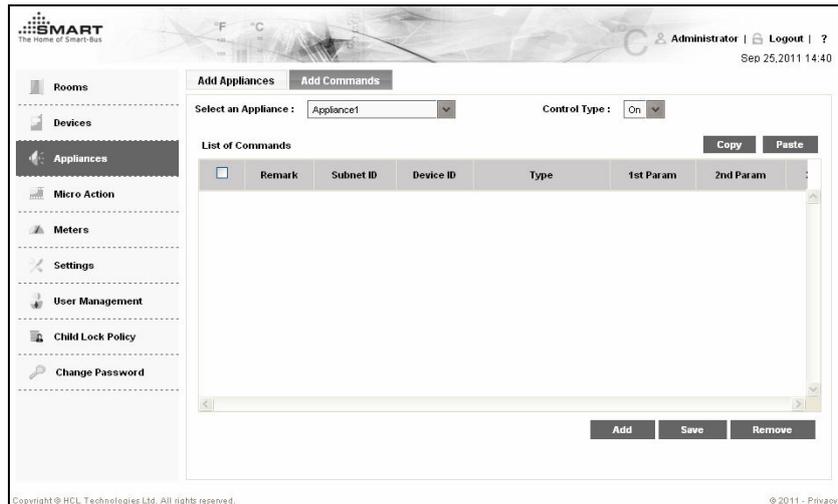
- 3 Click **Add**. The **Add an Appliance** dialog box appears.

Figure 2-20: The Add an Appliance Dialog Box



- 4 Enter **Appliance Name**.
- 5 Select a display image for the appliance from image gallery.
- 6 Enter **Ordinal ID** and then click **Save** to create appliance.
- 7 Click **Add Commands**. The **Add Commands** screen appears.

Figure 2-21: The Add Commands Screen



- 8 Select an appliance from the **Select an Appliance** drop down list to which you want to add commands.
- 9 Select **Control Type**, which specifies the initial control type, such as On or Off, of the selected appliance.
- 10 Click **Add**. The **Add Commands** dialog box appears.

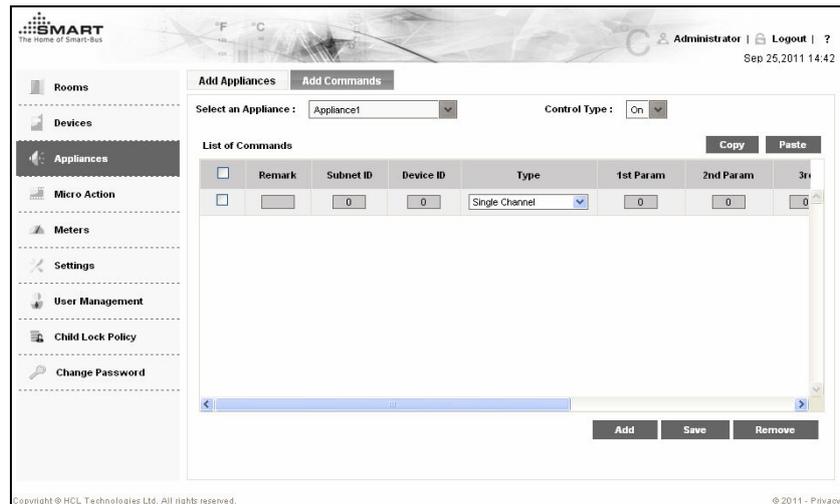
Figure 2-22: The Add Commands Dialog Box



Note: A command allows you to provide device specific properties to identify and configure a device connected to SmartGate. You can add multiple commands in an appliance group to control respective devices.

- 11 Enter the number of commands that you want to associate with the appliance, in the **How many commands you want to add** text box. List of commands appear in the **Add Commands** section.

Figure 2-23: The List of Commands



- 12 Enter **Remark**, which specifies the description of a command.
- 13 Enter **Subnet ID**, which specifies the ID of subnet to which device belongs.
- 14 Enter **Device ID**, which specifies the ID of device.
- 15 Enter **1st Param**, which specifies first additional parameter.
- 16 Enter **2nd Param**, which specifies second additional parameter.
- 17 Enter **3rd Param**, which specifies third additional parameter.
- 18 Click **Save** to create appliance.

Note: You can delete an appliance by selecting the specified appliance from appliance list and clicking **Remove**.

Micro Action

A micro action is a home-specific group of devices that is created as per some event, such as party and prayer. For example, you can create a Party micro action which switches on all lights of living room, starts DVD player, and adjusts the temperature of AC at a desired level. A user can control a micro action from the **Micro Action** widget on the home page.

To create a micro action:

- 1 Log on to the SmartGate application as an administrator and click **Settings** on the **Home** page. The **Rooms** screen appears.
- 2 Click **Micro Actions**. The **Add a Micro Action** screen appears.

Figure 2-24: The Add a Micro Action Screen

- 3 Enter **Micro Action Name** and then click **Save** to create micro action.
- 4 Select the newly created micro action from list of micro actions and click **Add** in the **Commands** section to add commands to this micro action. The **Add Commands** dialog box appears.

Figure 2-25: The Add Commands Dialog box

Note: A command allows you to provide device specific properties to identify and configure a device connected to SmartGate. You can add multiple commands in a micro action to control respective devices.

- 5 Enter the number of commands that you want to associate with the micro action, in the **How many commands you want to add** text box. List of commands appear in the **Corresponding Commands** section.

Figure 2-26-: The List of Commands

- 6 Select a command and enter its description in the **Remark** text box.
- 7 Enter **Subnet ID**, which specifies the ID of subnet to which device belongs.
- 8 Enter **Device ID**, which specifies the ID of device.
- 9 Enter **1st Param**, which specifies first additional parameter.
- 10 Enter **2nd Param**, which specifies second additional parameter.
- 11 Enter **3rd Param**, which specifies third additional parameter.
- 12 Click **Save** in the **Commands** section to save the commands in the selected micro action.

Note: You can delete a micro action by selecting the specified micro action from the micro action list and clicking **Remove**.

Meters

The SmartGate application allows a user to view and manage energy, water, and gas meters connected to SmartGate. User can view daily and monthly reports of energy, water, and gas units consumed at home and can get alerts in case of abnormal usage.

Note: Currently, management of only energy meter is supported in the SmartGate application.

Energy

To configure energy meter connected to SmartGate:

- 1 Log on to the SmartGate application as an administrator and click **Settings** on the **Home** page. The administrator section appears.
- 2 Click **Meters**. The **Meters** screen appears.

Figure 2-27: The Meters Screen

- 3 Select **Energy** from the **Choose the Meter** drop down list. Settings for the energy meter appear.
- 4 Enter **Subnet ID**, which specifies the ID of subnet to which energy meter belongs.
- 5 Enter **Device ID**, which specifies the ID of energy meter.
- 6 Enter **Alarm Current**, which specifies the number of energy units after which an alarm is raised to alert user regarding unusual energy consumption in home.
- 7 Select **Base Currency**, which specifies the base currency to calculate energy bill.
- 8 Enter **Base Charge**, which specifies the minimum rental charge for the energy meter.
- 9 Click **Add** in the **Tariff Settings** section. The **Add Tariff** dialog box appears.

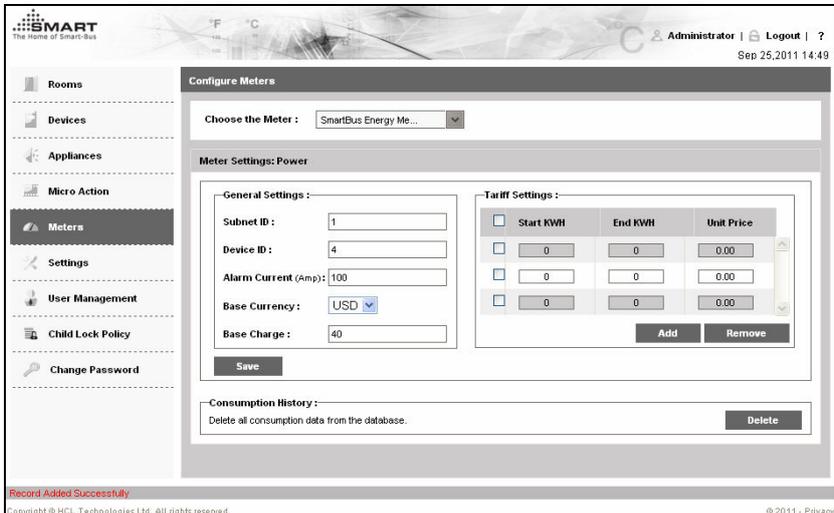
Figure 2-28: The Add Tariff Dialog Box



The dialog box is titled "Add Tariff" and contains a text input field with the label "How many tariffs you want to add ?". Below the input field are two buttons: "Add" and "Cancel".

- 10 Enter the number of tariffs that you want to add as per local energy consumption plans, in the **How many tariffs you want to add** text box.
- 11 Click **Add**. Tariff plans appear in the **Tariff Settings** section.

Figure 2-29: The Tariff Settings Section



The screenshot shows the "Configure Meters" section of the SmartGate interface. The "Meter Settings: Power" section is active, showing "General Settings" and "Tariff Settings".

General Settings:

- Subnet ID: 1
- Device ID: 4
- Alarm Current (Amp): 100
- Base Currency: USD
- Base Charge: 40

Tariff Settings:

	Start KWH	End KWH	Unit Price
<input type="checkbox"/>	0	0	0.00
<input type="checkbox"/>	0	0	0.00
<input type="checkbox"/>	0	0	0.00

Buttons: Add, Remove, Save

Consumption History: Delete all consumption data from the database. [Delete]

Record Added Successfully
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- 12 Enter **Start KWH**, which specifies the starting energy unit for a tariff slab.
- 13 Enter **End KWH**, which specifies the ending energy unit for a tariff slab.
- 14 Enter **Unit Price**, which specifies the price per unit for a specific tariff slab.
- 15 Click **Save** to save the energy meter settings.

Water

Currently, this feature is not supported.

Gas

Currently, this feature is not supported.

Application Settings

The application settings, such as e-mail and ZigBee configuration, of the SmartGate application need to be configured before a user starts to operate the application.

E-mail

The **E-mail** tab provides various properties, such as user name, password, and authentication mode, such that the SmartGate application can send e-mail alerts for alarm, maintenance request, and reminder events.

To configure E-mail settings:

- 1 Log on to the SmartGate application as an administrator and click **Settings** on the **Home** page. The Rooms screen appears.
- 2 Click **Settings**. The **Email Settings** section in the **E-mail** tab appears.

Figure 2-30: The Email Tab

The screenshot displays the 'Email Settings' configuration page in the SmartGate application. The interface includes a top navigation bar with tabs for 'Email', 'Zigbee Config.', 'Zigbee Filtering', 'Weather', 'Maintenance', 'Firmware Upgrade', and 'Set Date'. The 'Email' tab is active. On the left, a sidebar menu lists various system components, with 'Settings' highlighted. The main panel, titled 'Email Settings', contains a 'Configure Gateway' section with the following fields and values:

- SMTP Host Name: 0.0.0.0
- SMTP Port Number: 0
- TLS State: 0
- Email From: @
- User Name: 0
- Password: (empty)
- Confirm Password: (empty)
- Authentication Mode: Off
- Default to Email id: (empty)

'Save' and 'Cancel' buttons are located at the bottom right of the form area. The footer of the page contains copyright information for HCL Technologies Ltd. and the year 2011.

- 3 Enter **Host Name**, which specifies the Simple Mail Transfer Protocol (SMTP) server used to send and receive e-mails.
- 4 Select **TLS State**, which enables or disables Transport Layer Security (TLS)/Secure Socket Layer (SSL) encrypted connections to the SMTP server.
- 5 Enter **From**, which specifies e-mail address of sender.
- 6 Enter **User Name**, which specifies user name of the e-mail ID used to send e-mails.
- 7 Enter **Password**, which specifies password of the e-mail ID used to send e-mails.
- 8 Select an authentication mode from the **Authentication Mode** drop down list containing following options:
 - Off: Disables authentication mode.
 - On: Enables authentication mode.

- Login: Provides a non-standard authentication method similar to Plain Language Action and Information Network (PLAIN). Login needs a user name and a password, which are sent in BASE64 encoding and can be easily decoded to plain text.
 - Plain: Provides an authentication method which requires a user name and a password that can be easily decoded to plain text.
- 9** Enter **Default to Email id**, which specifies semi colon separated e-mail IDs to which alarm e-mails alerts are sent.
- 10** Enter **Port Number**, which specifies the SMTP port number used to send e-mails.

Tip: Enter **Port Number** as 0, to enable the e-mail server to automatically select a port number.

- 11** Click **Save** to save e-mail configuration settings.

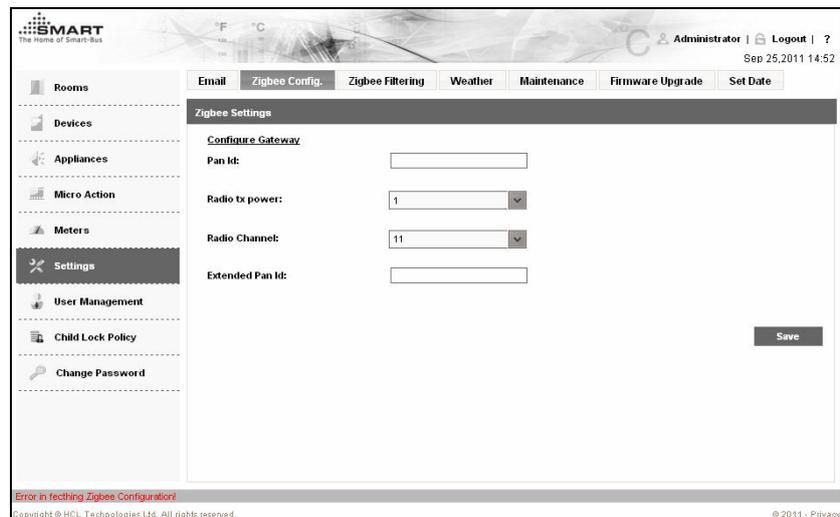
Zigbee Configuration

The **ZigBee Configuration** tab provides various properties, such as Pan Id and Radio Channel, to manage a Zigbee network connected to home router.

To configure settings of ZigBee network:

- 1 Log on to the SmartGate application as an administrator and click **Settings** on the **Home** page. The Rooms screen appears.
- 2 Click **Settings** and then click **Zigbee Config**. The **Zigbee Settings** section in the **Zigbee Config** tab appears.

Figure 2-31: The Zigbee Config Tab



- 3 Enter Pan Id, which specifies a 16-bit value that uniquely identifies a Personal Area Network (PAN).

Note: The allowed range of PAN Ids is 0x0000 to 0x3FFF (16 Bit).

- 4 Select **Radio tx power**, which specifies transmission power of a ZigBee coordinator.

Note: Allowed values to specify transmission power of a ZigBee coordinator are 1, 2 and 3. Using a very high transmission power results in longer range but it generates more interference with other devices.

- 5 Select **Radio Channel**, which specifies a ZigBee channel through which a ZigBee device connects to a ZigBee network.
- 6 Enter **Extended Pan Id**, which specifies a string used to identify a ZigBee network.
- 7 Click **Save**.

Zigbee Filtering

You can allow only selected ZigBee devices, available in a ZigBee network, to connect with SmartGate.

To manage filtering of Zigbee devices connected to SmartGate:

- 1 Log on to the SmartGate application as an administrator and click **Settings** on the **Home** page. The **Rooms** screen appears.
- 2 Click **Settings** and then click **Zigbee Filtering**. The **ZigBee Filtering** tab appears.

Figure 2-32: The Zigbee Filtering Tab

The screenshot shows the SmartGate web interface. At the top, there's a header with the SMART logo and user information: 'Administrator | Logout | ?' and the date 'Sep 25, 2011 14:53'. Below the header is a navigation bar with tabs: 'Email', 'Zigbee Config.', 'Zigbee Filtering', 'Weather', 'Maintenance', 'Firmware Upgrade', and 'Set Date'. The 'Zigbee Filtering' tab is selected. On the left, a sidebar menu includes 'Rooms', 'Devices', 'Appliances', 'Micro Action', 'Meters', 'Settings' (highlighted), 'User Management', 'Child Lock Policy', and 'Change Password'. The main content area is titled 'Zigbee Filtering' and contains two form fields: 'MAC Address:' with a text input and a 'Save' button, and 'Controller Permit Join:' with a text input and a 'Save' button. At the bottom of the page, there is a red error message: 'Error in fetching Zigbee Mac Filter Configuration!' and a copyright notice: 'Copyright © HCL Technologies Ltd. All rights reserved. © 2011 - Privacy'.

- 3 Enter **MAC Address**, which specifies a 16-character MAC address of a ZigBee Device which you want to connect to your home router.
- 4 Click **Save** to save the MAC address.
- 5 Enter **Control Permit Join**, which specifies the time interval in seconds up to which ZigBee Devices are allowed to connect to SmartGate.

Note: The Control Permit Join text box takes a value in seconds ranging from 1 to 224. Entering a value of 0 disables the ZigBee network connected to SmartGate. Entering a value of 255 enables the ZigBee network to allow synchronization of ZigBee devices with SmartGate for an infinite time interval.

- 6 Click **Save** to save the permit join duration.

Weather

You need to configure URLs containing weather forecasts for specified cities such that a user can get weather updates of those cities from the Weather widget on the **Home** page and Weather section in **Community** screen.

To configure weather settings:

- 1 Log on to the SmartGate application as an administrator and click **Settings** on the **Home** page. The **Rooms** screen appears.
- 2 Click **Settings** and then click **Weather**. The **Weather Settings** section in the **Weather** tab appears.

Figure 2-33: The Weather Tab



- 3 Click **Add**. The **Add Weather Forecast URL** dialog box appears.

Figure 2-34: The Add Weather Forecast URL Dialog Box

- 4 Enter **City**, which specifies city name.
- 5 Enter **URL**, which specifies the URL of the Web site that contains weather forecast for the specified city.
- 6 Click **Add** to add weather forecast URL.

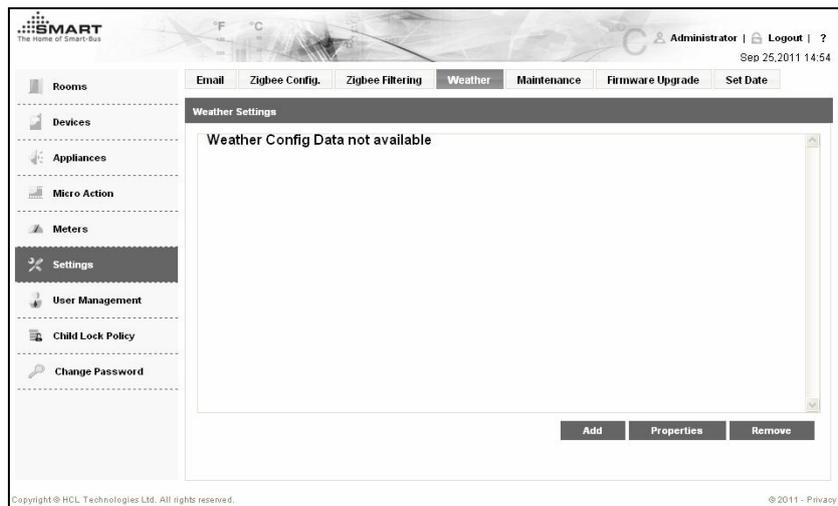
Maintenance

You need to configure the maintenance service properties such that the user can send service request e-mails to the required service providers, such as electrician and plumber.

To configure maintenance settings:

- 1 Log on to the SmartGate application as an administrator and click **Settings** on the **Home** page. The **Rooms** screen appears.
- 2 Click **Settings** and then click **Maintenance**. The **Maintenance Settings** section in the **Maintenance** tab appears.

Figure 2-35: The Maintenance Tab



- 3 Click **Add**. The **Add Maintenance Service Details** dialog box appears.

Figure 2-36: The Add Maintenance Service Details Dialog Box

- 4 Enter **Service Name**, which specifies name of a maintenance service.
- 5 Enter **Mail ID**, which specifies e-mail ID of the service provider for a specific service.
- 6 Click **Add** to add the maintenance service details of a specific service.

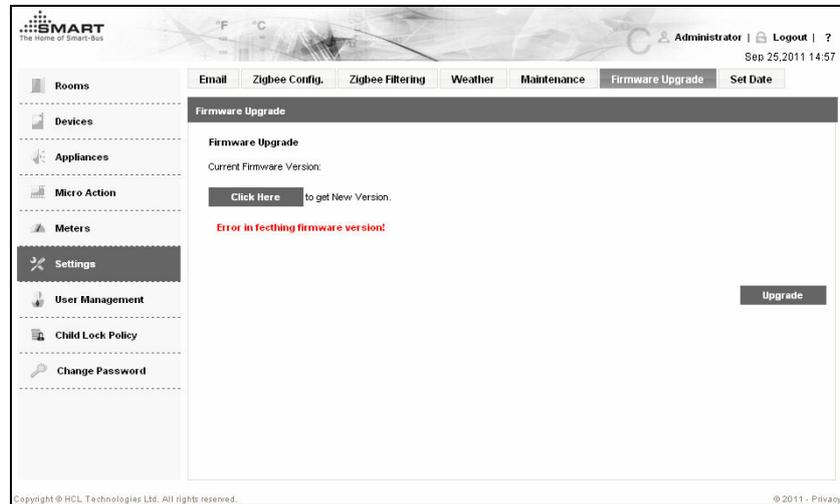
Firmware Upgrade

You can manage firmware upgrade for the SmartGate application to get the latest updates of the application.

To upgrade the SmartGate application:

- 1 Log on to the SmartGate application as an administrator and click **Settings** on the **Home** page. The **Rooms** screen appears.
- 2 Click **Settings** and then click **Firmware Upgrade**. The **Firmware Upgrade** tab appears.

Figure 2-37: The Firmware Upgrade Tab



- 3 Insert the Universal Serial Bus (USB) storage device containing latest version of the SmartGate application, in the USB port of SmartGate.
- 4 Click **Click Here**. The SmartGate application searches the USB storage device and displays the version of firmware stored in the USB storage device.
- 5 If the USB storage device contains an updated firmware version, click **Upgrade** to upgrade the SmartGate application.

User Management

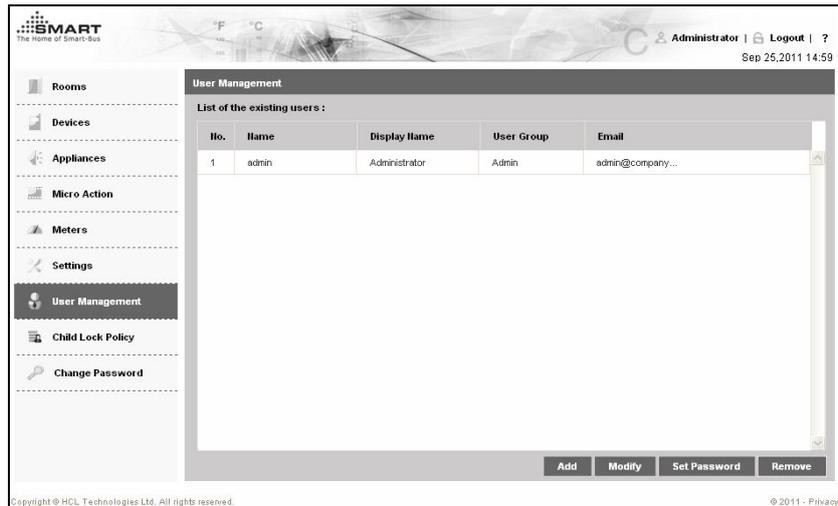
You can add a maximum number of 20 users in the SmartGate application, out of which only 4 users can log on to the SmartGate application simultaneously.

Note: The SmartGate application already contains an administrator user and only privilege and normal users can be added.

To manage application users in the SmartGate application:

- 1 Log on to the SmartGate application as an administrator and click **Settings** on the **Home** page. The **Rooms** screen appears.
- 2 Click **User Management**. The **User Management** screen appears.

Figure 2-38: The User Management Screen



- 3 Click **Add**. The **Add User** dialog box appears.

Figure 2-39: The Add User Dialog Box

- 4 Enter **User Name**.
- 5 Enter **Display Name**, which specifies the name that is displayed on top of the SmartGate application.
- 6 Enter **Email**, which specifies the e-mail ID of user.
- 7 Select **Group**, which specifies the user group to which the user belongs.
- 8 Click **Save** to create user.
- 9 Select the newly created user from the list of existing users and click **Set Password**. The **Set Password for User** dialog box appears.

Figure 2-40: The Set Password for User Dialog Box

- 10 Enter **Password**.

- 11 Enter the password again in the **Confirm Password** text box.
- 12 Click **Submit** to set the password for the specified user.

Child Lock Policy

A privilege user and administrator can create child lock policies to disable specified normal users to control selected home devices. To create a child lock policy:

- 1 Log on to the SmartGate application as an administrator or privilege user and click **Settings** on the **Home** page. The **Rooms** screen appears.
- 2 Click **Child Lock Policy**. The **Child Lock Policy** screen appears.

Figure 2-41: The Child Lock Policy Screen



- 3 Click **Add**. The **Add a Policy** dialog box appears.

Figure 2-42: The Add a Policy Dialog Box

Add a Policy

Policy Name :

Description :

Rooms : Living Room

Device Name

- Wall Light
- AC
- SmartBus 9 in 1 Sensor 24
- SmartBus 4 Zone Sensor 25
- Appliance
- Exhaust Fan
- Fan

Save **Cancel**

- 4 Enter **Policy Name**.
- 5 Enter **Description**, which specifies the description about the policy.
- 6 Select a room from the **Rooms** drop down list. Devices in the selected room appear in the **Device Name** list.
- 7 Select devices from the **Device Name** list that you want to control through this policy.

Note: You can select different rooms from the Rooms drop down list and can select multiple devices existing in those rooms to be controlled by a single policy.

- 8 Click **Save** to create policy.