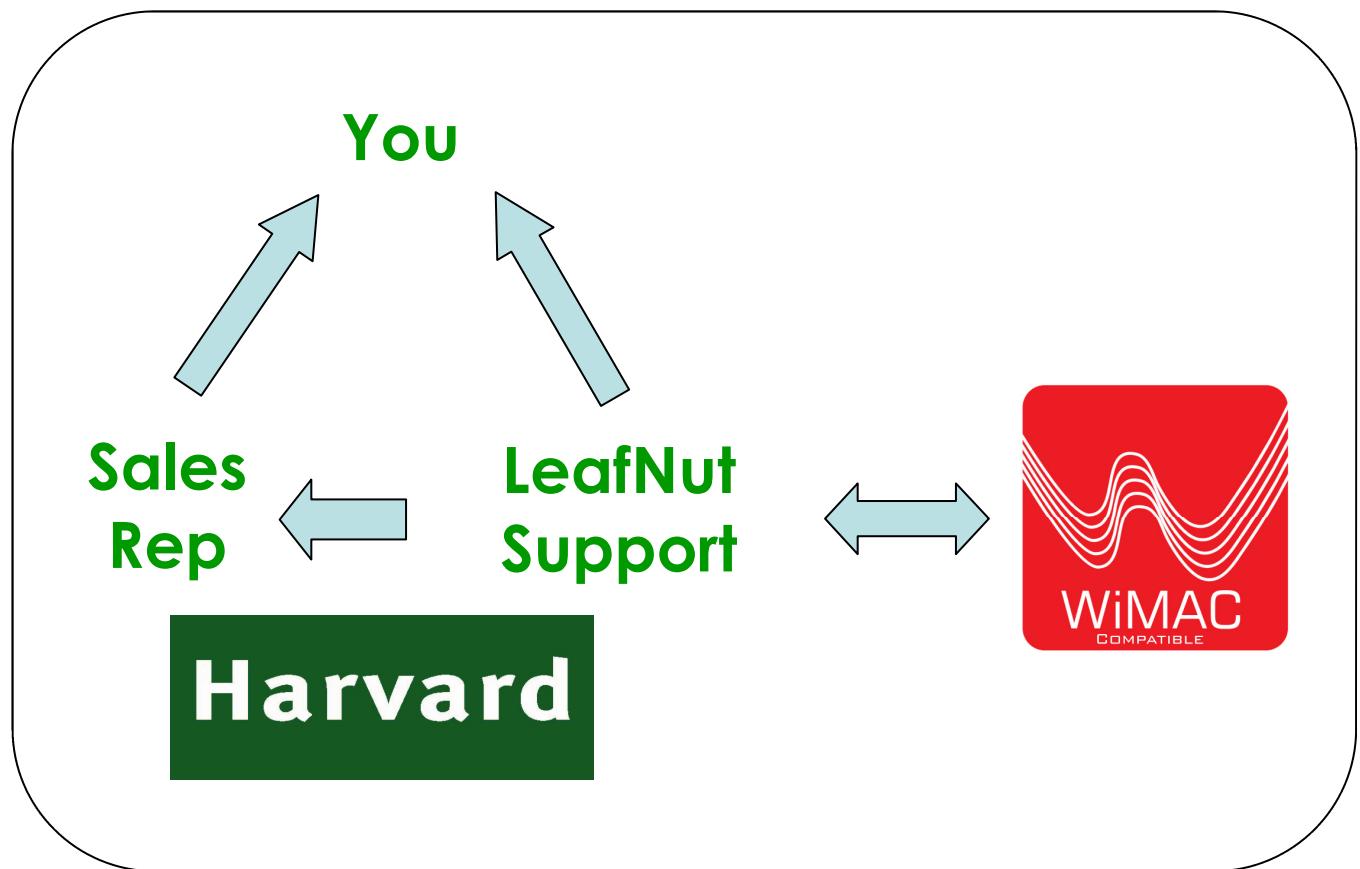


LeafNut Support Quick Start Guide



LeafNut Support

The Control and Monitoring System for Street Lighting



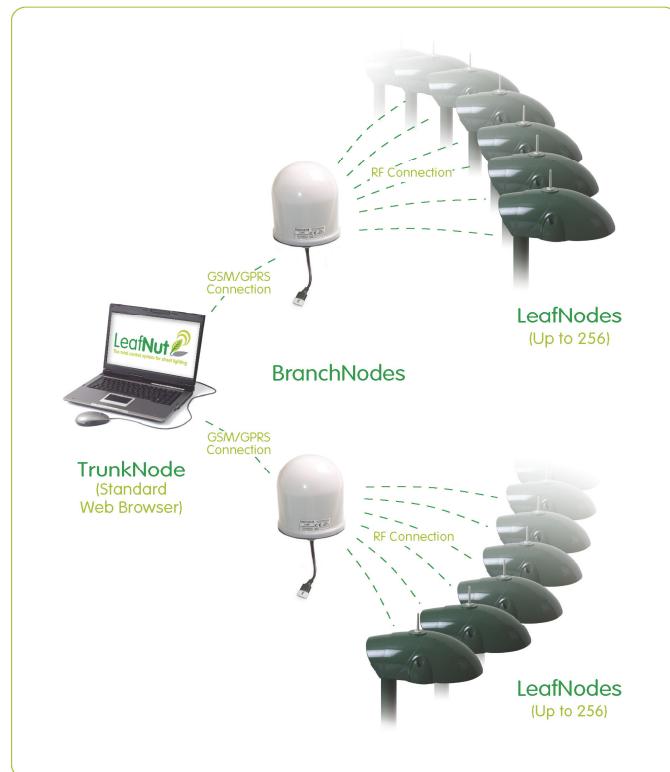
- **Product Support?**
 - Contact Your Sales Rep
- **Tech Support?**
 - Contact Your Support Account Manager



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How Does LeafNut Work?



- LeafNut is an advanced and robust Control, Management and Reporting system for outdoor lighting.
- It is not a light switch.
- It is a computer based system, hence has limited capabilities. It is only as effective as its user.

The more you understand and get to know the system, the more helpful you will find it.

How Does LeafNut Work?



LeafNut operates using wireless communication systems:

- LeafNut is very easy to install
- LeafNut is very easy to maintain or move equipment
- LeafNut does still require some basic planning
- LeafNut will operate best with clear line-of-sight view
 - It has been robustly designed to operate in all conditions
 - Install Branches with a clear sky view on a tall column
 - Install nodes all around the branch

Using LeafNut

- <https://www.leafnut-host.net/Trunkname>



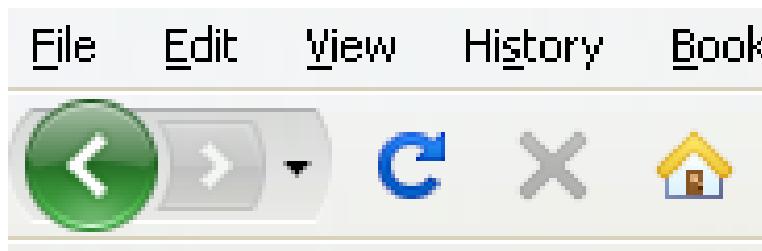
- LeafNut is secure and all activity is recorded.
 - So don't share your password.
 - Don't let other people use your account.
 - Ensure your computer is up-to-date and secure.



- Internet Explorer 6 is incompatible due to security flaws in the software.
- Some councils filter web traffic. Speak to your IT department to ensure you have access to your trunk.

Back Buttons & Time Outs

**Navigate using the LeafNut icons
– not the web browser buttons**



Administration



Health Check



Interactive Monitor



Reports



**LeafNut will time-out after
15 minutes of inactive use
and you will have to
log in again**



Administration

- **Administration**
 - Use this to add nodes or change settings

LeafNut Login

Please login to continue

Username:

Password:



Administration

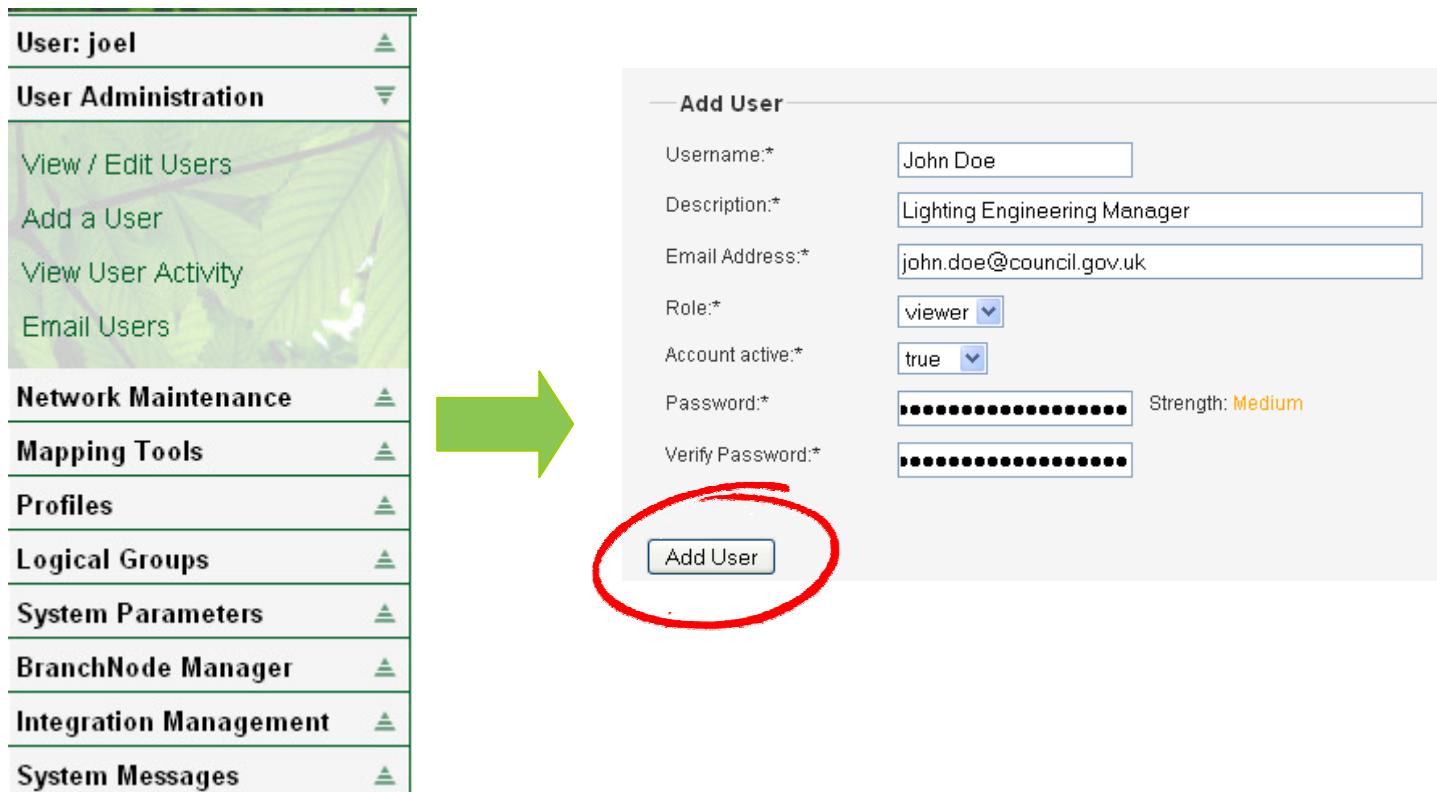


User: joep

- Logout
- Home
- About
- User Administration
- Network Maintenance
- Mapping Tools
- Profiles
- Logical Groups
- System Parameters
- BranchNode Manager
- Integration Management
- System Messages

Administration

• Adding a user



The image shows a user administration interface on the left and a detailed 'Add User' form on the right. A large green arrow points from the 'Add a User' link in the sidebar to the 'Add User' button on the form. The 'Add User' button is circled in red.

User: joel

User Administration

- View / Edit Users
- Add a User
- View User Activity
- Email Users

Network Maintenance

Mapping Tools

Profiles

Logical Groups

System Parameters

BranchNode Manager

Integration Management

System Messages

Add User

Add User	
Username:*	John Doe
Description:*	Lighting Engineering Manager
Email Address:*	john.doe@council.gov.uk
Role:*	viewer
Account active:*	true
Password:*	*****
Verify Password:*	*****

Strength: Medium

- Remember to set new users to active.
- Set an appropriate user level to keep the system as secure as possible.
 - Levels are defined in the WiMAC manual.
- Use a valid e-mail address.

Administration

• Editing a user

User: joel

User Administration

- View / Edit Users** (circled in red)
- Add a User
- View User Activity
- Email Users

Network Maintenance

Mapping Tools

Profiles

Logical Groups

System Parameters

BranchNode Manager

Integration Management

System Messages



	Username	Description	Role	Last Login	Last Logout	Active
C	kevine	Admin User	admin	2010-07-02 15:14:39.0	---	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes
C	kevine	admin	admin	2010-07-28 12:44:13.0	2010-07-28 12:44:22.0	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes
C	joel	Joel Andrew	admin	2010-10-04 16:00:40.0	---	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes



Edit User: kevine

User Id: 2147483648

Username: kevine

Account created: 2010-07-28 10:04:14.0

Last login: 2010-07-28 12:44:13.0

Last logout: 2010-07-28 12:44:22.0

Account Details

Role: admin

Account active: false

User Details

Description: admin

Email Address:

Email Configuration

Allow Email Attachments: No

Accept reports via email: No

Accept UHF reports via email: No

Preferred email format: HTML

Receive no fault confirmation: No

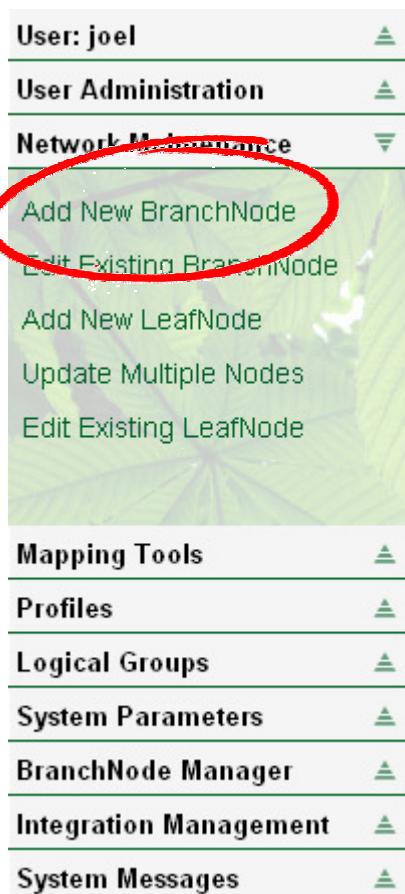
Password

Update User

These settings allow you to receive daily e-mail reports.

Administration

• Adding a BranchNode



User: joel

User Administration

Network Maintenance

Add New BranchNode **(highlighted with a red circle)**

Edit Existing BranchNode

Add New LeafNode

Update Multiple Nodes

Edit Existing LeafNode

Mapping Tools

Profiles

Logical Groups

System Parameters

BranchNode Manager

Integration Management

System Messages

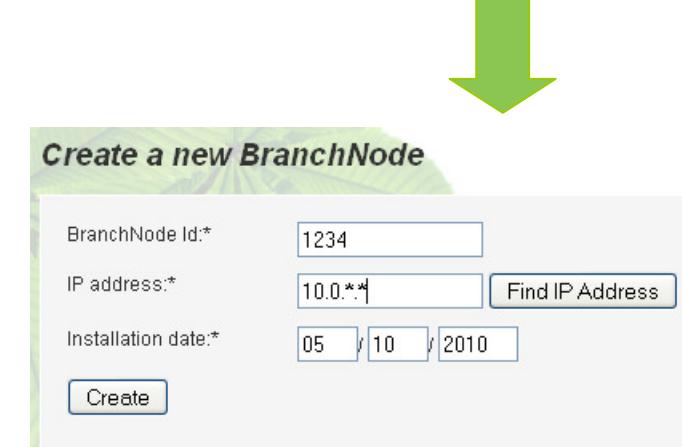


Create a new BranchNode

BranchNode Id: * 1234

IP address: *

Installation date: * 05 / 10 / 2010



Create a new BranchNode

BranchNode Id: * 1234

IP address: * 10.0.*.*

Installation date: * 05 / 10 / 2010

The IP address box will automatically complete itself when is selected..

Administration

• Adding a BranchNode pt. 2

The diagram illustrates the process of adding a BranchNode. It starts with the 'BranchNode Definition' screen on the left, which includes fields for BranchNode Id (1234), IP address (10.0.0.0), and Installation date (5/10/2010). A red circle highlights the 'Inactive' dropdown in the 'BranchNode Status' section. A green dashed line connects this status to a green box containing the instruction: 'Set Status to active if branch is to be installed in the field in the near future'. A large green arrow points from the left screen to the right screen. The right screen shows 'BranchNode Transmission Slot' details, including a dropdown for Slot Number (0*) and a dropdown for Output Power (7). A red circle highlights the '0*' dropdown. A red circle also highlights the 'Create new BranchNode' button, which is circled in red. A green dashed line connects the 'Create new BranchNode' button to a green box containing the instruction: 'Set an appropriate slot number. Consult the WiMAC manual for more information on slots'. The 'BranchNode Location' section on the left is also connected to the 'Create new BranchNode' button by a green dashed line.

BranchNode Definition

BranchNode Id: 1234

IP address: 10.0.0.0

Installation date: 5/10/2010

BranchNode Status

Current status: Inactive

BranchNode Location

Column Id:

Street 1:*

Street 2:

City:*

District:*

Postcode:

Notes:

Set Status to active if branch is to be installed in the field in the near future

Light Level Trim Details

BranchNode Transmission Slot

Slot Number: 0*

BranchNode Transmission Power

Output Power: 7

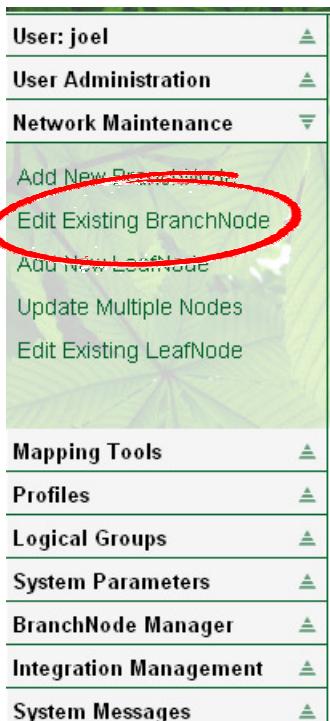
Create new BranchNode

Fill in location details, making sure they are correct. Boxes marked * are compulsory

Set an appropriate slot number. Consult the WiMAC manual for more information on slots

Administration

• Editing a BranchNode



User: joel

User Administration

Network Maintenance

Add New BranchNode

Edit Existing BranchNode

Add New LeafNode

Update Multiple Nodes

Edit Existing LeafNode

Mapping Tools

Profiles

Logical Groups

System Parameters

BranchNode Manager

Integration Management

System Messages

Edit required BranchNode information as per “Add BranchNode” then select

Update BranchNode



Select



Edit an existing BranchNode



	Branch Id	Column	Street	City	Nodes Count	SDP Count	Slot	SDP Support	Active
C	2959	1	Westland Road	Leeds	2	0	9		<input checked="" type="checkbox"/> Yes

Administration

• Adding a LeafNode

The screenshot illustrates the process of adding a LeafNode. It starts with a left sidebar containing a navigation menu. A red circle highlights the 'Add New LeafNode' option under the 'Network Maintenance' section. A large green arrow points from this option to a central 'Add a new LeafNode' dialog box. The dialog box contains fields for 'Enter the LeafNode id*', 'Node Type*', and 'Search BranchNodes for*'. A red circle highlights the 'Create a new LeafNode' button. A green arrow points down from the dialog box to a 'LeafNode definition' and 'LeafNode location' form. The 'LeafNode definition' section includes fields for 'LeafNode id' (12345677), 'Node Type' (Standard Node), and 'BranchNode id' (2939). The 'LeafNode location' section includes fields for 'Column Id*', 'Column Installed*' (05 / 10 / 2010), 'Street 1*', 'Street 2*', 'City*', 'District*', 'Postcode*', 'Latitude' (0.0), 'Longitude' (0.0), and 'Notes'. A green box on the right contains the instruction: 'Input 8 digit LeafNode ID, select node type and enter the branch ID to which you wish to add it.' A green box at the bottom right contains the instruction: 'Fill in Location Details, making sure they are correct. Boxes marked * are compulsory.'

User: joel

User Administration

Network Maintenance

Add New BranchNode

Edit Existing BranchNode

Add New LeafNode

Update Multiple Nodes

Edit Existing LeafNode

Mapping Tools

Profiles

Logical Groups

System Parameters

BranchNode Manager

Integration Management

System Messages

Add a new LeafNode

Enter the LeafNode id:*

Node Type:*

Standard Node

Search BranchNodes for*

Search by: BranchNode Id

Create a new LeafNode

LeafNode definition

LeafNode id: 12345677

Node Type: Standard Node

BranchNode id: 2939

LeafNode location

Column Id:*

Column Installed:*

05 / 10 / 2010

Street 1:*

Street 2:

City:*

District:

Postcode:

Latitude: 0.0

Longitude: 0.0

Notes:

Input 8 digit LeafNode ID, select node type and enter the branch ID to which you wish to add it.

Fill in Location Details, making sure they are correct. Boxes marked * are compulsory.

Administration

• Adding a LeafNode pt. 2

LeafNode definition

LeafNode id: 12345677

Node Type: Standard Node

BranchNode id: 2939

LeafNode location

Column Id*:

Column Installed*: 05 / 10 / 2010

Street 1*:

Street 2:

City*:

District*:

Postcode:

Latitude: 0.0

Longitude: 0.0

Notes:

Fill in location details, making sure they are correct. Boxes marked * are compulsory.

Ensure you input accurate details. The more accurate the details you use, the more effective LeafNut will be.

Seven day profile details

Seven day profile: Default Profile One

Gear information

Ballast type: * Please select...

Ballast installation date: * 05 / 10 / 2010

Lamp type: * Please select...

Lamp installation date: * 05 / 10 / 2010

LeafNode role

Spatial Diversity Provider:

Solar Clock Trim Values

Sunrise Trim (+/- 59 Mins): 25

Sunset Trim (+/- 59 Mins): -25

Create a new LeafNode

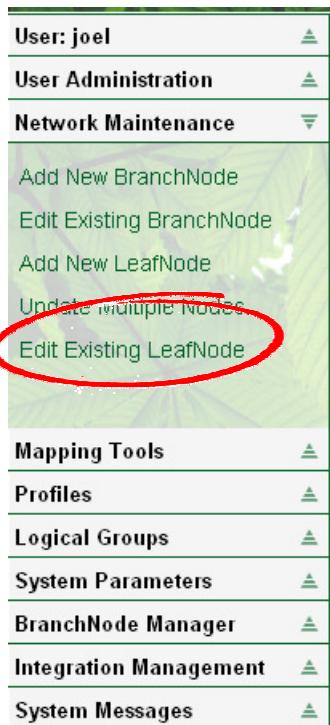
Select Profile (See Profiles section).

Select ballast and lamp type which the Node is connected to.

Leave other values as default for now.

Administration

• Cloning a LeafNode



User: joel

User Administration

Network Maintenance

Add New BranchNode

Edit Existing BranchNode

Add New LeafNode

Update Multiple Nodes

Edit Existing LeafNode

Mapping Tools

Profiles

Logical Groups

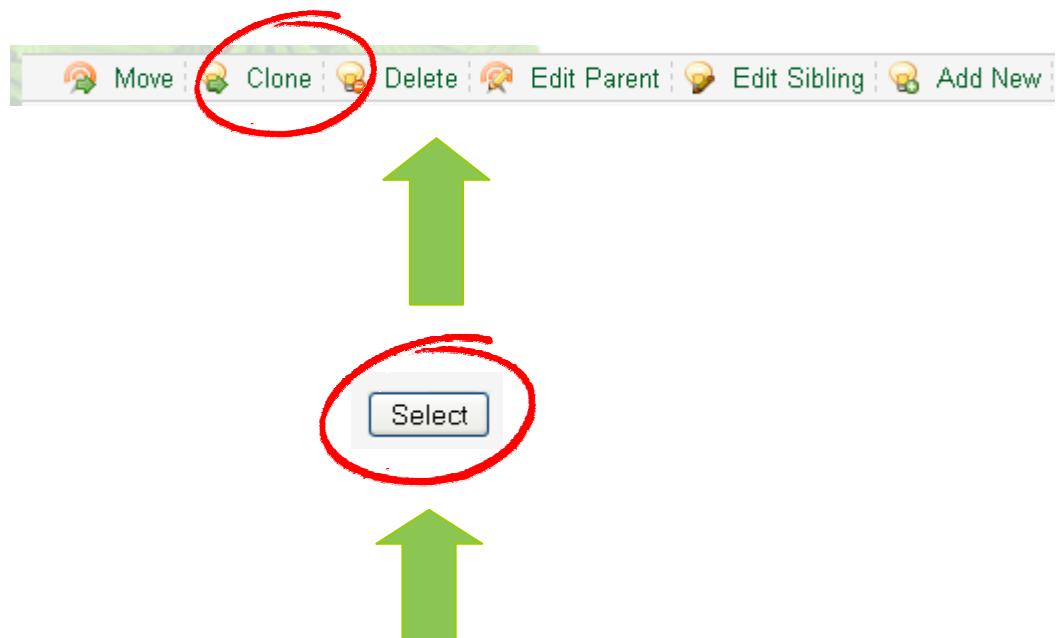
System Parameters

BranchNode Manager

Integration Management

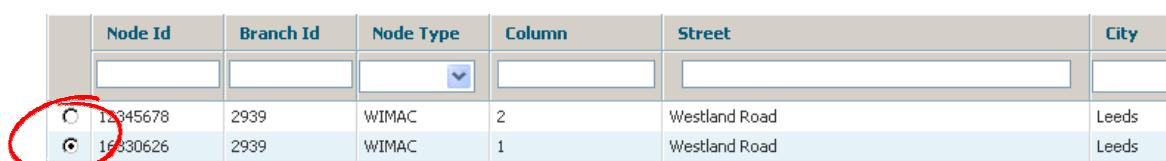
System Messages

Cloning nodes offers a quick way of adding more nodes with identical street data.



Move | **Clone** | Delete | Edit Parent | Edit Sibling | Add New

Select



	Node Id	Branch Id	Node Type	Column	Street	City
<input type="radio"/>	12345678	2939	WIMAC	2	Westland Road	Leeds
<input checked="" type="radio"/>	16830626	2939	WIMAC	1	Westland Road	Leeds

Administration

• Cloning a LeafNode pt. 2

Clone details

Template LeafNode Id: 16830626
New LeafNode Id:
New LeafNode Type: Standard Node
Branch Id: 2939
Delete Template LeafNode:

Input new LeafNode ID and Branch ID.

Clone LeafNode (button circled in red)

LeafNode location

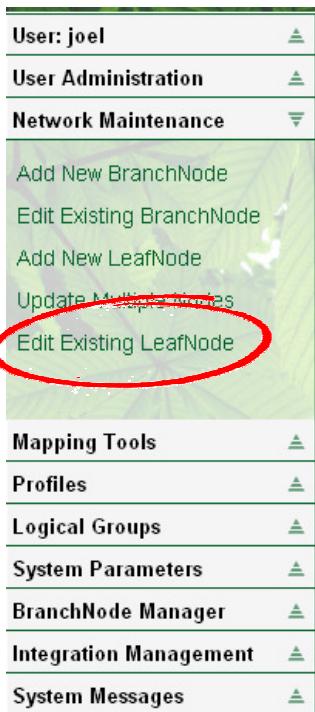
Column Id: 1
Street 1: Westland Road
Street 2:
City: Leeds
District: WestYorks
Postcode:
Latitude: 0.0
Longitude: 0.0
Notes: In Office

Edit location details as required. Ensure the column field is different to the original node.

Update LeafNode (button circled in red)

Administration

• Editing a LeafNode



User: joel
User Administration
Network Maintenance
Add New BranchNode
Edit Existing BranchNode
Add New LeafNode
Update Multiple Nodes
Edit Existing LeafNode
Mapping Tools
Profiles
Logical Groups
System Parameters
BranchNode Manager
Integration Management
System Messages

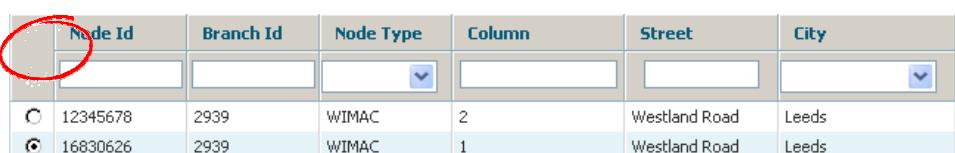
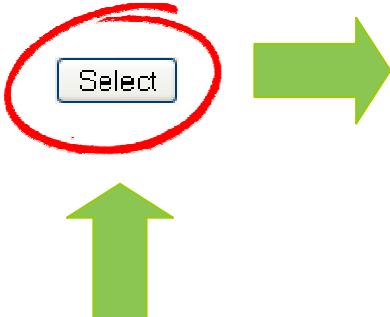
This information tells you if the node has ever communicated and can be useful to determine the cause of events, post installation.

LeafNode definition

LeafNode id:	12345678
Node Type:	Standard Node
BranchNode id:	2939
Communicated:	No
Has ballast comms:	No
Column Installed:	09/08/2010

LeafNode location

Column Id:*	2
Street 1:*	Westland Road
Street 2:	
City:*	Leeds
District:*	WestYorks
Postcode:	
Latitude:*	0.0
Longitude:*	0.0
Notes:	In Office



Node Id	Branch Id	Node Type	Column	Street	City
12345678	2939	WIMAC	2	Westland Road	Leeds
16830626	2939	WIMAC	1	Westland Road	Leeds

Edit the required information.

Administration

• Editing a LeafNode pt. 2

Seven day profile details

Seven day profile: Default Profile One

Gear information

Ballast type: HPIDD70-240-B-CC-LN

Ballast installation date: 9 / 8 / 2010

Lamp type: Generic-70

Lamp installation date: 9 / 8 / 2010

Lamp hours: 0

LeafNode role

Spatial Diversity Provider:

Solar Clock Trim Values

Sunrise Trim (+/- 59 Mins): 25

Sunset Trim (+/- 59 Mins): -25



Update LeafNode

Don't forget, if you need changes to take effect today, you will need to manually update the branch. (See Updating Section)

Set a node as an SDP to improve radio signal in blackspots.

Change seven day profile settings or change solar clock trim setting for the node if using solar clock activation. (See profiles section)

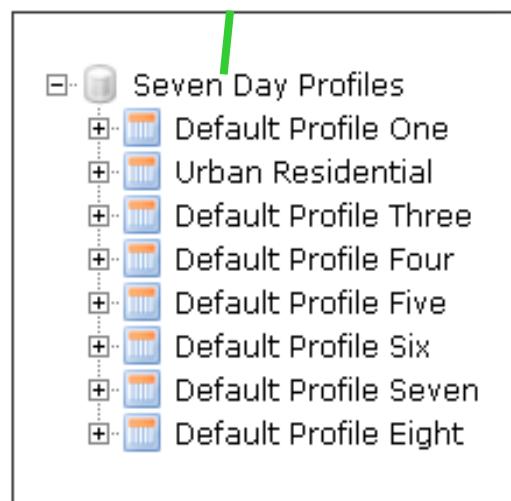
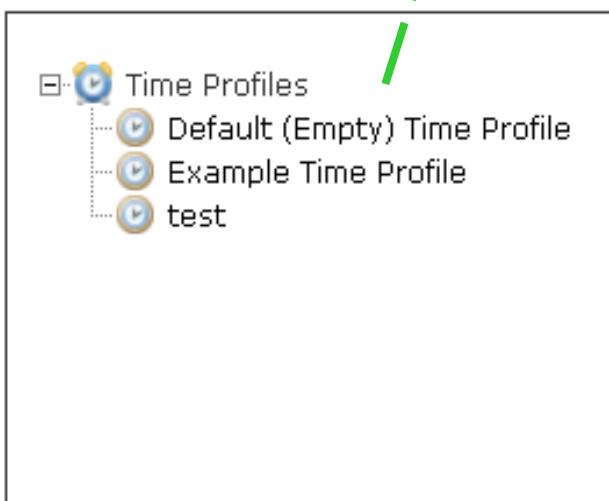
Administration

• Seven Day Profiles/Dimming



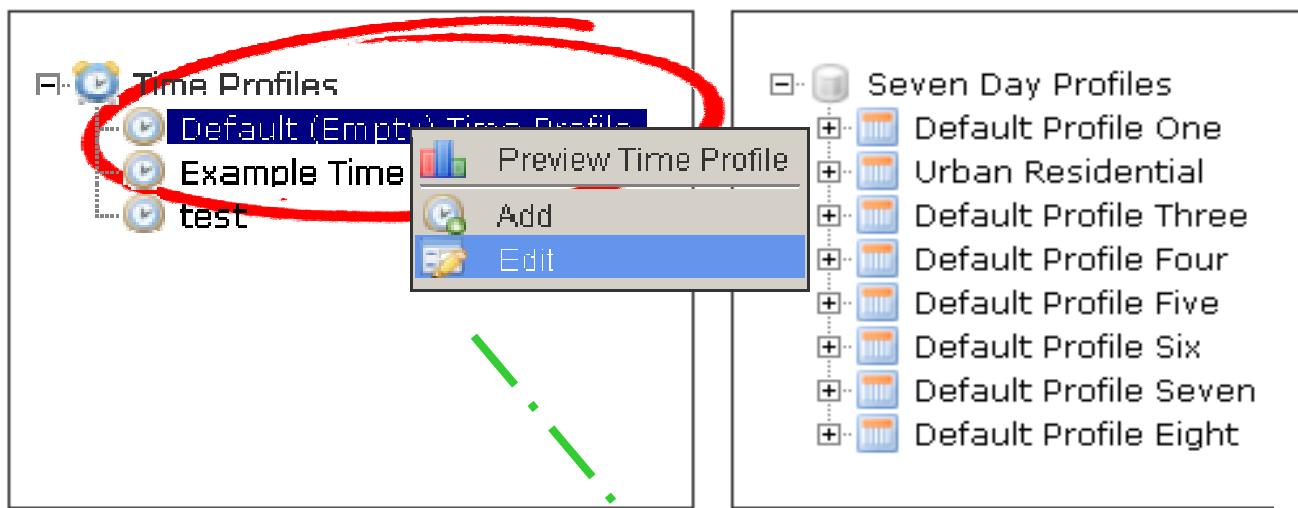
These are time profiles. You can have as many time profiles as you want. They are a list of times to turn on, dim, or turn off a lamp. Time profiles are ONLY ACTIVE when applied to a seven day profile.

These are the seven day profiles which are active on your BranchNodes. There are eight of them, each containing a time profile and activation type for every day of the week.



Administration

• Seven Day Profiles/Dimming pt. 2



Edit Time Profile

Time	Event
00 : 15	On at 100%
06 : 00	On at 75%
07 : 30	On at 50%
08 : 30	Off
18 : 00	On at 100%
00 : 00	Not Set

Update Cancel

Right click a time profile and select edit to change it. Alternatively select Add to create a new time profile.

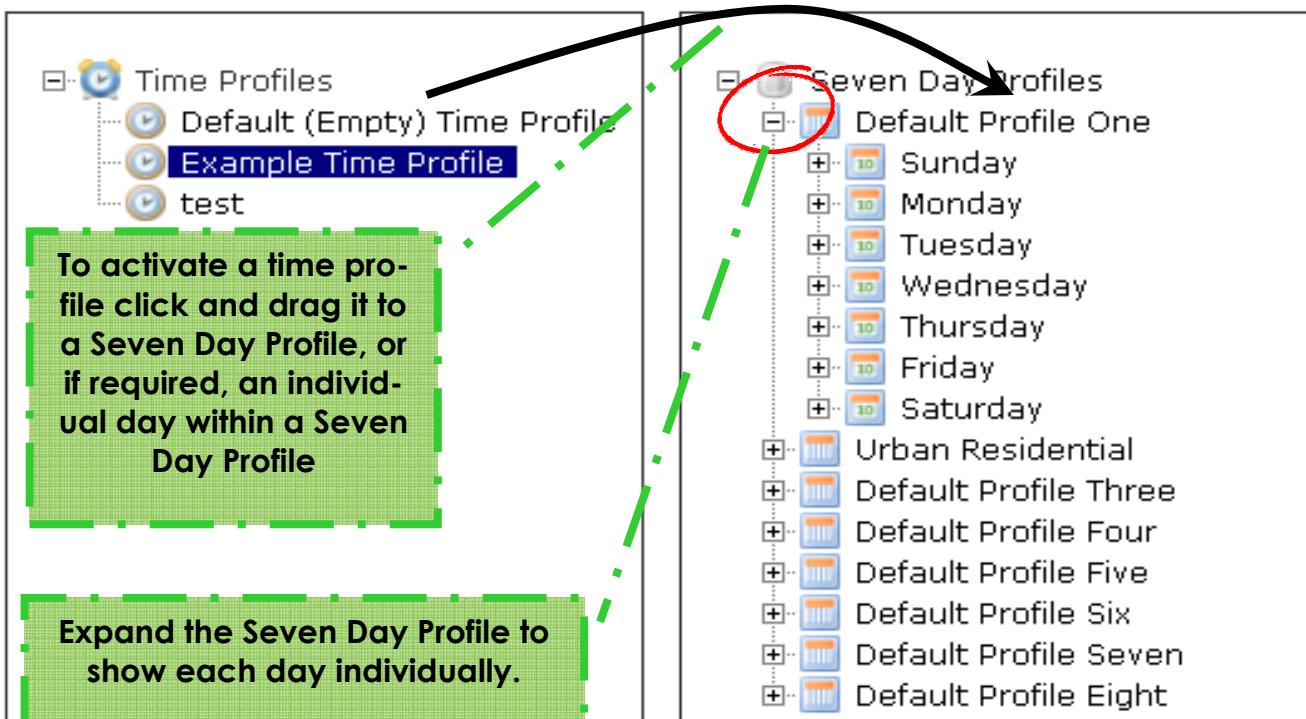
Time Profiles start at midnight (00:00) and end at (23:59)

Select the time you want a change to occur at then set the ballast state you require.

Name the time profile so you can find it easily later.

Administration

• Seven Day Profiles/Dimming pt. 3

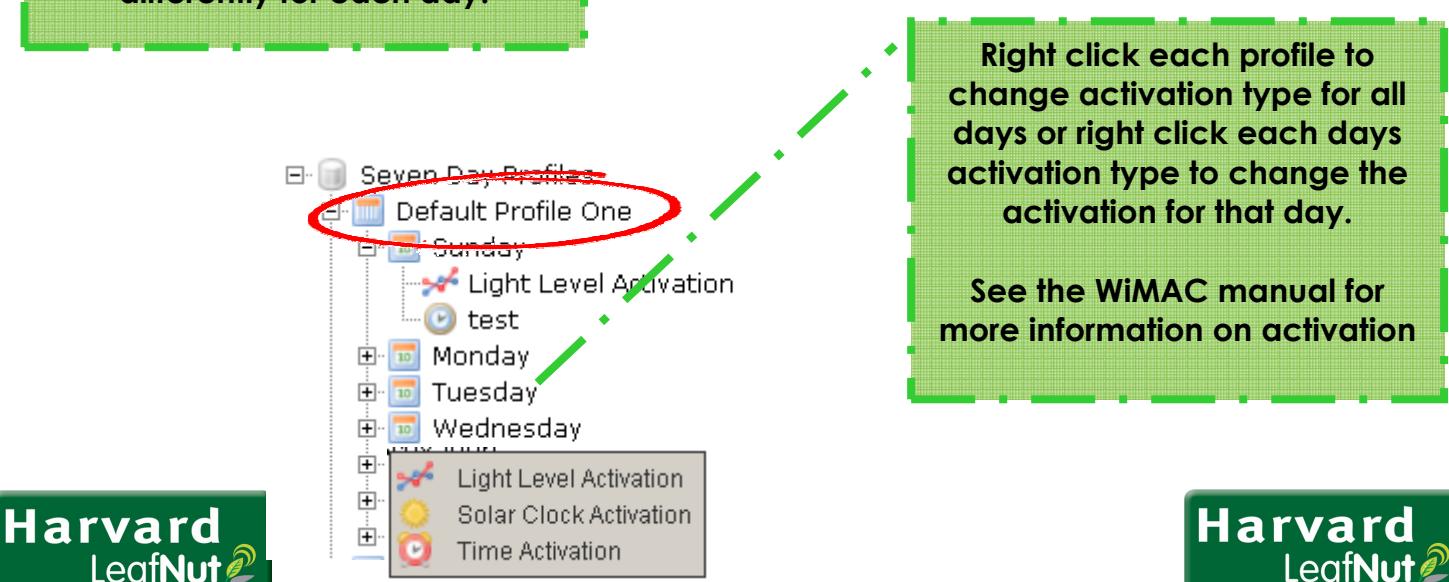


The screenshot shows two panels. The left panel displays a 'Time Profiles' section with 'Default (Empty) Time Profile', 'Example Time Profile' (which is highlighted in blue), and 'test'. A callout arrow points from 'Example Time Profile' to the 'Seven Day Profiles' section in the right panel. The right panel shows a 'Seven Day Profiles' section with 'Default Profile One' (highlighted with a red circle) and a list of days: Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday. Below these are other profiles: 'Urban Residential', 'Default Profile Three', 'Default Profile Four', 'Default Profile Five', 'Default Profile Six', 'Default Profile Seven', and 'Default Profile Eight'.

To activate a time profile click and drag it to a Seven Day Profile, or if required, an individual day within a Seven Day Profile

Expand the Seven Day Profile to show each day individually.

Right click the profile to select the activation type for all days, or alternatively, right click each day individually to set activation differently for each day.



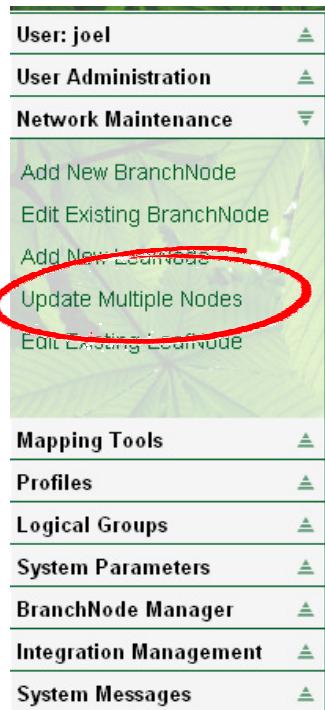
The screenshot shows a 'Seven Day Profile' section with 'Default Profile One' (highlighted with a red circle). The 'Sunday' day is expanded, showing 'Light Level Activation' (highlighted with a red circle) and a list of activation types: 'test', 'Monday', 'Tuesday', 'Wednesday', 'Light Level Activation', 'Solar Clock Activation', and 'Time Activation'. A callout arrow points from 'Light Level Activation' to a text box on the right.

Right click each profile to change activation type for all days or right click each days activation type to change the activation for that day.

See the WiMAC manual for more information on activation

Administration

- **Seven Day Profiles/Dimming pt. 4**
- **Updating Multiple Nodes**



User: joel

User Administration

Network Maintenance

Add New BranchNode

Edit Existing BranchNode

Add New LeafNode

Update Multiple Nodes (circled in red)

Edit Existing LeafNode

Mapping Tools

Profiles

Logical Groups

System Parameters

BranchNode Manager

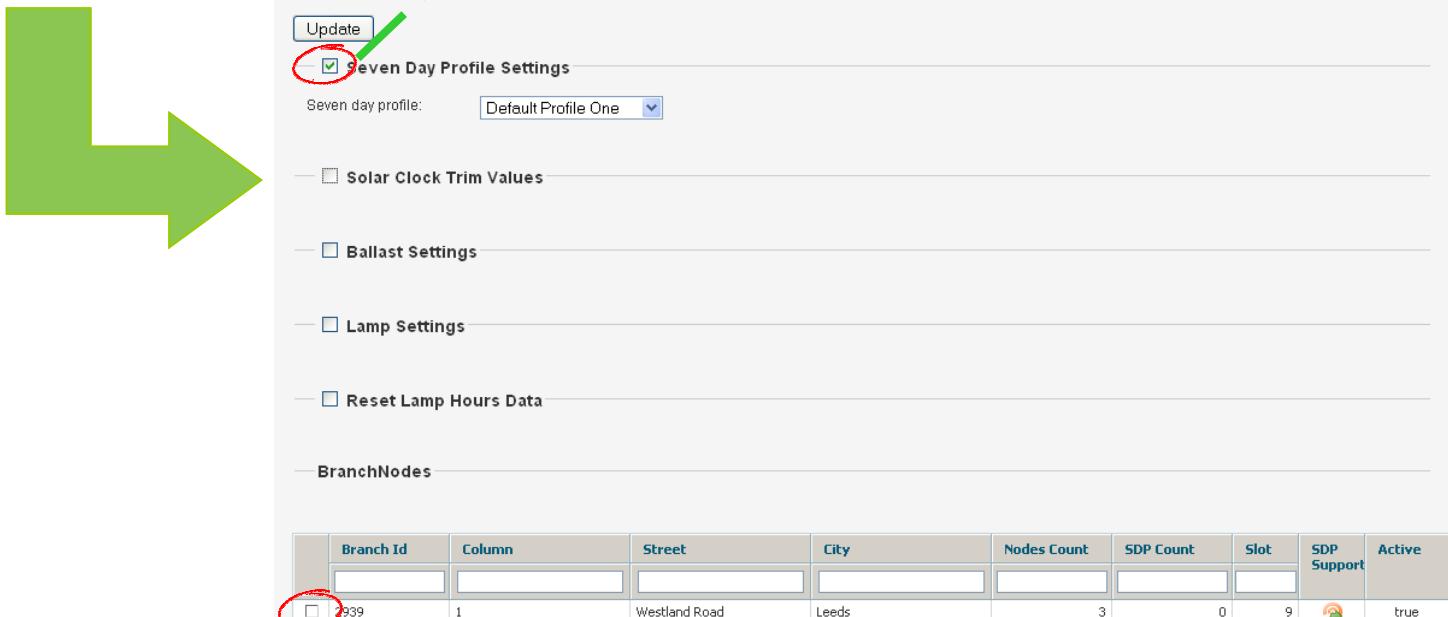
Integration Management

System Messages

Update Multiple Nodes allows you to change the Seven Day Profile of all LeafNodes on a BranchNode at once.

Select the option you wish to change, and the profile you want to change to, and then the branch you wish to make changes on at the bottom of the screen.

Finally click update at the top.



Update

Seven Day Profile Settings

Seven day profile: Default Profile One

Solar Clock Trim Values

Ballast Settings

Lamp Settings

Reset Lamp Hours Data

BranchNodes

	Branch Id	Column	Street	City	Nodes Count	SDP Count	Slot	SDP Support	Active
<input type="checkbox"/>	939	1	Westland Road	Leeds	3	0	9		true

Administration

- **Seven Day Profiles/Dimming pt. 5**
- **Important things to remember...**



- **Remember, profiles start at 00:00 and end at 23:59.**
- **A Seven Day Profile is activated by applying it to a Leaf-Node in the Edit LeafNode screen or to a Logical Group in the Logical Groups Editor.**
- **Time profiles are overridden by their activation type, so even if a time profile is set to 100% at 11am, if the Seven Day Profile is set to light level activation, the lamps will not be on.**
- **If you require changes to be active the same day, remember to perform an update. (See Updating)**

Administration

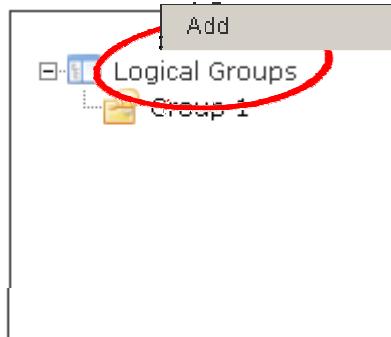
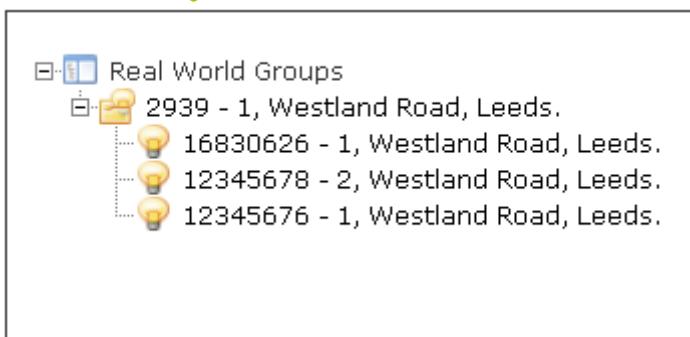
• Logical Groups Editor



Logical Groups allow you to group LeafNodes across multiple branches to operate in the same manner.

To add a Logical Group simply right click the Logical Groups menu and select Add.

Once the group has been created it can be edited by right clicking it and selecting Edit.



Add Logical group

Name*

Description*

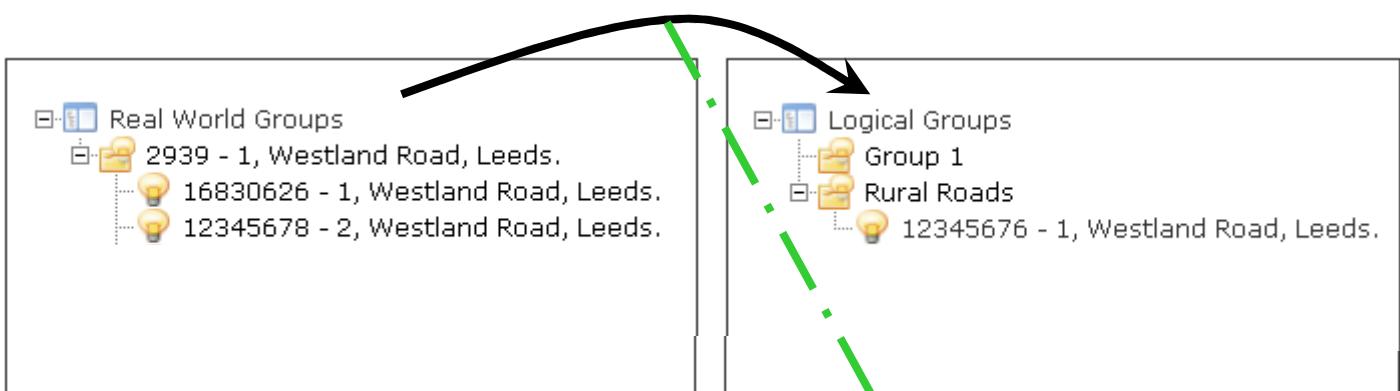
7 Day Profile*

Name the Logical Group so that you can find it later, set a description and it's Seven Day Profile. Click submit.

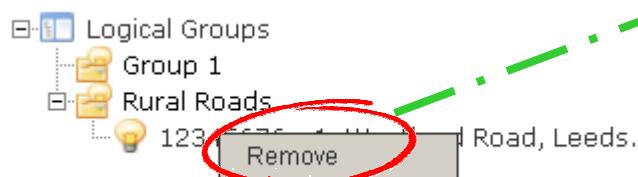
Administration

• Logical Groups Editor pt. 2

Nodes cannot be in both a Real World Group AND a Logical Group as they would receive conflicting time profiles.



To add a LeafNode to a Logical Group, simply drag and drop from a Real World Group to a Logical Group.



To remove a node from a logical group, right click the node and select remove.

Administration

• Updating (Sometimes Called Syncing)

User: joel	▼
User Administration	▲
Network Maintenance	▲
Mapping Tools	▲
Profiles	▲
Logical Groups	▲
System Parameters	▲
BranchNode Manager	▼
Start BranchNode Update	
View Update History	
View Monitor Status	
Integration Management	▲
System Messages	▲

When changes are made to a BranchNode or LeafNode in the Administration tool, these changes must be passed on to the Branch before they become active.

Branches automatically update every night, however they can be updated manually if you cannot wait for changes to take place.



Update	Branch Id	Column	Street	City	Nodes Count	SDP Count	Slot	SDP Support	Active
<input checked="" type="checkbox"/>	2939	1	Westland Road	Leeds	3	0	9		true



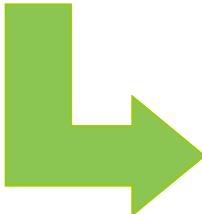
Select the Branch you wish to update. As data must be transferred over GSM to the Branch, updating can take some time. During this time other tools which communicate directly with the Branch will be unavailable.
Eg. The Interactive Monitor.

Update Selected

Administration

• Mapping (Bolt-On)

- User: joel
- User Administration
- Network Maintenance
- Mapping Tools
- Branch Ground Plan**
- Find Intersecting GPS Slots
- Import KML
- Profiles
- Logical Groups
- System Parameters
- BranchNode Manager
- Integration Management
- System Messages



Map Size Full Screen

Planning Mode On/Off

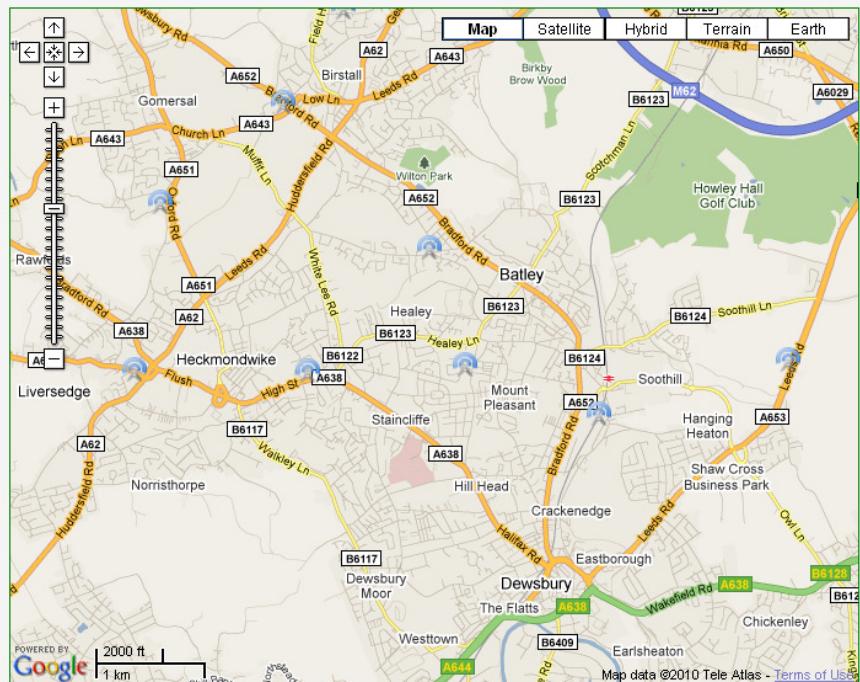
Display Slot Range All Slots Slot 0 Slot 9 Slot 18 Slot 27 Slot 36 Slot 45 Slot 54 Slot 63 Non SDP Slots

Slot Range Radius Range Radius 1km

Manage Branch Markers

Branches currently hidden: 0

Select each slot number to show branches on that slot with a nominal 1km range plotted around it.



Administration

• Mapping (Bolt-On)

Map Size

Full Screen

Planning Mode

On/Off

Display Slot Range

All Slots

Slot 0

Slot 9

Slot 18

Slot 27

Slot 36

Slot 45

Slot 54

Slot 63

Non SDP Slots

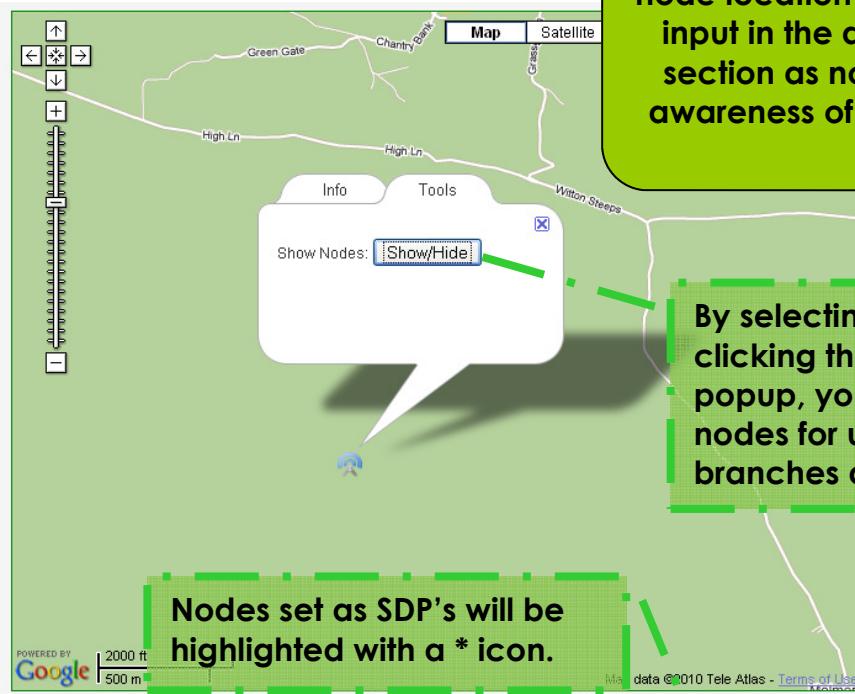
Slot Range Radius

Range Radius 1km

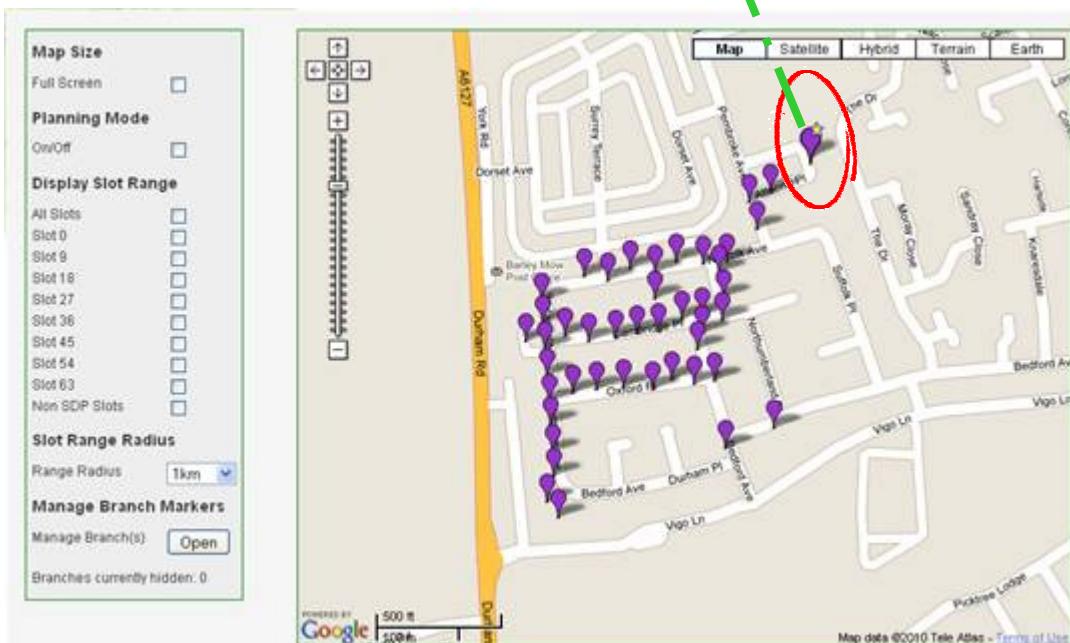
Manage Branch Markers

Manage Branch(s)

Branches currently hidden: 0



Nodes set as SDP's will be highlighted with a * icon.



Administration

• Mapping (Bolt-On) pt. 2

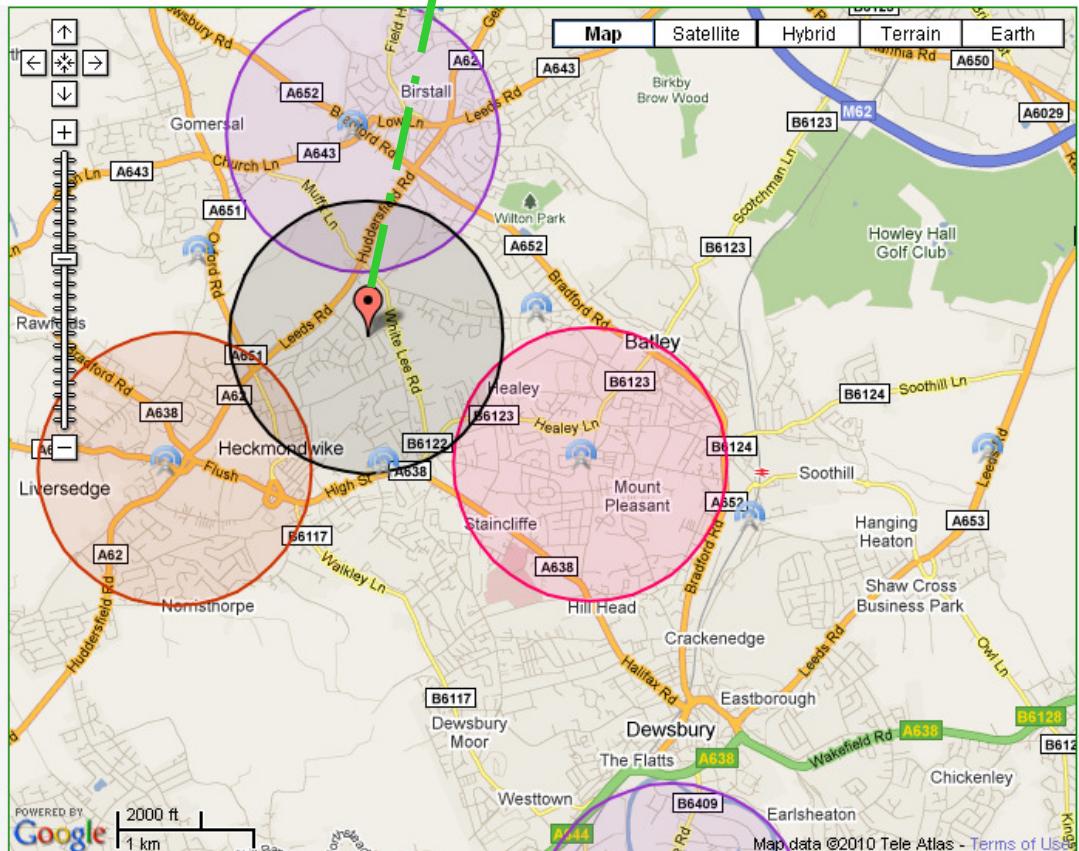
Select Planning Mode and click on the map to drop a marker with a nominal 1km range plotted around it.

Choose a slot number with no range overlaps on the same slot for the new branch.

By selecting slots one by one on the left, you can see which slots have no overlaps in communication range in that area.

This Branch should not be used on slot 9, 18 or 27 as it may "trample" or interfere with other branches.

Map Size	
Full Screen	<input type="checkbox"/>
Planning Mode	<input checked="" type="checkbox"/>
On/Off	<input checked="" type="checkbox"/>
Display Slot Range	
All Slots	<input type="checkbox"/>
Slot 0	<input type="checkbox"/>
Slot 9	<input checked="" type="checkbox"/>
Slot 18	<input checked="" type="checkbox"/>
Slot 27	<input checked="" type="checkbox"/>
Slot 36	<input type="checkbox"/>
Slot 45	<input type="checkbox"/>
Slot 54	<input type="checkbox"/>
Slot 63	<input type="checkbox"/>
Non SDP Slots	<input type="checkbox"/>
Slot Range Radius	
Range Radius	1km <input type="button" value="▼"/>
Manage Branch Markers	
Manage Branch(s)	<input type="button" value="Open"/>
Branches currently hidden: 0	



Administration

• Mapping (Bolt-On) pt. 3

- The Mapping tool can also be used to find installed BranchNodes which may be interfering with each other.



Note that Branches cannot change slot whilst they have nodes acting as SDP's on them. SDP's must be removed first but can be re-added later.

The map will display branches which may be interfering. Clicking the Branch on the map will tell you what slot it's on and allow you to change it's slot.

