



SyncSwitch
Quick Start Guide
For Making First Test Call
V 2.1

This version is a revision of V. 2.0, some gramatical mistakes has been corrected on this version. There are no major changes between V.2.0 and V.2.1.



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Introduction

SyncSwitch is a complete switching and billing platform for IP based telecommunication service providers. It can work as both proxy and non proxy mode. With capabilities like codec conversion and protocol conversion, SyncSwitch is one of the best SoftSwitch with full proxy in the market. SyncSwitch comes with all the features and functionalities required by modern VoIP and other IP based telecommunication services.

SyncSwitch is an easy to use and web based application. Users can control and manage everything from the web panel from any where of the world without requirement of any additional software installation on the client PC or laptop. We recommend Mozilla Firefox (any version) as web browser for best view of SyncSwitch Interface.

Before You Start

In order to be able to log in and operate the **SyncSwitch**, you should have access to the following information:

- Sync Switch Login URL (i.e. <http://192.168.101.100/mysyncswitch/>).
- Sync Switch Login username and password (i.e. user name: root, password: *****).
- Sync Switch IP address. (i.e. 192.168.101.100)

Please make sure that you have all these information before you proceed to next steps.

Tasks covered in this document

Step 1: Create Destinations

What is this: Telephony destinations of your business, i.e. 88017, Bangladesh Mobile Grameen. You will need to add destination code and destination name.

Where: Termination >> Destination >> Add Destination

Step 2: Creating and configuring rate chart

What is this: For charging your customers and to be charged by your providers, you have to have different tariff plans / rate charts. In this section we will see how to create and configure tariff plan / rate charts.

Where: Rates >> Add Rate Chart

Step 3: Routing Group Configuration

What is this: You need to have a routing plan or chart where you can get an overall scenario and control how your calls are coming to your network and how its going out. We will configure Routing Plan in this section.

Where: Routing >> Routing Group >> Add Routing Group

Step 4: Termination / provider configuration

What is this: Your customers calls / traffic need to be terminated somewhere to any of your providers. In this section we will describe how to configure providers/termination.

Where: Termination >> Gateway >> Add Gateway

Step 5: Configure Customer / Originator

What is this: Now, your switch is ready to accept calls from your customers. We will configure a single customer entity in this section.

Where: Origination >> Device User >> Add User

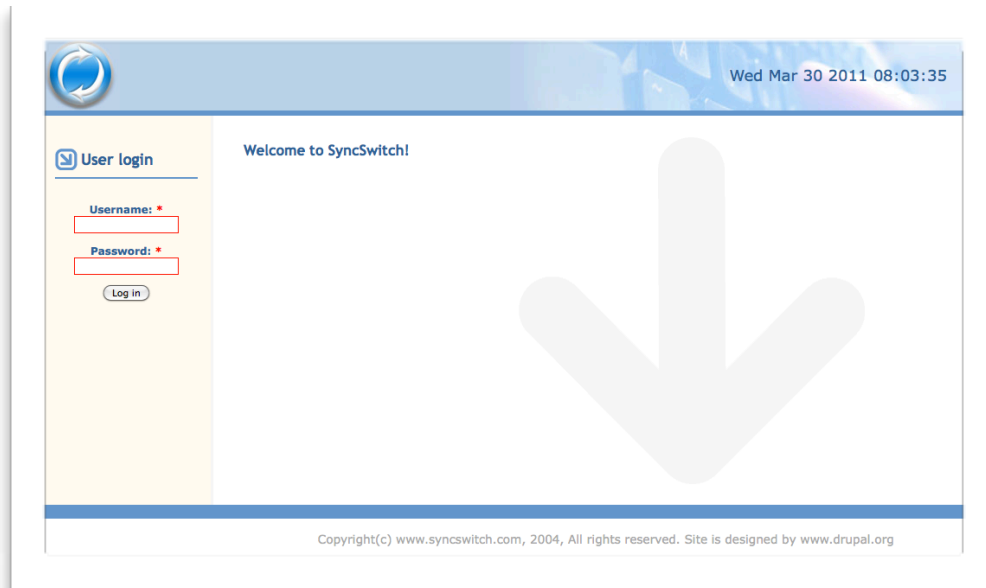
Step 6: Test A Call

What is this: Well, here you are. You have completed the setup of the switch and its ready for testing a live call. If your terminator is real, you can test a call using your SyncSwitch by following steps in this section.

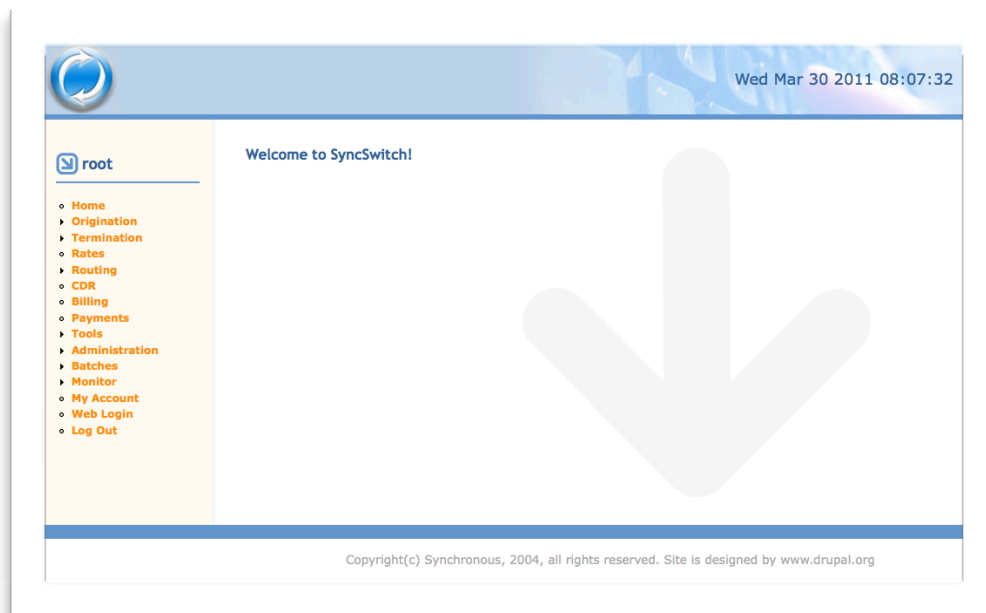
Where: By installing a SoftPhone in your PC you can make a test call.

Login to your SyncSwitch

- ✓ Open your web browser i.e. Mozilla Firefox and open your SyncSwitch interface following the switch web panel link provided by your service provider. You will have following page view.



- ✓ Login to your SyncSwitch with User Name and Password provided by your service provider. After login, you will get following view of the web panel.



Step 1: Create Destinations

Now, you are logged in into the SyncSwitch, first thing we will do is add destinations. Because Destinations are prerequisite for all operations and configurations of SyncSwitch. Here, destinations are added according to your business requirement. If you have business in many telephony destinations, you can add as many as you want. For now for the sake of testing, please add the destination where you have working termination. You can do that by following steps.

- ✓ Go to **Termination >> Destination >> Add Destination**
- ✓ Put destination code and destination name at specified field.
- ✓ Press **Create Destination** Button

The screenshot displays the 'Create Destination' form in the SyncSwitch application. The form is located under the 'Termination > Destinations' path. It features two tabs: 'all destinations' and 'add destination'. The 'add destination' tab is selected. The form contains two input fields: 'Destination Name' with the value 'Bangladesh Mobile' and 'Destination Code' with the value '8801'. A 'Create Destination' button is positioned below the input fields. The interface includes a navigation menu on the left with options like Home, Origination, Termination, Rates, Routing, CDR, Billing, Payments, Tools, Administration, Batches, Monitor, My Account, Web Login, and Log Out. The top right corner shows the date and time: 'Wed Mar 30 2011 08:23:01'. The footer contains the copyright notice: 'Copyright(c) Synchronous, 2004, all rights reserved. Site is designed by www.drupal.org'.

For Example, we are adding **Bangladesh Mobile** as destination here.

Step 2: Creating and configuring rate chart

Rate Chart contains rate / tariff plan for various destinations. For billing and charging customers as well as maintaining proper accounts with provider, you will need different rate charts for your customer and provider. Customer rate chart is your selling rate and provider rate chart is your buying rate. Buy deducting buying rate from your selling rate, you can calculate your gross profit.

For initial setup for testing a call, we will need to create two different rate charts, one for customers, that is selling rate, and another for suppliers/providers, that is buying rate. For creating both of the rate charts procedures are similar.

Add Rate Chart

Go to **Rates >> Add Rate Chart**

Provide information in specified fields

Rate Chart Name : Write any name for your rate chart
Based on : Select Blank table
Rate Multiply By : Leave it 1
Add Rate With : Leave it 0
Assigned To : Leave it as default “-Myself-“
Comment : Here you can put description regarding the rate chart. You can keep it blank as well.

Click **Create Rate Chart** Button.

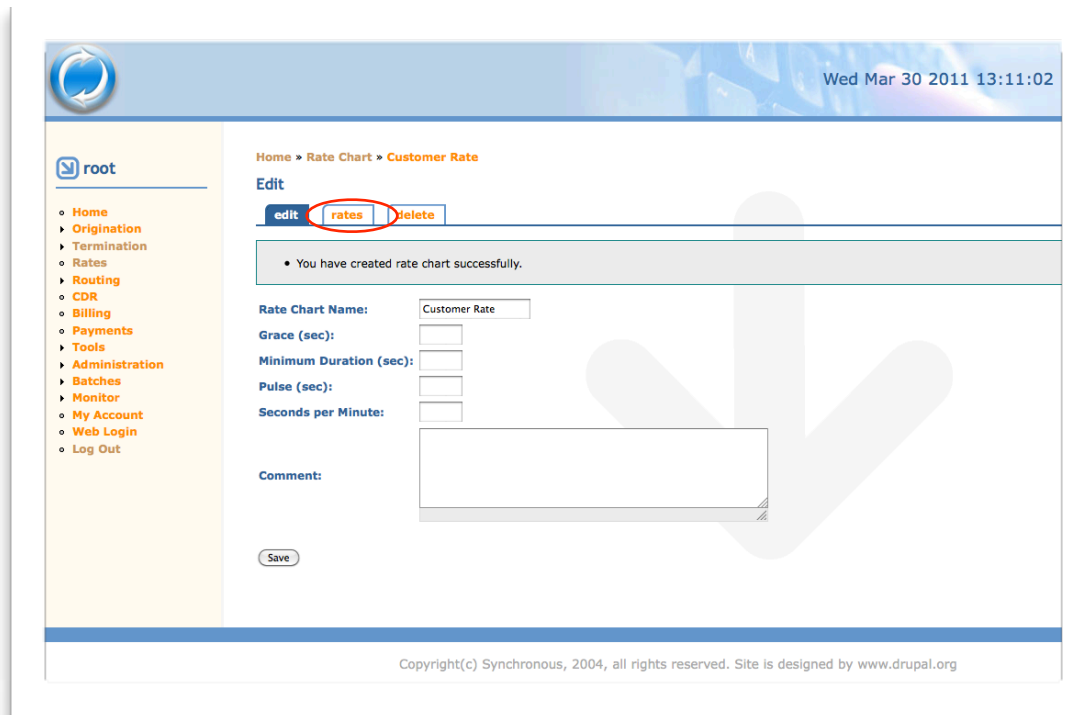
The screenshot shows a web application interface for creating a rate chart. The page title is 'Home > Rate Chart' and the sub-header is 'Create Rate Chart'. There are two tabs: 'all rate charts' and 'add rate chart'. The form fields are as follows:

- Rate Chart Name:
- Based On:
- Rate Multiply By:
- Add Rate With:
- Assigned To (Owner):
- Comment:

A 'Create Rate Chart' button is located at the bottom of the form. The footer of the page reads: 'Copyright(c) Synchronous, 2004, all rights reserved. Site is designed by www.drupal.org'.

We are done with rate chart creation, a rate chart has been created without any rates in it. We will have to add rates on it. For moving forward fast, we did not explain all the field in detail. For detail explanation of various field, please refer to the reference manual.

Add rate items into created rate chart



- ✓ After adding rate chart, you will see this page, click on the red circled **rates** tab and then **Add Rate**. You will get following page.
- ✓ Please fill up the form with correct data in specified field.

- Rate per Minute** : The amount of money you want to charge for per minute call, i.e. \$0.035 for Bangladesh Mobile (8801).
- Rate per Call** : The amount you want to charge per call regardless the call duration. This is sort of fixed cost. Leave it 0 for now.
- Destination** : destination code of this rate plan i.e. 8801 for Bangladesh Mobile
- Grace** : Number of initial seconds that will not be billed if call get disconnected within that time., i.e. if you set 10 here and if any call get disconnected less than or equal 10 seconds, it will not be billed. You can leave it 0 for now.

- Minimum Duration :** Your least expected bill time for a call, i.e. if you set 30 here, it will bill minimum 30 second regardless the duration. For example, if a call gets disconnected on 12 seconds, still it will bill for 30 seconds.
- Pulse :** Increment of time duration after minimum duration. For example, if minimum duration is set 30 seconds and pulse is set 6 seconds, after first 30 seconds, billing will be counted for every 6 seconds. So, for 31 seconds of call, bill will be for 36 seconds.
- Start of time slot :** The time of the day when the rate chart will come into effect. If your server time is set to GMT as time zone, and set 00 HR 00 MIN 00 SEC, the rate will come into effect from GMT 0 hour. If you set anything else, it will follow the timing exactly.
- End of time slot :** Same as start time, this is the time when the rate will go out of effect.
- Seconds per minute :** We have 60 seconds in a minute as standard, but some people prefer to set less second or more second in a minute to take control over profit. You can set number of seconds in a minute here as you wish. For now, set it 60.
- Day of week :** Days of week when the rate is in effect. If you remove Sunday from the list, the rate offered will not be effective for Sunday.
- Currency :** The currency of this rate charged like it could be USD, Euro etc.

Wed Mar 30 2011 13:40:21

Home » Rate Chart » Rates Under A Rate Chart » Customer Rate

Create Rate Under Rate Chart

edit rates delete

All Rates Add Rate Upload Rate

Rate per Minute: 0.0350000

Rate per Call: 0.000000

Destination: 8801 [12]

Grace (sec): 0

Minimum Duration (sec): 1

Pulse (sec): 1

Start of time slot: 0:00

End of time slot: 23:59

Seconds per Minute: 60

Day of Week: Sun Mon Tue

Currency: USD

Create Rate

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✓ Click on **Create Rate** Button.

We are done with rate item creation into the rate chart. Now you have to create another rate chart for your buying rate or provider/supplier rate. You can do that following the same procedure.

You can access the rate chart from Rates link from navigation menu as well. Also, for big rate charts, you don't need to create all rate item manually, you can upload rate chart from *.csv format files (any spreadsheet can provide this Comma Separated Value output).

We have provided limited explanation of various field here so we can move fast for next section. For more detailed explanation, please refer to the user manual of SyncSwitch available in www.syncswitch.com.

Step 3: Routing Group Configuration

We have completed adding destinations and rate chart. We have another prerequisites to be added, that is Routing Group. We can do that by following steps below.

The screenshot shows a web interface for creating a routing group. The page title is "Create Routing Group" and the breadcrumb is "Home » Routing » Routing Groups". The form has two tabs: "all routing groups" and "add routing group". The form fields are as follows:

Name:	<input type="text" value="My Routing Plan"/>
IVR Mode:	<input type="text" value="wholesale"/>
Failover:	<input type="text" value="--Disabled--"/>
Priority Sense(%):	<input type="text" value="100"/>
Capacity Sense(%):	<input type="text" value="0"/>
Call Ratio Sense(%):	<input type="text" value="0"/>
Policy:	<input type="text" value="Force Routing"/>
Loss Protection:	<input type="text" value="Disabled"/>
Min Profit Per Min.(USD):	<input type="text" value="0"/>
Connection Timeout(second):	<input type="text" value="60"/>
Max Call Duration(second):	<input type="text" value="3600"/>
Comment:	<input type="text" value="This is test routing group"/>

At the bottom of the form is a "Create Routing Group" button. The footer of the page reads "Copyright(c) Synchronous, 2004, all rights reserved. Site is designed by www.drupal.org".

From Navigation Menu go to **Routing >> Routing Group >> Add Routing Group**

Fill up the form with appropriate data on specified fields.

- Name** : An identical name of the routing group.
- IVR Mode** : For now, leave it as wholesale. Wholesale mode doesn't have any IVR. Calling Card and retail mode have specific IVR which we will describe letter.
- Failover** : If a call fails on first route, if your failover is enabled, it will try with 2nd route and so on. Leave it disabled for now.
- Priority sense** : Priority sense, capacity sense and call ratio sense together works as a traffic flow control algorithm. Leave it 100 now. We will explain it more in user manual.
- Capacity Sense** : Leave it 0
- Call Ratio Sense** : Leave it 0
- Policy** : Policy defines call distribution algorithm, how your calls will be distributed among various gateways you have, it can be based on quality, it can be based on cost or both, or you can set strict priority. Set Force Routing as policy for now.
- Loss Protection** : If your buying rate is higher than selling rate, it incurs lose for you. If you set loss protection, SyncSwitch will not let the routing to pass such calls which incurs loss. For now, set it disabled to reduce complexity.
- Connec. Time Out** : After how many seconds the call will be disconnected if the called person does not receive the phone. Leave it 60 for now.
- Max Call Duration** : Maximum duration of a connected call after which the call will be automatically hanged up.
- Comment** : Any identical text that can help you to remember or identify about this routing group.

After filling up the form, click on **Create Routing Group** button.

We are done with Routing Group creation.

Step 4: Termination / provider configuration

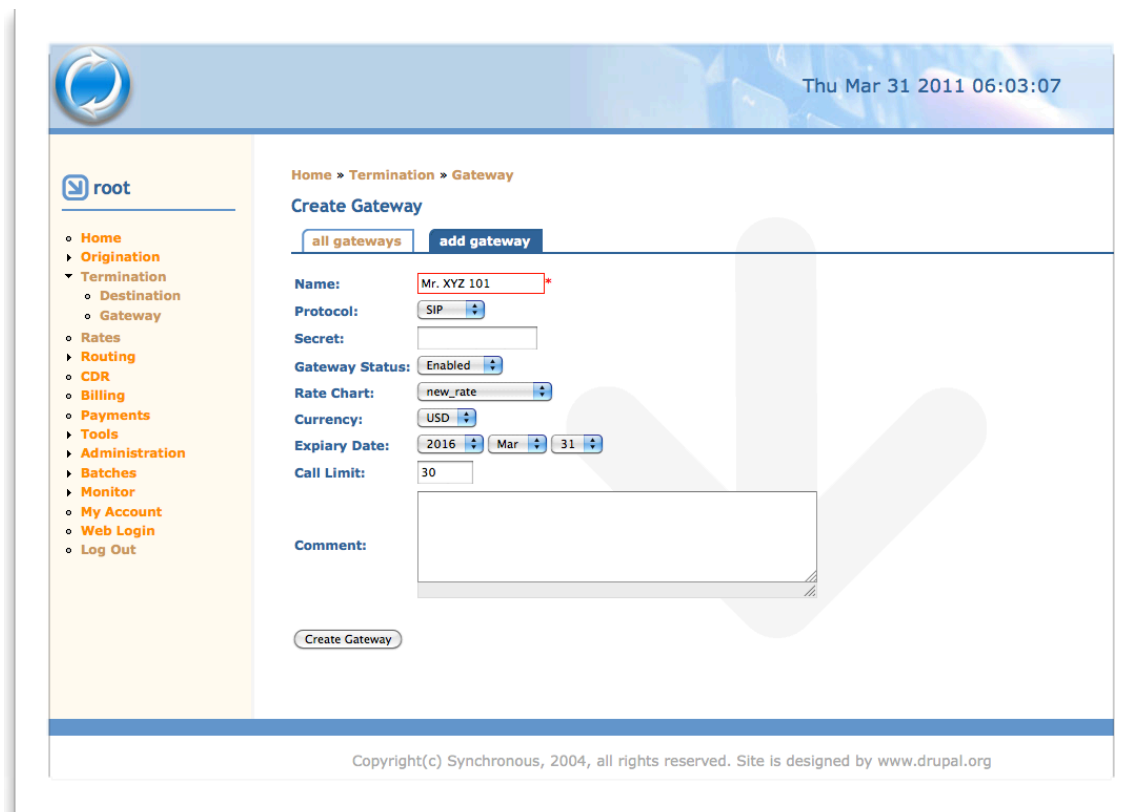
Now, we have completed setting up prerequisites. This is time to setup an active or working supplier/provider/terminator/gateway. Adding Gateway, we will include into routing plan where we will plan which traffic will get terminated where. We will do these in following steps.

Add Gateway

- Go to **Termination >> Gateway >> Add Gateway**
- Fill up the form with appropriate data in specified fields.

Name	:	Identical name of the supplier/provider/terminator/gateway by which you can exactly recognize. You can provide any name here. Avoid special characters i.e. *, #, \$, :, @, "" etc.
Protocol	:	Protocol configured on your gateway. If your Gateway is configured for SIP and you set here H.323, your routing will not work and your calls will not be succeeded. So, please confirm with your provider and then set it here.
Secret	:	For now, leave it blank.
Gateway Status	:	Set it enabled, if disabled, it will not work.
Rate Chart	:	Select the buying/provider/supplier/terminator/gateway rate you have created before.
Currency	:	Currency for billing, set it USD for now.
Expiry Date	:	Expiry date of the gateway account, leave it as it is for now.
Call limit	:	Maximum number of concurrent call the gateway can handle, this is equivalent to the number of active channels/ports your gateway does have. Set the correct number.
Comment	:	Any text that can help you to recognize this gateway, you can keep it blank as well.

- After filling up the form, click **Create Gateway** Button.

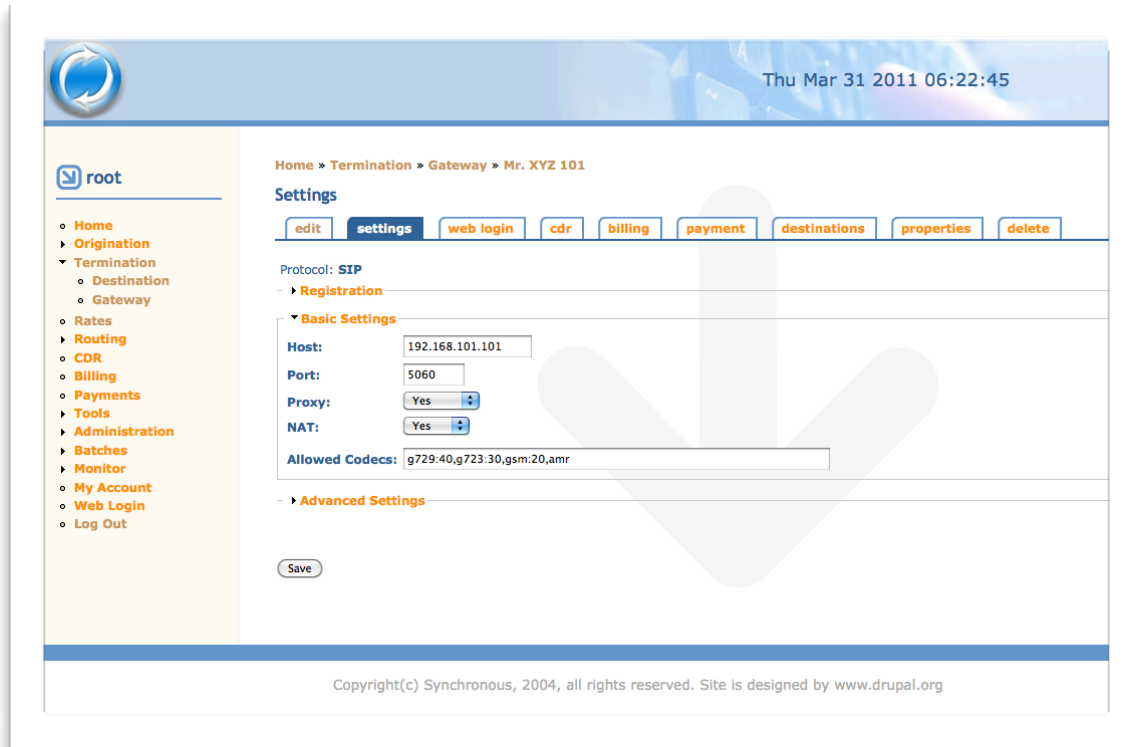


Gateway Settings

We are done with first part of the gateway creation process. We have some other tasks to do to complete setting up a provider/terminator/supplier/gateway.

Technical Information of the Gateway

- ✓ If you are still in the page after clicking **Create Gateway** button of previous page, click on the **Settings** tab that appears in front of you. If you already have left the page, you can browse from navigation menu **Termination >> Gateway >> All Gateway** and locate the gateway name that you just have entered and click on that.
- ✓ Under **Basic Settings** Section, provide appropriate information in specified fields. For now, forget about **Registration** and **Advanced Settings** tab.



- Host** : This is the hostname or IP Address of your Gateway. Collect this from the provider/supplier/terminator and place it here.
- Port** : This is the specified media port for specified protocol. For SIP it is 5060 by default. If you have received any port changing instruction form your provider, place that port number here.
- Proxy** : Set it yes for now. It will do full proxy for you.
- NAT** : Set it yes as well for now.
- Allowed Codecs** : Which codec do you want to send to your Gateway. You can leave it as it is for now. We will describe these things in detail in SyncSwitch Manual

 Click **Save** Button after providing information

Allow destinations to the gateway

Now, we have completed adding gateway and providing technical information of the gateway. Only one thing left is, which destinations are supported by this gateway. Any specific gateway can terminate one or more destination. Or you might want this gateway will terminate only one destination. You can control destinations by following steps below.

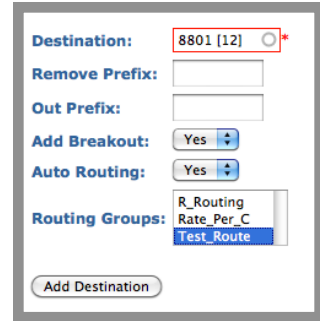


- ✓ If you are at the same page after adding technical information to the gateway, click on the **destinations** tab that appears in front of you, and then **Add Destination**. If you already have left that page, browse **Termination >> Gateway >> All Gateway** and locate the gateway we have added. Click on the name of the gateway and click **destinations** tab and **Add Destination** from there. The page will look like the above image.
- ✓ Provide appropriate information in specified fields

Destination : This field is an auto complete field, put first few digit of your desired destination code, it will automatically suggest available codes. Example is in the image above, I have putted 880 on the field and it have suggested me all codes available starting with 880. Select the desired code with mouse and click on that.

Remove Prefix

: If you are receiving call with a prefix, i.e. 2228801xxxxxxx where 222 is technical prefix, you can remove this prefix from here. If you put 222 as remove prefix, it will strip 222 and send the call to the gateway as 8801xxxxxxx.



Out Prefix

: This is the opposite of Remove prefix. If you put 333 on the box as out prefix, it will add 333 with the called number and send to the Gateway.

Add Breakout

: Breakout are sub codes for a destination, for example 880 is country code for Bangladesh, and Bangladesh have many other codes like 8801 Bangladesh Mobile, 8802 Bangladesh Dhaka etc. 8801 and 8802 is breakout for 880. If you set yes, it will add all codes to the gateway started with the specified code, on this example 880. Set it no for now.

Auto Routing

: You can add this gateway directly to a routing group by selecting the Auto Routing yes and selecting the routing group on next step where you want to put routing entries for this gateway. Select Yes here.

Routing Groups

: This is a scroll menu from where you can select the routing group we have created in previous section. Make sure you click on the name and it is highlighted. By selecting the routing group name, you are ensuring that current gateway will be enlisted under that specified routing group for the destination(s) we have selected.

 After filling up the form, click on **Add Destination** Button.

Step 5: Configure Customer / Originator

We have completed configuration of Destination, Rate Chart, Routing Group, Gateway etc. Now your SyncSwitch is completely ready to receive and handle calls. All we need to do is add a customer or originating account. We will do that in following steps.

- ✓ Go to **Origination >> Device User >> Add User** from navigation menu
- ✓ Fill up the form with appropriate information on specified field.

The screenshot shows the 'Create VOIP User' form in the SyncSwitch web interface. The form is titled 'Create VOIP User' and has two tabs: 'all users' and 'add user'. The 'add user' tab is active. The form is divided into three sections: 'Basic Information', 'Assignments', and 'Limits'. Under 'Basic Information', there are fields for Name (1234), Secret (1234), Account Status (Enabled), Expire Date (2016 Mar 31), Protocol (IAX2), and Incoming Prefix. Under 'Assignments', there are dropdown menus for Routing Group (Test_Route) and Rate Chart (Customer Rate). Under 'Limits', there are fields for Starting Credit (1.000000), Credit Limit (0.000000), Min Balance (0.000000), Currency (USD), and Call Limit (1). A 'Create User' button is at the bottom of the form. The page footer contains the text: 'Copyright(c) Synchronous, 2004, all rights reserved. Site is designed by www.drupal.org'.

- Name** : User name or PIN number, put 1234 for now.
- Secret** : This is the password of the pin, put 1234 here as well.
- Account Status** : Keep it Enabled if you want it to work.
- Expiry Date** : Date of expiration of the account.
- Protocol** : Protocol followed by the user, SIP, H323 or IAX2, put SIP for now because we are going to test a call using a SIP Dialer.
- Incoming Prefix** : Incoming prefix is a number added before the called number. For example, if you set incoming prefix 222, this user must need to call to any number with 2228801xxxxxxxxx. Put it blank for now.
- Routing Group** : Select the routing group for this account/user, you have created in previous steps.



- Rate Chart** : Select the Customer Rate or Selling Rate chart for this account/user, you have created in previous steps.
- Starting Credit** : The amount of money credited to particular originator. This is the amount up to which he will be able to consume by calling. For now put \$1.00.
- Credit Limit** : Credit Limit is the maximum negative balance of account that is allowed. Put it 0.
- Min Balance** : The minimum amount need to be credited in the account to continue call. Put it 0 as well.
- Currency** : Currency for the account/user, here USD.
- Call Limit** : Highest number of concurrent calls that are allowed from this account/user, put 1 here for now.

Click on **Create User** button to create the user account.

Step 6: Test A Call

Now, we are done with SyncSwitch initial configuration to make a successful test call. Remember, success of the test call greatly depends on the availability of your termination gateway. If that is not active or you are not properly authenticated, your calls will not be successful.

There are many ways to test a call. We will elaborately describe one of them. You can test with other methods with the help of other documents and our support team.

Testing a call with Soft Phone

You can test a call using a SoftPhone. Download any configurable soft phone and configure it with user you have created.

Download any configurable soft phone for the web, i.e. <http://www.counterpath.com/> you can download X lite from here and configure for testing.

- Install it following standard installation procedure for your operating system.
- Open the dialer
- Use the user name, password and Switch IP address, configure and register the dialer with your SyncSwitch
- Dial a number and make call.

For any kind of help and support, please send an email to synccare@synchronousict.net and schedule a training. Someone from our team will be online with Windows Live, Yahoo or Gmail account to help you live. Enjoy the quality service of SyncSwitch and best of luck!!