DINOMI Call Center Module

Quick start guide v 1.1

DINOMI
April 2017

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Welcome to Dinomi Call Center

We will guide you through the configuration steps to get your call center operations running in no time. You will follow a very similar process to that of a CentOS Linux install.

The process is divided in three major steps:

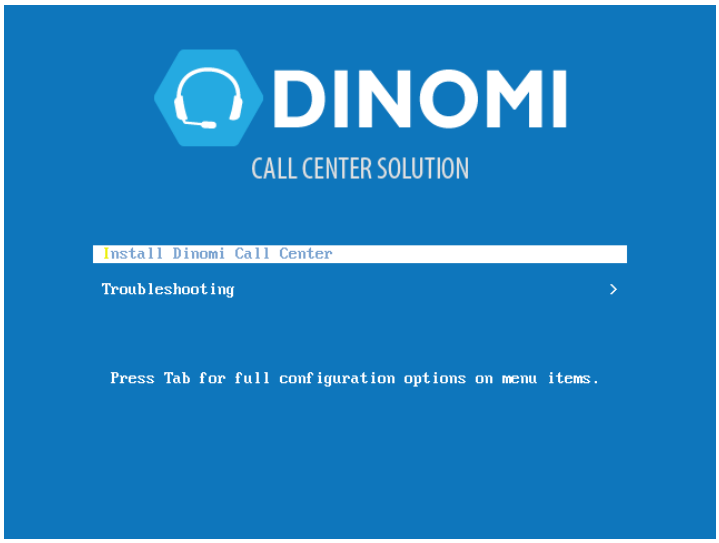
1. Install Dinomi
2. Connect to an external PBX
3. Configure Dinomi
4. Create Campaigns

After these steps, you will be able to run campaigns in no time.

Enjoy Dinomi Call Center!

Step 1: Install Dinomi

Once you have downloaded our ISO image, burn it to a bootable optical disk and start your server with it. After boot process completes and files are loaded, you shall see a screen similar to this one:



Dinomi installation boot screen

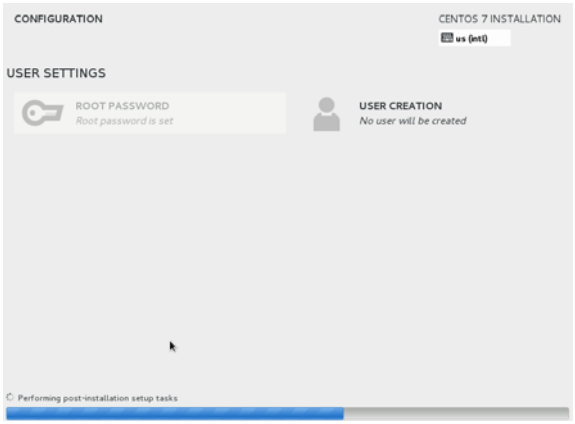
Press ENTER to start the installation of Dinomi. As the distro is based on CentOS, you shall see a similar interface. Following up, configure the items that have the (⚠) icon.

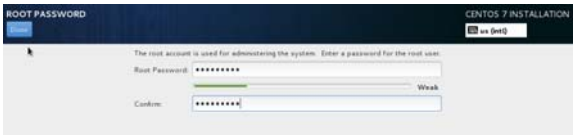
Once these parameters have been set, the *begin installation* button will be enabled to continue. After all operations have been mande

Dinomi setup

For this guide the password *Dinomi123* will be used as every password, in production environments please consider using stronger and a different set of passwords to prevent security breaches.

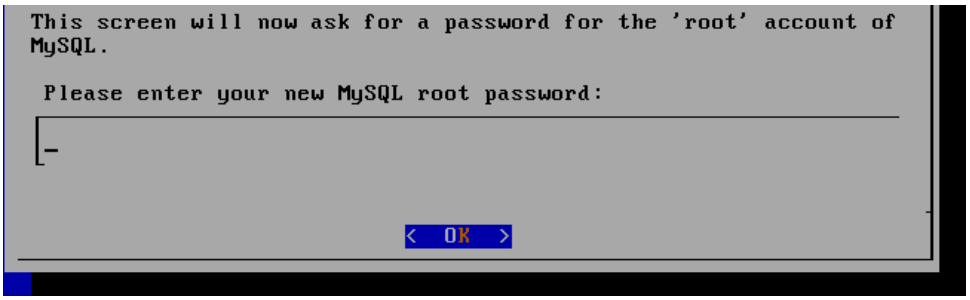
Dinomi will create the necessary users once the process has completed, so just set up the *root* user password.



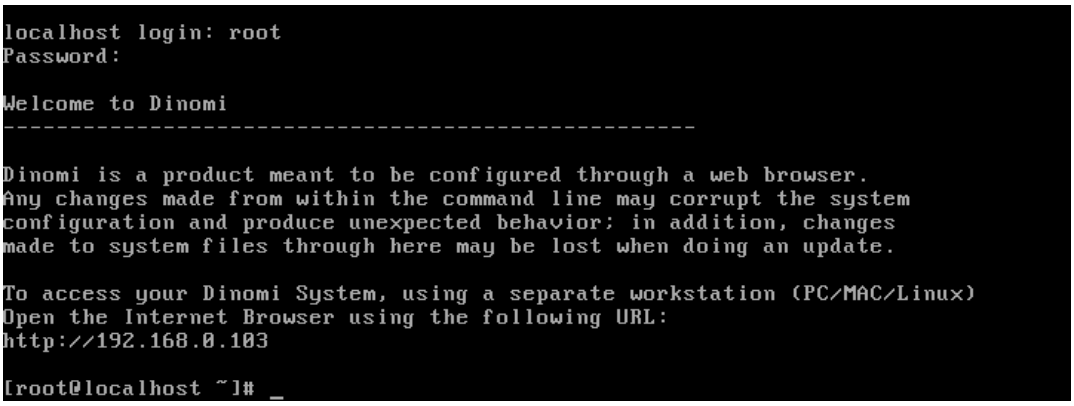


Dinomi setup

After installation process finishes, the server will be rebooted. After this, Dinomi will prompt for additional passwords and minor settings.



After completing these steps, installation will be completed and the login screen will be shown.



Step 2: Connect to an external PBX

Dinomi is a web-based system, once you log into the command line directly in the server you will obtain the IP address, which you can use it to access the web configuration from a computer in the same network as your server.

Before configuring Dinomi, we need to grant it permissions in the remote PBX server, permissions needed are:

- An AMI user to connect and control the designed queues and extensions needed for the call center operations.
- A MySQL user to read and write operation parameters to the PBX server database.

For the moment, Dinomi is compatible with an Asterisk-based system with FreePBX v.11 or higher installed. The remote PBX uses MySQL tables to store information related to dialplans, CRD, extensions, queues and other parameters. Dinomi needs to modify information on some tables as well to control the PBX or to keep its operational registries updated.

For performing the following operations, a direct command line is needed on the server or a connection using an SSH client like *Putty*.

Create an AMI user

To configure the AMI user, you need to modify the `manager.conf` configuration file that exists in the PBX where Dinomi will connect to. For this example the remote PBX server is located at address 192.168.0.102.

We will use an SSH connection using a terminal client in Linux:

```
1  hgaibor@hgaibor-G53JW:~$ ssh root@192.168.0.102
2  root@192.168.0.102's password:
```

Enter the PBX server and modify the manager.conf file:

```
1  hgaibor@hgaibor-G53JW:~$ ssh root@192.168.0.102
2  root@192.168.0.102's password:
3  [root@localhost ~]# cd /etc/asterisk
4  [root@localhost asterisk]# vim manager.conf
```

This is the structure of the file

```
1   ; AMI - Asterisk Manager interface
2   ;
3   ; FreePBX needs this to be enabled. Note that if you enable it on a
    different IP, you need
4   ; to assure that this can't be reached from un-authorized hosts with the
    ACL settings (permit/deny).
5   ; Also, remember to configure non-default port or IP-addresses in
    amportal.conf.
6   ;
7   ; The AMI connection is used both by the portal and the operator's panel
    in FreePBX.
8   ;
9   ; FreePBX assumes an AMI connection to localhost:5038 by default.
10  ;
11  [general]
12  enabled = yes
13  port = 5038
14  bindaddr = 0.0.0.0
15  displayconnects=no ;only effects 1.6+
16
```

```
[admin]
secret = Dinomi123
deny=0.0.0.0/0.0.0.0
permit=127.0.0.1/255.255.255.0
read =
system,call,log,verbose,command,agent,user,config,command,dtmf,reporting
,cdr,dialplan,originate
write =
system,call,log,verbose,command,agent,user,config,command,dtmf,reporting
,cdr,dialplan,originate
writetimeout = 5000

#include manager_additional.conf
#include manager_custom.conf
```

Pay attention to the `[admin]` section in this file, we will copy this code to create an AMI user for Dinomi as follows:

```
[dinomi_ami_user]
secret = Dinomi123
deny=0.0.0.0/0.0.0.0
permit=191.168.0.103/255.255.255.255
read =
system,call,log,verbose,command,agent,user,config,command,dtmf,reporting,
cdr,dialplan,originate
write =
system,call,log,verbose,command,agent,user,config,command,dtmf,reporting,
cdr,dialplan,originate
writetimeout = 5000
```

Highlighted sections can be modified, for precaution use lower case letters and no spaces in the user name between [ ]. Use a strong secret to enforce security and only allow the IP addresses that will have Dinomi call center instaled, the format is IP / mask. Using 255.255.255.255 as a mask will allow only that one address.
Now restart the asterisk service to load changes using the command:

```
[root@localhost asterisk]# service asterisk restart
```

Create a MySQL user

Access the remote PBX server via SSH like before; then enter MySQL with an admin user. For this guide, the remote server is located at IP 192.168.0.102:

```
hgaibor@hgaibor-G53JW:~$ ssh root@192.168.0.102
root@192.168.0.102's password:
[root@localhost ~]# mysql -u root -pDinomi123
```

Then, we will create an user for Dinomi, *dinomi_user@your-dinomi-server-IP*. For this guide all passwords will be *Dinomi123*

```
MariaDB [(none)]> grant select, insert, update, delete on asterisk.* to
dinomi_user@192.168.0.103 identified by 'Dinomi123';
```

Test user in Dinomi

To test the MySQL user, enter via SSH to the Dinomi server, then try to connect to the remote PBX database. Remember, for this guide the Dinomi IP is 192.168.0.103 and the PBX IP is 192.168.0.102, all passwords for are Dinomi123:

```
hgaibor@hgaibor-G53JW:~$ ssh root@192.168.0.103
root@192.168.0.103's password:
[root@localhost ~]# mysql -h 192.168.0.102 -u dinomi_user -pDinomi123
asterisk
MariaDB [asterisk]> show tables;
```

If the commands above returned the tables from the asterisk table, then the configuration was done correctly.

Additional considerations

Advanced PBX configurations may need to consider other configurations related to their installation environment like:

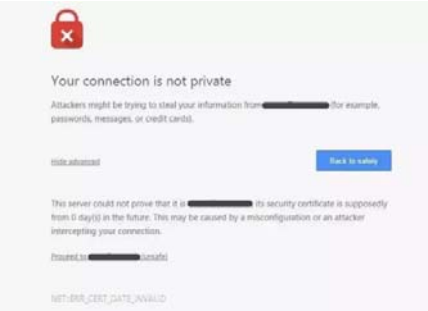
- Firewalls and DMZs
- Open ports related to MySQL and AMI
- Network redirections

These configurations exceed the scope for this guide, but need to be considered in case of errors affecting the previous setup.

Step 3: Configure Dinomi

After all users for remote PBX have been created, enter the IP address that was shown on the command window once you logged into the Dinomi server, in this case the IP is 192.168.0.103

Your browser may show a warning, this is normal as the security certificate is generated at your server and is not from a root authority entity.



Proceed to the server's address, after that, you'll see Dinomi's login screen:

The default user is *admin*, and the password is the one set in the command prompt after the server rebooted, for this demonstration, all passwords will be *Dinomi123*.

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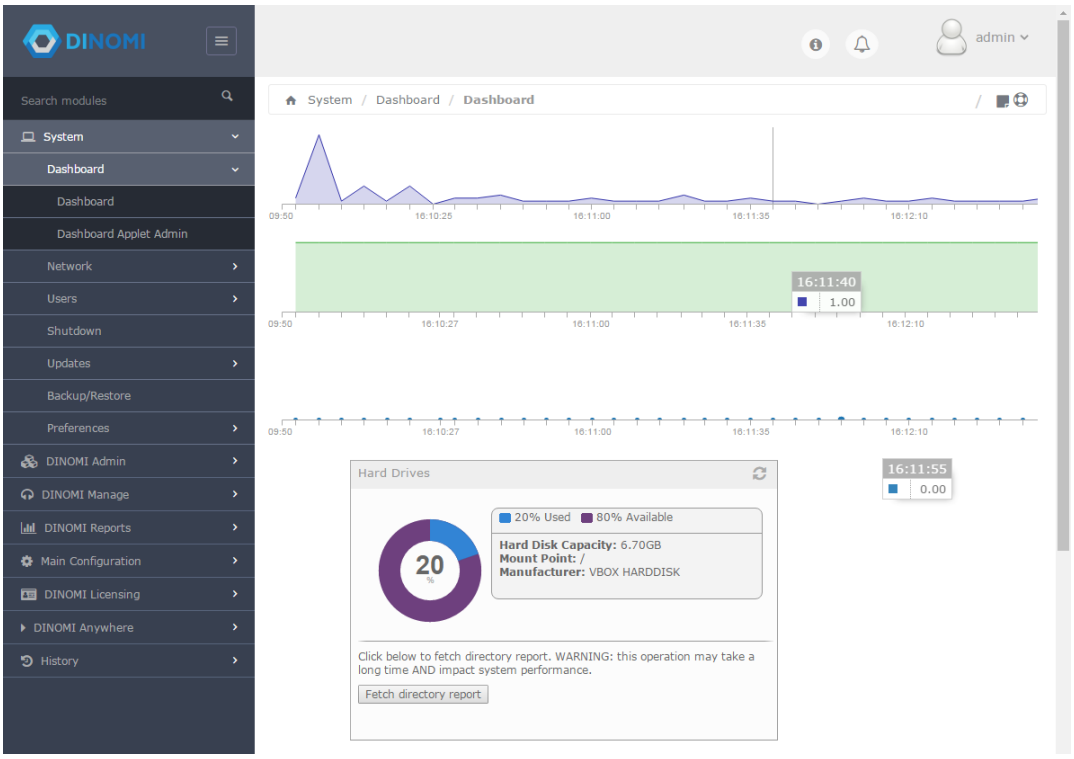
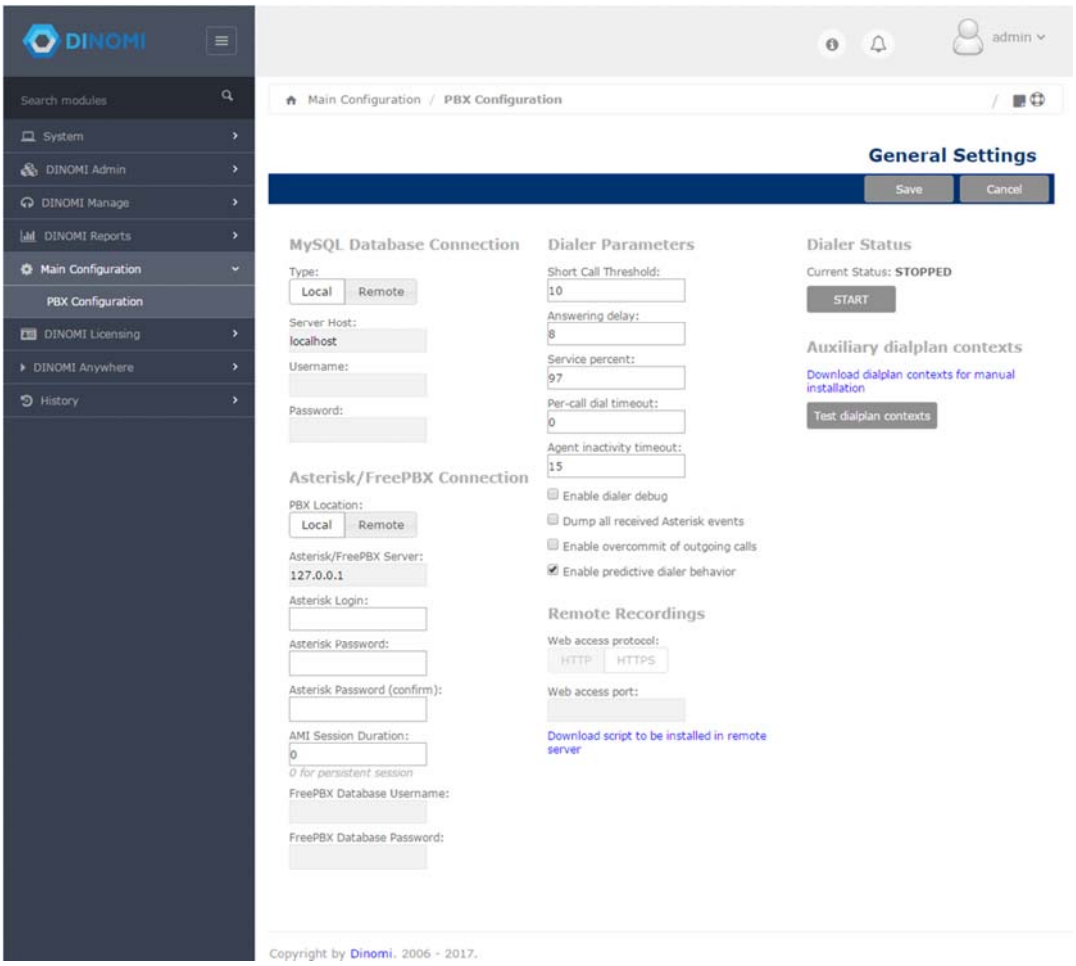
You will be redirected to the home screen:



Configure a remote PBX connection

Now, go to *Main configuration → PBX Configuration* menu, to set the parameters to connect to an external PBX. Dinomi needs a PBX with Asterisk and FreePBX version 11 or higher, for this example, we will use an Elastix© 4.x system with the un-embedded version of FreePBX.



Enter the user credentials created for AMI in `Asterisk login`, enter the database user credentials in the `FreePBX` fields.

Then click on *Save* button above to store changes, after that, click on *Test dialplan contexts* to test the configuration. If everything went right, you will see the message: `Auxiliary extensions not present, installation needed.` Now we can proceed to install this file in the remote PBX server.

> **Note:** If the error message `Error when connecting to Asterisk Manager` appears then there is an issue that prevents Dinomi from connecting via AMI. Check the `manager.conf` file or if there is a network restriction that prevents Dinomi from connecting the Asterisk Manager (firewall, NAT, etc).

Install *auxiliary dialplan contexts* file

Download the context to your local machine file by clicking `Download dialplan contexts for manual installation`. Now copy this file to the remote PBX server, we will use the command SCP, remember, for this guide, all passwords are *Dinomi123*:

```
hgaibor@hgaibor-G53JW:/$ scp extensions-dinomi.conf
root@192.168.0.102:/etc/asterisk
root@192.168.0.102's password:
extensions-dinomi.conf                        100%  765     0.8KB/s   00:00
```

To see the copied file in the remote PBX server, access via SSH:

```
hgaibor@hgaibor-G53JW:~$ ssh root@192.168.0.102
root@192.168.0.102's password:
[root@localhost ~]# cd /etc/asterisk
[root@localhost asterisk]# ls -l | grep dinomi
-rwxr-xr-x  1 root     root        765 mar 20 01:21 extensions-
dinomi.conf
```

As you can see the file exists, we need to change its permissions and user to be used by Asterisk:

```
[root@localhost asterisk]# chown asterisk:asterisk extensions-dinomi.conf
[root@localhost asterisk]# chmod 644 extensions-dinomi.conf
```

Now, we need to include the new context files to be used by Asterisk:

```
[root@localhost asterisk]# vim extensions_custom.conf
```

Copy the line `#include extensions-dinomi.conf` into the opened file as follows:

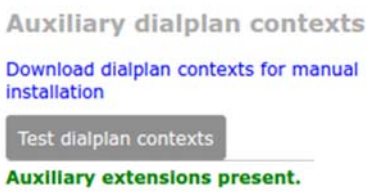
```
; This file contains the contexts the agents login for the module call
center.
; and contains the context conferences for module conferences of elastix
1.0.

#include extensions-dinomi.conf
```

Restart the Asterisk service to apply changes:

```
[root@localhost asterisk]# service asterisk restart
```

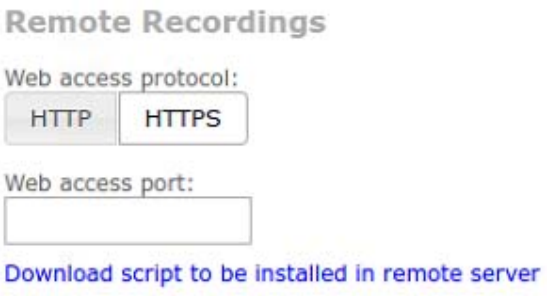
Now you when you click on `test dialplan contexts` back at the Dinomi server, you shall see the following message, telling that the configuration for AMI has been done correctly:



Install remote recordings script

This script will allow Dinomi call center to retrieve the files of the recorded calls from the remote PBX, as the storage and processing of these files is inherent to the Asterisk/FreePBX part of the remote server.

Download the script `ccprorecordings.php` to your local machine file by clicking `Download script to be instelled in remote server`.



Now copy `ccprorecordings.php` to the remote PBX server's HTTP root directory so it can be called using an URL like *https://[server-IP]/ccprorecordings.php*.

We will use the command SCP, for this guide, all passwords are *Dinomi123*:

```
hgaibor@hgaibor-G53JW:/$ scp ccprorecordings.php
root@192.168.0.102:/var/www/html
root@192.168.0.102's password:
ccprorecordings.php                           100% 5326     5.2KB/s   00:00
```

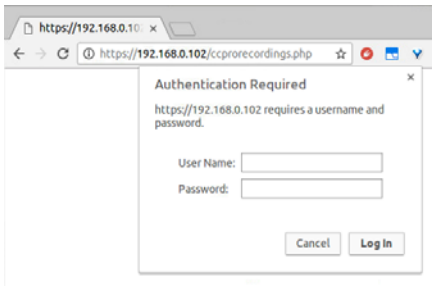
To see the copied file in the remote PBX server, access via SSH:

```
hgaibor@hgaibor-G53JW:~$ ssh root@192.168.0.102
root@192.168.0.102's password:
[root@localhost ~]# cd /var/www/html
[root@localhost html]# ls -l | grep ccprorecordings.php
-rw-r--r--.  1 root root  5326 feb 24 11:42 ccprorecordings.php
```

As you can see the file exists, just make sure it has root set as the user and group, and its file permissions as shown above (644). If not, please change them using the commands:

```
[root@localhost html]# chown root:root ccprorecordings.php
[root@localhost html]# chmod 644 ccprorecordings.php
```

You can test the script by accessing the IP address of your remote PBX server, for this guide the url is https://*192.168.0.102*/ccprorecordings.php, if an authentication prompt appears, then the script has been successfully installed.



Step 4: Create Campaigns

Congrats! With all the preliminary settings done, you now are ready to create and configure campaigns.

You can start the dialer service from the *general settings* section, by clicking the start/stop button in the section Dialer status:

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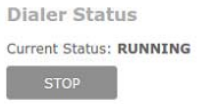
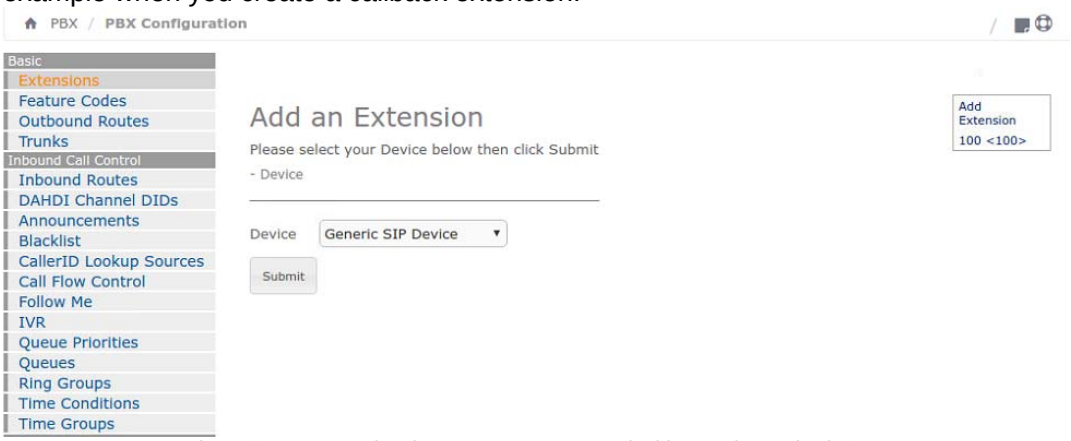


After this you can start creating campaigns in the Call Center interface, just make sure you have the extensions and queues that you will be using created in the remote PBX accordingly.

Extensions created in the remote PBX will be seen in the Call Center interface, for example when you create a callback extension:

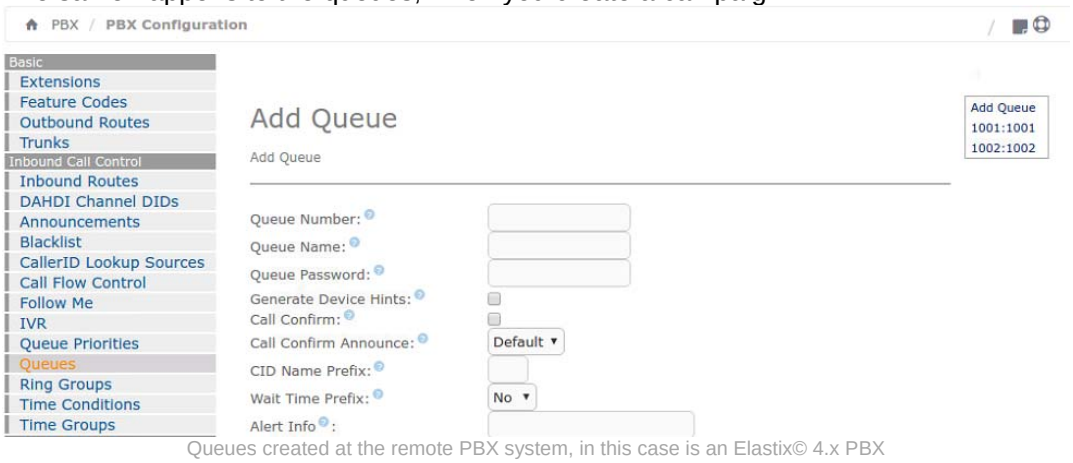


Extension 100 was created at the remote PBX system, in this case is an Elastix© 4.x PBX

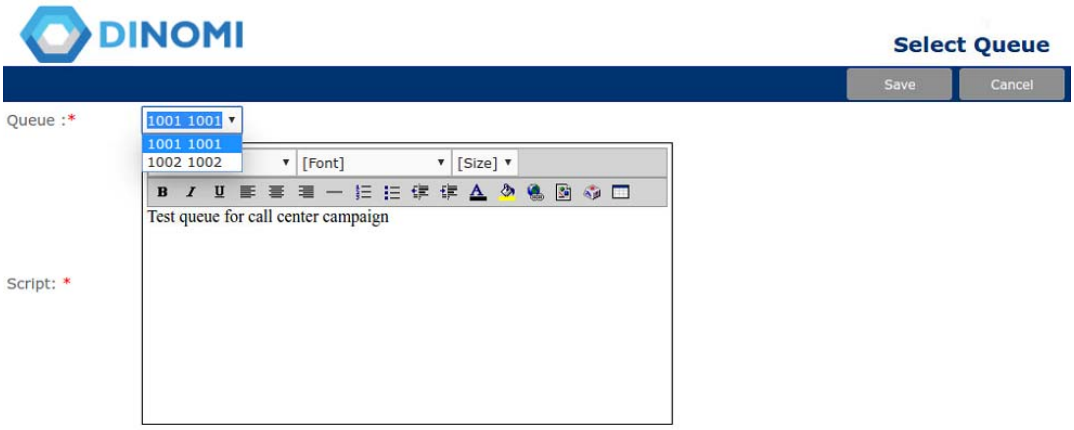
Extension 100 created at the remote PBX can be seen in Dinomi thanks to the AMI connectivity

Dinomi setup

The same happens to the queues, when you create a campaign:



Queues created at the remote PBX system, in this case is an Elastix© 4.x PBX



Queues visible at *Dinomi → configuration → Queues* section. These queues exist at the remote PBX system and are being queried via AMI.

Detailed Campaing, forms, agents, and other configurations exceed the scope of this quick guide, but can be seen at our Dinomi user manual, at: http://dinomi.com/