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Creating an SMS Chatbot with Twilio

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Applies To: Ayehu NG

Description

There are several methods to go about creating a Virtual Support Agent using **Ayehu NG**. The method outlined in this tutorial utilizes the **Twilio** integration module to create a chatbot accessible through SMS from any mobile device.

Pre-Requisites

The following are required in order to implement a chatbot using **Ayehu NG** and **Twilio**:

- Ayehu NG >= 1.3.x
- Ayehu NG's Twilio integration module
- A Twilio account capable of sending and receiving SMS

Configuring the Twilio Integration Module

After creating an account with **Twilio**, it's time to add its integration module to **Ayehu NG**. To do so, open the main menu at the top-left of the **Ayehu NG** interface and then under the **Configuration** section, select **Modules**. Next, click the small white plus-sign (**+**) on the top-right of the **Integrations** table. From there, configure your module like so:

Click image to view full-sized version.

You can find the values for **Account SID**, **Auth Token**, and **From Number** on your **Twilio** account's control panel. Please note that the phone number used in the **From Number** field must start with a plus-sign (**+**) followed by a country code and then lastly the seven-digit phone number.

Testing the Twilio Integration Module

Before proceeding, test your **Twilio** integration module by sending an SMS to your **Twilio** phone number. Then, navigate to the **Audit Trail** within **Ayehu NG** by opening the menu at the top-left of the interface and then under the **Insight** section, select **Audit Trail**. You should see an incoming event from your mobile number containing the message body you wrote.

Click image to view full-sized version.

Creating a Trigger for the SMS Chatbot

*Before creating your new **Trigger**, create and save an empty **Workflow** (contains a single **Activity** like **DisplayValue**) that will be used for the SMS chatbot. The **Workflow** name referenced in this guide is **twilio tests**.*

To create the **Trigger**, navigate to the **Policy Actions** page within **Ayehu NG** by opening the menu at the top-left of the interface and then under the **Repository** section, select **Policy Actions**. Next, click the small white plus-sign (**+**) on the top right of the **Triggers** table. The configuration panel will open, as seen in the screenshot below.

Click image to view full-sized version.

Next, give your new **Trigger** a name and then click the small black plus-sign (**+**) under the **Condition** column to create a new **Condition**. Give your **Condition** a name and then configure the **Condition Logic** table as seen in the screenshot below.

Because we want our **Trigger** to execute whenever an SMS is received from any number, we are using the regular expression **^\+[0-9]*$** to tell the system that if an incoming message has a sender string that starts with a plus-sign (**+**) and is then followed by numerical characters, consider it an SMS that should trigger our **Workflow**.

After configuring the **Condition**, click **Save and Close**, at which point you'll be returned to the **Trigger** configuration panel. From there, select the empty **Workflow** you created earlier so that your **Trigger** is configured like the screenshot below.

Finally, click **Save**. Congratulations! Your new **Trigger** has been configured and you're ready to design your SMS chatbot **Workflow**.

Creating the Chatbot Workflow

There are two (2) variables associated with incoming SMS that you can reference within **Ayehu NG**, whether as part of a **Condition** or in a **Workflow** directly: **%Source%** and **%Body%**. Our **Trigger Condition** is configured to execute the chatbot **Workflow** whenever an SMS is received by **Ayehu NG**, regardless of its contents. Therefore, our **Workflow** must contain the logic to perform different actions based on the message contents.

Below is a screenshot of a **Workflow** that contains four (4) if-else branches: reset a password, unlock an account, report system stats, and the default branch to display the menu.
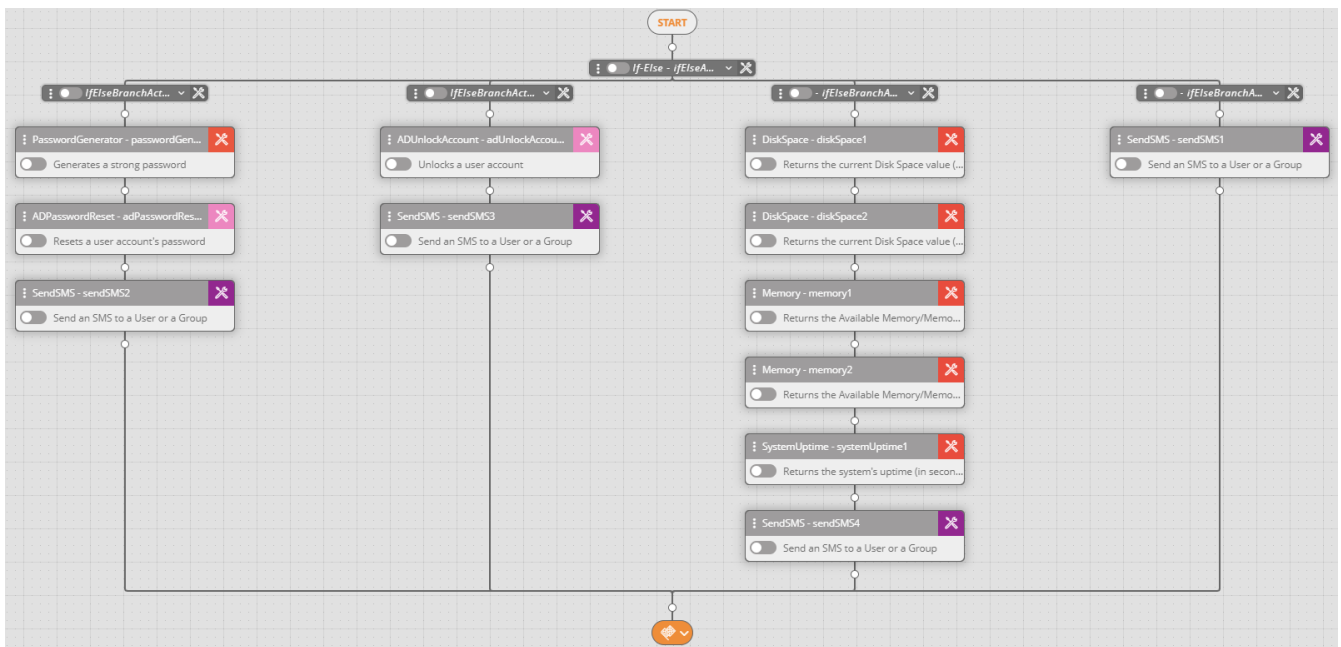
*Click image to view full-sized version.*

The default if-else branch on the far-right is configured with a **SendSMS Activity** like in the screenshot below.

The first if-else branch on the far-left is executed when the value of **%Body%** is equal to "*password*" and is configured like in the screenshot below.
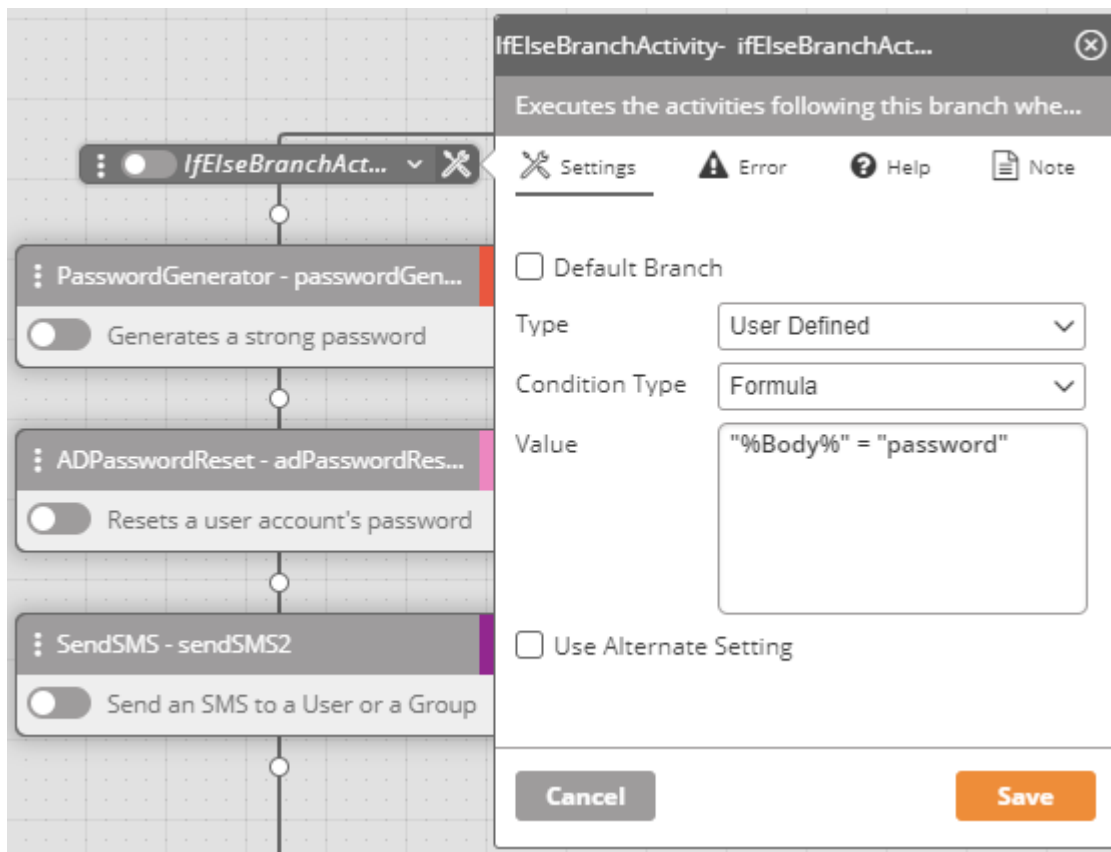
This branch then uses the **PasswordGenerator** activity to generate a new random password and then the **ADPasswordReset** activity to reset that user's password. In a real-world scenario, the **ADGetProperty Activity** would be used to query **Active Directory** for the username associated with the mobile number stored in **%Source%**.

The second and third if-else branches are configured to execute if the value of **%Body%** is equal to "*unlock*" and "*stats*", respectively. From there, each branch takes the appropriate action.
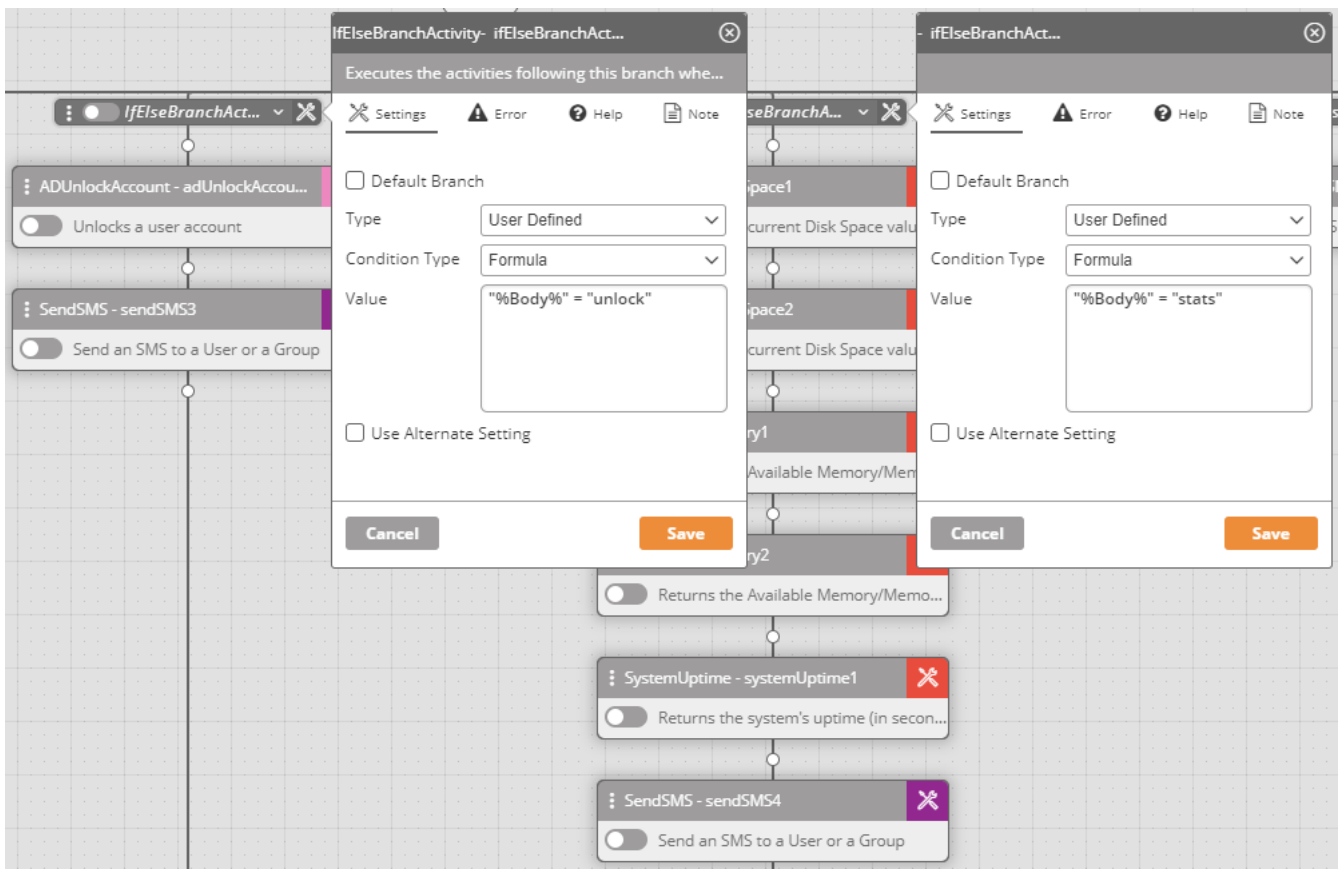
For more information on how to use the **Activities** shown in this **Workflow** (**ADPasswordReset**, **SendSMS**, and **PasswordGenerator**), please refer to the **Ayehu NG Activity Guide** (https://ayehu.com/wp-content/uploads/2019/09/Activity_Guide-en.pdf).

To download an export of this **Workflow**, download the file attached to this article or visit the GitHub repository: https://github.com/Ayehu/custom-workflows/tree/master/Twilio%20SMS%20Chatbot

Testing the SMS Chatbot

To test your new SMS chatbot, send an SMS to your **Twilio** phone number containing any message at all other than one of the keywords that is being looked for by the if-else branch of your **Workflow**. Your chatbot has been configured to display a menu when it receives a message other than one of those keywords.

Below is a sample conversation you can have with your new SMS chatbot.
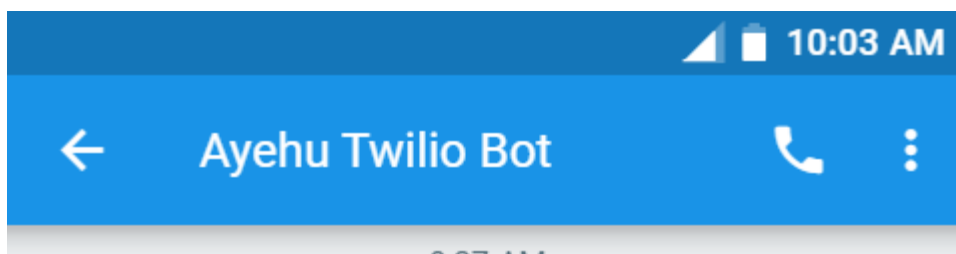
Good morning!

A Hi! Please text back your selection keyword:

password - Reset your password
unlock - Unlock your account
stats - Show system stats

password

A Your password has been reset!
Your new password is:
v87SabNM45g

unlock

A Your account has been
unlocked!

stats

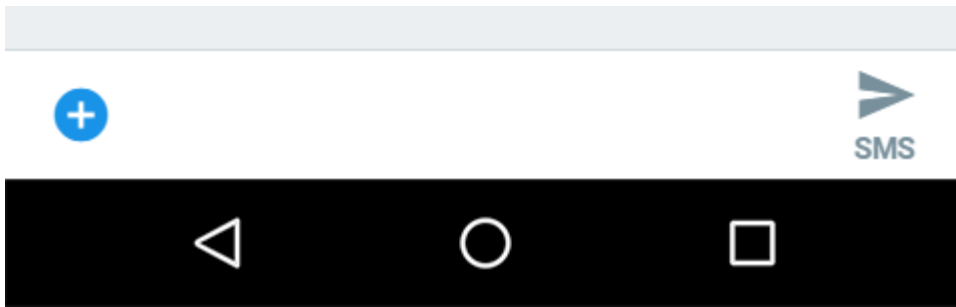**A** Disk: 107680.73 MB used and
135346.19 MB available on C:

Uptime: 174.40 hr

Memory: 5122.83 MB used of
8025.83 MB total

9:45 AM

In the **Audit Trail**, these incoming messages will appear like in the screenshot below.

📎 Twilio SMS Chatbot.xml
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