

SoPHIE – Amazon Mechanical Turk Integration

Documentation

Version 1.0.0 beta1

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Basic Prerequisites

Amazon Web Services

In order to use Amazon Mechanical Turk in combination with SoPHIE the first thing you need is an active Amazon Web Services (AWS) account. If you do not have one yet, go ahead and register on <http://aws.amazon.com/>. Once you created your account login and add your credit card information. Go to **Payment Method** in the menu on the left side of the screen. This step is a necessity in order to create your AWS account. This card won't be charged if you choose a free AWS account and it is not the account you will be paying your participants from. We will come to this later.

Amazon Mechanical Turk (MTurk)

After you have created an AWS account you will need to activate your MTurk requester account. Use your AWS username and password to sign in on <https://requester.mturk.com/>. Under **Account Settings** you will find **Prepay for Mechanical Turk HITs**. This is where you can transfer money to your MTurk account. This money will be used to pay your participants (MTurk Workers).

SSL Security

When working with SoPHIE's MTurk integration make sure you are using SoPHIE protected by SSL. You can easily check whether this is the case. Just have a look at the URL of your SoPHIE platform. If it says <https://trynow.sophielabs.net> it is secured by an SSL certificate, if it says <http://trynow.sophielabs.net> it is not. While working with SoPHIE you won't notice a difference. But when MTurk workers will accept the HIT it makes a huge difference. Without SSL security some users will only see a blank screen as MTurk requires SSL security. So always make sure you are using a protected platform.

Connect SoPHIE with your AWS account

You have two options to connect your sessions to Amazon Mechanical Turk. If you would like to connect multiple sessions of a treatment it is recommended to connect via SoPHIE's Designer. Open your treatment and click on **Edit Treatment**.



Now select the **Amazon Mechanical Turk** tab and enter your **AWS Access Key ID** and **Secret Access Key**. You further have the chance to edit a customized preview screen (page 5). You can also specify a contact name and email address.

The second option is to directly connect your session in SoPHIE's session administration. Once you have created the session that you would like to connect to MTurk go to session administration. Here you will find an MTurk tab. Go to **Configuration** to connect your AWS account. Enter your **AWS Access Key ID** and **Secret Access Key** and click save.

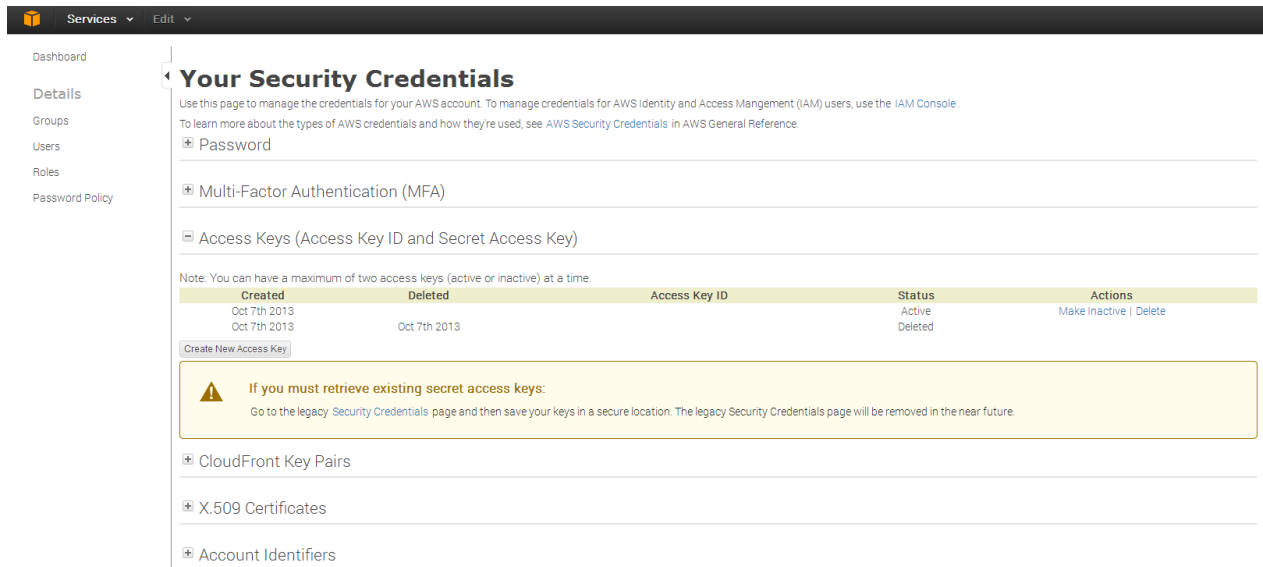
How to get your AWS Access Key ID and Secret Access Key:

1. Go to Amazon Web Services: <http://aws.amazon.com>
2. Select **My Account / Console** and click **Security Credentials**.



3. Sign in if required.

4. Open the **Access Keys**.



5. Click **Create New Access Key**.

6. Download the Key File and save it in a safe place.

7. **Open the Key File**. It will look like this:

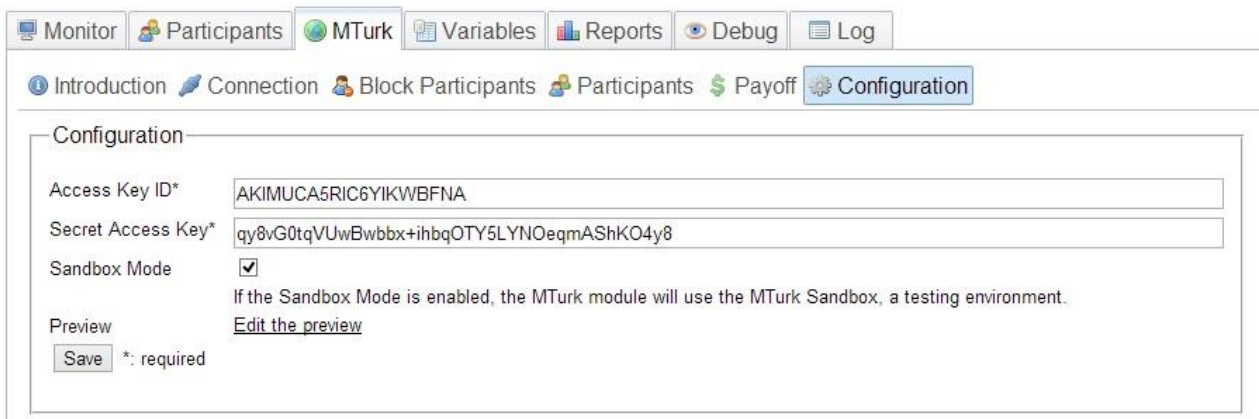
AWSAccessKeyId=**AKIMUCA5RIC6YIKWBFNA**

AWSecretKey=**qy8vG0tqVUwBwbbx+ihbqOTY5LYNOeqmAShKO4y8**

Your Access Key ID is given after AWSAccessKeyId= (**green** in the example).


Your Secret Access Key is given after AWSecretKey= (**red** in the example).

8. Copy both in the corresponding input boxes (picture below shows form in session administration) and save the configuration.



Preview Screen

SoPHIE experiments will consist of many screens and you do not want to preview screens which will reveal critical information of the experiment, that's why we created the possibility to create a customized preview screen to be shown to workers who view the HIT. The preview screen will by default show the following message.

 **SoPHIE**

Please DO NOT accept this HIT until you have read the information on this preview screen!

By accepting the HIT you will be taking part in a real time experiment. This means you will be making decisions along with other workers who are also participating in this experiment. When making decisions, please respect other participants time. Please accept this HIT **ONLY** if you can commit to it right now for the full duration of the experiment and please make your decisions in a timely manner.

Once you accept this HIT, it **CANNOT BE RETURNED!** You are given a **UNIQUE** slot in this experiment. This slot cannot be filled by someone else if you drop out. That's why you are expected to participate for the full duration. After you finish the HIT by completing the experiment and after your payments have been approved you will receive the reward plus a bonus payment which will depend on your decisions during the experiment.

Thank you for your attention!

Once you accept the HIT you will be logged in to the experiment. Possibly you then need to wait for a short time for other participants to login before the experiments starts.

In order to change the default message go to **Edit Treatment** in the Designer and select the **Amazon Mechanical Turk** tab or go to the MTurk **Configuration** tab in SoPHIE's session administration and click on **Edit the preview**. Create your own individual preview screen with the code mirror or WYSIWYG editor and save your changes.

The preview screen is an important feature. Next to the HIT description it offers another way to communicate with the workers prior to HIT acceptance. You have the chance to give detailed information about the experimental procedures and possible events. It is recommended to explain that by accepting the HIT workers will participate in a real time experiment and that HITs cannot be returned. Further, in order to improve trust you might want to say something about the research project and institute and that workers can be sure that everything is above-board.

Please keep in mind that in sandbox mode (page 5) it's ok to create the HIT first and then the customized preview. However, if you are creating a HIT for the MTurk live system, you should always create the customized preview first prior to creating the HIT. If not, early workers will only see the default message as long as the customized preview isn't written and saved.

Once you created a HIT you will find it on the MTurk worker sandbox (if you work in sandbox mode). On MTurk click on **View a HIT in this group** to see the preview screen.

Creating a HIT

If you want to use a testing environment first before publishing a HIT on MTurk's live system make sure you have selected the **Sandbox Mode** in the MTurk **Configuration** tab (shown in picture on page 3).

Sandbox

Once you have created a session in SoPHIE you can connect this session with MTurk. In order to do that you will have to create a HIT with SoPHIE's MTurk module. If you do not want the HIT to be published on the MTurk live system but rather first play around and test you need to activate your MTurk sandbox accounts. Go to <https://workersandbox.mturk.com> and <https://requestersandbox.mturk.com> and sign in with your AWS username and password. In order to have an activated requester sandbox you also need to enter a US contact address.

When you create a HIT in sandbox mode it will only be published in the sandbox. In order to see the created HIT from a workers perspective go to <https://workersandbox.mturk.com>. For administering your HIT visit <https://requestersandbox.mturk.com> and click on **Manage** and **Manage HITs individually** (on the right side of the screen).

Now click on **Set Running** and **Start Admin Process** in SoPHIE's session administration to activate your session, then go to the **Manage HIT** tab and fill out the form to create a HIT. The reward entered here will be a safe amount every worker will receive after finishing the HIT (given you approve it). It is comparable to a show up fee. All other payments will be handled by bonuses which basically represent SoPHIE payoffs defined in your session.

Session Details

The screenshot displays the 'Session Details' page in the SoPHIE application. At the top, there are buttons for 'Edit Session', 'Go to Treatment', 'Set running', 'Start Admin Process', 'Delete Session', and 'Set finished'. Below these is a 'Session Overview' section with 'Session State: created'. To the right of the overview is a navigation bar with tabs: Monitor, Participants, MTurk (selected), Variables, Reports, Debug, and Log. Under the MTurk tab, there are sub-tabs: Introduction, Configuration, Block Participants, Manage HIT (selected), Participants, and Payoff. The 'Manage HIT' sub-tab is active, showing a 'Create a HIT' form. The form includes fields for Title*, Description*, Keywords, Expires in [hours]*, Time to complete [hours]*, and Reward [USD]*. Below the form, there is explanatory text: 'Each turker receives the reward for participating in the session (after you approved the results of a completed assignment). If you want the payoff to depend on the participant's decisions during the session you may grant the payoff as a bonus.' At the bottom of the form area is an 'Advanced Options' section.

Advanced Options

Maximum number of Assignments

The number of assignments defaults to the number of participants in the session. For most experiments this will be a sufficient setting. However, you can also shorten the number of assignments in relation to participants. This might be useful if you want to run an experiment with participants on MTurk and participants in the lab. **Note on session size:** It is recommended to keep the session size low (up to 30 participants). Break down large sessions into multiple small ones. This lowers the error risks and guarantees performance.

Frame height

This concerns the frame which is shown on MTurk and displays the preview and later the SoPHIE screens. It is set to the default value of 700. You do not have to change that, but if you would like to change the size of the frame you can. For example, if you have screens which are large and you do not want participants to scroll you can increase the frame size.

URL

This URL points to this session's "participate with MTurk" site. Ensure that you use https (SSL) since otherwise some participants may encounter blank screens because their browsers are blocking mixed content.

Worker Location

Set locations from which you would like to recruit, or exclude locations from which you do not want to recruit.

Number of Approved HITs

Set the number of approved HITs a workers has to hold by a minimum or maximum amount. If you want experienced workers you will set a high minimum, if you do not want experts set a low maximum.

Percentage of approved assignments

This shows how many assignments of a worker were approved by requesters. But be aware, Amazon sets this value to 100 percent for all workers who have only completed less than 100 HITs. So if you want to be sure to recruit experienced, high quality workers you need to set this level slightly below 100 percent.

After you have filled in all necessary fields click on **Create HIT**. Your HIT will now be listed on MTurk.

Run your MTurk Session

Once you have created a customized preview and a HIT make sure your session is **running** and the **admin process is started** (it is always best to activate both *before* you create the HIT). Now workers will be able to accept the HIT and start the experiment. You can test this and run your whole session in sandbox mode if you like.

While the experiment is running you can monitor activities in the session administration. Under the **Manage HIT** tab you will now find specific HIT information. This is where you can increase the expiration date of the HIT or expire the HIT **early**. This is an important feature. If you encounter any problems and you just want to get the HIT off MTurk as fast as possible click **Expire Now**.

This session is successfully connected with the MTurk sandbox.
 HIT ID: 2XGQ4J3NAB6HHRGIIVPIW1TJQ7DRER

Title	MTurk UG Session		
Description	ultimatum game		
URL	http://sophiesoftware.local.achivo.net/mturk/participate/index/sessionId/5		
Frame Height	700px		
Status	Assignable		
Max Assignments	2		
Reward	\$1.00		
Auto Approval Delay	30 Days		
Expiration	2013-10-25 18:01	<input type="text" value="0"/>	<input type="button" value="Add Minutes"/> <input type="button" value="Expire Now"/>
Assignment Duration	1 Hour		
Review Status	NotReviewed		

HITs cannot be returned

Once a worker returns a HIT his slot in SoPHIE cannot be refilled as each worker receives a **unique** slot. If workers decide to return the HIT they will be lost for good. This may also affect other participants in the experiment. Because of that you may not always receive all the data you originally planned on getting. In that case you have to run another session to collect the missing data.

If you run another session make sure you block workers who have participated in your first session from participating in the new one. This can be done in the **Block Participants** tab.

Block workers...

☐ ...who already participated in this session
☐ ...who participated in these experiments
☐ ...who participated in these sessions
☐ ...with one of these Worker IDs

☒ (each worker may work on a HIT only once)

☐ UG
☐ mturktest
☐ MTURKTEST
☐ MTurkTEST
☐ Test

*: required

Workers who return the HIT during the experiment will not get paid. You might also want to block those workers from participating in future experiments.

Once the experiment is over and workers finish the HIT they will return to the HIT overview and receive the following message:



Payout Payoffs

After the experiment is over you need to approve or reject the payouts. Click on the MTurk tab and open **Payoff**. Here you will find a list of all worker ID's and their corresponding bonuses (bonuses represent SoPHIE-Payoffs). You can approve or reject workers. After you are done click **Submit to MTurk** and workers will receive their bonus + reward. The reward was the amount you entered in the **Create HIT** form. The reward represents a safe payoff for every approved participant (something like a show up fee).

The screenshot shows the MTurk Payoff interface. At the top, there's a navigation bar with tabs: Monitor, Participants, MTurk, Variables, Reports, Debug, and Log. Below the navigation bar, there's a sub-navigation bar with tabs: Introduction, Connection, Block Participants, Participants, Payoff, and Configuration. The Payoff tab is selected. Below the sub-navigation bar, there's a pagination bar with 'Previous', 'Page 1 of 1', and 'Next'. Below the pagination bar, there's a table with the following data:

	Worker ID	Approve all none	Reject all none	Bonus	Submission Date
A.1	A2MYPVWLGGZBG45	<input type="radio"/>	<input type="radio"/>	4.00	2013-10-09 15:14:28
B.1	A1H4DOKPQ4H0P9	<input type="radio"/>	<input type="radio"/>	6.00	2013-10-09 15:14:33

Below the table, there's a 'Bonus Reason' field with the text 'Thank you for participating!'. Below the field, there's a note: '(Required by MTurk. The Worker receiving the bonus can see this message.)'. Below the note, there's a text: 'Bonuses will be paid only if you approve the corresponding assignment.' Below the text, there's a 'Submit to MTurk' button. Below the button, there's a pagination bar with 'Previous', 'Page 1 of 1', and 'Next'.