Phishing IR SDK v1.0.1

SlashNext Phishing IR SDK Guide

Version 1.0.1 (December 28, 2019)

This document outlines the process to install the phishing incident response SDK built by SlashNext to aid users to develop their own SOAR applications and automation scripts. It also provides details on how to use the SlashNextPhishingIR SDK module with-in the package to develop your own automation script using Python.

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Introduction

SlashNext Phishing Incident Response SDK allows users to develop their own automation scripts (playbooks) to perform certain data enrichment using SlashNext On-demand Threat Intelligence cloud APIs.

The SlashNext Phishing Incident Response enables users to analyzes the provided IoCs (URL, IPv4 or FQDN) with the SlashNext SEER™ threat detection cloud to get definitive, binary verdicts (malicious or benign) along with forensics data including screenshots, HTML, and more.

SlashNext threat detection uses browsers in a purpose-built cloud to dynamically inspect page contents and site behavior in real-time. This method enables SlashNext to follow URL re-directs and multi-stage attacks to more thoroughly analyze the final page(s) and makes a much more accurate, binary determination with near-zero false positives. It also detects all six major categories of phishing and social engineering sites. These include credential stealing, rogue software / malware sites, scareware, phishing exploits (sites hosting weaponized documents, etc.), and social engineering scams (fake deals, giveaways, etc.).

Use cases include abuse inbox management where SOC teams can automate URL analysis for phishing emails to save hundreds of hours versus more manual methods. Playbooks that mine and analyze network logs can also leverage SlashNext URL analysis on demand. SlashNext not only provides accurate, binary verdicts (rather than threat scores), it provides IOC metadata and screen shots of detected phishing pages. These enables easier classification and reporting. Screen shots can be used as an aid in on-going employee phishing awareness training and testing.

The SlashNext Phishing Incident Response SDK uses an API key to authenticate with the SlashNext cloud. If you don't have a valid API key, contact the SlashNext team: support@slashnext.com

Requirements

SlashNext Phishing Incident Response SDK requires Python 3.6 with setuptools installed on your system and have access to internet.

If you don't have Python3.6 installed please use following commands.

```
sudo apt install python3
sudo apt install python3-pip
sudo python3 -m pip install setuptools
```

Installation

Important Note

Please note that SlashNext Phishing IR SDK is part of different packages provided by SlashNext so the exact content of the package depend upon the actual package but the directory structure is the same. Currently it comes in following packages

- 1. slashnext-phishing-ir (SlashNextPhishingIR, contains SDK only)
- 2. slashnext-phishing-ir-commands (SlashNextPhishingIRCommands, contains SDK and Linux style commands)
- 3. slashnext-phishing-ir-console (SlashNextPhishingIRConsole, contains SDK and the Console TUI)

Please follow the steps given below to install the SlashNext Phishing IR SDK on your system.

Note

Please note that SlashNext shall provide you with the zip file which contains following directory structure.

```
docs
| SlashNext Phishing IR SDK Guide.pdf
src
| setup.py
| README.md
| LICENSE.txt
| SlashNextPhishingIR
| ...
| ...
| examples
```

- Unzip the package provided by SlashNext.
- Open a Terminal and go to the 'src' directory.
- Run the following command which installs all the required modules along with SlashNext Phishing IR SDK.

sudo python3 -m pip install.

• In order to uninstall the SlashNext Phishing IR SDK package, run one of the following command depending upon the package.

```
sudo python3 -m pip uninstall slashnext-phishing-ir sudo python3 -m pip uninstall slashnext-phishing-ir-commands sudo python3 -m pip uninstall slashnext-phishing-ir-console
```

Configuration

Follow the steps listed below to run/activate the SlashNext Phishing Incident Response SDK on your system.

Open a terminal and make a new directory which you want to save as a new workspace for SlashNext Phishing IR SDK.

```
@snx:~$ mkdir snx_ir_workspace
@snx:~$ cd snx_ir_workspace/
@snx:~/snx_ir_workspace$
```

• Open a new python document and write following code to configure and test SlashNextPhishingIR SDK.

• In case of a successful test (connectivity and authentication), you shall see following output from the code snippet given above.

Successfully connected the SlashNext cloud.

Executing Actions/Commands

There are two possible ways to execute actions using SlashNextPhishingIR SDK.

Method 1

With this method the configurations are saved on the disk in a file for future usage and also all the actions are available at within a single instance.

The execution of commands is quite easy, you'll need to call the execute function of the SlashNextPhishingIR class with the action string. An
action string shall be formatted as following.

<Action Name> <Required Parameter> <Optional Parameter 1> <Optional Parameter 2> ...

• An example code snippet of method 1 is given below.

```
from SlashNextPhishingIR import SlashNextPhishingIR
from pprint import pprint
# Creating an instance of the SlashNext Phishing IR class with the workspace location
snx_phishing_ir = SlashNextPhishingIR('/home/developer/snx_ir_workspace/')
# Providing the valid required configuration
snx_phishing_ir.set_conf(
   base_url='https://oti.slashnext.cloud/api/'
# Testing the configurations (connectivity and authentication)
status, details = snx_phishing_ir.test()
# Checking if the provided configurations are working correctly
if status == 'ok':
    # Execute 'slashnext-host-reputation' action with 'host' parameter value 'google.com'
   status, details, responses_list = snx_phishing_ir.execute('slashnext-host-reputation host=google.com')
   if status == 'ok':
       pprint(responses_list)
    else:
       print('Action execution failed due to {}'.format(details))
else:
   print('Connection to SlashNext cloud failed due to {}'.format(details))
```

• In case of a successful execution, you shall see following output.

Method 2

With this method the configurations needs to be passed to each action class and also also you'll need to make instances of each action class.

• An example code snippet of method 2 is given below.

• In case of a successful execution, you shall see following output.

Supported Actions/Commands

SlashNext Phishing Incident Response SDK supported actions/commands and outputs are listed below. For example we shall use method 1 of execution.

- 1. slashnext-host-reputation Queries the SlashNext cloud database and retrieves the reputation of a host.
- 2. slashnext-host-report Queries the SlashNext cloud database and retrieves a detailed report.
- 3. **slashnext-host-urls** Queries the SlashNext cloud database and retrieves a list of all URLs.
- 4. slashnext-url-scan Perform a real-time URL reputation scan with SlashNext cloud-based SEER threat detection engine.
- 5. slashnext-url-scan-sync Perform a real-time URL scan with SlashNext cloud-based SEER threat detection engine in a blocking mode.
- 6. slashnext-scan-report Retrieve URL scan results against a previous scan request.
- 7. slashnext-download screenshot Downloads a screenshot of a web page against a previous URL scan request.
- 8. slashnext-ownload-html Downloads a web page HTML against a previous URL scan request.
- 9. slashnext-download-text Downloads the text of a web page against a previous URL scan request.
- 10. slashnext-api-quota Find information about your API quota, like current usage, quota left etc.

Host Reputation

slashnext-host-reputation

Queries the SlashNext cloud database and retrieves the reputation of a host.

Parameters

PARAMETER	REQUIRED	DESCRIPTION	TYPE	CONTAINS
host	required	The host to look up in the SlashNext Threat Intelligence database. Can be either a domain name or an IPv4 address.	string	domain / IP

Execution

The input and output of the command/action are given below.

Host Report

slashnext-host-report

Queries the SlashNext cloud database and retrieves a detailed report for a host and associated URL.

Parameters

PARAMETER	REQUIRED	DESCRIPTION	TYPE	CONTAINS
host	required	The host to look up in the SlashNext Threat Intelligence database. Can be either a domain name or an IPv4 address.	string	domain / IP

Execution

The input and output of the command/action are given below.

```
# Execute 'slashnext-host-report' action with 'host' parameter value 'virtualmarketing.pk'
status, details, responses_list = snx_phishing_ir.execute('slashnext-host-report host=virtualmarketing.pk')
# Expected Output
[{'errorMsg': 'Success',
  'errorNo': 0,
  'threatData': {'firstSeen': '10-16-2019 15:41:09 UTC',
                  'lastSeen': '10-19-2019 08:54:06 UTC',
                 'threatName': 'Fake Login Page',
                 'threatStatus': 'No Longer Active',
                 'threatType': 'Phishing & Social Engineering',
                 'verdict': 'Malicious'}},
 {'errorMsg': 'Success',
  'errorNo': 0,
  'normalizeData': {'normalizeMessage': '', 'normalizeStatus': 0},
  'urlDataList': [{'scanId': '873d9975-c6c4-42ef-9674-ff3ee4a44ed9',
                   'threatData': {'firstSeen': '10-16-2019 15:41:09 UTC',
                                   'lastSeen': '10-16-2019 15:53:44 UTC',
                                  'threatName': 'Fake Login Page',
                                  'threatStatus': 'Active',
                                   'threatType': 'Phishing & Social Engineering',
                                  'verdict': 'Malicious'},
                   'url': 'https://virtualmarketing.pk/xoixnx/Chase2019/myaccount/index.php'}]},
 { 'errorMsg': 'Success',
  'errorNo': 0,
  'scData': {'scBase64': 'Replaced with dummy data',
             'scContentType': 'jpeg',
             'scName': 'Webpage-screenshot'}},
 {'errorMsg': 'Success',
  'errorNo': 0,
  'htmlData': { 'htmlBase64': 'Replaced with dummy data',
               'htmlContenType': 'html',
               'htmlName': 'Webpage-html'}},
 { 'errorMsg': 'Success',
  'errorNo': 0,
  'textData': {'textBase64': 'Replaced with dummy data',
               'textName': 'Webpage-text'}}]
```

Host URLs

slashnext-host-urls

Queries the SlashNext cloud database and retrieves a list of all URLs associated with the specified host.

Parameters

PARAME TER	REQUI RED	DESCRIPTION	TYPE	CONTA INS
host	required	The host to look up in the SlashNext Threat Intelligence database, for which to return a list of associated URLs. Can be either a domain name or an IPv4 address.	string	domain / IP
limit	optional	The maximum number of URL records to fetch. Default is "10".	num eric	

Execution

The input and output of the command/action are given below.

```
# Execute 'slashnext-host-urls' action with 'host' parameter value 'blueheaventravel.com'
status, details, responses_list = snx_phishing_ir.execute('slashnext-host-urls host=blueheaventravel.com
limit=5')
# Expected Output
[{'errorMsg': 'Success',
  'errorNo': 0,
  'normalizeData': {'normalizeMessage': '', 'normalizeStatus': 0},
  'urlDataList': [{'finalUrl': 'https://blueheaventravel.com/vendor/filp/whoops/up/pulp.php?
rand=46InboxLightaspxn.4827685990&fid.28.9164762324&fid=1&fav.1&rand.46InboxLight.aspxn.4827685990&fid.
28.9164762324&fid.1&fav.1&email=SmFja2RhdmlzQGV1cmVsaW9zb2xsdXRpb25zLmNvbQ==&.rand=46InboxLight.aspx?
n=4827685990&fid=6#x=9164762324&fid=1&fav=1',
                   'scanId': 'N/A',
                   'threatData': {'firstSeen': '10-16-2019 15:21:56 UTC',
                                  'lastSeen': '10-18-2019 01:28:09 UTC',
                                  'threatName': 'Fake Login Page',
                                  'threatStatus': 'No Longer Active',
                                  'threatType': 'Phishing & Social Engineering',
                                  'verdict': 'Malicious'},
                   'url': 'https://blueheaventravel.com/vendor/filp/whoops/up/index.php?
email=Jackdavis@eureliosollutions.com' },
                  {'finalUrl': 'https://blueheaventravel.com/vendor/filp/whoops/up/pulp.php?
rand=46InboxLightaspxn.4827685990&fid.28.9164762324&fid=1&fav.1&rand.46InboxLight.aspxn.4827685990&fid.
28.9164762324&fid.1&fav.1&email=&.rand=46InboxLight.aspx?n=4827685990&fid=6#x=9164762324&fid=1&fav=1',
                   'scanId': 'N/A',
                   'threatData': {'firstSeen': '10-16-2019 17:39:54 UTC',
                                  'lastSeen': '10-18-2019 03:48:20 UTC',
                                  'threatName': 'Fake Login Page',
                                  'threatStatus': 'No Longer Active',
                                  'threatType': 'Phishing & Social Engineering',
                                  'verdict': 'Malicious'},
                   'url': 'https://blueheaventravel.com/vendor/filp/whoops/up/index.php?email='}]}]
```

URL Scan

slashnext-url-scan

Performs a real-time URL reputation scan with SlashNext cloud-based SEER Engine. If the specified URL already exists in the cloud database, scan results will be returned immediately. If not, this command will submit a URL scan request and return with the message "check back later" and include a unique Scan ID. You can check the results of this scan using the "slashnext-scan-report" command anytime after 60 seconds using the returned Scan ID.

Parameters

PARAME TER	REQUI RED	DESCRIPTION	TY PE	CONT AINS
url	required	The URL that needs to be scanned.	stri ng	URL
extended _info	optional	Whether to download forensics data, such as screenshot, HTML, and rendered text. If "true", forensics data will be returned. If "false" (or empty) forensics data will not be returned.	stri ng	

Execution

```
# Execute 'slashnext-url-scan' action with 'url' parameter value 'http://ajeetenterprises.in/js/kbrad/drive
/index.php'
status, details, responses_list = snx_phishing_ir.execute('slashnext-url-scan url=http://ajeetenterprises.in
/js/kbrad/drive/index.php extended_info=true')
# Expected Output
[{'errorMsg': 'Success',
  'errorNo': 0,
  'normalizeData': {'normalizeMessage': '', 'normalizeStatus': 0},
  'urlData': {'scanId': 'c0cb9503-5833-48e4-ae9e-a0f9d4065cf9',
              'threatData': {'firstSeen': '12-27-2019 07:45:55 UTC',
                              'lastSeen': '12-27-2019 07:47:51 UTC',
                              'threatName': 'Fake Login Page',
                              'threatStatus': 'Active',
                              'threatType': 'Phishing & Social Engineering',
                              'verdict': 'Malicious'},
              'url': 'http://ajeetenterprises.in/js/kbrad/drive/index.php'}},
 {'errorMsg': 'Success',
  'errorNo': 0,
  'scData': { 'scBase64': 'Replaced with dummy data',
             'scContentType': 'jpeg',
             'scName': 'Webpage-screenshot'}},
 {'errorMsg': 'Success',
  'errorNo': 0,
  \verb|'htmlData': { | 'htmlBase64': 'Replaced with dummy data', }
               'htmlContenType': 'html',
               'htmlName': 'Webpage-html'}},
 {'errorMsg': 'Success',
  'errorNo': 0.
  'textData': { 'textBase64': 'Replaced with dummy data',
               'textName': 'Webpage-text'}}]
```

URL Scan Sync

slashnext-ur- scan-sync

Performs a real-time URL scan with SlashNext cloud-based SEER Engine in a blocking mode. If the specified URL already exists in the cloud database, scan result will be returned immediately. If not, this command will submit a URL scan request and wait for the scan to finish. The scan may take up to 60 seconds to finish.

Parameters

PARA METER	REQ UIR ED	DESCRIPTION	TY PE	CON TAI NS
url	requi red	The URL that needs to be scanned.	stri ng	URL
exten ded_i nfo	optio nal	Whether to download forensics data, such as screenshot, HTML, and rendered text. If "true", forensics data will be returned. If "false" (or empty) forensics data will not be returned.	stri ng	
timeo ut	optio nal	A timeout value in seconds. If the system is unable to complete a scan within the specified timeout, a timeout error will be returned. You can run the command again with a different timeout. If no timeout value is specified, a default timeout value is 60 seconds.	nu me ric	

Execution

```
# Execute 'slashnext-url-scan-sync' action with 'url' parameter value 'http://ajeetenterprises.in/js/kbrad
/drive/index.php'
status, details, responses_list = snx_phishing_ir.execute('slashnext-url-scan-sync
url=http://ajeetenterprises.in/js/kbrad/drive/index.php extended_info=true timeout=30')
# Expected Output
[{'errorMsg': 'Success',
  'errorNo': 0,
  'normalizeData': {'normalizeMessage': '', 'normalizeStatus': 0},
  'urlData': {'scanId': 'c0cb9503-5833-48e4-ae9e-a0f9d4065cf9',
              'threatData': {'firstSeen': '12-27-2019 07:45:55 UTC',
                             'lastSeen': '12-27-2019 07:47:51 UTC',
                             'threatName': 'Fake Login Page',
                             'threatStatus': 'Active',
                             'threatType': 'Phishing & Social Engineering',
                             'verdict': 'Malicious'},
              'url': 'http://ajeetenterprises.in/js/kbrad/drive/index.php'}},
 {'errorMsg': 'Success',
  'errorNo': 0,
  'scData': { 'scBase64': 'Replaced with dummy data',
             'scContentType': 'jpeg',
             'scName': 'Webpage-screenshot'}},
 {'errorMsg': 'Success',
  'errorNo': 0,
  'htmlData': {'htmlBase64': 'Replaced with dummy data',
               'htmlContenType': 'html',
               'htmlName': 'Webpage-html'}},
 {'errorMsg': 'Success',
  'errorNo': 0.
  'textData': { 'textBase64': 'Replaced with dummy data',
               'textName': 'Webpage-text'}}]
```

URL Scan Report

slashnext-scan-report

Retrieves the results of a URL scan against a previous scan request. If the scan is finished, results will be returned immediately; otherwise the message "check back later" will be returned.

Parameters

PARAME TER	REQUI RED	DESCRIPTION	TY PE	CONT AINS
scanid	required	Scan ID of the scan for which to get the report. Can be retrieved from the "slashnext-url-scan" action or "slashnext-url-scansync" action.	stri ng	snx scan id
extended _info	optional	Whether to download forensics data, such as screenshot, HTML, and rendered text. If "true", forensics data will be returned. If "false" (or empty) forensics data will not be returned.	stri ng	

Execution

```
# Execute 'slashnext-scan-report' action with 'scanid' parameter value 'c0cb9503-5833-48e4-ae9e-a0f9d4065cf9'
status, details, responses_list = snx_phishing_ir.execute('slashnext-scan-report scanid=c0cb9503-5833-48e4-
ae9e-a0f9d4065cf9 extended info=true')
# Expected Output
[{'errorMsg': 'Success',
  'errorNo': 0,
  'normalizeData': {'normalizeMessage': '', 'normalizeStatus': 0},
  'urlData': {'scanId': 'c0cb9503-5833-48e4-ae9e-a0f9d4065cf9',
              'threatData': {'firstSeen': '12-27-2019 07:45:55 UTC',
                             'lastSeen': '12-27-2019 07:47:51 UTC',
                             'threatName': 'Fake Login Page',
                             'threatStatus': 'Active',
                             'threatType': 'Phishing & Social Engineering',
                             'verdict': 'Malicious'},
              'url': 'http://ajeetenterprises.in/js/kbrad/drive/index.php'}},
 {'errorMsg': 'Success',
  'errorNo': 0,
  'scData': {'scBase64': 'Replaced with dummy data',
             'scContentType': 'jpeg',
             'scName': 'Webpage-screenshot'}},
 {'errorMsg': 'Success',
  'errorNo': 0,
  'htmlData': {'htmlBase64': 'Replaced with dummy data',
               'htmlContenType': 'html',
               'htmlName': 'Webpage-html'}},
 {'errorMsg': 'Success',
  'errorNo': 0,
  'textData': {'textBase64': 'Replaced with dummy data',
               'textName': 'Webpage-text'}}]
```

Download Screenshot

slashnext-download-screenshot

Downloads a screenshot of a web page against a previous URL scan request.

Parameters

PARAMETER	REQUIRED	DESCRIPTION	TYPE	CONTAINS
scanid	required	Scan ID. Can be retrieved from the "slashnext-url-scan" action or the "slashnext-url-scan-sync" action.	string	snx scan id
resolution	optional	Resolution of the web page screenshot. Can be "high" or "medium". Default is "high".	string	

Execution

The input and output of the command/action are given below.

Download HTML

slashnext-download-html

Downloads a web page HTML against a previous URL scan request.

Parameters

PARAMETER	REQUIRED	DESCRIPTION	TYPE	CONTAINS
scanid	required	Scan ID. Can be retrieved from the "slashnext-url-scan" action or the "slashnext-url-scan-sync" action.	string	snx scan id

Execution

The input and output of the command/action are given below.

Download Text

slashnext-download-text

Downloads the text of a web page against a previous URL scan request.

Parameters

PARAMETER	REQUIRED	DESCRIPTION	TYPE	CONTAINS
scanid	required	Scan ID. Can be retrieved from the "slashnext-url-scan" action or the "slashnext-url-scan-sync" action.	string	snx scan id

Execution

The input and output of the command/action are given below.

API Quota

slashnext-api-quota

Find information about your API quota, like current usage, quota left etc.

Parameters

No parameters are required for this action.

Execution

```
# Execute 'slashnext-api-quota' action
status, details, responses_list = snx_phishing_ir.execute('slashnext-api-quota')
# Expected Output
[{'errorMsg': 'Success',
  'errorNo': 0,
  'quotaDetails': {'consumedAPIDetail': {'customerApiQuota': 21,
                                          'downloadHTML': 0,
                                          'downloadScreenshot': 0,
                                          'downloadText': 0,
                                          'hostReputation': 23,
                                          'hostUrls': 0,
                                          'scanReportWithScanId': 0,
                                          'scanSyncReportWithScanId': 0,
                                          'urlReputation': 0,
                                          'urlScan': 2,
                                          'urlScanSync': 0},
                    'consumedPointsDetail': {'customerApiQuota': 0,
                                             'downloadHTML': 0,
                                             'downloadScreenshot': 0,
                                             'downloadText': 0,
                                             'hostReputation': 23,
                                             'hostUrls': 0,
                                              'scanReportWithScanId': 0,
                                             \verb|'scanSyncReportWithScanId': 0|,
                                             'urlReputation': 0,
                                             'urlScan': 6,
                                             'urlScanSync': 0},
                   'expiryDate': '2020-12-19',
                    'isExpired': False,
                    'licensedQuota': 1500,
                    'note': 'Your annual API quota will be reset to zero, once '
                            'either the limit is reached or upon quota '
                            'expiration date indicated above.',
                    'pointsConsumptionRate': {'customerApiQuota': 0,
                                              'downloadHTML': 0,
                                              'downloadScreenshot': 0,
                                              'downloadText': 0,
                                              'hostReputation': 1,
                                              'hostUrls': 1,
                                              'urlReputation': 1,
                                              'urlScan': 3,
                                              'urlScanSync': 3,
                                              'urlScanSyncWithScanId': 0,
                                              'urlScanWithScanId': 0},
                    'remainingQuota': 1471}}]
```