AARI for Web – Password Entropy Assistant

Readme

Version 1.0

04/10/2021

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1. Introduction

This document contains all essential information for the user to make full use of this *AARI for Web – Password Entropy Assistant.* includes a description of the functions and capabilities and step-by-step procedures for setup & configuration of the *AARI for Web – Password Entropy Assistant.*

1.1 Overview

Password Entropy Assistant can help you estimate how strong your password is and, if need be, come up with a new, stronger password.

1.2 Use cases & Explanation

You may have already encountered the word entropy when learning thermodynamics. In the context of passwords, this word signifies a measure of password strength, i.e., how effective a password is against adversaries who try to guess it or use a brute-force attack. A brute force attack means that someone sets up a script to try all possible combinations of characters to find the password. Such a method eventually would determine your password, provided that the adversary knows the set of characters from which the password consists of. So, your only chance is to use a password that would take a very long time to guess (optimally, several millions of years).

The number of trials an adversary would need to guess your password is an excellent measure of the password strength. This measure is known as password entropy. We express it in terms of bits - if a password has n bits of entropy, an attacker needs at most 2^n guesses.

Therefore, in principle, **the greater the entropy, the better a password**, at least when it comes to resisting brute force attacks. Of course, statistically, an attacker will guess the password earlier than at the last attempt. Therefore, we often take the **number of guesses required to have a 50%** chance of finding the password as a measure of password strength. This is half the number of attempts to guess with a 100% certainty - if a password has n bits of entropy, an attacker needs on average 2^{n-1} guesses.

1.3 How to use this Password Entropy Assistant?

1. For each common symbol type (lower case letters, upper case letters, numbers, etc.), enter **how many characters of that type** there are in your password. This calculator does **not** require you to enter the password - you're 100% safe!
2. This password entropy calculator returns the number of bits of entropy in your password as well as tells you how strong your password is.

1.4 Password Entropy Formula?

Here's a mathematical recipe for how to calculate password entropy:

$$E = \log_2(R^L)$$

Where:

- R - **Size of the pool** of unique characters from which we build the password; and
- L - Password length, i.e., the number of characters in the password.

2. Requirements & Prerequisites

2.1 System Requirements

Enterprise A2019 (Cloud deployed) and Community Edition device requirements.
Review the machine hardware specifications, operating system versions, and browser types supported by Automation Anywhere Enterprise for creating and running bots and command packages as an Enterprise A2019 (Cloud deployed) or Community Edition user on your local machine.

2.2 Prerequisites

User should have a **A2019** installed to take a benefit of this automation.

User should have a **AARI Access** to take a benefit of this automation.

User should have a **Python-3** installed to take a benefit of this automation.

3. Getting Started

3.1 Quick Start

3.1.1 Configuration and Use

- Download the Bot from the Bot-store.
- Check the downloaded bot in your local machine private/Public section.
- Once Bot is downloaded you are good to go for a run.

- For Configuring the Bot –

INPUT VARIABLES: Input Variables to be mentioned in this Table				
Variable Name	**Type**	**Mandatory**	**Purpose**	**Example Input**
N/A	N/A	N/A	N/A	N/A

4. Support & FAQs

4.1 Support

Free bots are not officially supported. You can get access to Community Support through the following channels:

- You can get access to Community Support, connecting with other Automation Anywhere customers and developers on APeople – the Bot Building Forum, the Bot Store Support Forum, or the Developers Everywhere Group.
- Automation Anywhere also provides a Product Documentation portal which can be accessed for
  more information about our products and guidance on Enterprise A2019.

4.2 FAQs

For questions relating to Enterprise A2019: See the Enterprise A2019 FAQs.

Appendix A: Record of Changes

No.	Version Number	Date of Change	Author	Notes
1.	*1.0*	*04-10-2021*	*Manav Parmar*	*N/A*

Appendix B: References

No.	Topic	Reference Link
1	Overview of Enterprise A2019	Click here
2	Guidance: Building basic A2019 bots	Click here
3	Guidance: Building A2019 action packages	Click here
4	APeople Community Forum	Click here
5	Automation Anywhere University	Click here