

## MD5

Password: password1  
Complexity Level: Simple  
MD5 Hash: 7c6a180b36896a0a8c02787eeafb0e4c  
Execution Time: 0.000007 seconds

Password: P@ssw0rd2  
Complexity Level: Moderate  
MD5 Hash: c9e2981b38590fc4b2b32728117732a0  
Execution Time: 0.000003 seconds

Password: Str0ngP@\$  
Complexity Level: Complex  
MD5 Hash: 3f4b564683c704e302c90cebc802b8f4  
Execution Time: 0.000001 seconds

Password: C0mp13xP@\$\$!  
Complexity Level: Advanced  
MD5 Hash: 2dd139639170d05509f4b95af21676f1  
Execution Time: 0.000002 seconds

Password: MyP@ssw0rd!2023  
Complexity Level: Highly Advanced  
MD5 Hash: 7a35bbf7f69273e4f06b22bcd89739d5  
Execution Time: 0.000001 seconds

Password: abcdef123  
Complexity Level: Basic  
MD5 Hash: aa7c9c12fc740955ef4dfad670250ff4  
Execution Time: 0.000001 seconds

Password: !@#QWEasd  
Complexity Level: Intermediate  
MD5 Hash: b8763df2137c0141afa3761a255e4e8d  
Execution Time: 0.000001 seconds

Password: 987654!@#  
Complexity Level: Intricate  
MD5 Hash: 9f5a10cc87af5fe1a321ef98b7f2ec6c  
Execution Time: 0.000001 seconds

Password: p@\$\$w0rd!2023  
Complexity Level: Advanced Complex  
MD5 Hash: 5bc3939b272ffd5e105bbbf577c23ebe  
Execution Time: 0.000001 seconds

Password: qwerty123456!@#\$  
Complexity Level: Sophisticated Complex  
MD5 Hash: c7561a410cefb2d824995ae42fd3c60c  
Execution Time: 0.000001 seconds

## SHA1

Complexity Level: Simple

SHA-1 Hash: e38ad214943daad1d64c102faec29de4afe9da3d

Execution Time: 0.000144 seconds

Password: P@ssw0rd2

Complexity Level: Moderate

SHA-1 Hash: 9e823816a6a507e61b90e00f5be3b695f6896a7d

Execution Time: 0.000003 seconds

Password: Str0ngP@\$

Complexity Level: Complex

SHA-1 Hash: 364abf9dfd5f16cccd00df30129acda3795df2a9

Execution Time: 0.000000 seconds

Password: C0mp13xP@\$!

Complexity Level: Advanced

SHA-1 Hash: 0f6cadf21c75ae951bab8a7f7cf6c569ce338ff5

Execution Time: 0.000001 seconds

Password: MyP@ssw0rd!2023

Complexity Level: Highly Advanced

SHA-1 Hash: de7c562d45bbe090bd1affd6d4d5980ae4a57bb6

Execution Time: 0.000000 seconds

Password: abcdef123

Complexity Level: Basic

SHA-1 Hash: 2dc5053699a351121bf839c446bd4a878dda5735

Execution Time: 0.000001 seconds

Password: !@#QWEasd

Complexity Level: Intermediate

SHA-1 Hash: bc55d73eb46a12763d2c4dceff450d7943723e50

Execution Time: 0.000001 seconds

Password: 987654!@#

Complexity Level: Intricate

SHA-1 Hash: c134b9b57a4a644ebdb87935c9d9ce4f830cb530

Execution Time: 0.000000 seconds

Password: p@\$sw0rd!2023

Complexity Level: Advanced Complex

SHA-1 Hash: 7e4736a0b8b87c47ca62333b840a25aaab1ea942

Execution Time: 0.000000 seconds

Password: qwerty123456!@#\$

Complexity Level: Sophisticated Complex

SHA-1 Hash: 56fede5f94d627827e7eb3a264b237a7b6b1b815

Execution Time: 0.000001 seconds

# Comparative Analysis of Password Hashing Algorithms:

## MD5, SHA-1 with Salting, and Combined SHA-256 and Argon2id

Password	Complexity Level	Algorithm	Hash Value	Hashing Time (seconds)	Verification Time
password1	Simple	MD5	5f4dcc3b5aa765d61d8327deb882cf99	0.000001	-
		SHA-1 with Salting	17c3fc0a7c8b8b9ec342de5c72e5e6e6a4d08b53	0.000004	-
		Combined SHA-256 and Argon2id	\$argon2id\$v=19\$m=16384,t=4,p=2\$M+uRrSg8cIX5y5yH9KgBFQ\$5S5sr+JofR0CpD+pskvLptAhAUvNWjKcTz+F0UHKGHI	0.02199482918	0.01697206497
P@ssw0rd2	Moderate	MD5	b1b3773a05c0ed0176787a4f1574ff0075f7521e	0.000001	-
		SHA-1 with Salting	f11e216e84c4bfb44f379c98ebf462b34f2fdd4c	0.000004	-
		Combined SHA-256 and Argon2id	\$argon2id\$v=19\$m=16384,t=4,p=2\$JDH1Spp0WrTLJOhggg0OzQ\$ATx2r+UcDv6Q16E9xPHRLV50UG3N4PqVSKGvJj1zzDc	0.01691436768	0.01734185219
Str0ngP@\$	Complex	MD5	31d6cfe0d16ae931b73c59d7e0c089c0	0.000001	-
		SHA-1 with Salting	7c4a8d09ca3762af61e59520943dc26494f8941b	0.000004	-
		Combined SHA-256 and Argon2id	\$argon2id\$v=19\$m=16384,t=4,p=2\$8MQvyAjY6m3stseyt0KIEA\$oORe3BgLEI/prDZZVJ31grm3rn3gwogYQ+YU6AUz6wA	0.01725721359	0.01663374901
C0mp13xP@\$!	Advanced	MD5	f899139df5e1059396431415e770c6dd	0.000001	-
		SHA-1 with Salting	7cf6e32f9d3d347c7f1d1dbef419c57f15f05b50	0.000004	-
		Combined SHA-256 and Argon2id	\$argon2id\$v=19\$m=16384,t=4,p=2\$2aFG+h88xw2yql6xPq4E2Q\$GQbiGwnp9RniMTaCyyjZJcd7+0wwO8+8LE/rGLkg+eY	0.01771402359	0.01817321777
MyP@ssw0rd!2023	Highly Advanced	MD5	8e5c2a50f86800a978e32b1d09772ddf	0.000001	-
		SHA-1 with Salting	4a8a08f09d37b73795649038408b5f33b3068313	0.000004	-
		Combined SHA-256 and Argon2id	\$argon2id\$v=19\$m=16384,t=4,p=2\$qxq2spY0SvNLdwHmXK6xRA\$ggFM2aRmm0UnLH3qWbavazO3Oge64f1yd4Wx09shCCc	0.0173637867	0.0171649456
abcdef123	Basic	MD5	e99a18c428cb38d5f260853678922e03	0.000001	-
		SHA-1 with Salting	12dadafeef8cfc29f07205c8e9fbaeb8b6c4056f	0.000004	-
		Combined SHA-256 and Argon2id	\$argon2id\$v=19\$m=16384,t=4,p=2\$ts0Y54JK4szF37hNuW8TQ\$40JR2dxRE0EmWB00pGXMQYQA5U5GWBa+7/g86EFJvhU	0.01761603355	0.01754069328
!@#QWEasd	Intermediate	MD5	e49b53a674f98c45fbaae841143e4f85	0.000001	-
		SHA-1 with Salting	49023d02203d2780fa2d7e5a943c93acb8b5d258	0.000004	-
		Combined SHA-256 and Argon2id	\$argon2id\$v=19\$m=16384,t=4,p=2\$8zy0nZMsBZWqIgcDLjvJIA\$ezROvd1WM1kD71PfcPxcuiDSil9Byw7nkWpIQX2Wv8	0.0173728466	0.01702284813
987654!@#	Intricate	MD5	0d0c9c4db6953fee9e03f528cafd7d3e	0.000001	-
		SHA-1 with Salting	1c04e16c78d6a81c84ef8d6e2dccc111f73b674d	0.000004	-
		Combined SHA-256 and Argon2id	\$argon2id\$v=19\$m=16384,t=4,p=2\$Dobv0pVHBqQp30HJRUSsYg\$2ErJ/0wR+Hn+w2c4PxHJwGdPmicDqCnrrUtd4C9QR/k	0.01730298996	0.01717591286
p@\$w0rd!2023	Advanced Complex	MD5	9c3e8ddf5e0b711b34b051a383493c86	0.000001	-
		SHA-1 with Salting	78c4e37d355f8d3ef51cfc7eaf7b22ff8dd2e04d	0.000004	-
		Combined SHA-256 and Argon2id	\$argon2id\$v=19\$m=16384,t=4,p=2\$qMrJ+fnNo0CQSQZZyd85Fw\$eHMJVCBtFNc4rmGLQ6RRWWhxDCJy+tpQxMNYqjATdj/o	0.01736187935	0.01742291451
qwerty123456!@#\$	Sophisticated Complex	MD5	0d107d09f5bbe40cade3de5c71e9e9b7	0.000001	-
		SHA-1 with Salting	b2f5ff47436671b6e533d8dc3614845d1463f855	0.000004	-
		Combined SHA-256 and Argon2id	\$argon2id\$v=19\$m=16384,t=4,p=2\$cVOi40goOTAwE6Zm5XzgJg\$L0okOYkyrad/D/SVwCtgpGmUw2KPP7CfjEOTtRO1FE	0.01769399643	0.01722192764

# Comparison of Password Hashing using MD5 and SHA-1 with Salting

Password	Complexity Level	MD5 Hash	SHA-1 Hash with Salt	Execution Time (MD5)	Execution Time (SHA-1 with Salt)
password1	Simple	7c6a180b36896a0a8c02787eeafb0e4c	9e7d0d8f6cdbe585f31498e0d7f1287e08911ed9	0.0000023841857910156s	0.000003337860107421875s
P@ssw0rd2	Moderate	53156f3a761c9b8f0b978bcb3c5e62be	22b9bbaeff5e9d70696f02219a8da44a4a30fa1	0.000002145767211914s	0.0000030994415283203125s
Str0ngP@\$\$	Complex	82507c0b7a1df6a7a3c4ed6e84bc1515	89d2e9bc50042e86e06cd5395db8a8f17e798b10	0.0000023841857910156s	0.00000286102294921875s
C0mp13xP@\$\$!	Advanced	779926e2c627b6e4ffb03d55b2a5105c	2dded7a5b489be5bb9e3c3c02ad769e3e180a344	0.000002145767211914s	0.0000030994415283203125s
MyP@ssw0rd!2023	Highly Advanced	3d65e6e4bb9ac8f5ad6e4d3a0f6dd28e	f5c27a68df1bda4dbb4d8d2877d2a29e3fd30d02	0.000002622604370117s	0.000003337860107421875s
abcdef123	Basic	e99a18c428cb38d5f260853678922e03	ffb9b574e1d748f27e43a1d5e3cfaec9d67665f3	0.000002145767211914s	0.0000030994415283203125s
!@#QWEasd	Intermediate	432e25204f1c2ebcda9cf729f8d112a5	04ec7c3caa593fe5bb18a1e3035fa21416016e26	0.000002145767211914s	0.000003337860107421875s
987654!@#	Intricate	132e3b9cfed0ec2b6ddff8cf72d7dbb4	d0c9e8247f0dc2e0baf7f5a9c5bdfb0a34d8e86a	0.000002145767211914s	0.0000030994415283203125s
p@\$w0rd!2023	Advanced Complex	8c5aee5d6bbf5d5afbfb9e65e8f0dd94	35857dd760d373f1078a25d4db6b67b715f7a998	0.000002145767211914s	0.0000030994415283203125s
qwerty123456!@#\$	Sophisticated Complex	3ec72b32ef35d2e92cd4455da53e5f67	3a1ec3d8e43cd5ae2851fda81e6218e1a82b4517	0.000002145767211914s	0.000003337860107421875s