# Spring Security Password Encryption



# Password Storage



# Password Storage

• So far, our user passwords are stored in plaintext ... yikes!

username	password	enabled
john	{noop}test123	1
mary	{noop}test123	1
susan	{noop}test123	1
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#### Password Storage

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username	password	enabled
john	{noop}test123	1
mary	{noop}test123	1
susan	{noop}test123	1
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• Ok for getting started ... but not for production / real-time project :-(







Best Practice

• The best practice is store passwords in an encrypted format





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u	sername	password	enabled
⁻j	ohn	{bcrypt}\$2a\$04\$eFytJDGtjbThXa80FyOOBuFdK2IwjyWefYkMpiBEFlpBwDH.5PM0K	1
ı	mary	{bcrypt}\$2a\$04\$eFytJDGtjbThXa80FyOOBuFdK2IwjyWefYkMpiBEFlpBwDH.5PM0K	1
	susan	{bcrypt}\$2a\$04\$eFytJDGtjbThXa80FyOOBuFdK2IwjyWefYkMpiBEFlpBwDH.5PM0K	1
	***	NITH I	BITTE





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username	password	enabled
⁵john	{bcrypt}\$2a\$04\$eFytJDGtjbThXa80FyOOBuFdK2IwjyWefYkMpiBEFlpBwDH.5PM0K	1
mary	{bcrypt}\$2a\$04\$eFytJDGtjbThXa80FyOOBuFdK2IwjyWefYkMpiBEFlpBwDH.5PM0K	1
susan	{bcrypt}\$2a\$04\$eFytJDGtjbThXa80FyOOBuFdK2IwjyWefYkMpiBEFlpBwDH.5PM0K	1
MINE		PERMIT

Encrypted version of password





Spring Security recommends using the popular bcrypt algorithm



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bcrypt



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- bcrypt
  - Performs one-way encrypted hashing



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- bcrypt
  - Performs one-way encrypted hashing
  - Adds a random salt to the password for additional protection



• Spring Security recommends using the popular bcrypt algorithm

- bcrypt
  - Performs one-way encrypted hashing
  - Adds a random salt to the password for additional protection
  - Includes support to defeat brute force attacks





Why you should use bcrypt to hash passwords

www.luv2code.com/why-bcrypt



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www.luv2code.com/why-bcrypt

Detailed bcrypt algorithm analysis

www.luv2code.com/bcrypt-wiki-page



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Password hashing - Best Practices

www.luv2code.com/password-hashing-best-practices





You have a plaintext password and you want to encrypt using bcrypt



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• Option 1: Use a website utility to perform the encryption



You have a plaintext password and you want to encrypt using bcrypt

• Option 1: Use a website utility to perform the encryption

• Option 2: Write Java code to perform the encryption





• Visit: www.luv2code.com/generate-bcrypt-password



• Visit: www.luv2code.com/generate-bcrypt-password

• Enter your plaintext password



• Visit: www.luv2code.com/generate-bcrypt-password

• Enter your plaintext password

• The website will generate a bcrypt password for you



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