

# Encrypting property values

By default, Teamwork Cloud properties are stored as plain text. If required, any of these properties can be encrypted. For property encryption and decryption, you need to generate a pair of keys using our property encryption tool. The tool is provided as the *encryptor.jar* file and the steps below explain how to use it.

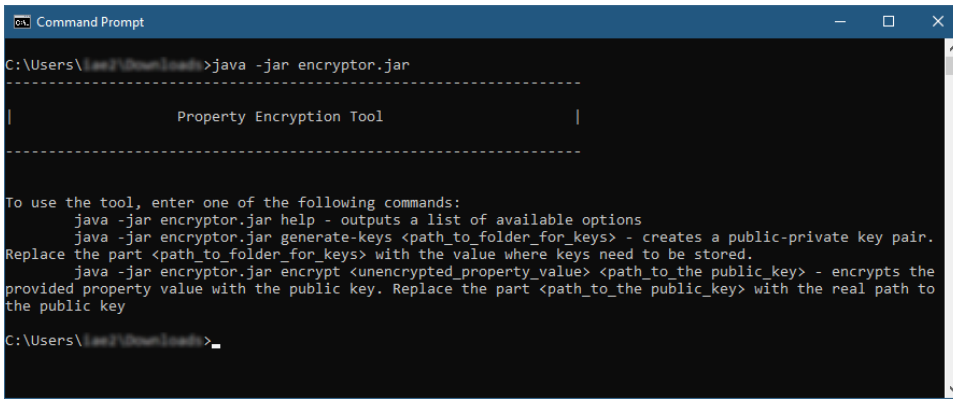


## Prerequisites

The encryption tool uses Java 11. Therefore, the system **PATH** variable needs to point to the location of the *bin* folder of the Java 11 home directory, e. g. `C:\Java\Java11\bin` or `/opt/Java/Java11/bin`.

To encrypt Teamwork Cloud properties

1. Click the link to download the [encryptor.jar](#) file.
2. Open the command-line interface and navigate to the directory where the *encryptor.jar* file is located.
3. Run the **java -jar encryptor.jar** command. You should see the information on how to use the tool as displayed below.



```
Command Prompt
C:\Users\lee7\Downloads>java -jar encryptor.jar

-----
|                               |
|           Property Encryption Tool           |
|                               |
|-----|-----|
|
To use the tool, enter one of the following commands:
    java -jar encryptor.jar help - outputs a list of available options
    java -jar encryptor.jar generate-keys <path_to_folder_for_keys> - creates a public-private key pair.
Replace the part <path_to_folder_for_keys> with the value where keys need to be stored.
    java -jar encryptor.jar encrypt <unencrypted_property_value> <path_to_the_public_key> - encrypts the
provided property value with the public key. Replace the part <path_to_the_public_key> with the real path to
the public key
C:\Users\lee7\Downloads>
```

4. Run the **java -jar encryptor.jar generate-keys <path\_to\_folder\_for\_keys>** command to generate a pair of keys for property encryption and decryption. Make sure to replace the **<path\_to\_folder\_for\_keys>** placeholder with the actual path to the directory where you want to store the keys. You should see a confirmation that the keys have been successfully generated.



## Keys for encryption and decryption

After executing the command, the following keys are created in the specified directory:

- **propertiesEncryptionKey.pub** - a public key used to encrypt property values.
- **propertiesEncryptionKey** - a private key used to decrypt property values.

5. To encrypt a property, run the **java -jar encryptor.jar encrypt <unencrypted\_property\_value> <path\_to\_the\_public\_key>** command. Make sure to replace the **<unencrypted\_property\_value>** and **<path\_to\_the\_public\_key>** placeholders with the actual property value and the path to the *propertiesEncryptionKey.pub* file. The tool will output the encrypted property value.

```

C:\Users\...>java -jar encryptor.jar encrypt MY_PASSWORD C:\Users\...
onkey.pub

-----
Property Encryption Tool
-----

Property MY_PASSWORD has been successfully encrypted. Encrypted value:

lcvPbmmI32vn1jD2EYrQfMLu7ydX+/DW8wljMsk/+UcjrPWXLau1YC1FFTa3UBMptu3sFK6wj0uLipveVBjYzo0k+yfgt1qnD1ud/3E7LSRGw
Me4sr1AIF7Kf36pPywTu58NByp6M8yktIDtTktQsvuZF8Qcb38Vw560kGcd9Io+vdM5aTNTNi2ls7jnN09BuqD6lZvwJ/atcrd0grfEhxwM3P
Sw0zzUS+EenJWedTxogxpfxLtUbTEuzwYSMGqyi5goX9Wb3vnmkMPs7x1L/ZhqYYIQcXwQaREbzLIH3oJEHJxRvUpFIhWJoc/7LJfn/09ukx0wj
gF296kEgI+rA==

Copy this value as the value of the property to the webappplatform.properties file in the format ENC(encrypted
_property_value), i.e.:

ENC(lcvPbmmI32vn1jD2EYrQfMLu7ydX+/DW8wljMsk/+UcjrPWXLau1YC1FFTa3UBMptu3sFK6wj0uLipveVBjYzo0k+yfgt1qnD1ud/3E7L
sRGwMe4sr1AIF7Kf36pPywTu58NByp6M8yktIDtTktQsvuZF8Qcb38Vw560kGcd9Io+vdM5aTNTNi2ls7jnN09BuqD6lZvwJ/atcrd0grfEhx
wM3PSw0zzUS+EenJWedTxogxpfxLtUbTEuzwYSMGqyi5goX9Wb3vnmkMPs7x1L/ZhqYYIQcXwQaREbzLIH3oJEHJxRvUpFIhWJoc/7LJfn/09uk
x0wjgF296kEgI+rA==)

C:\Users\...>

```

- Go to the `/opt/local/TeamworkCloud/configuration/` directory and open the `application.conf` file.
- In the `application.conf` file, replace the actual property value with the encrypted property value in the following format: **ENC (encrypted\_property\_value)**.



#### Example of an encrypted property

For example, an encrypted Cassandra password, should look similar to this one: **password=ENC**  
**(lcvPbmmI32vn1jD2EYrQfMLu7ydX+/DW8wljMsk/**  
**+UcjrPWXLau1YC1FFTa3UBMptu3sFK6wj0uLipveVBjYzo0k+yfgt1qnD1ud**  
**/3E7LSRGwMe4sr1AIF7Kf36pPywTu58NByp6M8yktIDtTktQsvuZF8Qcb38Vw560kGcd9Io+vdM5aTN**  
**TNi2ls7jnN09BuqD6lZvwJ/atcrd0grfEhxwM3PSw0zzUS+EenJWedTxogxpfxLtUbTEuzwYSMGqyi5goX9Wb3vnmkMPs7x1L**  
**/ZhqYYIQcXwQaREbzLIH3oJEHJxRvUpFIhWJoc/7LJfn/09ukx0wjgF296kEgI+rA=).**

- In the same `application.conf` file, add the `esi.config.decrypt_key_file` property and specify the path to the private key (the `propertiesEncryptionKey` file) as its value, e.g., `esi.config.decrypt_key_file=C:\shared\keys\propertiesEncryptionKey`.



#### Private key location

The private key (the `propertiesEncryptionKey` file) should be in the location which Teamwork Cloud can access.

- Save changes to `application.conf` file and restart Teamwork Cloud service.