

Public Key

[Return to Glossary](#)

Definition 1

A **Public Key**¹⁾ is a cryptographic key used with a public-key cryptographic algorithm that is uniquely associated with an entity and that may be made public. In an asymmetric-key (**Public Key**) cryptosystem, the **Public Key** has a corresponding private key. The **Public Key** may be known by anyone and, depending on the algorithm, may be used, for example:

1. Verify a digital signature that was generated using the corresponding private key,
2. Encrypt keys that can be decrypted using the corresponding private key, or
3. Compute a shared secret during a key-agreement transaction.

Definition 2

In [cryptography](#), a **Public Key** is a large numerical value that is used to encrypt data. The [key](#) can be generated by a software program, but more often, it is provided by a trusted, designated authority and made available to everyone through a publicly accessible repository or directory.

A **Public Key** is also used to encrypt a message or check the legitimacy of a [digital signature](#). It is accompanied by a corresponding [private key](#), which is known only to its owner. Private keys are used to decrypt messages that were created with the corresponding **Public Key** or to create signatures. In other words, a **Public Key** locks up data from unauthorized use, while a private key is used to unlock it.

Public Keys are available from a certificate authority, which issues digital certificates that prove the owner's identity and contain the owner's **Public Key**. **Public Keys** are created using an asymmetric algorithm, which pairs the **Public Key** with an associated private key. The most common algorithms used to generate **Public Key** are Rivest-Shamir-Adleman, elliptic curve cryptography, and Digital Signature Algorithm.

A **Public Key** can be given to any person with whom an individual wants to communicate, whereas a private key belongs to the individual it was created for and isn't shared. The **Public Key** is typically stored on a [Public Key Infrastructure \(PKI\) server](#) and is used to encrypt data securely before it is sent over the [internet](#).

Source: <https://searchsecurity.techtarget.com/definition/public-key>

¹⁾

Elaine Barker, NIST, [Recommendation for Key Management: Part 1 - General](#), NIST Special Publication 800-57 Part 1, Revision 5, May 2020, Accessed 18 January 2022, <https://nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.800-57pt1r5.pdf>

From:
<https://www.omgwiki.org/dido/> - **DIDO Wiki**

Permanent link:
https://www.omgwiki.org/dido/doku.php?id=dido:public:ra:xapend:xapend.a_glossary:p:public_key&rev=1642512549

Last update: **2022/01/18 08:29**

