



UWP



Signatures



WINDOWS > GUIDES > SIGNATURES

Introduction to eSignatures and digital signatures in UWP

Many documents use the terms electronic signatures and digital signatures interchangeably, but they have fundamental differences and distinct advantages. An electronic signature refers to a method of signing documents or data electronically, while a digital signature utilizes advanced cryptographic techniques to add an extra layer of security to electronically signed documents.

Nutrient facilitates paperless signing workflows with the [Electronic Signatures](#) and [Digital Signatures](#) components. These are two components that can be licensed separately and don't depend on each other.

Electronic signatures

The Electronic Signatures component lets users create signatures from ink drawings, bitmap images, and text. It includes a built-in UI for adding and deleting signatures in documents with or without a signature form element. Annotations are used under the hood to execute the electronic signing process. The Electronic Signatures component also contains support for programmatically marking ink or image annotations as signatures. See our guide on [adding an electronic signature](#) to learn more.

Electronic Signatures introduces support for three different modes of adding signatures: draw, image, and type. This allows you to integrate a feature-rich signing experience inside your app. See our guide on [customizing the signature user interface](#) to learn about available API options.

You can also implement callbacks to provide [signature storage](#) so that users can reuse their signatures across documents.



Nutrient offers support for **simple electronic signatures (SES)**. This type of signature can be as straightforward as writing your name under an email and suffices for many everyday use cases.

Digital signatures

A digital signature provides proof of identity by generating a unique digital fingerprint based on cryptography. This secure verification of identity is facilitated through a trusted third party known as a Certificate Authority (CA).

This signing approach is different from the one supported by electronic signatures, since digital signatures have a unique fingerprint identifying the signer and are reliable proof of a document's origin and protection against modification by third parties. Check out our Digital Signatures guides for more information.

Nutrient offers support for the following kinds of digital signatures, as defined by regulations:

- **Advanced electronic signatures (AdES)** — A type of digital signature that offers a higher level of security and legal validity compared to a simple electronic signature. These signatures use cryptographic techniques to ensure the integrity of a signed document and verify the identity of the signer.
- **Qualified electronic signatures (QES)** — The most secure and legally binding form of digital signatures. They're issued by trusted certification authorities and require the use of secure hardware or software to create and verify a signature. Qualified electronic signatures are typically used for highly sensitive transactions and comply with strict regulatory standards. Refer to our GlobalSign DSS integration guide for an example of implementing QES.

As explained before, simple electronic signatures and digital signatures are inherently different, but they can, under some circumstances, work together — for example, by using the Electronic Signatures UI to let the user create a drawing or select an image, and then using this for the appearance of a generated digital signature. To learn more, see our guide on using Electronic Signatures and Digital Signatures together.



For more information on digital signatures, refer to the Digital Signatures in a PDF guide by Adobe. You should also take a look at the *12.8 Digital Signatures* section of Adobe's PDF 1.7 specification. For general information on how digital signatures work, read the digital signature entry on Wikipedia.

The table below provides a summary of the various types of electronic signatures, along with their respective advantages and disadvantages.

Description	Electronically signing a document can be done by simply placing one or more signature annotations (referred to as eSignatures or wet signatures) on a document. This is a good and simple visual way to electronically sign a document, but it isn't acceptable for the majority of documents that are usually signed. In a way, this is an equivalent of a handwritten signature in the digital document space.	When an electronically signed document has an additional layer of security, this is the process of digitally signing a document with certificates. This is done with the use of cryptography, and it requires a certificate to guarantee the short-term or long-term validity of a document, as well as the validity of the data and what they represent. Different jurisdictions mandate different signature requirements and possibilities.
Requirements	Visible electronic signature that can be customized	Viewing, validating,* and/or creating digital signatures that adhere to a specific standard (e.g., CMS, PAdES, CAdES) — Specific validation requirements (LTV, time stamping)
Pros	<ul style="list-style-type: none"> ✓ No configuration ✓ Easy to implement by builders ✓ Easy to use by end users 	<ul style="list-style-type: none"> ✓ Can detect changes to the document ✓ Gives guarantee that the document was signed by an entity ✓ With a secure timestamp, we can prove the document's existence
Cons	<ul style="list-style-type: none"> ✗ Extremely hard or impossible to prove intent to sign ✗ Impossible to prove authenticity of the document ✗ Impossible to prove authenticity of the signer ✗ Impossible to determine when a document was signed 	<ul style="list-style-type: none"> ✗ More difficult to configure (requires certificates and keys)

Older signatures functionality

For Nutrient licenses obtained in May 2021 or earlier, limited signature functionality is included with the Annotations component. This older signature functionality will continue to be maintained and supported. However, we recommend using Electronic Signatures for new Nutrient integrations. Read our [migration guide](#) to learn how to move from the older signatures functionality to Electronic Signatures.

Was this helpful?



Questions? [Contact us](#)

