| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/CertificateFactorySpi.html) | [**Tree**](http://docs.google.com/package-tree.html) | [**Deprecated**](http://docs.google.com/deprecated-list.html) | [**Index**](http://docs.google.com/index-files/index-1.html) | [**Help**](http://docs.google.com/help-doc.html) | | --- | --- | --- | --- | --- | --- | --- | --- | | | ***Java™ Platform***  ***Standard Ed. 6*** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| [**PREV CLASS**](http://docs.google.com/java/security/cert/CertificateFactory.html)   [**NEXT CLASS**](http://docs.google.com/java/security/cert/CertificateNotYetValidException.html) | [**FRAMES**](http://docs.google.com/index.html?java/security/cert/CertificateFactorySpi.html)    [**NO FRAMES**](http://docs.google.com/CertificateFactorySpi.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | FIELD | [CONSTR](#3znysh7) | [METHOD](#2et92p0) | DETAIL: FIELD | [CONSTR](#3dy6vkm) | [METHOD](#4d34og8) |

## **java.security.cert**

Class CertificateFactorySpi

[java.lang.Object](http://docs.google.com/java/lang/Object.html)  
 **java.security.cert.CertificateFactorySpi**

public abstract class **CertificateFactorySpi**extends [Object](http://docs.google.com/java/lang/Object.html)

This class defines the *Service Provider Interface* (**SPI**) for the CertificateFactory class. All the abstract methods in this class must be implemented by each cryptographic service provider who wishes to supply the implementation of a certificate factory for a particular certificate type, e.g., X.509.

Certificate factories are used to generate certificate, certification path (CertPath) and certificate revocation list (CRL) objects from their encodings.

A certificate factory for X.509 must return certificates that are an instance of java.security.cert.X509Certificate, and CRLs that are an instance of java.security.cert.X509CRL.

**Since:** 1.2 **See Also:**[CertificateFactory](http://docs.google.com/java/security/cert/CertificateFactory.html), [Certificate](http://docs.google.com/java/security/cert/Certificate.html), [X509Certificate](http://docs.google.com/java/security/cert/X509Certificate.html), [CertPath](http://docs.google.com/java/security/cert/CertPath.html), [CRL](http://docs.google.com/java/security/cert/CRL.html), [X509CRL](http://docs.google.com/java/security/cert/X509CRL.html)

| **Constructor Summary** | |
| --- | --- |
| [**CertificateFactorySpi**](http://docs.google.com/java/security/cert/CertificateFactorySpi.html#CertificateFactorySpi())() |

| **Method Summary** | |
| --- | --- |
| abstract  [Certificate](http://docs.google.com/java/security/cert/Certificate.html) | [**engineGenerateCertificate**](http://docs.google.com/java/security/cert/CertificateFactorySpi.html#engineGenerateCertificate(java.io.InputStream))([InputStream](http://docs.google.com/java/io/InputStream.html) inStream)            Generates a certificate object and initializes it with the data read from the input stream inStream. |
| abstract  [Collection](http://docs.google.com/java/util/Collection.html)<? extends [Certificate](http://docs.google.com/java/security/cert/Certificate.html)> | [**engineGenerateCertificates**](http://docs.google.com/java/security/cert/CertificateFactorySpi.html#engineGenerateCertificates(java.io.InputStream))([InputStream](http://docs.google.com/java/io/InputStream.html) inStream)            Returns a (possibly empty) collection view of the certificates read from the given input stream inStream. |
| [CertPath](http://docs.google.com/java/security/cert/CertPath.html) | [**engineGenerateCertPath**](http://docs.google.com/java/security/cert/CertificateFactorySpi.html#engineGenerateCertPath(java.io.InputStream))([InputStream](http://docs.google.com/java/io/InputStream.html) inStream)            Generates a CertPath object and initializes it with the data read from the InputStream inStream. |
| [CertPath](http://docs.google.com/java/security/cert/CertPath.html) | [**engineGenerateCertPath**](http://docs.google.com/java/security/cert/CertificateFactorySpi.html#engineGenerateCertPath(java.io.InputStream,%20java.lang.String))([InputStream](http://docs.google.com/java/io/InputStream.html) inStream, [String](http://docs.google.com/java/lang/String.html) encoding)            Generates a CertPath object and initializes it with the data read from the InputStream inStream. |
| [CertPath](http://docs.google.com/java/security/cert/CertPath.html) | [**engineGenerateCertPath**](http://docs.google.com/java/security/cert/CertificateFactorySpi.html#engineGenerateCertPath(java.util.List))([List](http://docs.google.com/java/util/List.html)<? extends [Certificate](http://docs.google.com/java/security/cert/Certificate.html)> certificates)            Generates a CertPath object and initializes it with a List of Certificates. |
| abstract  [CRL](http://docs.google.com/java/security/cert/CRL.html) | [**engineGenerateCRL**](http://docs.google.com/java/security/cert/CertificateFactorySpi.html#engineGenerateCRL(java.io.InputStream))([InputStream](http://docs.google.com/java/io/InputStream.html) inStream)            Generates a certificate revocation list (CRL) object and initializes it with the data read from the input stream inStream. |
| abstract  [Collection](http://docs.google.com/java/util/Collection.html)<? extends [CRL](http://docs.google.com/java/security/cert/CRL.html)> | [**engineGenerateCRLs**](http://docs.google.com/java/security/cert/CertificateFactorySpi.html#engineGenerateCRLs(java.io.InputStream))([InputStream](http://docs.google.com/java/io/InputStream.html) inStream)            Returns a (possibly empty) collection view of the CRLs read from the given input stream inStream. |
| [Iterator](http://docs.google.com/java/util/Iterator.html)<[String](http://docs.google.com/java/lang/String.html)> | [**engineGetCertPathEncodings**](http://docs.google.com/java/security/cert/CertificateFactorySpi.html#engineGetCertPathEncodings())()            Returns an iteration of the CertPath encodings supported by this certificate factory, with the default encoding first. |

| **Methods inherited from class java.lang.**[**Object**](http://docs.google.com/java/lang/Object.html) |
| --- |
| [clone](http://docs.google.com/java/lang/Object.html#clone()), [equals](http://docs.google.com/java/lang/Object.html#equals(java.lang.Object)), [finalize](http://docs.google.com/java/lang/Object.html#finalize()), [getClass](http://docs.google.com/java/lang/Object.html#getClass()), [hashCode](http://docs.google.com/java/lang/Object.html#hashCode()), [notify](http://docs.google.com/java/lang/Object.html#notify()), [notifyAll](http://docs.google.com/java/lang/Object.html#notifyAll()), [toString](http://docs.google.com/java/lang/Object.html#toString()), [wait](http://docs.google.com/java/lang/Object.html#wait()), [wait](http://docs.google.com/java/lang/Object.html#wait(long)), [wait](http://docs.google.com/java/lang/Object.html#wait(long,%20int)) |

| **Constructor Detail** |
| --- |

### CertificateFactorySpi

public **CertificateFactorySpi**()

| **Method Detail** |
| --- |

### engineGenerateCertificate

public abstract [Certificate](http://docs.google.com/java/security/cert/Certificate.html) **engineGenerateCertificate**([InputStream](http://docs.google.com/java/io/InputStream.html) inStream)  
 throws [CertificateException](http://docs.google.com/java/security/cert/CertificateException.html)

Generates a certificate object and initializes it with the data read from the input stream inStream.

In order to take advantage of the specialized certificate format supported by this certificate factory, the returned certificate object can be typecast to the corresponding certificate class. For example, if this certificate factory implements X.509 certificates, the returned certificate object can be typecast to the X509Certificate class.

In the case of a certificate factory for X.509 certificates, the certificate provided in inStream must be DER-encoded and may be supplied in binary or printable (Base64) encoding. If the certificate is provided in Base64 encoding, it must be bounded at the beginning by -----BEGIN CERTIFICATE-----, and must be bounded at the end by -----END CERTIFICATE-----.

Note that if the given input stream does not support [mark](http://docs.google.com/java/io/InputStream.html#mark(int)) and [reset](http://docs.google.com/java/io/InputStream.html#reset()), this method will consume the entire input stream. Otherwise, each call to this method consumes one certificate and the read position of the input stream is positioned to the next available byte after the the inherent end-of-certificate marker. If the data in the input stream does not contain an inherent end-of-certificate marker (other than EOF) and there is trailing data after the certificate is parsed, a CertificateException is thrown.

**Parameters:**inStream - an input stream with the certificate data. **Returns:**a certificate object initialized with the data from the input stream. **Throws:** [CertificateException](http://docs.google.com/java/security/cert/CertificateException.html) - on parsing errors.

### engineGenerateCertPath

public [CertPath](http://docs.google.com/java/security/cert/CertPath.html) **engineGenerateCertPath**([InputStream](http://docs.google.com/java/io/InputStream.html) inStream)  
 throws [CertificateException](http://docs.google.com/java/security/cert/CertificateException.html)

Generates a CertPath object and initializes it with the data read from the InputStream inStream. The data is assumed to be in the default encoding.

This method was added to version 1.4 of the Java 2 Platform Standard Edition. In order to maintain backwards compatibility with existing service providers, this method cannot be abstract and by default throws an UnsupportedOperationException.

**Parameters:**inStream - an InputStream containing the data **Returns:**a CertPath initialized with the data from the InputStream **Throws:** [CertificateException](http://docs.google.com/java/security/cert/CertificateException.html) - if an exception occurs while decoding [UnsupportedOperationException](http://docs.google.com/java/lang/UnsupportedOperationException.html) - if the method is not supported**Since:** 1.4

### engineGenerateCertPath

public [CertPath](http://docs.google.com/java/security/cert/CertPath.html) **engineGenerateCertPath**([InputStream](http://docs.google.com/java/io/InputStream.html) inStream,  
 [String](http://docs.google.com/java/lang/String.html) encoding)  
 throws [CertificateException](http://docs.google.com/java/security/cert/CertificateException.html)

Generates a CertPath object and initializes it with the data read from the InputStream inStream. The data is assumed to be in the specified encoding.

This method was added to version 1.4 of the Java 2 Platform Standard Edition. In order to maintain backwards compatibility with existing service providers, this method cannot be abstract and by default throws an UnsupportedOperationException.

**Parameters:**inStream - an InputStream containing the dataencoding - the encoding used for the data **Returns:**a CertPath initialized with the data from the InputStream **Throws:** [CertificateException](http://docs.google.com/java/security/cert/CertificateException.html) - if an exception occurs while decoding or the encoding requested is not supported [UnsupportedOperationException](http://docs.google.com/java/lang/UnsupportedOperationException.html) - if the method is not supported**Since:** 1.4

### engineGenerateCertPath

public [CertPath](http://docs.google.com/java/security/cert/CertPath.html) **engineGenerateCertPath**([List](http://docs.google.com/java/util/List.html)<? extends [Certificate](http://docs.google.com/java/security/cert/Certificate.html)> certificates)  
 throws [CertificateException](http://docs.google.com/java/security/cert/CertificateException.html)

Generates a CertPath object and initializes it with a List of Certificates.

The certificates supplied must be of a type supported by the CertificateFactory. They will be copied out of the supplied List object.

This method was added to version 1.4 of the Java 2 Platform Standard Edition. In order to maintain backwards compatibility with existing service providers, this method cannot be abstract and by default throws an UnsupportedOperationException.

**Parameters:**certificates - a List of Certificates **Returns:**a CertPath initialized with the supplied list of certificates **Throws:** [CertificateException](http://docs.google.com/java/security/cert/CertificateException.html) - if an exception occurs [UnsupportedOperationException](http://docs.google.com/java/lang/UnsupportedOperationException.html) - if the method is not supported**Since:** 1.4

### engineGetCertPathEncodings

public [Iterator](http://docs.google.com/java/util/Iterator.html)<[String](http://docs.google.com/java/lang/String.html)> **engineGetCertPathEncodings**()

Returns an iteration of the CertPath encodings supported by this certificate factory, with the default encoding first. See Appendix A in the  [Java Certification Path API Programmer's Guide](http://docs.google.com/technotes/guides/security/certpath/CertPathProgGuide.html#AppA) for information about standard encoding names.

Attempts to modify the returned Iterator via its remove method result in an UnsupportedOperationException.

This method was added to version 1.4 of the Java 2 Platform Standard Edition. In order to maintain backwards compatibility with existing service providers, this method cannot be abstract and by default throws an UnsupportedOperationException.

**Returns:**an Iterator over the names of the supported CertPath encodings (as Strings) **Throws:** [UnsupportedOperationException](http://docs.google.com/java/lang/UnsupportedOperationException.html) - if the method is not supported**Since:** 1.4

### engineGenerateCertificates

public abstract [Collection](http://docs.google.com/java/util/Collection.html)<? extends [Certificate](http://docs.google.com/java/security/cert/Certificate.html)> **engineGenerateCertificates**([InputStream](http://docs.google.com/java/io/InputStream.html) inStream)  
 throws [CertificateException](http://docs.google.com/java/security/cert/CertificateException.html)

Returns a (possibly empty) collection view of the certificates read from the given input stream inStream.

In order to take advantage of the specialized certificate format supported by this certificate factory, each element in the returned collection view can be typecast to the corresponding certificate class. For example, if this certificate factory implements X.509 certificates, the elements in the returned collection can be typecast to the X509Certificate class.

In the case of a certificate factory for X.509 certificates, inStream may contain a single DER-encoded certificate in the formats described for [generateCertificate](http://docs.google.com/java/security/cert/CertificateFactory.html#generateCertificate(java.io.InputStream)). In addition, inStream may contain a PKCS#7 certificate chain. This is a PKCS#7 *SignedData* object, with the only significant field being *certificates*. In particular, the signature and the contents are ignored. This format allows multiple certificates to be downloaded at once. If no certificates are present, an empty collection is returned.

Note that if the given input stream does not support [mark](http://docs.google.com/java/io/InputStream.html#mark(int)) and [reset](http://docs.google.com/java/io/InputStream.html#reset()), this method will consume the entire input stream.

**Parameters:**inStream - the input stream with the certificates. **Returns:**a (possibly empty) collection view of java.security.cert.Certificate objects initialized with the data from the input stream. **Throws:** [CertificateException](http://docs.google.com/java/security/cert/CertificateException.html) - on parsing errors.

### engineGenerateCRL

public abstract [CRL](http://docs.google.com/java/security/cert/CRL.html) **engineGenerateCRL**([InputStream](http://docs.google.com/java/io/InputStream.html) inStream)  
 throws [CRLException](http://docs.google.com/java/security/cert/CRLException.html)

Generates a certificate revocation list (CRL) object and initializes it with the data read from the input stream inStream.

In order to take advantage of the specialized CRL format supported by this certificate factory, the returned CRL object can be typecast to the corresponding CRL class. For example, if this certificate factory implements X.509 CRLs, the returned CRL object can be typecast to the X509CRL class.

Note that if the given input stream does not support [mark](http://docs.google.com/java/io/InputStream.html#mark(int)) and [reset](http://docs.google.com/java/io/InputStream.html#reset()), this method will consume the entire input stream. Otherwise, each call to this method consumes one CRL and the read position of the input stream is positioned to the next available byte after the the inherent end-of-CRL marker. If the data in the input stream does not contain an inherent end-of-CRL marker (other than EOF) and there is trailing data after the CRL is parsed, a CRLException is thrown.

**Parameters:**inStream - an input stream with the CRL data. **Returns:**a CRL object initialized with the data from the input stream. **Throws:** [CRLException](http://docs.google.com/java/security/cert/CRLException.html) - on parsing errors.

### engineGenerateCRLs

public abstract [Collection](http://docs.google.com/java/util/Collection.html)<? extends [CRL](http://docs.google.com/java/security/cert/CRL.html)> **engineGenerateCRLs**([InputStream](http://docs.google.com/java/io/InputStream.html) inStream)  
 throws [CRLException](http://docs.google.com/java/security/cert/CRLException.html)

Returns a (possibly empty) collection view of the CRLs read from the given input stream inStream.

In order to take advantage of the specialized CRL format supported by this certificate factory, each element in the returned collection view can be typecast to the corresponding CRL class. For example, if this certificate factory implements X.509 CRLs, the elements in the returned collection can be typecast to the X509CRL class.

In the case of a certificate factory for X.509 CRLs, inStream may contain a single DER-encoded CRL. In addition, inStream may contain a PKCS#7 CRL set. This is a PKCS#7 *SignedData* object, with the only significant field being *crls*. In particular, the signature and the contents are ignored. This format allows multiple CRLs to be downloaded at once. If no CRLs are present, an empty collection is returned.

Note that if the given input stream does not support [mark](http://docs.google.com/java/io/InputStream.html#mark(int)) and [reset](http://docs.google.com/java/io/InputStream.html#reset()), this method will consume the entire input stream.

**Parameters:**inStream - the input stream with the CRLs. **Returns:**a (possibly empty) collection view of java.security.cert.CRL objects initialized with the data from the input stream. **Throws:** [CRLException](http://docs.google.com/java/security/cert/CRLException.html) - on parsing errors.

| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/CertificateFactorySpi.html) | [**Tree**](http://docs.google.com/package-tree.html) | [**Deprecated**](http://docs.google.com/deprecated-list.html) | [**Index**](http://docs.google.com/index-files/index-1.html) | [**Help**](http://docs.google.com/help-doc.html) | | --- | --- | --- | --- | --- | --- | --- | --- | | | ***Java™ Platform***  ***Standard Ed. 6*** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
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[Submit a bug or feature](http://bugs.sun.com/services/bugreport/index.jsp)

For further API reference and developer documentation, see [Java SE Developer Documentation](http://docs.google.com/webnotes/devdocs-vs-specs.html). That documentation contains more detailed, developer-targeted descriptions, with conceptual overviews, definitions of terms, workarounds, and working code examples.

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