| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/AlgorithmParameters.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/AlgorithmParameterGeneratorSpi.html)   [**NEXT CLASS**](http://docs.google.com/java/security/AlgorithmParametersSpi.html) | [**FRAMES**](http://docs.google.com/index.html?java/security/AlgorithmParameters.html)    [**NO FRAMES**](http://docs.google.com/AlgorithmParameters.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**

Class AlgorithmParameters

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

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

This class is used as an opaque representation of cryptographic parameters.

An AlgorithmParameters object for managing the parameters for a particular algorithm can be obtained by calling one of the getInstance factory methods (static methods that return instances of a given class).

Once an AlgorithmParameters object is obtained, it must be initialized via a call to init, using an appropriate parameter specification or parameter encoding.

A transparent parameter specification is obtained from an AlgorithmParameters object via a call to getParameterSpec, and a byte encoding of the parameters is obtained via a call to getEncoded.

**Since:** 1.2 **See Also:**[AlgorithmParameterSpec](http://docs.google.com/java/security/spec/AlgorithmParameterSpec.html), [DSAParameterSpec](http://docs.google.com/java/security/spec/DSAParameterSpec.html), [KeyPairGenerator](http://docs.google.com/java/security/KeyPairGenerator.html)

| **Constructor Summary** | |
| --- | --- |
| protected | [**AlgorithmParameters**](http://docs.google.com/java/security/AlgorithmParameters.html#AlgorithmParameters(java.security.AlgorithmParametersSpi,%20java.security.Provider,%20java.lang.String))([AlgorithmParametersSpi](http://docs.google.com/java/security/AlgorithmParametersSpi.html) paramSpi, [Provider](http://docs.google.com/java/security/Provider.html) provider, [String](http://docs.google.com/java/lang/String.html) algorithm)            Creates an AlgorithmParameters object. |

| **Method Summary** | |
| --- | --- |
| [String](http://docs.google.com/java/lang/String.html) | [**getAlgorithm**](http://docs.google.com/java/security/AlgorithmParameters.html#getAlgorithm())()            Returns the name of the algorithm associated with this parameter object. |
| byte[] | [**getEncoded**](http://docs.google.com/java/security/AlgorithmParameters.html#getEncoded())()            Returns the parameters in their primary encoding format. |
| byte[] | [**getEncoded**](http://docs.google.com/java/security/AlgorithmParameters.html#getEncoded(java.lang.String))([String](http://docs.google.com/java/lang/String.html) format)            Returns the parameters encoded in the specified scheme. |
| static [AlgorithmParameters](http://docs.google.com/java/security/AlgorithmParameters.html) | [**getInstance**](http://docs.google.com/java/security/AlgorithmParameters.html#getInstance(java.lang.String))([String](http://docs.google.com/java/lang/String.html) algorithm)            Returns a parameter object for the specified algorithm. |
| static [AlgorithmParameters](http://docs.google.com/java/security/AlgorithmParameters.html) | [**getInstance**](http://docs.google.com/java/security/AlgorithmParameters.html#getInstance(java.lang.String,%20java.security.Provider))([String](http://docs.google.com/java/lang/String.html) algorithm, [Provider](http://docs.google.com/java/security/Provider.html) provider)            Returns a parameter object for the specified algorithm. |
| static [AlgorithmParameters](http://docs.google.com/java/security/AlgorithmParameters.html) | [**getInstance**](http://docs.google.com/java/security/AlgorithmParameters.html#getInstance(java.lang.String,%20java.lang.String))([String](http://docs.google.com/java/lang/String.html) algorithm, [String](http://docs.google.com/java/lang/String.html) provider)            Returns a parameter object for the specified algorithm. |
| | <T extends [AlgorithmParameterSpec](http://docs.google.com/java/security/spec/AlgorithmParameterSpec.html)>  T | | --- | | [**getParameterSpec**](http://docs.google.com/java/security/AlgorithmParameters.html#getParameterSpec(java.lang.Class))([Class](http://docs.google.com/java/lang/Class.html)<T> paramSpec)            Returns a (transparent) specification of this parameter object. |
| [Provider](http://docs.google.com/java/security/Provider.html) | [**getProvider**](http://docs.google.com/java/security/AlgorithmParameters.html#getProvider())()            Returns the provider of this parameter object. |
| void | [**init**](http://docs.google.com/java/security/AlgorithmParameters.html#init(java.security.spec.AlgorithmParameterSpec))([AlgorithmParameterSpec](http://docs.google.com/java/security/spec/AlgorithmParameterSpec.html) paramSpec)            Initializes this parameter object using the parameters specified in paramSpec. |
| void | [**init**](http://docs.google.com/java/security/AlgorithmParameters.html#init(byte%5B%5D))(byte[] params)            Imports the specified parameters and decodes them according to the primary decoding format for parameters. |
| void | [**init**](http://docs.google.com/java/security/AlgorithmParameters.html#init(byte%5B%5D,%20java.lang.String))(byte[] params, [String](http://docs.google.com/java/lang/String.html) format)            Imports the parameters from params and decodes them according to the specified decoding scheme. |
| [String](http://docs.google.com/java/lang/String.html) | [**toString**](http://docs.google.com/java/security/AlgorithmParameters.html#toString())()            Returns a formatted string describing the parameters. |

| **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()), [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** |
| --- |

### AlgorithmParameters

protected **AlgorithmParameters**([AlgorithmParametersSpi](http://docs.google.com/java/security/AlgorithmParametersSpi.html) paramSpi,  
 [Provider](http://docs.google.com/java/security/Provider.html) provider,  
 [String](http://docs.google.com/java/lang/String.html) algorithm)

Creates an AlgorithmParameters object.

**Parameters:**paramSpi - the delegateprovider - the provideralgorithm - the algorithm

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

### getAlgorithm

public final [String](http://docs.google.com/java/lang/String.html) **getAlgorithm**()

Returns the name of the algorithm associated with this parameter object.

**Returns:**the algorithm name.

### getInstance

public static [AlgorithmParameters](http://docs.google.com/java/security/AlgorithmParameters.html) **getInstance**([String](http://docs.google.com/java/lang/String.html) algorithm)  
 throws [NoSuchAlgorithmException](http://docs.google.com/java/security/NoSuchAlgorithmException.html)

Returns a parameter object for the specified algorithm.

This method traverses the list of registered security Providers, starting with the most preferred Provider. A new AlgorithmParameters object encapsulating the AlgorithmParametersSpi implementation from the first Provider that supports the specified algorithm is returned.

Note that the list of registered providers may be retrieved via the [Security.getProviders()](http://docs.google.com/java/security/Security.html#getProviders()) method.

The returned parameter object must be initialized via a call to init, using an appropriate parameter specification or parameter encoding.

**Parameters:**algorithm - the name of the algorithm requested. See Appendix A in the  [Java Cryptography Architecture API Specification & Reference](http://docs.google.com/technotes/guides/security/crypto/CryptoSpec.html#AppA)  for information about standard algorithm names. **Returns:**the new parameter object. **Throws:** [NoSuchAlgorithmException](http://docs.google.com/java/security/NoSuchAlgorithmException.html) - if no Provider supports an AlgorithmParametersSpi implementation for the specified algorithm.**See Also:**[Provider](http://docs.google.com/java/security/Provider.html)

### getInstance

public static [AlgorithmParameters](http://docs.google.com/java/security/AlgorithmParameters.html) **getInstance**([String](http://docs.google.com/java/lang/String.html) algorithm,  
 [String](http://docs.google.com/java/lang/String.html) provider)  
 throws [NoSuchAlgorithmException](http://docs.google.com/java/security/NoSuchAlgorithmException.html),  
 [NoSuchProviderException](http://docs.google.com/java/security/NoSuchProviderException.html)

Returns a parameter object for the specified algorithm.

A new AlgorithmParameters object encapsulating the AlgorithmParametersSpi implementation from the specified provider is returned. The specified provider must be registered in the security provider list.

Note that the list of registered providers may be retrieved via the [Security.getProviders()](http://docs.google.com/java/security/Security.html#getProviders()) method.

The returned parameter object must be initialized via a call to init, using an appropriate parameter specification or parameter encoding.

**Parameters:**algorithm - the name of the algorithm requested. See Appendix A in the  [Java Cryptography Architecture API Specification & Reference](http://docs.google.com/technotes/guides/security/crypto/CryptoSpec.html#AppA)  for information about standard algorithm names.provider - the name of the provider. **Returns:**the new parameter object. **Throws:** [NoSuchAlgorithmException](http://docs.google.com/java/security/NoSuchAlgorithmException.html) - if an AlgorithmParametersSpi implementation for the specified algorithm is not available from the specified provider. [NoSuchProviderException](http://docs.google.com/java/security/NoSuchProviderException.html) - if the specified provider is not registered in the security provider list. [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if the provider name is null or empty.**See Also:**[Provider](http://docs.google.com/java/security/Provider.html)

### getInstance

public static [AlgorithmParameters](http://docs.google.com/java/security/AlgorithmParameters.html) **getInstance**([String](http://docs.google.com/java/lang/String.html) algorithm,  
 [Provider](http://docs.google.com/java/security/Provider.html) provider)  
 throws [NoSuchAlgorithmException](http://docs.google.com/java/security/NoSuchAlgorithmException.html)

Returns a parameter object for the specified algorithm.

A new AlgorithmParameters object encapsulating the AlgorithmParametersSpi implementation from the specified Provider object is returned. Note that the specified Provider object does not have to be registered in the provider list.

The returned parameter object must be initialized via a call to init, using an appropriate parameter specification or parameter encoding.

**Parameters:**algorithm - the name of the algorithm requested. See Appendix A in the  [Java Cryptography Architecture API Specification & Reference](http://docs.google.com/technotes/guides/security/crypto/CryptoSpec.html#AppA)  for information about standard algorithm names.provider - the name of the provider. **Returns:**the new parameter object. **Throws:** [NoSuchAlgorithmException](http://docs.google.com/java/security/NoSuchAlgorithmException.html) - if an AlgorithmParameterGeneratorSpi implementation for the specified algorithm is not available from the specified Provider object. [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if the provider is null.**Since:** 1.4 **See Also:**[Provider](http://docs.google.com/java/security/Provider.html)

### getProvider

public final [Provider](http://docs.google.com/java/security/Provider.html) **getProvider**()

Returns the provider of this parameter object.

**Returns:**the provider of this parameter object

### init

public final void **init**([AlgorithmParameterSpec](http://docs.google.com/java/security/spec/AlgorithmParameterSpec.html) paramSpec)  
 throws [InvalidParameterSpecException](http://docs.google.com/java/security/spec/InvalidParameterSpecException.html)

Initializes this parameter object using the parameters specified in paramSpec.

**Parameters:**paramSpec - the parameter specification. **Throws:** [InvalidParameterSpecException](http://docs.google.com/java/security/spec/InvalidParameterSpecException.html) - if the given parameter specification is inappropriate for the initialization of this parameter object, or if this parameter object has already been initialized.

### init

public final void **init**(byte[] params)  
 throws [IOException](http://docs.google.com/java/io/IOException.html)

Imports the specified parameters and decodes them according to the primary decoding format for parameters. The primary decoding format for parameters is ASN.1, if an ASN.1 specification for this type of parameters exists.

**Parameters:**params - the encoded parameters. **Throws:** [IOException](http://docs.google.com/java/io/IOException.html) - on decoding errors, or if this parameter object has already been initialized.

### init

public final void **init**(byte[] params,  
 [String](http://docs.google.com/java/lang/String.html) format)  
 throws [IOException](http://docs.google.com/java/io/IOException.html)

Imports the parameters from params and decodes them according to the specified decoding scheme. If format is null, the primary decoding format for parameters is used. The primary decoding format is ASN.1, if an ASN.1 specification for these parameters exists.

**Parameters:**params - the encoded parameters.format - the name of the decoding scheme. **Throws:** [IOException](http://docs.google.com/java/io/IOException.html) - on decoding errors, or if this parameter object has already been initialized.

### getParameterSpec

public final <T extends [AlgorithmParameterSpec](http://docs.google.com/java/security/spec/AlgorithmParameterSpec.html)> T **getParameterSpec**([Class](http://docs.google.com/java/lang/Class.html)<T> paramSpec)  
 throws [InvalidParameterSpecException](http://docs.google.com/java/security/spec/InvalidParameterSpecException.html)

Returns a (transparent) specification of this parameter object. paramSpec identifies the specification class in which the parameters should be returned. It could, for example, be DSAParameterSpec.class, to indicate that the parameters should be returned in an instance of the DSAParameterSpec class.

**Parameters:**paramSpec - the specification class in which the parameters should be returned. **Returns:**the parameter specification. **Throws:** [InvalidParameterSpecException](http://docs.google.com/java/security/spec/InvalidParameterSpecException.html) - if the requested parameter specification is inappropriate for this parameter object, or if this parameter object has not been initialized.

### getEncoded

public final byte[] **getEncoded**()  
 throws [IOException](http://docs.google.com/java/io/IOException.html)

Returns the parameters in their primary encoding format. The primary encoding format for parameters is ASN.1, if an ASN.1 specification for this type of parameters exists.

**Returns:**the parameters encoded using their primary encoding format. **Throws:** [IOException](http://docs.google.com/java/io/IOException.html) - on encoding errors, or if this parameter object has not been initialized.

### getEncoded

public final byte[] **getEncoded**([String](http://docs.google.com/java/lang/String.html) format)  
 throws [IOException](http://docs.google.com/java/io/IOException.html)

Returns the parameters encoded in the specified scheme. If format is null, the primary encoding format for parameters is used. The primary encoding format is ASN.1, if an ASN.1 specification for these parameters exists.

**Parameters:**format - the name of the encoding format. **Returns:**the parameters encoded using the specified encoding scheme. **Throws:** [IOException](http://docs.google.com/java/io/IOException.html) - on encoding errors, or if this parameter object has not been initialized.

### toString

public final [String](http://docs.google.com/java/lang/String.html) **toString**()

Returns a formatted string describing the parameters.

**Overrides:**[toString](http://docs.google.com/java/lang/Object.html#toString()) in class [Object](http://docs.google.com/java/lang/Object.html) **Returns:**a formatted string describing the parameters, or null if this parameter object has not been initialized.

| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/AlgorithmParameters.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/AlgorithmParameterGeneratorSpi.html)   [**NEXT CLASS**](http://docs.google.com/java/security/AlgorithmParametersSpi.html) | [**FRAMES**](http://docs.google.com/index.html?java/security/AlgorithmParameters.html)    [**NO FRAMES**](http://docs.google.com/AlgorithmParameters.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | FIELD | [CONSTR](#3znysh7) | [METHOD](#2et92p0) | DETAIL: FIELD | [CONSTR](#3dy6vkm) | [METHOD](#4d34og8) |

[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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