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

## **javax.crypto**

Class MacSpi

[java.lang.Object](http://docs.google.com/java/lang/Object.html)  
 **javax.crypto.MacSpi**

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

This class defines the *Service Provider Interface* (**SPI**) for the Mac class. All the abstract methods in this class must be implemented by each cryptographic service provider who wishes to supply the implementation of a particular MAC algorithm.

Implementations are free to implement the Cloneable interface.

**Since:** 1.4

| **Constructor Summary** | |
| --- | --- |
| [**MacSpi**](http://docs.google.com/javax/crypto/MacSpi.html#MacSpi())() |

| **Method Summary** | |
| --- | --- |
| [Object](http://docs.google.com/java/lang/Object.html) | [**clone**](http://docs.google.com/javax/crypto/MacSpi.html#clone())()            Returns a clone if the implementation is cloneable. |
| protected abstract  byte[] | [**engineDoFinal**](http://docs.google.com/javax/crypto/MacSpi.html#engineDoFinal())()            Completes the MAC computation and resets the MAC for further use, maintaining the secret key that the MAC was initialized with. |
| protected abstract  int | [**engineGetMacLength**](http://docs.google.com/javax/crypto/MacSpi.html#engineGetMacLength())()            Returns the length of the MAC in bytes. |
| protected abstract  void | [**engineInit**](http://docs.google.com/javax/crypto/MacSpi.html#engineInit(java.security.Key,%20java.security.spec.AlgorithmParameterSpec))([Key](http://docs.google.com/java/security/Key.html) key, [AlgorithmParameterSpec](http://docs.google.com/java/security/spec/AlgorithmParameterSpec.html) params)            Initializes the MAC with the given (secret) key and algorithm parameters. |
| protected abstract  void | [**engineReset**](http://docs.google.com/javax/crypto/MacSpi.html#engineReset())()            Resets the MAC for further use, maintaining the secret key that the MAC was initialized with. |
| protected abstract  void | [**engineUpdate**](http://docs.google.com/javax/crypto/MacSpi.html#engineUpdate(byte))(byte input)            Processes the given byte. |
| protected abstract  void | [**engineUpdate**](http://docs.google.com/javax/crypto/MacSpi.html#engineUpdate(byte%5B%5D,%20int,%20int))(byte[] input, int offset, int len)            Processes the first len bytes in input, starting at offset inclusive. |
| protected  void | [**engineUpdate**](http://docs.google.com/javax/crypto/MacSpi.html#engineUpdate(java.nio.ByteBuffer))([ByteBuffer](http://docs.google.com/java/nio/ByteBuffer.html) input)            Processes input.remaining() bytes in the ByteBuffer input, starting at input.position(). |

| **Methods inherited from class java.lang.**[**Object**](http://docs.google.com/java/lang/Object.html) |
| --- |
| [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** |
| --- |

### MacSpi

public **MacSpi**()

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

### engineGetMacLength

protected abstract int **engineGetMacLength**()

Returns the length of the MAC in bytes.

**Returns:**the MAC length in bytes.

### engineInit

protected abstract void **engineInit**([Key](http://docs.google.com/java/security/Key.html) key,  
 [AlgorithmParameterSpec](http://docs.google.com/java/security/spec/AlgorithmParameterSpec.html) params)  
 throws [InvalidKeyException](http://docs.google.com/java/security/InvalidKeyException.html),  
 [InvalidAlgorithmParameterException](http://docs.google.com/java/security/InvalidAlgorithmParameterException.html)

Initializes the MAC with the given (secret) key and algorithm parameters.

**Parameters:**key - the (secret) key.params - the algorithm parameters. **Throws:** [InvalidKeyException](http://docs.google.com/java/security/InvalidKeyException.html) - if the given key is inappropriate for initializing this MAC. [InvalidAlgorithmParameterException](http://docs.google.com/java/security/InvalidAlgorithmParameterException.html) - if the given algorithm parameters are inappropriate for this MAC.

### engineUpdate

protected abstract void **engineUpdate**(byte input)

Processes the given byte.

**Parameters:**input - the input byte to be processed.

### engineUpdate

protected abstract void **engineUpdate**(byte[] input,  
 int offset,  
 int len)

Processes the first len bytes in input, starting at offset inclusive.

**Parameters:**input - the input buffer.offset - the offset in input where the input starts.len - the number of bytes to process.

### engineUpdate

protected void **engineUpdate**([ByteBuffer](http://docs.google.com/java/nio/ByteBuffer.html) input)

Processes input.remaining() bytes in the ByteBuffer input, starting at input.position(). Upon return, the buffer's position will be equal to its limit; its limit will not have changed.

Subclasses should consider overriding this method if they can process ByteBuffers more efficiently than byte arrays.

**Parameters:**input - the ByteBuffer**Since:** 1.5

### engineDoFinal

protected abstract byte[] **engineDoFinal**()

Completes the MAC computation and resets the MAC for further use, maintaining the secret key that the MAC was initialized with.

**Returns:**the MAC result.

### engineReset

protected abstract void **engineReset**()

Resets the MAC for further use, maintaining the secret key that the MAC was initialized with.

### clone

public [Object](http://docs.google.com/java/lang/Object.html) **clone**()  
 throws [CloneNotSupportedException](http://docs.google.com/java/lang/CloneNotSupportedException.html)

Returns a clone if the implementation is cloneable.

**Overrides:**[clone](http://docs.google.com/java/lang/Object.html#clone()) in class [Object](http://docs.google.com/java/lang/Object.html) **Returns:**a clone if the implementation is cloneable. **Throws:** [CloneNotSupportedException](http://docs.google.com/java/lang/CloneNotSupportedException.html) - if this is called on an implementation that does not support Cloneable.**See Also:**[Cloneable](http://docs.google.com/java/lang/Cloneable.html)

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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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