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

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

**Enclosing class:**[Provider](http://docs.google.com/java/security/Provider.html)

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

The description of a security service. It encapsulates the properties of a service and contains a factory method to obtain new implementation instances of this service.

Each service has a provider that offers the service, a type, an algorithm name, and the name of the class that implements the service. Optionally, it also includes a list of alternate algorithm names for this service (aliases) and attributes, which are a map of (name, value) String pairs.

This class defines the methods [supportsParameter()](http://docs.google.com/java/security/Provider.Service.html#supportsParameter(java.lang.Object)) and [newInstance()](http://docs.google.com/java/security/Provider.Service.html#newInstance(java.lang.Object)) which are used by the Java security framework when it searches for suitable services and instantes them. The valid arguments to those methods depend on the type of service. For the service types defined within Java SE, see the  [Java Cryptography Architecture API Specification & Reference](http://docs.google.com/technotes/guides/security/crypto/CryptoSpec.html)  for the valid values. Note that components outside of Java SE can define additional types of services and their behavior.

Instances of this class are immutable.

**Since:** 1.5

| **Constructor Summary** | |
| --- | --- |
| [**Provider.Service**](http://docs.google.com/java/security/Provider.Service.html#Provider.Service(java.security.Provider,%20java.lang.String,%20java.lang.String,%20java.lang.String,%20java.util.List,%20java.util.Map))([Provider](http://docs.google.com/java/security/Provider.html) provider, [String](http://docs.google.com/java/lang/String.html) type, [String](http://docs.google.com/java/lang/String.html) algorithm, [String](http://docs.google.com/java/lang/String.html) className, [List](http://docs.google.com/java/util/List.html)<[String](http://docs.google.com/java/lang/String.html)> aliases, [Map](http://docs.google.com/java/util/Map.html)<[String](http://docs.google.com/java/lang/String.html),[String](http://docs.google.com/java/lang/String.html)> attributes)            Construct a new service. |

| **Method Summary** | |
| --- | --- |
| [String](http://docs.google.com/java/lang/String.html) | [**getAlgorithm**](http://docs.google.com/java/security/Provider.Service.html#getAlgorithm())()            Return the name of the algorithm of this service. |
| [String](http://docs.google.com/java/lang/String.html) | [**getAttribute**](http://docs.google.com/java/security/Provider.Service.html#getAttribute(java.lang.String))([String](http://docs.google.com/java/lang/String.html) name)            Return the value of the specified attribute or null if this attribute is not set for this Service. |
| [String](http://docs.google.com/java/lang/String.html) | [**getClassName**](http://docs.google.com/java/security/Provider.Service.html#getClassName())()            Return the name of the class implementing this service. |
| [Provider](http://docs.google.com/java/security/Provider.html) | [**getProvider**](http://docs.google.com/java/security/Provider.Service.html#getProvider())()            Return the Provider of this service. |
| [String](http://docs.google.com/java/lang/String.html) | [**getType**](http://docs.google.com/java/security/Provider.Service.html#getType())()            Get the type of this service. |
| [Object](http://docs.google.com/java/lang/Object.html) | [**newInstance**](http://docs.google.com/java/security/Provider.Service.html#newInstance(java.lang.Object))([Object](http://docs.google.com/java/lang/Object.html) constructorParameter)            Return a new instance of the implementation described by this service. |
| boolean | [**supportsParameter**](http://docs.google.com/java/security/Provider.Service.html#supportsParameter(java.lang.Object))([Object](http://docs.google.com/java/lang/Object.html) parameter)            Test whether this Service can use the specified parameter. |
| [String](http://docs.google.com/java/lang/String.html) | [**toString**](http://docs.google.com/java/security/Provider.Service.html#toString())()            Return a String representation of this service. |

| **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** |
| --- |

### Provider.Service

public **Provider.Service**([Provider](http://docs.google.com/java/security/Provider.html) provider,  
 [String](http://docs.google.com/java/lang/String.html) type,  
 [String](http://docs.google.com/java/lang/String.html) algorithm,  
 [String](http://docs.google.com/java/lang/String.html) className,  
 [List](http://docs.google.com/java/util/List.html)<[String](http://docs.google.com/java/lang/String.html)> aliases,  
 [Map](http://docs.google.com/java/util/Map.html)<[String](http://docs.google.com/java/lang/String.html),[String](http://docs.google.com/java/lang/String.html)> attributes)

Construct a new service.

**Parameters:**provider - the provider that offers this servicetype - the type of this servicealgorithm - the algorithm nameclassName - the name of the class implementing this servicealiases - List of aliases or null if algorithm has no aliasesattributes - Map of attributes or null if this implementation has no attributes **Throws:** [NullPointerException](http://docs.google.com/java/lang/NullPointerException.html) - if provider, type, algorithm, or className is null

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

### getType

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

Get the type of this service. For example, MessageDigest.

**Returns:**the type of this service

### getAlgorithm

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

Return the name of the algorithm of this service. For example, SHA-1.

**Returns:**the algorithm of this service

### getProvider

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

Return the Provider of this service.

**Returns:**the Provider of this service

### getClassName

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

Return the name of the class implementing this service.

**Returns:**the name of the class implementing this service

### getAttribute

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

Return the value of the specified attribute or null if this attribute is not set for this Service.

**Parameters:**name - the name of the requested attribute **Returns:**the value of the specified attribute or null if the attribute is not present **Throws:** [NullPointerException](http://docs.google.com/java/lang/NullPointerException.html) - if name is null

### newInstance

public [Object](http://docs.google.com/java/lang/Object.html) **newInstance**([Object](http://docs.google.com/java/lang/Object.html) constructorParameter)  
 throws [NoSuchAlgorithmException](http://docs.google.com/java/security/NoSuchAlgorithmException.html)

Return a new instance of the implementation described by this service. The security provider framework uses this method to construct implementations. Applications will typically not need to call it.

The default implementation uses reflection to invoke the standard constructor for this type of service. Security providers can override this method to implement instantiation in a different way. For details and the values of constructorParameter that are valid for the various types of services see the  [Java Cryptography Architecture API Specification & Reference](http://docs.google.com/technotes/guides/security/crypto/CryptoSpec.html).

**Parameters:**constructorParameter - the value to pass to the constructor, or null if this type of service does not use a constructorParameter. **Returns:**a new implementation of this service **Throws:** [InvalidParameterException](http://docs.google.com/java/security/InvalidParameterException.html) - if the value of constructorParameter is invalid for this type of service. [NoSuchAlgorithmException](http://docs.google.com/java/security/NoSuchAlgorithmException.html) - if instantation failed for any other reason.

### supportsParameter

public boolean **supportsParameter**([Object](http://docs.google.com/java/lang/Object.html) parameter)

Test whether this Service can use the specified parameter. Returns false if this service cannot use the parameter. Returns true if this service can use the parameter, if a fast test is infeasible, or if the status is unknown.

The security provider framework uses this method with some types of services to quickly exclude non-matching implementations for consideration. Applications will typically not need to call it.

For details and the values of parameter that are valid for the various types of services see the top of this class and the  [Java Cryptography Architecture API Specification & Reference](http://docs.google.com/technotes/guides/security/crypto/CryptoSpec.html). Security providers can override it to implement their own test.

**Parameters:**parameter - the parameter to test **Returns:**false if this this service cannot use the specified parameter; true if it can possibly use the parameter **Throws:** [InvalidParameterException](http://docs.google.com/java/security/InvalidParameterException.html) - if the value of parameter is invalid for this type of service or if this method cannot be used with this type of service

### toString

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

Return a String representation of this service.

**Overrides:**[toString](http://docs.google.com/java/lang/Object.html#toString()) in class [Object](http://docs.google.com/java/lang/Object.html) **Returns:**a String representation of this service.

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