

Added in [API level 24](#) ([/guide/topics/manifest/uses-sdk-element#ApiLevels](#))

PKIXRevocationChecker

```
public abstract class PKIXRevocationChecker
```

```
extends PKIXCertPathChecker (/reference/java/security/cert/PKIXCertPathChecker)
```

[java.lang.Object](#) ([/reference/java/lang/Object](#))

↳ [java.security.cert.PKIXCertPathChecker](#) ([/reference/java/security/cert/PKIXCertPathChecker](#))

↳ [java.security.cert.PKIXRevocationChecker](#)

A [PKIXCertPathChecker](#) for checking the revocation status of certificates with the PKIX algorithm.

A [PKIXRevocationChecker](#) checks the revocation status of certificates with the Online Certificate Status Protocol (OCSP) or Certificate Revocation Lists (CRLs). OCSP is described in RFC 2560 and is a network protocol for determining the status of a certificate. A CRL is a time-stamped list identifying revoked certificates, and RFC 5280 describes an algorithm for determining the revocation status of certificates using CRLs.

Each [PKIXRevocationChecker](#) must be able to check the revocation status of certificates with OCSP and CRLs. By default, OCSP is the preferred mechanism for checking revocation status, with CRLs as the fallback mechanism. However, this preference can be switched to CRLs with the [PREFER_CRLS](#)

([/reference/java/security/cert/PKIXRevocationChecker.Option#PREFER_CRLS](#)) option. In addition, the fallback mechanism can be disabled with the [NO_FALLBACK](#)

([/reference/java/security/cert/PKIXRevocationChecker.Option#NO_FALLBACK](#)) option.

A [PKIXRevocationChecker](#) is obtained by calling the [getRevocationChecker](#)

([/reference/java/security/cert/CertPathValidator#getRevocationChecker\(\)](#)) method of a [PKIXCertPathValidator](#). Additional parameters and options specific to revocation can be set (by calling the [setOcsponder](#)

([/reference/java/security/cert/PKIXRevocationChecker#setOcsponder\(java.net.URI\)](#)) method for instance). The [PKIXRevocationChecker](#) is added to a [PKIXParameters](#) object using the

addCertPathChecker

(/reference/java/security/cert/PKIXParameters#addCertPathChecker(java.security.cert.PKIXCertPathChecker))

or setCertPathCheckers

(/reference/java/security/cert/PKIXParameters#setCertPathCheckers(java.util.List<java.security.cert.PKIXCertPathChecker>))

method, and then the `PKIXParameters` is passed along with the `CertPath` to be validated to the validate

(/reference/java/security/cert/CertPathValidator#validate(java.security.cert.CertPath,%20java.security.cert.CertPathParameters))

method of a PKIX `CertPathValidator`. When supplying a revocation checker in this manner, it will be used to check revocation irrespective of the setting of the RevocationEnabled

(/reference/java/security/cert/PKIXParameters#isRevocationEnabled()) flag. Similarly, a

`PKIXRevocationChecker` may be added to a `PKIXBuilderParameters` object for use with a PKIX `CertPathBuilder`.

Note that when a `PKIXRevocationChecker` is added to `PKIXParameters`, it clones the `PKIXRevocationChecker`; thus any subsequent modifications to the `PKIXRevocationChecker` have no effect.

Any parameter that is not set (or is set to `null`) will be set to the default value for that parameter.

Concurrent Access

Unless otherwise specified, the methods defined in this class are not thread-safe. Multiple threads that need to access a single object concurrently should synchronize amongst themselves and provide the necessary locking. Multiple threads each manipulating separate objects need not synchronize.

Summary

Protected constructors

PKIXRevocationChecker

(/reference/java/security/cert/PKIXRevocationChecker#PKIXRevocationChecker())()

Default constructor.

Public methods

<u>PKIXRevocationChecker</u> (/reference/java/security/cert/PKIXRevocationChecker)	<u>clone</u> (/reference/java/security/cert/PKIXRe Returns a clone of this object.
<u>List</u> (/reference/java/util/List)< <u>Extension</u> (/reference/java/security/cert/Extension)>	<u>getOcspExtensions</u> (/reference/java/secu Gets the optional OCSP request extensions.
<u>URI</u> (/reference/java/net/URI)	<u>getOcspResponder</u> (/reference/java/ secur Gets the URI that identifies the location of tl
<u>X509Certificate</u> (/reference/java/security/cert/X509Certificate)	<u>getOcspResponderCert</u> (/reference/java/ Gets the OCSP responder's certificate.
<u>Map</u> (/reference/java/util/Map)< <u>X509Certificate</u> (/reference/java/security/cert/X509Certificate), byte[] >	<u>getOcspResponses</u> (/reference/java/ secur Gets the OCSP responses.
<u>Set</u> (/reference/java/util/Set) < <u>PKIXRevocationChecker.Option</u> (/reference/java/security/cert/PKIXRevocationChecker.Option) >	<u>getOptions</u> (/reference/java/security/cert/l Gets the revocation options.
abstract <u>List</u> (/reference/java/util/List) < <u>CertPathValidatorException</u> (/reference/java/security/cert/CertPathValidatorException)>	<u>getSoftFailExceptions</u> (/reference/java Returns a list containing the exceptions that (/reference/java/security/cert/PKIXRevocati
void	<u>setOcspExtensions</u> (/reference/java/security/cert/PKIXRevocati (/reference/java/util/List)< <u>Extension</u> (/refe

Sets the optional OCSP request extensions.

void **setOcspResponder** ([/reference/java/secure](#)
([/reference/java/net/URI](#)) **uri**)

Sets the URI that identifies the location of th

void **setOcspResponderCert**
([/reference/java/security/cert/PKIXRevocati](#)
(**X509Certificate** ([/reference/java/secure](#)

Sets the OCSP responder's certificate.

void **setOcspResponses**
([/reference/java/security/cert/PKIXRevocati](#)
(**Map** ([/reference/java/util/Map](#))<**X509Cert**

Sets the OCSP responses.

void **setOptions**
([/reference/java/security/cert/PKIXRevocati](#)
(**Set** ([/reference/java/util/Set](#))<**PKIXRevoc**
options)

Sets the revocation options.

Inherited methods

[From class **java.security.cert.PKIXCertPathChecker**](#) ([/reference/java/security/cert/PKIXCertP](#)

void **check** ([/reference/java/](#)
([/reference/java/secure](#)

Performs the check(s) o

This implementation call

abstract void **check**
([/reference/java/secure](#)
(**Certificate** ([/refere](#)
([/reference/java/lang/St](#)

Performs the check(s) o
the specified collection

Object (/reference/java/lang/Object)

clone (/reference/java/

Returns a clone of this c

abstract Set (/reference/java/util/Set)<**String** (/reference/java/lang/String)>

getSupportedExtens

Returns an immutable S

abstract void

init (/reference/java/se

Initializes the internal st

abstract boolean

isForwardCheckingS

Indicates if forward che

From class [java.lang.Object](#) (/reference/java/lang/Object)

Object (/reference/java/lang/Object)

clone (/reference/java/lang/Object#clone())()

Creates and returns a copy of this object.

boolean

equals (/reference/java/lang/Object#equals(java.lang.Ok

Indicates whether some other object is "equal to" this one

void

finalize (/reference/java/lang/Object#finalize())()

Called by the garbage collector on an object when garba

final Class (/reference/java/lang/Class)<?>

getClass (/reference/java/lang/Object#getClass())()

Returns the runtime class of this **Object**.

int

hashCode (/reference/java/lang/Object#hashCode())()

Returns a hash code value for the object.

final void

notify (/reference/java/lang/Object#notify())()

Wakes up a single thread that is waiting on this object's m

final void

notifyAll (/reference/java/lang/Object#notifyAll())()

Wakes up all threads that are waiting on this object's mon

String (/reference/java/lang/String)

toString (/reference/java/lang/Object#toString())()

Returns a string representation of the object.

final void

wait (/reference/java/lang/Object#wait(long,%20int))(l

Causes the current thread to wait until it is awakened, typ

final void

wait (/reference/java/lang/Object#wait(long))(long t

Causes the current thread to wait until it is awakened, typ

final void

wait (/reference/java/lang/Object#wait())()

Causes the current thread to wait until it is awakened, typ

From interface [java.security.cert.CertPathChecker](#) (/reference/java/security/cert/CertPathCh

abstract void

check (/reference/java/security/cert/CertPathChecker#check(java.sec

Performs the check(s) on the specified certificate using its internal sta

abstract void

init (/reference/java/security/cert/CertPathChecker#init(boolean))(b

Initializes the internal state of this **CertPathChecker**.

abstract boolean

isForwardCheckingSupported (/reference/java/security/cert/CertP

Indicates if forward checking is supported.

Protected constructors

PKIXRevocationChecker Added in [API level 24](/guide/topics/manifest/uses-sdk-element#ApiLevels) (/guide/topics/manifest/uses-sdk-element#ApiLevels)

```
protected PKIXRevocationChecker ()
```

Default constructor.

Public methods

clone Added in [API level 24](/guide/topics/manifest/uses-sdk-element#ApiLevels) (/guide/topics/manifest/uses-sdk-element#ApiLevels)

```
public PKIXRevocationChecker (/reference/java/security/cert/PKIXRevocationChecker) clone ()
```

Returns a clone of this object. Calls the `Object.clone()` method. All subclasses which maintain state must support and override this method, if necessary.

Returns

PKIXRevocationChecker (/reference/java/security/cert/PKIXRevocationChecker) a copy of this **PKIXCertPathChecker**

getOcspExtensions Added in [API level 24](/guide/topics/manifest/uses-sdk-element#ApiLevels) (/guide/topics/manifest/uses-sdk-element#ApiLevels)

```
public List (/reference/java/util/List)<Extension (/reference/java/security/cert/Extension)> getOcsp
```

Gets the optional OCSP request extensions.

Returns

List (/reference/java/util/List) an unmodifiable list of extensions. The list is empty if no
<Extension extensions have been specified.
 (/reference/java/security/cert/Extension)
 >

getOcspResponder Added in [API level 24](#) (/guide/topics/manifest/uses-sdk-element#ApiLevels)

```
public URI (/reference/java/net/URI) getOcspResponder ()
```

Gets the URI that identifies the location of the OCSP responder. This overrides the `ocsp.responderURL` security property. If this parameter or the `ocsp.responderURL` property is not set, the location is determined from the certificate's Authority Information Access Extension, as defined in RFC 5280.

Returns

URI (/reference/java/net/URI) the responder URI, or `null` if not set

getOcspResponderCert Added in [API level 24](#) (/guide/topics/manifest/uses-sdk-element#ApiLevels)

```
public X509Certificate (/reference/java/security/cert/X509Certificate) getOcspResponderCert ()
```

Gets the OCSP responder's certificate. This overrides the `ocsp.responderCertSubjectName`, `ocsp.responderCertIssuerName`, and `ocsp.responderCertSerialNumber` security properties. If this parameter or the aforementioned properties are not set, then the responder's certificate is determined as specified in RFC 2560.

Returns

X509Certificate the responder's certificate, or `null` if not set
(/reference/java/security/cert/X509Certificate)

getOcsponses Added in [API level 24](#) (/guide/topics/manifest/uses-sdk-element#ApiLevels)

```
public Map (/reference/java/util/Map)<X509Certificate (/reference/java/security/cert/X509Certificate
```

Gets the OCSP responses. These responses are used to determine the revocation status of the specified certificates when OCSP is used.

Returns

Map (/reference/java/util/Map)
<**X509Certificate**
(/reference/java/security/cert/X509Certificate)
, **byte[]**>

a map of OCSP responses. Each key is an **X509Certificate** that maps to the corresponding DER-encoded OCSP response for that certificate. A deep copy of the map is returned to protect against subsequent modification. Returns an empty map if no responses have been specified.

getOptions Added in [API level 24](#) (/guide/topics/manifest/uses-sdk-element#ApiLevels)

```
public Set (/reference/java/util/Set)<PKIXRevocationChecker.Option (/reference/java/security/cert
```

Gets the revocation options.

Returns

Set ([/reference/java/util/Set](#)) an unmodifiable set of revocation options.
<PKIXRevocationChecker.Option The set is empty if no options have been
([/reference/java/security/cert/PKIXRevocationChecker.Option](#))specified.
>

getSoftFailExceptions Added in [API level 24](#) ([/guide/topics/manifest/uses-sdk-element#ApiLevels](#))

```
public abstract List (/reference/java/util/List)<CertPathValidatorException (/reference/java/s
```

Returns a list containing the exceptions that are ignored by the revocation checker when the **SOFT_FAIL** ([/reference/java/security/cert/PKIXRevocationChecker.Option#SOFT_FAIL](#)) option is set. The list is cleared each time **init** ([/reference/java/security/cert/PKIXCertPathChecker#init\(boolean\)](#)) is called. The list is ordered in ascending order according to the certificate index returned by **getIndex** ([/reference/java/security/cert/CertPathValidatorException#getIndex\(\)](#)) method of each entry.

An implementation of **PKIXRevocationChecker** is responsible for adding the ignored exceptions to the list.

Returns

```
List (/reference/java/util/List) an unmodifiable list containing the ignored  

<CertPathValidatorException exceptions. The list is empty if no exceptions  

(/reference/java/security/cert/CertPathValidatorException)have been ignored.  

>
```

setOcspeExtensions Added in [API level 24](#) ([/guide/topics/manifest/uses-sdk-element#ApiLevels](#))

```
public void setOcspeExtensions (List (/reference/java/util/List)<Extension (/reference/java/secu
```

Sets the optional OCSP request extensions.

Parameters

extensions **List:** a list of extensions. The list is copied to protect against subsequent modification.

setOcspResponder Added in [API level 24](#) (/guide/topics/manifest/uses-sdk-element#ApiLevels)

```
public void setOcspResponder (URI (/reference/java/net/URI) uri)
```

Sets the URI that identifies the location of the OCSP responder. This overrides the `ocsp.responderURL` security property and any responder specified in a certificate's Authority Information Access Extension, as defined in RFC 5280.

Parameters

uri **URI:** the responder URI

setOcspResponderCert Added in [API level 24](#) (/guide/topics/manifest/uses-sdk-element#ApiLevels)

```
public void setOcspResponderCert (X509Certificate (/reference/java/security/cert/X509Certif
```

Sets the OCSP responder's certificate. This overrides the `ocsp.responderCertSubjectName`, `ocsp.responderCertIssuerName`, and `ocsp.responderCertSerialNumber` security properties.

Parameters

cert **X509Certificate**: the responder's certificate

setOcspResponses Added in [API level 24](#) (/guide/topics/manifest/uses-sdk-element#ApiLevels)

```
public void setOcspResponses (Map (/reference/java/util/Map)<X509Certificate (/reference/jav
```

Sets the OCSP responses. These responses are used to determine the revocation status of the specified certificates when OCSP is used.

Parameters

responses **Map**: a map of OCSP responses. Each key is an **X509Certificate** that maps to the corresponding DER-encoded OCSP response for that certificate. A deep copy of the map is performed to protect against subsequent modification.

setOptions Added in [API level 24](#) (/guide/topics/manifest/uses-sdk-element#ApiLevels)

```
public void setOptions (Set (/reference/java/util/Set)<PKIXRevocationChecker.Option (/refer
```

Sets the revocation options.

Parameters

options **Set**: a set of revocation options. The set is copied to protect against subsequent modification.

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