InCommon SSL Certificate Chain

Notice - Changes to InCommon Certificates

On November 16, 2026, InCommon certificates will no longer be available from the emSign Certificate Authority. Instead, all InCommon certificates will be issued by SSL.com CA. InCommon certificates will be renewable via ACME and will automatically update to the SSL.com CA.

At this time InCommon has announced but not released support for client (mTLS) certificates or code signing certificates. UWIT IAM will announce support when it is available, otherwise UWCA remains the only CA issuing client certificates.

SSL.com will issue 200 day certificates until March 2027 at which point 100 day certificates will be the only option available.

Document of this change can be found at Certificates . Instructions on how to use ACME can be found at Using ACME for Certificate Management. Please reach out to help@uw.edu with further questions.

Certificate Chains

Certificate chains are a series of related certificates showing the “chain of trust” from the “top level” certificate that you created all the way back to the “root certificate” that is the start of the trust relationship. Along the chain, multiple intermediates can be presented to clearly indicate how one tracks the trust relationship from a trusted source (the root certificate) to the certificate you are presenting and asking others to trust.

Intermediate certificates

Intermediate certificates provide a way for the browser to link your SSL certificate (which it doesn't trust by default) up to a root certificate that it does trust. Certificate Authorities (CA) often delegate some functions to an intermediate CA, which can in turn further delegate to another intermediate CA. Each CA in the chain must have it's own certificate issued by its parent. The information in each certificate allows the browser to build a chain of trust from your certificate to the trusted root CA.

Your web server must provide the intermediate certificates to the browser. If you are using IIS you would normally download your certificate in the PKCS7 format, which will automatically include the InCommon intermediate certificates. If you are using Apache and downloading your certificate in PEM format, you will need to follow the instructions below.

Root Certificates

Root certificates are issued by a CA as the source of trust. Root certificates are self-signed, terminating the chain at the point trust should be taken solely on the trust you have with the issuing CA. For public issued certificates, this root certificate must be recognized and trusted by the CA/Browser forum to be recognized as trustworthy for general use on the internet. Per ACME standards, a root certificate is not always included in a chain certificate, as it is expected that you already have stored the root certificate as a trusted source. As many applications still use the practice of “pinning” (keeping a static manually defined list) the CA and associated root certificates to trust, we have provided the root certificate here for consumption.

Java keystores or other special cases

Certain applications, such as java keystores, may require you to provide the root certificate in addition to the intermediate certificates. You should obtain these from a trusted source like the certificate store on your local

computer, or directly from the CA (the link to the certificate bundle is the last link at the bottom of the page).

Archived Certificate Chains

Intermediate certificate chains for InCommon certificates are preserved at Archived Certificate Chains.

Currently issuing Certificate Chains

All active SSL.com certificate roots can be found at https://incommonsupport.certinext.io/portal/en/kb/articles/ssl-com-certificate-hierarchy-and-intermediate-certificates#Root_and_Intermediate_Certificates. Copies included below are simply for ease of copying and pasting. It is strongly suggested you consider the linked page as the authoritative source and the most up to date information.

InCommon Root Certificates

SSL.com (the new InCommon CA) does not automatically include the root certificate in chain certificates. The following statement has been provided by CERTINext

> *The expected behavior for certificates returned through CERTINext ACME is for the full chain to include the end-entity certificate and the applicable intermediate CA certificate(s), but not the root certificate.*
>
> *This is standard public CA practice. Root certificates are trust anchors that are expected to already be present in the operating system, browser, or application trust store. They therefore do not need to be installed or served with the certificate chain.*
>
> *This is also consistent with RFC 8555, the ACME standard. Section 9.1 notes that because trust anchors must be distributed independently, a certificate representing a trust anchor may be omitted from the chain when supported peers are expected to possess it:*
>
> *https://www.rfc-editor.org/rfc/rfc8555#section-9.1*
>
> *Going forward, customers should configure their services using the certificate and intermediate certificate(s) returned in the ACME full chain. The root certificate should not be appended.*

As a result, many customers are finding they have to add the root certificate to the chain themselves. For ease of reference, the RSA and ECC chains are provided below.

SSL.com ECC Root

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The following can also be found at
https://spaces.at.internet2.edu/spaces/CERTSVC/pages/394592634/InCommon+Intermediate+CAs

SSL.com ECC Root certificate
Certificate Subject Common Name (CN) = SSL.com TLS ECC Root CA 2022 | Organization (O) = SSL Corporation |
Country (C) = US | Certificate Issuer Common Name (CN) = SSL.com TLS ECC Root CA 2022 | Organization (O) =
SSL Corporation | Country (C) = US
-----BEGIN CERTIFICATE-----
MIICOjCCAcCgAwIBAgIQFAP1q/s3ixdAW+JDsqXRxDAKBggqhkjOPQQDAzBOMQsw
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b0Igj762TVntd00pxCAgRWSGOlDGxK0tk/UYfXLtqc/ErFc2KAhl3zx5Zn6g6g==
-----END CERTIFICATE-----
```

SSL.com RSA Root

```
The following can also be found at
https://spaces.at.internet2.edu/spaces/CERTSVC/pages/394592634/InCommon+Intermediate+CAs

SSL.com RSA Root certificate
Certificate Subject Common Name (CN) = SSL.com TLS RSA Root CA 2022 | Organization (O) = SSL Corporation |
Country (C) = US | Certificate Issuer Common Name (CN) = SSL.com TLS RSA Root CA 2022  | Organization (O) =
SSL Corporation | Country (C) = US
-----BEGIN CERTIFICATE-----
MIIFiTCCA3GgAwIBAgIQb77arXO9CEDii02+1PdbkTANBgkqhkiG9w0BAQsFADBO
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DBxTU0wuY29tIFRMUyBSU0EgUm9vdCBDQSAyMDIyMB4XDTIyMDgyNTE2MzQyMloX
DTQ2MDgxOTE2MzQyMVowTjELMAkGA1UEBhMCVVMxGDAWBgNVBAoMD1NTTCBDb3Jw
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98OwoX6EyneSMSy4kLGCenROmxMmtNVQZlR4rmA=
-----END CERTIFICATE-----

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InCommon Intermediate Certificates

InCommon CertiNext CA Chains

All active SSL.com certificate intermediate can be found at https://incommonsupport.certinext.io/portal/en/kb/articles/ssl-com-certificate-hierarchy-and-intermediate-certificates#Root_and_Intermediate_Certificates. Copies included below are simply for ease of copying and pasting. It is strongly suggested you consider the linked page as the authoritative source and the most up to date information.

The University of Washington primarily issues Organization Validated (OV) certificates and as a result uses the “OV” intermediates. However, more and more the distinction between “OV” and “DV” (domain validated) is blurring, so it is encouraged for those pinning certificate chains to consider trusting all forms of validation.

SSL.com ECC OV Intermediate

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The following can also be found at
https://spaces.at.internet2.edu/spaces/CERTSVC/pages/394592634/InCommon+Intermediate+CAs

Subject: CN=SSL.com OV TLS Issuing ECC CA 1,O=SSL Corporation,C=US
Issuer: CN=SSL.com TLS ECC Root CA 2022,O=SSL Corporation,C=US
-----BEGIN CERTIFICATE-----
MIIDNTCCArugAwIBAgIQMHLVhJYi3Z6UVXO0s7e2eTAKBggqhkjOPQQDAzBOMQsw
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U0wuY29tIFRMUyBFQ0MgUm9vdCBDQSAyMDIyMB4XDTIyMTIwOTE4MjkwM1oXDTMy
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vuXVFjWSSXMm
-----END CERTIFICATE-----
```

SSL.com RSA OV Intermediate

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The following can also be found at
https://spaces.at.internet2.edu/spaces/CERTSVC/pages/394592634/InCommon+Intermediate+CAs

Subject: CN=SSL.com OV TLS Issuing RSA CA 1,O=SSL Corporation,C=US
Issuer: CN=SSL.com TLS RSA Root CA 2022,O=SSL Corporation,C=US
-----BEGIN CERTIFICATE-----
MIIGBDCCA+ygAwIBAgIQIkp8ImXt/NQnU73JSf6EQDANBgkqhkiG9w0BAQsFADBO
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QS5jcmwwHQYDVR0OBBYEFEWiFIXTFUqZcPkCRtzNGOroJgI6MA4GA1UdDwEB/wQE
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dQxUawgLEN8=
-----END CERTIFICATE-----
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SSL.com ECC DV Intermediate

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The following can also be found at
https://spaces.at.internet2.edu/spaces/CERTSVC/pages/394592634/InCommon+Intermediate+CAs

Subject: CN=SSL.com TLS Issuing ECC CA R2,O=SSL Corporation,C=US
Issuer: CN=SSL.com TLS ECC Root CA 2022,O=SSL Corporation,C=US
-----BEGIN CERTIFICATE-----
MIIDMjCCArmgAwIBAgIQXXRDuZTTIfJn8gTxhErHMjAKBggqhkjOPQQDAzBOMQsw
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-----END CERTIFICATE-----
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SSL.com RSA DV Intermediate

```
The following can also be found at
https://spaces.at.internet2.edu/spaces/CERTSVC/pages/394592634/InCommon+Intermediate+CAs

```

```
Subject: CN=SSL.com TLS Issuing RSA CA R1,O=SSL Corporation,C=US
Issuer: CN=SSL.com TLS RSA Root CA 2022,O=SSL Corporation,C=US
-----BEGIN CERTIFICATE-----
MIIGAjCCA+qgAwIBAgIQJrn/5Flvph4a8hxj1nJ0ijANBgkqhkiG9w0BAQsFADBO
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A1UdEwEB/wQIMAYBAf8CAQAwHwYDVR0jBBgwFoAU+y437uOEeicuzRk1sTN8/9RE
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-----END CERTIFICATE-----
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