Installing Certificates on Windows

Using PowerShell to install into the Local Computer store

This can only be done with elevated privileges.

```
Import-Certificate -CertStoreLocation Cert:\LocalMachine\Root -FilePath cert.crt
```

Viewing certificate store contents

```
Get-ChildItem Cert:\LocalMachine\My | Sort-Object -Property Subject
Get-ChildItem Cert:\LocalMachine\Root | Sort-Object -Property Subject
Get-ChildItem Cert:\LocalMachine\TrustedPublisher | Sort-Object -Property Subject
```

```
Get-ChildItem Cert:\CurrentUser\My | Sort-Object -Property Subject
Get-ChildItem Cert:\CurrentUser\Root | Sort-Object -Property Subject
Get-ChildItem Cert:\CurrentUser\TrustedPublisher | Sort-Object -Property Subject
```

Viewing cert information from extensions

```
# Show all relevant local computer certificate information

Get-ChildItem Cert:\LocalMachine\My |
ForEach-Object {
    $sanExtension = $_.Extensions |
        Where-Object { $_.Oid.Value -eq '2.5.29.17' }

    if ($sanExtension) {
        [PSCustomObject]@{
            Subject        = $_.Subject
            IssuingCA      = $_.Issuer
            Thumbprint     = $_.Thumbprint
            NotBefore      = $_.NotBefore
            NotAfter       = $_.NotAfter
            DnsNames       = ($_.DnsNameList -join ', ')
        }
    }
}
```

Viewing certs and validate trust chain

```
Get-ChildItem Cert:\LocalMachine\My |
ForEach-Object {

    $chain = New-Object System.Security.Cryptography.X509Certificates.X509Chain
    $chain.ChainPolicy.RevocationMode = 'Online'
    $chain.ChainPolicy.RevocationFlag = 'EntireChain'
    $chain.ChainPolicy.VerificationFlags = 'NoFlag'
    $chain.ChainPolicy.VerificationTime = Get-Date

    $isTrusted = $chain.Build($_)

    # Extract SAN (DNS names)
    $san = $_.DnsNameList -join ', '
```

```
    [PSCustomObject]@{
        Subject        = $_.Subject
        IssuingCA      = $_.Issuer
        Thumbprint     = $_.Thumbprint
        NotAfter       = $_.NotAfter
        DnsNames       = $san
        Trusted        = $isTrusted
        ChainStatus    = if ($isTrusted) {
                            'Success'
                         } else {
                            ($chain.ChainStatus | Select-Object -ExpandProperty Status) -join
', '
                         }
        ChainElements  = ($chain.ChainElements |
                          ForEach-Object { $_.Certificate.Subject }) -join ' -> '
    }
}
```

end

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