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# Burn bundles

The `Bundle` element is the top-level element for a Burn bundle. It contains child elements that let you specify the **chain of packages to be installed**, the **bootstrapper application** that provides the user experience, custom and **built-in variables**, **system searches**, and all the other goodies that let you define a bundle.

```
<Wix
  xmlns="http://wixtoolset.org/schemas/v4/wxs"
  xmlns:bal="http://wixtoolset.org/schemas/v4/wxs/bal">

  <Bundle
    Name="$(BundleName)"
    Version="$(Version)"
    UpgradeCode="$(UpgradeCode)"
    Compressed="no"
    SplashScreenSourceFile="splashscreen.bmp">

    <BootstrapperApplication>
      <bal:WixStandardBootstrapperApplication
        LicenseUrl=""
        Theme="hyperlinkLicense" />
    </BootstrapperApplication>

    <Chain>
      <PackageGroupRef Id="BundlePackages" />
    </Chain>
```

```
</Bundle>  
</Wix>
```

## Bundle package chains

Burn supports the following kinds of packages:

Package	Description
<b>BundlePackage</b>	Another Burn bundle .exe
<b>ExePackage</b>	An executable .exe installer
<b>MsiPackage</b>	A Windows Installer .msi package
<b>MspPackage</b>	A Windows Installer .msp patch package
<b>MsuPackage</b>	A Windows update .msu package

To include a package in a bundle's chain of packages:

- Include the package element as a child of the **Chain** element.
- Include the package element as a child of a **PackageGroup** element and include that package group in the chain with a **PackageGroupRef** element as a child of the **Chain** element.

For example:

```
<Wix xmlns="http://wixtoolset.org/schemas/v4/wxs">
  <Bundle>
    <Chain>
      <PackageGroupRef Id="BundlePackages" />

      <ExePackage
        DetectCondition="DetectedSomethingVariable"
        UninstallArguments="-uninstall"
        SourceFile="EndOfChain.exe" />
    </Chain>
  </Bundle>

  <Fragment>
    <PackageGroup Id="BundlePackages">
      <PackageGroupRef Id="PrereqPackages" />
      <MsiPackage Id="PackageA" SourceFile="PackageA.msi" />
      <MsiPackage Id="PackageB" SourceFile="PackageB.msi" />
    </PackageGroup>
  </Fragment>

  <Fragment>
    <PackageGroup Id="PrereqPackages">
      <MsiPackage SourceFile="Prereqs.msi">
        <MsiProperty Name="PREREQSONLY" Value="1" />
      </MsiPackage>
    </PackageGroup>
  </Fragment>
</Wix>
```

# Bootstrapper applications

Each bundle needs a bootstrapper application to implement the user experience, including business logic and UI. WiX includes two BAs:

- `WixStandardBootstrapperApplication` (`WixStdBA`) provides a simple, wizard-like UI and typical BA behavior. The UI is provided by XML files that let you change the appearance without needing to change the code of the BA. `WixStdBA` is written in C++, so has no additional system requirements.
- `WixInternalUIBootstrapperApplication` (`WixUIBA`) provides typical BA behavior and defers the UI to the UI defined in the primary MSI package. `WixUIBA` is useful when you have a complex UI defined in an MSI package and don't want to convert it to a BA. `WixUIBA` is written in C++, so has no additional system requirements.

Here's how you might add a built-in BA to a bundle:

```
<Wix
  xmlns="http://wixtoolset.org/schemas/v4/wxs"
  xmlns:bal="http://wixtoolset.org/schemas/v4/wxs/bal">

  <Bundle>

    <BootstrapperApplication>
      <bal:WixStandardBootstrapperApplication
        LicenseUrl=""
        Theme="hyperlinkLicense" />
    </BootstrapperApplication>
```

You can also create an entirely custom bootstrapper application, either in native code or managed code. Here's how you might reference a custom native-code BA:

```
<Wix xmlns="http://wixtoolset.org/schemas/v4/wxs">
  <Bundle>
    <BootstrapperApplication>
      <BootstrapperApplicationDll
        Id="MyStandardBootstrapperApplication"
        SourceFile="bobstdba.dll" />
      <PayloadGroupRef
        Id="MyStandardBootstrapperApplicationPayloads" />
    </BootstrapperApplication>
  </Bundle>
</Wix>
```

Here's how you might reference a custom managed-code BA written in .NET 6:

```
<Wix
  xmlns="http://wixtoolset.org/schemas/v4/wxs"
  xmlns:bal="http://wixtoolset.org/schemas/v4/wxs/bal">

  <Bundle>
    <BootstrapperApplication>
      <Payload SourceFile="MyBA.EarliestCoreMBA.deps.json" />
      <Payload SourceFile="MyBA.EarliestCoreMBA.dll"
        bal:BAFactoryAssembly="yes" />
      <Payload SourceFile="MyBA.EarliestCoreMBA.runtimeconfig.json" />
      <Payload SourceFile="mbanative.dll" />
      <Payload SourceFile="WixToolset.Mba.Core.dll" />
      <bal:WixDotNetCoreBootstrapperApplicationHost />
    </BootstrapperApplication>
  </Bundle>
</Wix>
```

