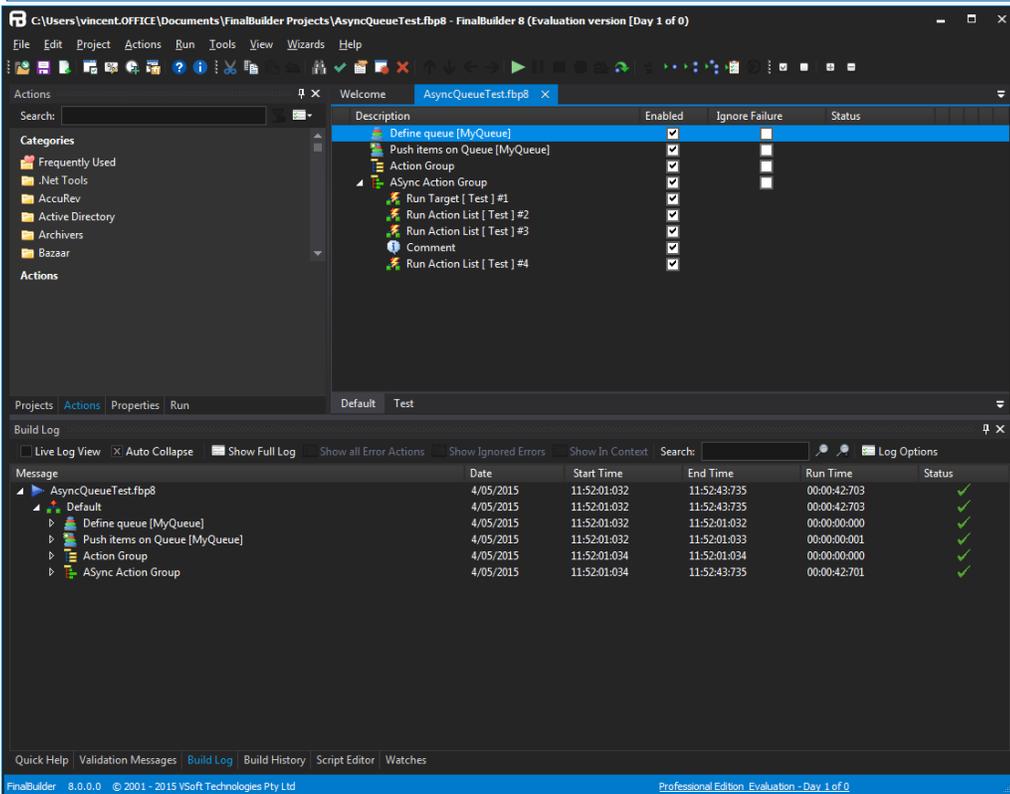
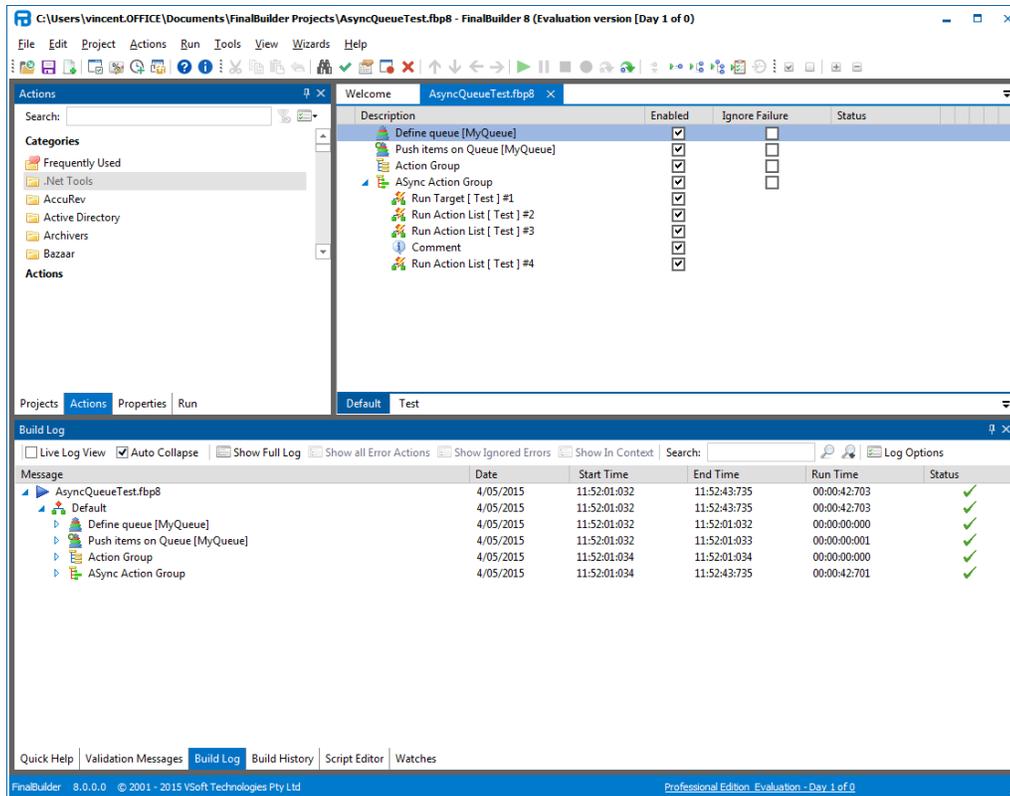


# What's new in FinalBuilder 8?

## IDE Themes

The IDE has two new themes, Dark and Light (yes, imaginatively named!). The IDE defaults to Dark on first run, however you can change the theme in the options quite easily. The themes are still a work in progress, we are waiting on an update from a third party control vendor to resolve some issues.







## Non Visible Changes

### Stepping Engine

The stepping engine was rewritten to enable stepping into included projects, and to enable target dependencies. This, work, together with the new variables architecture is where the bulk of effort/time was spent in the FinalBuilder 8 development cycle.

### Variables Architecture

The variables architecture and the expression evaluator were rewritten to resolve several corner case issues that we were not able to resolve in FinalBuilder 7. The expression evaluator has a new parser that will allow us to more easily extend the syntax in the future. The User variable namespace was removed, it caused too many problems with projects not running under other users, not running on the build server etc. Use Project variables instead.

### Core Messaging

Changes to the messaging has allowed us to improve the performance of the stepping engine and logging, with much less thread switching. This also improved the IDE performance.

### CLR Hosting

The minimum CLR version is now .NET 4.0 (ie FinalBuilder requires .net 4.0 to be installed).

### Code Changes

In addition to the architectural changes, we also spent a lot of time refactoring the code, running static analysis tools over the source, looking for memory leaks, potential bugs etc. One of the results of this is reduced memory usage during a build compared to FB7. The FB8 IDE does use slightly more memory than the FB7 IDE at startup (mostly due to the heavy use of delphi generics), however the runtime memory usage is much lower. A large part of the refactoring involved unit testing (we created a new [unit test framework](#) to suite our needs!) and creating a suite of integration tests.

### FBCmd

The command line parameters have changed to be more consistent and easier to specify. You can also specify one or more targets to execute (when not specified, the default target is executed).

### New Project File Formats

FinalBuilder has used an XML file format since version 1, however a common complaint over the years, has been that it is difficult to diff file versions. FinalBuilder 8 has tackled this in two ways.

A new DSL style project file format (.fbp8) is now the default format, it is very easy to diff.

```
project
begin
  projectid = {04710B72-066E-46E7-84C7-C04A0D8BFE18}
  target
  begin
    name = Default
    targetid = {E6DE94D6-5484-45E9-965A-DB69885AA5E2}
    rootaction
    begin
      action.group
      begin
        id = {D860420B-DE46-4806-959F-8A92A0C86429}
      end
    end
  end
end
end
```

A new XML format (.fbx8), much less verbose than the old format.

```
<?xml version="1.0" encoding="UTF-8"?>
<finalbuilder>
  <project>
    <projectid>{6A717C24-D00F-4983-9FD0-148B2C609634}</projectid>
    <target>
      <name>Default</name>
      <targetid>{E6DE94D6-5484-45E9-965A-DB69885AA5E2}</targetid>
      <rootaction>
        <action.group>
          <id>{D860420B-DE46-4806-959F-8A92A0C86429}</id>
        </action.group>
      </rootaction>
    </target>
  </project>
</finalbuilder>
```

Compressed project files (.fbz8) use the DSL format internally (compressed projects are just a zip file with a project.fbp8 inside it).

The default project file encoding is now UTF-8, which is more version control friendly (some version control systems treat utf-16 as binaries).