Neverwinter Nights 2
Legends Craft Plugin

Version 2.0
December 29, 2016
Marshall Vyper

Document Revision Information

Rev	Date	Author	Description
1.40	August 26, 2011	Marshall Vyper	Initial Release
1.41	September 14, 2011	Marshall Vyper	Include Upgrade Doc
1.42	September 25, 2011	Marshall Vyper	New Script Update System
1.88	February 14, 2013	Marshall Vyper	Various fixes including new options in configuration for master and craft.
2.0	December 29, 2016	Marshall Vyper	Updated 2.0 documentation

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Rev	Date	Author	Description
1.4	August 26, 2011	Marshall Vyper	Initial Release
1.41	September 14, 2011	Marshall Vyper	Bug Fixes & Enhancements
1.42	September 25, 2011	Marshall Vyper	New Script Update Systems
1.5	October 6, 2011	Marshall Vyper	Updated script assigning code. GUI bug fixes.
1.53	December 6, 2011	Marshall Vyper	General Bug fixes. Race changes.
1.8	September 15, 2012	Marshall Vyper	Numerous Bug fixes. Numerous enhancements (see upgrade file)
1.81	October 16, 2012	Marshall Vyper	Various bug fixes. (see upgrade file)
1.88	February 14, 2013	Marshall Vyper	Various bug fixes. (see upgrade file)
1.89	March 16, 2013	Marshall Vyper	Major Bug fix (see upgrade file)
1.92	December 23, 2013	Marshall Vyper	Bug fix for colored names.
1.93	July 15, 2015	Marshall Vyper	Bug fixes (see upgrade file)
2.0	December 29, 2016	Marshall Vyper	2.0 update see upgrade file

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Introduction

Getting bored of the constant spell weaving and sword slinging? Ever wish you could just settle down and take a break from the questing and adventuring? Try a craftsman tradeskill! Yes the Legends Craft Plugin is here and it offers you the joy joy pleasures of mining for ore, hunting wabbits, making baskets and potions or even a magical suit of armor.

The Legends Craft Plugin offers administrators of Neverwinter Nights 2 persistent worlds a powerful tradeskill system from the ground up. YOU decide what tradeskills and crafts are performed. YOU decide what resources are harvested and YOU decide what sorts of goodies players can make. Best of all there is NO scripting!

This plugin comes with a powerful NWN2 Toolset plugin that you use to configure and create every aspect of your tradeskill and crafting system. Import other systems that leverage the Legends Craft Plugin if you wish or just create your own, as small as you like or as complex as you like. This document and the You Tube videos will provide you with the education you need to create interesting and challenging tradeskills for your playerbase, all with an easy to use point and click interface.

Features

There are many various combinations of things you can do with the Craft Plugin and it was deemed useful enough to act as a standalone system. Some of the features this plugin can do for you are listed below:

- Harvesting and Crafting type tradeskill ability.
- 10 ranks of tradeskills.
- Players advance by performing their skills just like experience!
- Several kinds of trainers to teach players as they progress their rank.
- Intuitive and Easy to understand in game GUI's.
- Built in Item Creation, Resource Creation, Station Creation and Trainers!
- You don't need to overhaul anything!

Legends Plugins

What's a Plugin

The legends plugin system is a framework of scripts and tools utilized on the Development Persistent World known as Legends. There are many plugins already written as well as upcoming releases that perform a variety of tasks from simple NPC bantering to an entire Quest System. The concept of the Legends plugins is that they are

easy to drop into an existing world without the need for other dependent packages. There is no Core Plugin, there are no third party script or hak requirements for them to work and they are easy to install, standardized and always come with comprehensive documentation. Every attempt has been made to ensure installing a plugin requires minimal modifications to existing persistent world code and configuration.

Important To Know

The next important aspect of a Legends plugin is that they can leverage each other's code to form a complete system. The code is never duplicated from plugin-to-plugin so you only have one set of code. For example, even though the Legends Loot Plugin uses parts of the Legends Spawn Plugin, installing both plugins will not cause you to have double code. This is because each plugin comes with a standardized script set.

⚠ Each Legends plugin is released as a standard version. For example, all Legends plugins have a 1.93 version and a 2.0 version. If you need to upgrade one of your plugins, it is a best practice to upgrade them all. You should never downgrade a plugin lower than another. When upgrading plugins, ensure you click "Yes" when you are asked to overwrite an existing file.

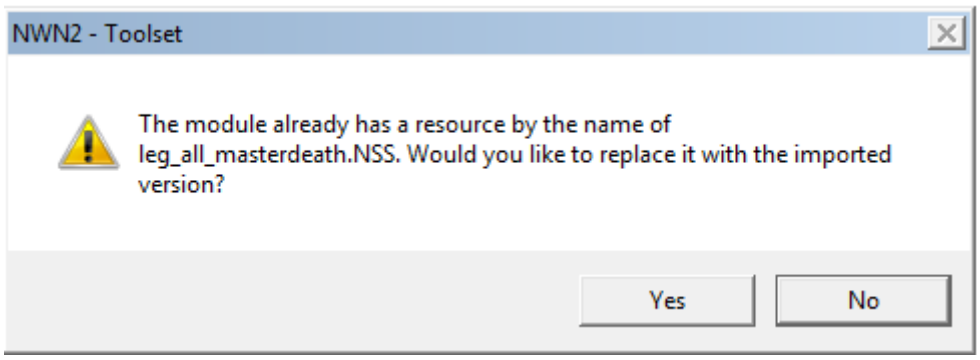


Figure 1 - Master Script Overwrite

Recommendation

It is highly recommended that you also install the Legends INFO plugin. This plugin will greatly enhance the craft plugin.

Part 1 – Getting Started

What's in the File

By now you've already opened the archive with all the files needed for the Legends Craft Plugin to work in a test module or your persistent world. Included in the archive are several files, each of which are described below:

leg_craft.erf	This file contains all the content for builders. There are 3 conversations, 54 scripts, 1 creature, 1 item, 2 placeables and 1 waypoint blueprint. Each set of blueprints will appear under the category "Legends Craft" so as to not become mixed up with other blueprints. How these things are used will be discussed later in the document.
leg_craft_manual.pdf	This manual, which includes the tutorials and how-to use this plugin.
leg_craft_upgrade.pdf	Upgrade notes on how to upgrade from a previous version as well as changes made from previous versions.
leg_craft.hak	A hakpak file that contains the custom GUI screens for tradeskill crafting and recipe training.
leg_craft.dll	This is the NWN2 Toolset plugin that allows you to manage and configure the Legends Craft Plugin.
leg_master.dll	This is the NWN2 Toolset plugin that allows you to manage and configure all other Legends plugins and is included in all plugin packages.
leg_master.hak	This is the master hak pak file that several legends plugins leverage resources from. They are kept here to avoid duplication of resources in several plugins that share them. It is included in all plugin packages.
leg_craft.xls	This spreadsheet describes the math for difficulty levels. See Part 3 of this manual for more information on it.
setup.exe	This is the installer for the files above.

YouTube Video Walkthroughs

All Legends Plugins at the time of release have video walkthroughs that will assist you in the installation, configuration and typical use of each Legends Plugin. Visit the channel http://www.youtube.com/user/DJMarshallV to see these video series. They are detailed and can answer many questions.

Installation

To install this system you must perform several tasks. You can install this into your existing persistent world or if you just wish to try it out, make a brand new module and follow these steps.

⚠ NOTE: The Legends Info plugin adds a lot of flavor to the Legends Craft plugin. It is REQUIRED you install the Legends Info plugin as well as it is a dependency.

1. There are 2 pre-requisites that must be installed prior to installing any Legends plugin. They are **.NET framework 3.5** and the **MySQL Connector v6.9.8**. You can find them at the following sites:

   - .NET: http://www.microsoft.com/download/en/details.aspx?id=21
   - MySQL: http://www.mysql.com/downloads/connector/net/ or http://www.nwn2legends.com/plugins

2. Run the setup.exe file to put the files in their correct locations. If you prefer not to use the setup.exe, all the files are included to be placed manually. Ensure the toolset is not running during the installation.

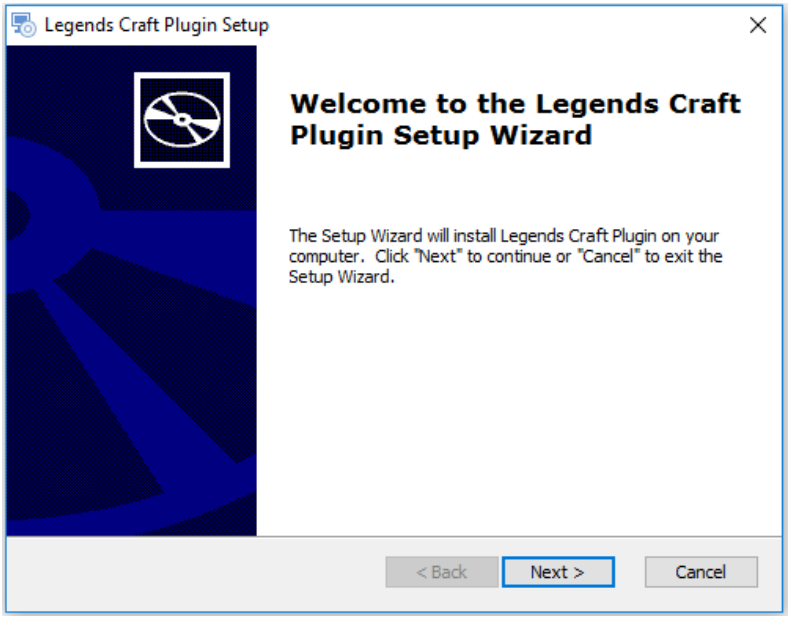


Figure 2 - Install Wizard

3. Once the installation is complete, open your NWN2 Toolset and load either a new module or an existing module to work with. Select "Plugins" from the top menu and ensure you see "Legends Crafting Plugin" and "Legends # Master Configurator #"

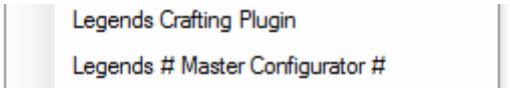


Figure 3 - Plugins Menu

⚠ If you do not see these entries, then select View -> Options from the top menu. On the general tab, ensure that "Allow Plugins" is set to "Load all Plugins"

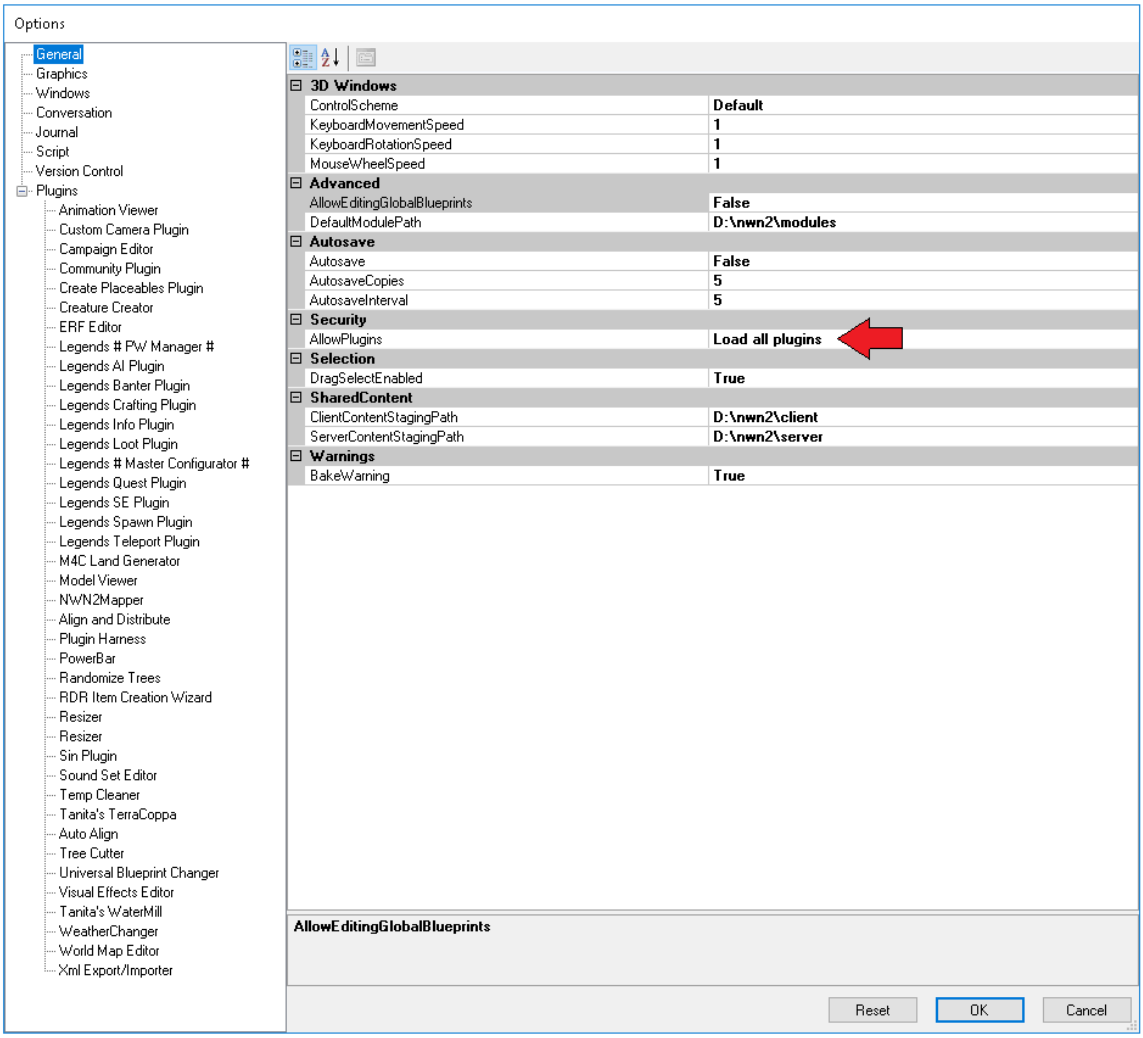


Figure 4 - Security Settings

4. From the file menu, choose Import and navigate to your Neverwinter Nights 2 player directory. This is usually located in "My Documents\Neverwinter Nights

2". There you will find an "Erf" folder that contains the file leg_craft.erf. Select it. It will then begin the import process into your module. You may be prompted with a notice that looks similar to the following. This is because you may already have the required nwnx scripts if using nwnx in your module and other leg_all_master scripts. If you are installing a newer version plugin than any previously existing plugin versions, select YES when it asks to overwrite any scripts, however if the version number on this plugin is lower than any other plugin you already have, select NO when overwriting "leg_" scripts. If all the plugins you have are the same version, it will not matter which option you choose.

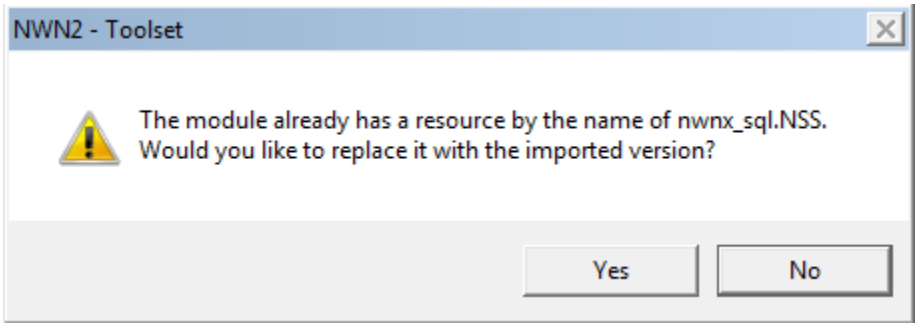


Figure 5 - ERF Import Notice

5. If this is your first Legends plugin, then you will need to enter some default information, otherwise, you will simply need to activate your new Info Plugin. From the Plugins top menu, choose "Leg # Master Configurator #". Ensure the Legends Craft Plugin is set to active.

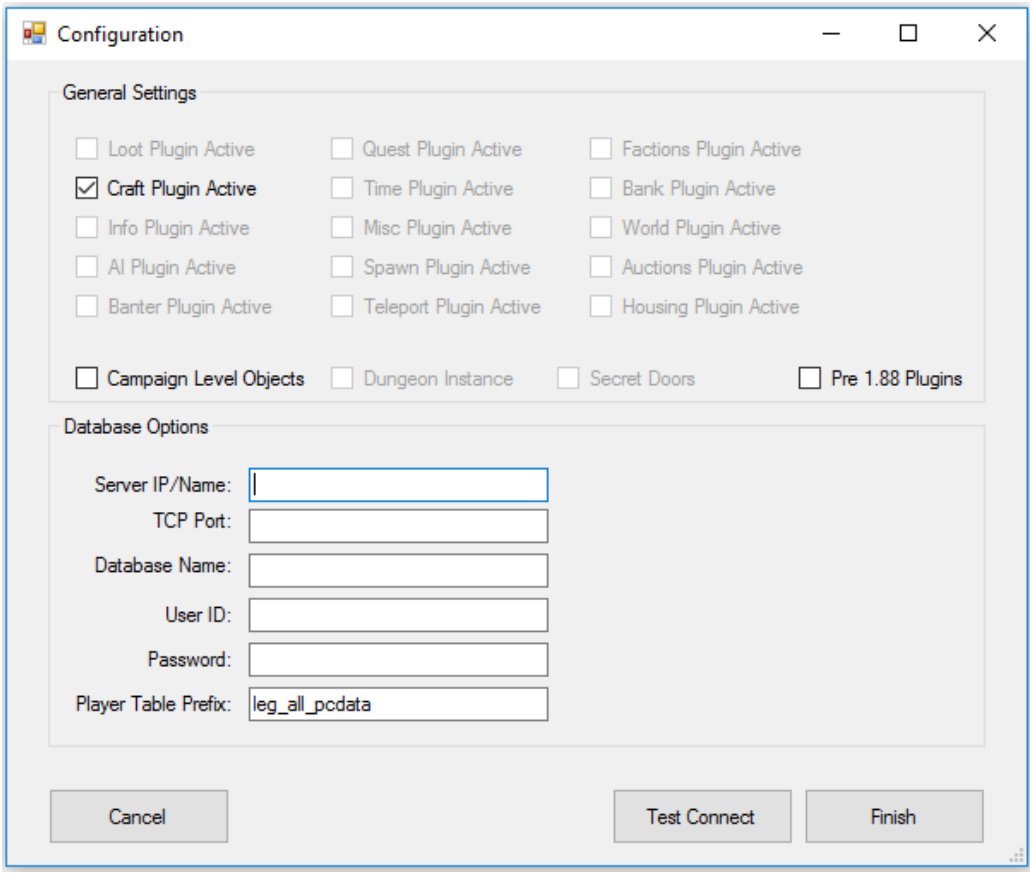


Figure 6 - Legends Master Configurator

- CHECK BOXES = These checkboxes are to activate and deactivate the various plugins. The will install any hakpak and set any module variables that are required.

- CAMPAIGN LEVEL OBJECTS = Selecting this causes the legends plugin code to look for and use SCRIPTS in the campaign folder that is configured on your module. If you do not have a campaign configured and are not keeping scripts there, then do NOT select this option. Select this ONLY if you are keeping all your scripts in the campaign folder. NOTE: Importing ERF files causes scripts to end up in the module folder. You can manually move them to the campaign folder if you wish to go this route.

- PRE 1.88 PLUGINS = If your module uses or will use any Legends Plugin that is a lower version number than 1.88, you will NEED this checkbox turned on. Since version 1.88, configuration data has been relocated. Older versions will not find this data unless you have this option checked. As noted previously, best practice is to run all plugins at the same release version.

- DATABASE OPTIONS = Some Legends plugins require an NWNX and MySQL database backend. The Legends Craft plugin DOES require a database and as such, this section must be filled in.

- PLAYER TABLE PREFIX = This option is used to group any player created tables for ease of finding. Several Legends plugins will create tables for each player to track their in game progress. Those tables will be prefixed by this entry. It is usually safe to leave this as is.

6. Once you've completed the configuration, click Finish and then note there are two other buttons available to use.

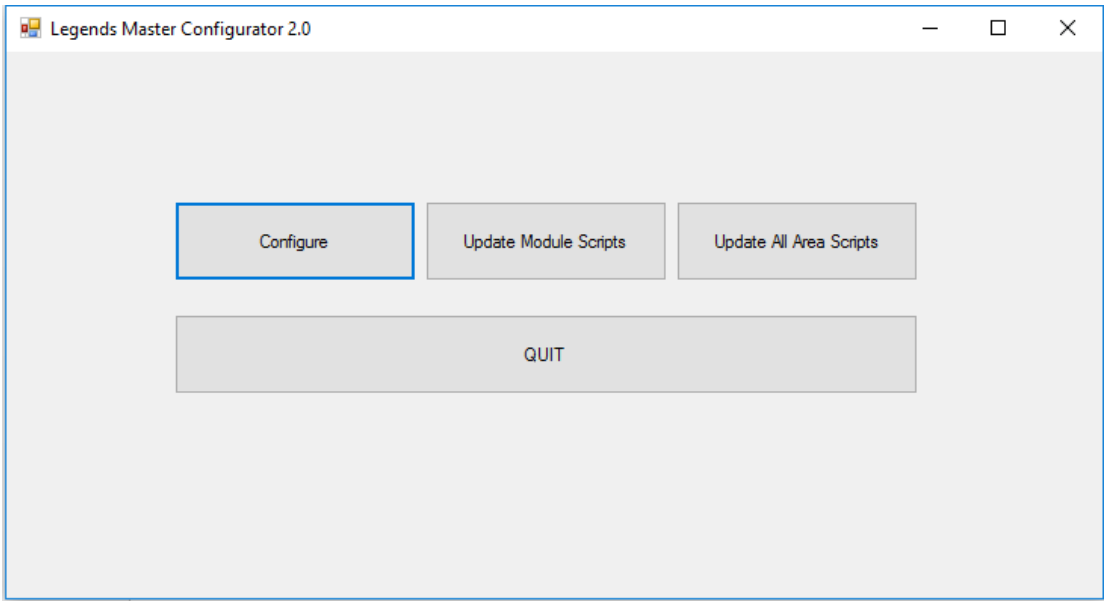


Figure 7 - Master Configurator

- UPDATE MODULE SCRIPTS = This button will update the module properties with all of the appropriate module scripts with Legends Master scripts. The following events are updated. If an existing script is found in the required events, the Master Configurator will copy it, modify it, and place the new modified copy in place thus preserving your existing code functionality. If you wish to manually perform this step, you will need to ensure the following scripts are being called in the appropriate events. NOTE: Using this button will only place scripts in events that the currently active plugins require.

    i. leg_all_mastermod_itemacquired – On Item Acquired Event

    ii. leg_all_mastermod_itemactivated – On Item Activated Event

    iii. leg_all_mastermod_itemunacquire – On Item UnAcquire Event

    iv. leg_all_mastermod_ondeath – On Player Death Event

    v. leg_all_mastermod_onheartbeat – On Module Heartbeat Event

    vi. leg_all_mastermod_onload – On Module Load Event

    vii. leg_all_mastermod_onrest – On Player Rest Event

- UPDATE ALL AREA SCRIPTS = This button will open each area of your module and update its OnClientEnter and OnExit script. If your areas do not have any script in these events, it will install one that will perform what it needs. If however you already have scripts in these events, the Master Configurator will create a copy of your script, modify the code within it to call the code it needs without interfering with the activities of your existing script and place this new script in the event instead. If you choose NOT to do this, you will need to manually ensure that the "leg_all_masteronenter" script is called in each areas On Client Enter event and the "leg_all_masteronexit" script is called in each areas On Exit event.

7. Next, choose Plugins from the top menu and select "Legends Crafting Plugin", then choose File -> Configuration. The Crafting Plugin defaults are acceptable if you are not ready to fine tune the plugin for your needs. The section called "The Concept" later in this document will help you understand how the plugin actually works and will give you a better sense of how these tunings can change the way it works.

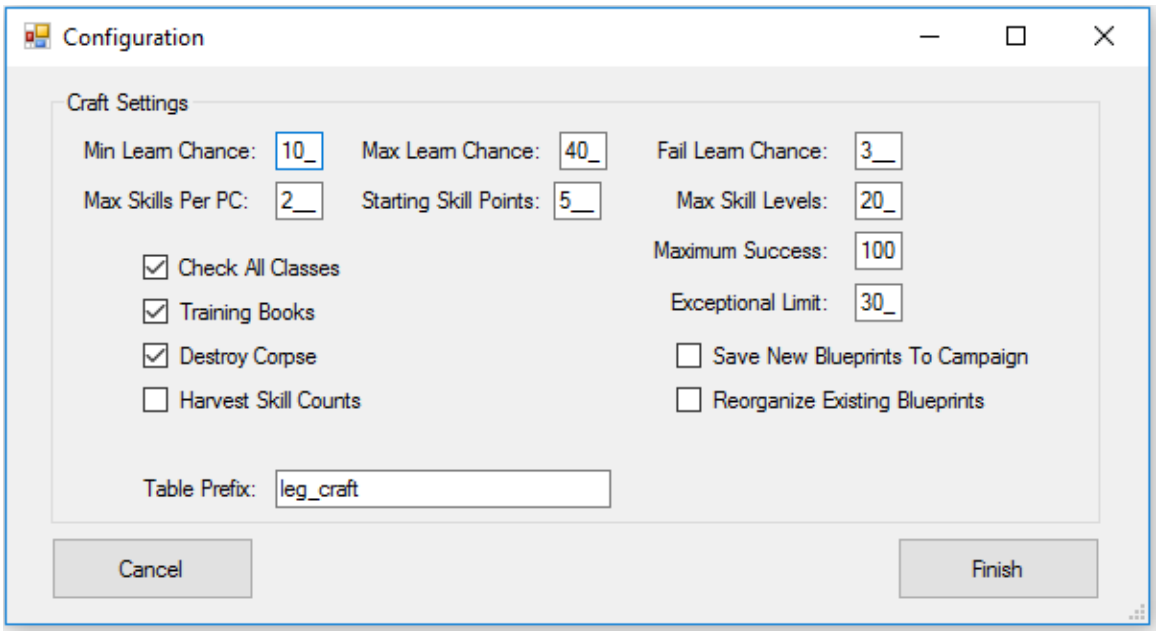


Figure 8 - Legends Craft Plugin Configuration

- MIN LEARN CHANCE = Sometimes, the math to learn as you practice crafting can be so low it's nearly impossible to advance, this ensures your player always has at least some percentage chance of learning even when the math says otherwise. Forcing a minimum chance here helps with that issue.

- MAX LEARN CHANCE = Likewise the chance to learn can be very high causing the player to learn too fast. This prevents that from happening by providing a cap percentage chance to learn.

- FAIL LEARN CHANCE = We sometimes can learn from our mistakes, while the other two entries will take care of when a PC succeeds, this allows a player to learn even if they fail.

- MAX SKILLS PER PC = This is the maximum number of tradeskills a player is allowed to have. A low number here forces players to team up with other crafters to create products, however on lower population or solo typed servers, this number should be higher.

- STARTING SKILL POINTS = Rank 1 crafting has a point range from 1-20. Starting at 1 can be very, very time consuming and difficult and players would be overwhelmed with failure. This field allows a player to start a tradeskill with a little better chance than 1.

- MAX SKILL LEVELS = This is the TOTAL RANKS a player is allowed to have among all their tradeskills. This is useful to cap how far players can advance. An example would be a setting of 24 here and a MAX SKILLS PER PC value of 3. This means a player is allowed to learn 3 tradeskills but they may only advance to level 8 in each, or optionally level 10 in two skills and level 4 in the third. To allow a player the maximum rank in all skills they are allowed to have, just multiply the MAX SKILLS PER PC by 10 and enter the result here.

- MAXIMUM SUCCESS = This puts in that slight chance to always fail. As a player progresses, they get better and things get easier to make. Having this cap here prevents a player from ALWAYS succeeding.

- EXCEPTIONAL LIMIT = This is the maximum percentage chance a PC has of creating an exceptional craft. During recipe crafting, a PC may be able to create an exceptional item based on entered recipes. If the recipe is configured to allow PC skill bonuses, the chance of creating an exceptional item could increase to near 100%. To cap this, we can configure a limit here.

- CHECK ALL CLASSES = If this is selected, all player classes are considered for class bonuses as used in tradeskill configuration later, otherwise only the first class is considered.

- TRAINING BOOKS = This checkbox allows basic trainers to provide players with a book with information about the tradeskill they just learned. You as the world builder must create these book items so they contain information relevant to your world.

- DESTROY CORPSE = When using a skinning type tradeskill on a monster, this causes the corpse body to be destroyed after a harvest attempt is performed on it.

- HARVEST SKILL COUNTS = There are two types of tradeskill, Harvesting resources from materials such as ore, plants, skins and Crafting skills where you use a station to create items from recipes. When using the MAX SKILLS PER PC and MAX SKILL LEVEL options above, this tells the system to NOT include Harvest Type tradeskills in the count.

- SAVE NEW BLUEPRINTS TO CAMPAIGN = This option will cause the craft plugin to save all your blueprints that it creates to your campaign folder instead of your module folder. NOTE: You MUST already have your module configured to use a campaign before using this option.

- REORGANIZE EXISTING BLUEPRINTS = As you create and edit your resources, recipes and stations, having this option on will cause the craft plugin to organize them into easy to find palette entries in the blueprints.

- TABLE PREFIX = This is the table prefix for all the crafting related tables for organization within the database.

⚠ Once complete, you must perform a Compile All Scripts in module from the File menu of the toolset or compile all of them with the compiler of your choice.

Part 2 – Making it Work

The Concept

The Legends Crafting Plugin is a specific framework that lets you the builder create crafting skills that follows a specific formula. The concept of how the Legends Crafting plugin works is quite simple. Think of the Crafting Plugin as 3 primary sections:

Ranks

There are 10 ranks available to players and builders for crafting resources. Each player is given a skill rating for each tradeskill they know. When they reach the highest skill in a rank, they must train to move into the next rank by speaking to an advancement NPC. Initial training for a tradeskill is done by speaking to a Basic Trainer NPC. The ranks are:

1. Unskillful = Skill 1-20 (Basic Trainer Required)
2. Novice = Skill 21-45 (Advancement Trainer Required)
3. Apprentice = 46-76 (Advancement Trainer Required)
4. Journeyman = 77-110 (Advancement Trainer Required)
5. Veteran = 111-139 (Advancement Trainer Required)
6. Expert = 140-169 (Advancement Trainer Required)
7. Adept = 170-204 (Advancement Trainer Required)
8. Master = 205-245 (Advancement Trainer Required)
9. Grand Master = 246-294 (Advancement Trainer Required)
10. Legendary = 295-and up (Advancement Trainer Required)

Advancement trainers can train in any number of ranks. For example, a builder could place the advancement trainer for Novice and Apprentice in one town and an advancement trainer for Journeyman and Veteran in a different town. A Legendary trainer could be some obscure hermit in some hard to reach mountain top if one chooses.

When a player performs skills, they have a chance to learn skill points and are notified when they do. When they require training to move to the next rank, they are also notified.

Harvesting

This piece of the Crafting Plugin lets a builder create placeable objects and creatures around their world where the players can use a tool of some sort to attempt to harvest items from them. A good example would be mining, where the builder can spawn ore placeables that a player can interact with and obtain minerals. These harvested resources can then be used as ingredients for other crafts or even just items that are collected for a quest.

Each placeable object type can be configured with a difficulty range from 1 to 300. During the creation of a harvest resource in the plugin, the builder can specify the minimum skill level the PC must have to succeed and the maximum skill level the PC can have before they no longer learn anything from using it. Some builders will align the minimum and maximum skills requirement with the skill values of the ranks above but it is very important to note that this isn't the intended design.

A good example of some mining resources may look like this:

- Copper Ore: Minimum Skill 1, Maximum Skill 15
- Silver Ore: Minimum Skill 8, Maximum Skill 21
- Gold Ore: Minimum Skill 14, Maximum Skill 27

As you can see, these three placeable harvest resources do not align with the rank levels however a player can begin mining with Copper from the start because silver is do difficult (skill of 8 needed). As the player learns, they can never increase in rank by just mining copper because it's maximum is 15 and one needs 20 to move up to Novice. As a result, once the player learns copper, they can move on to silver. Again while it's mathematically possible to get to skill 20 with silver (max 21), the closer a player gets to the maximum skill of a resource the harder it becomes to learn new skill points. As such, it would be in the player's best interest to move on to gold when they reach about 16 skill points or so. Reaching 20 harvesting gold would be easier to reach than harvesting silver to try and get to 20. See the included spreadsheet for ideas on chances of success, chances of learning based on min and max and a player's skill points.

This same concept holds true for the next section of the Concept and that is Crafting.

Crafting

The Crafting concept is very much like the Harvesting concept in that a player visits a placeable object (or uses a portable one for advanced scripters) to craft objects using a combination of ingredients, gold and / or magic spells. Before a player can use a crafting station however, they must be trained in the tradeskill. This works just like a Basic harvest trainer and advancement trainers for the different ranks.

Once a player is trained on the basic operation of their station, they must go one step further and learn how to actually make "something". To do this, the Legends Crafting plugin offers recipes that a player can learn. For each craft item you wish a player to potentially make, a corresponding recipe must be created for it. I'll repeat that because it's important: **For each craft item you wish a player to potentially make, a corresponding recipe must be created for it.**

These recipes can be learned in several ways using the Legends Crafting plugin. One way is by obtaining a special recipe item. Once a recipe is in the player's possession, they can activate it to learn it. Recipe items can be given by the builder in any number of ways – a quest reward, a looted item, or even just purchased from a merchant. Another way to learn recipes is by reading it from a placeable object. A good example of this is

reading it from an ancient inscription on the wall of a dungeon. Finally, another way recipes can be learned is from a recipe trainer who will simply teach the player how to make something.

Once a player has trained in a skill, learned a recipe, obtained the ingredients and found a tradeskill station for it, they can attempt to craft the item. Learning along with minimum and maximum skill levels are on a per recipe basis and work just like harvesting resources.

Tutorial 1 – Hi Ho, Hi Ho, it's off to Work We Go!

Now that you've completed the installation process, and learned the concept of the Legends Craft Plugin, you're probably itching to get started with it. The first thing you'll want to do is create a tradeskill to use. All tradeskills and recipes you configure in this system are stored in your database so even if you open new modules and install the resources, the module will already have access to any tradeskills you create if using the same database.

Let's begin by creating a new tradeskill to mine ore. From the Plugins menu in the toolset, choose Legends Craft Plugin. Once the tool opens, select File -> New -> Tradeskill.

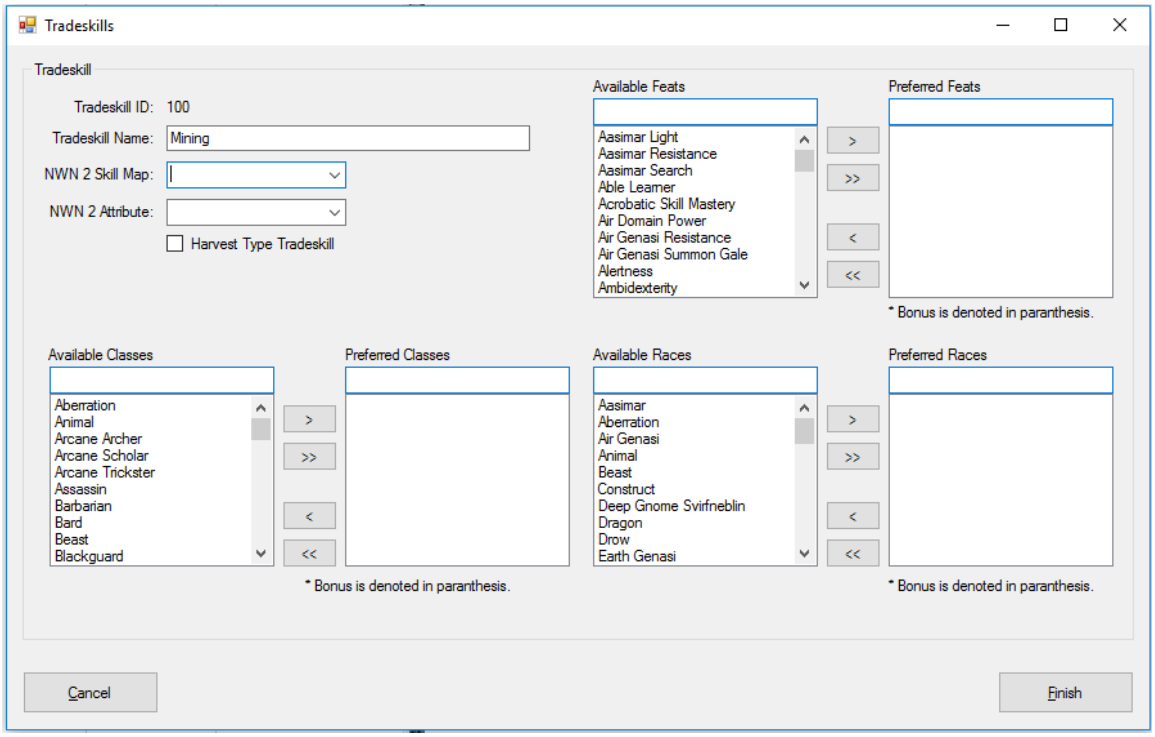


Figure 9 – New Tradeskill Configuration

Tradeskill Name	This is the name of the Tradeskill. For this example, enter the word Mining.
NWN 2 Skill Map	Choosing a NWN 2 in game player character skill from this pull-down causes each point in that skill to act as a bonus for this tradeskill. This is completely up to the builder.
NWN 2 Attribute	Bonus modifiers from the selected attribute here will act as a bonus for users of this tradeskill. Select Strength for this example as good strong characters make great miners.
Harvest Type Tradeskill	Checking this box tells the system that this tradeskill is a "Harvesting" type instead of a "Crafting" type. For this example, click this checkbox.
Feat, Class and Race	All three sections here work the same way and provide bonuses to players that have them. After choosing one from the list and moving it to the preferred list, you will be prompted for the Amount of bonus to give. You can have one or more of each for this tradeskill. For this tutorial, we'll suggest that Dwarves and Deep gnomes have a +2 bonus for this tradeskill.

Your tradeskill should now look something like this:

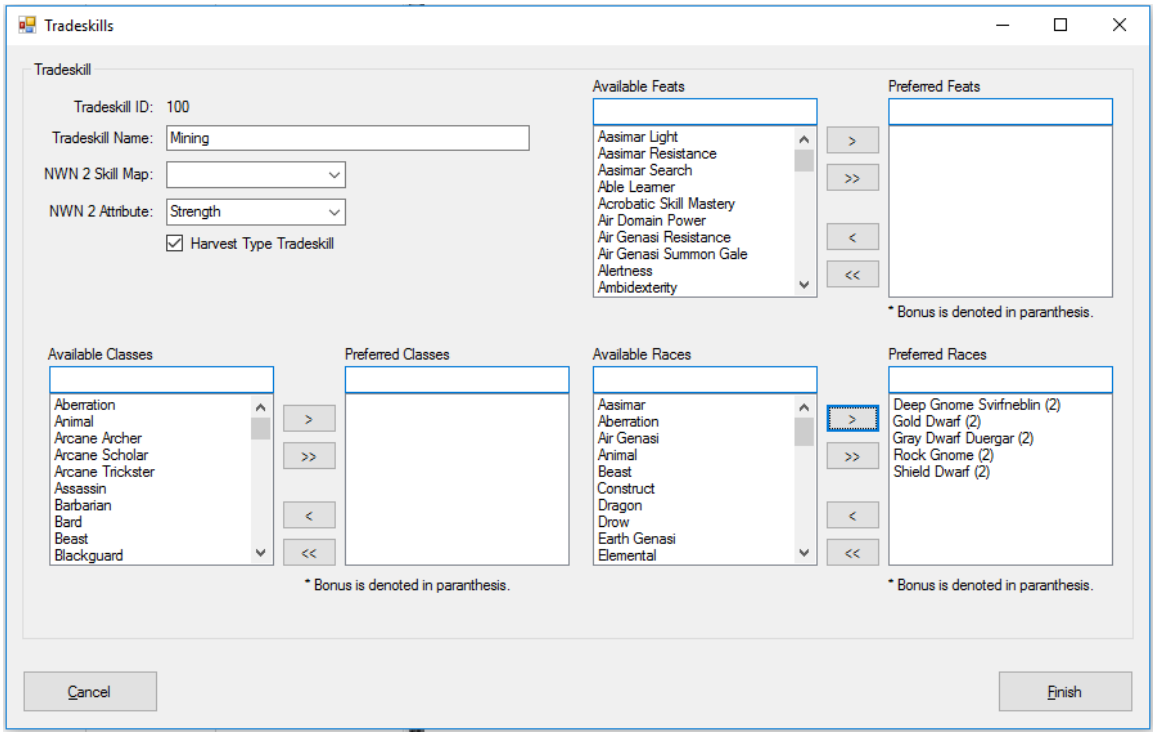


Figure 10 - Mining

When you've finished this, click Finish and your tradeskill is complete and now available for use with the other parts of the system. Note, this is just the Tradeskill itself, not the resources. You will tie resources to this skill next.

For this tutorial, we'll want to create a Mining resource. This is so we'll have something to actually mine ore from. In the plugin tool again, choose File -> New -> Harvest Resource.

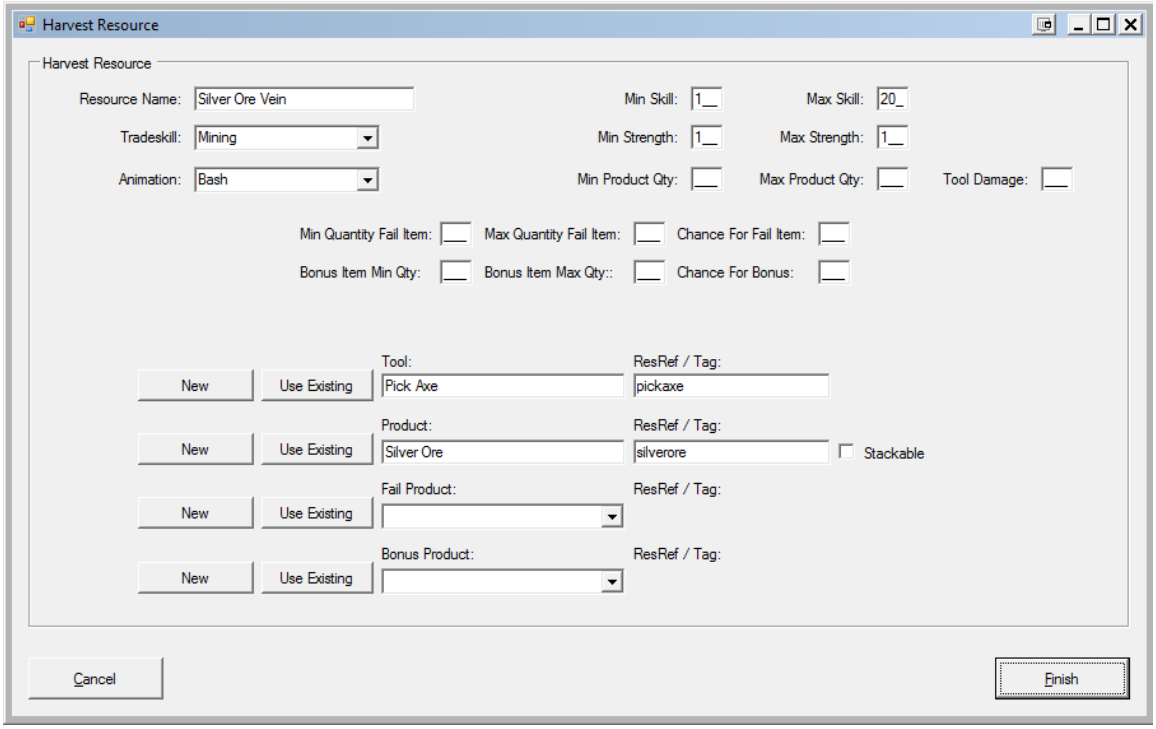


Figure 11 - New Harvest Resource

Fill in the fields as shown to create a Copper Ore Vein. Each field is described below:

Resource Name	This is the name of the resource as a player would see it in game. Enter "Copper Ore Vein" here.
Tradeskill	Pull down to see a list of all the configured tradeskills in the system. For the tutorial, choose the one you've created earlier called "Mining"
Animation	Choose the Bashing animation when a player is mining. New animations will be added in future releases.

Sound Effect	This is an optional sound effect that can be heard when a player is using this resource.
Placeable/Creature	This radio selection lets you define if this resource is going to be a creature corpse that one may harvest resources from (Skinning, Dentistry?) or a placeable object such as a rock, tree or plant. For this example we are mining ore which will be a placeable.
Min Skill	This is the minimum skill required to harvest this resource. As we want this to be a level 1 resource, enter 1 here.
Max Skill	This is the maximum skill when this resource becomes trivial and a player will no longer advance and learn from harvesting it. Let's set this value to 15.
Min Strength	This is the minimum number of times a player may attempt to harvest this resource before it disappears. Some fragile resources like plants may have something low here like 1, but for this ore, we'll use 3. This means a player can make at least 3 attempts on it.
Max Strength	This is the maximum number of times a player may attempt to harvest this resource before it is considered used up and disappears. Enter 5 here for this tutorial.
Min Product Qty	This is the minimum number of items a player will receive upon a successful harvesting attempt. Some resources may result in more than 1 however in this case; we want 1 ore for each successful mining attempt.
Max Product Qty	Enter 1 here as well as we only want 1 ore to appear on a successful mining attempt.
Tool Damage	When harvesting a resource, you require a tool in your hand. Tools will only have a certain lifespan before they wear out and break. Typically, each time you make an attempt to harvest, you lose 1 charge on your tool. This field allows you to lose more than 1 charge each time this particular resource is used. Leave this blank for this tutorial. When a builder creates harvest tools, they can set the charges to be whatever they like.
Min Quantity Fail Item	This is the minimum number of items a player "can" receive if configured when they fail an attempt to harvest. Leave this blank for this tutorial.

Max Quantity Fail Item	This is the maximum number of items a player "can" receive if a fail item is configured. Leave this blank for this tutorial.
Chance for Fail Item	This is the percentage chance a player will receive the configured fail item should they not succeed in a harvesting attempt. Leave this blank for this tutorial.
Bonus Item Min Qty	This is the minimum quantity of a bonus item that a player "can" receive should one be configured. Leave this blank for this tutorial.
Bonus Item Max Qty	This is the maximum quantity of a bonus item that a player "can" receive should one be configured. Leave this blank for this tutorial.
Chance for Bonus Item	This is the percentage a chance that a bonus item configured below will be harvested in addition to the regular harvested item on a successful attempt. Leave this blank for this tutorial.

The next four sections are where you'll select or create items for use with this harvestable resource. Select a pre-existing item from the dropdowns or hit the new button to create a brand new item. Brand new items will have to need their icons adjusted and perhaps type changed if you desire after you have completed in the plugin.

Tool Item	This item is the tool that a player will require to have in their hand in order to harvest this resource. The tool should be useable by all players so when you create a new one, the default item type is a club. Feel free to change this to something else in the toolset blueprints later on if you so choose. For this tutorial, click the new button and enter "Pick Axe" for the tool name and "pickaxe" for the tag. It is important to note that the TAG of a tool is specified here. This means that different resources may be able to use the same tool however as a builder, you can optionally create different tools for this tradeskill with different charge amounts. As long as each tool has the same TAG, this will work fine. For example, you can have a Rusty Pick Axe with 10 charges on it and a tag of "pickaxe" but you can also create a Fine Pick Axe with 25 charges on it with the same tag. Both will work on this resource.
Product Item	This is the item that a player receives upon a successful harvest. Click New here and enter "Copper Ore" and "copperore" for the resref. The checkbox for stackable is if

these products can stack. Ore is large and heavy so we want to ensure we waste player inventory space ☺.

Fail Item — This is the item that a player can receive if they fail a harvest and they succeed in the chance to get a failure item. Leave this blank for this tutorial.

Bonus Item — This is the item a player can receive as a bonus item. For example a gem from mining could be a good candidate for this. Leave this blank for this tutorial.

Your new harvest resource should look something like this:

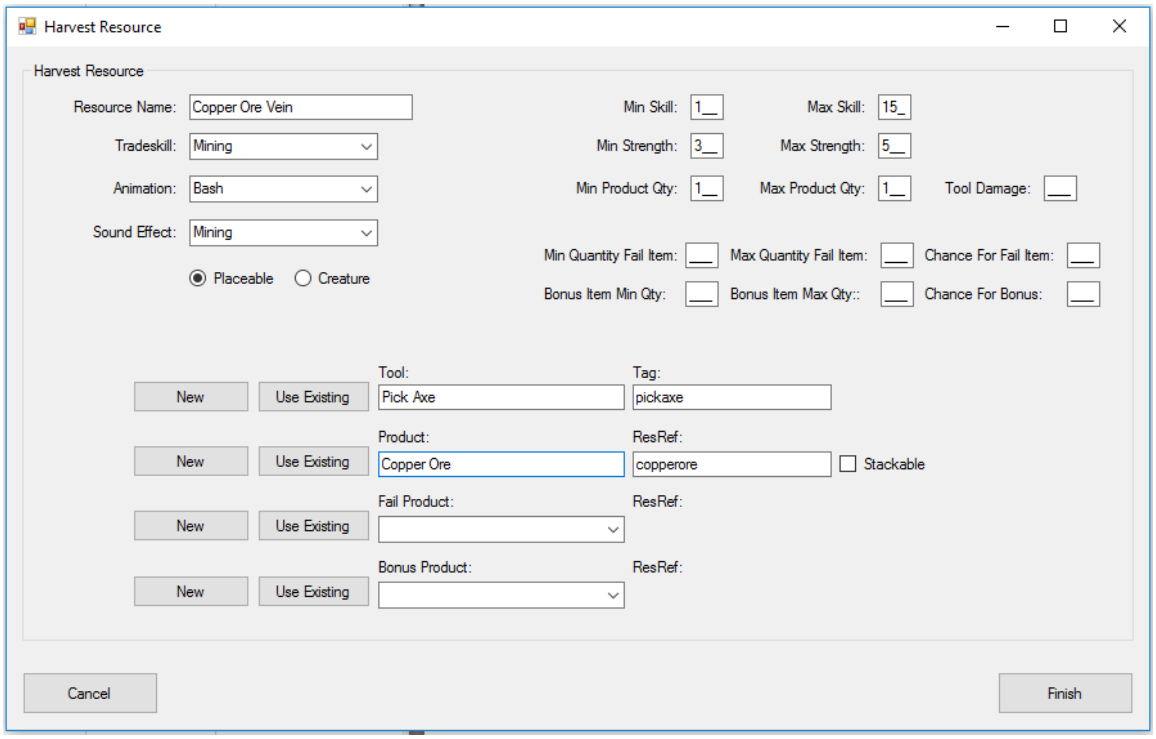


Figure 12 - Copper Ore Vein

Click Finish on your new harvestable resource and check the Placeable Objects blueprints in the toolset and you'll find your newly created resource. Place this down in a new area in your module.

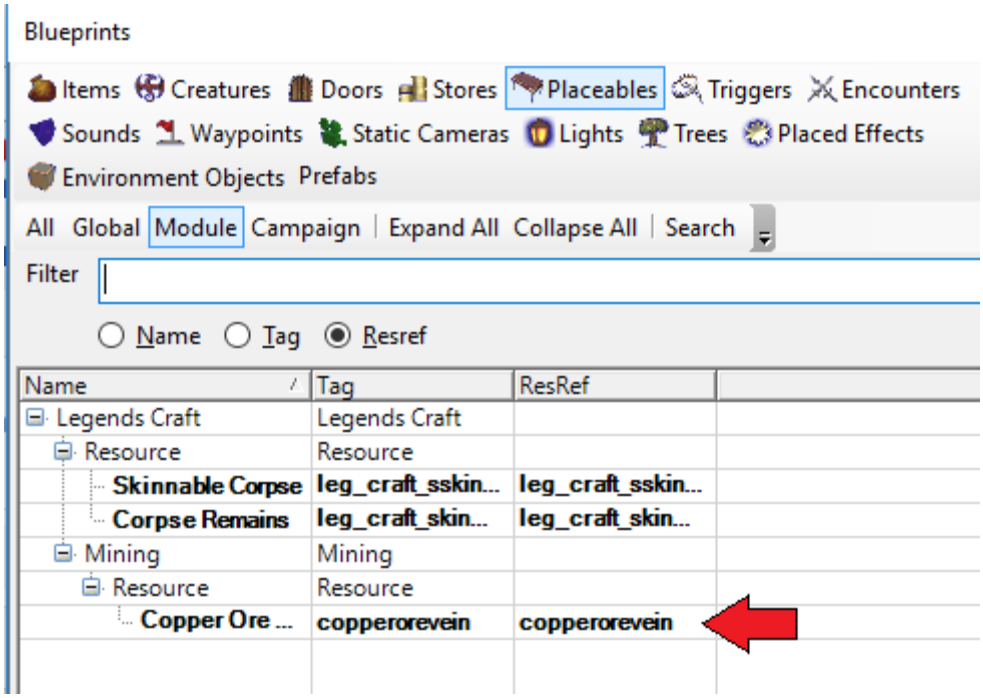


Figure 13 - New Resource

You'll also notice that in the Items blueprints in the toolset, 2 new items are created for you. Modify the icons of these 2 new items to something more useful. The default icon will be the temp0 icon. Once complete, place a pick axe near the copper ore in your area for this tutorial. Normally you will probably want to sell these at a merchant.

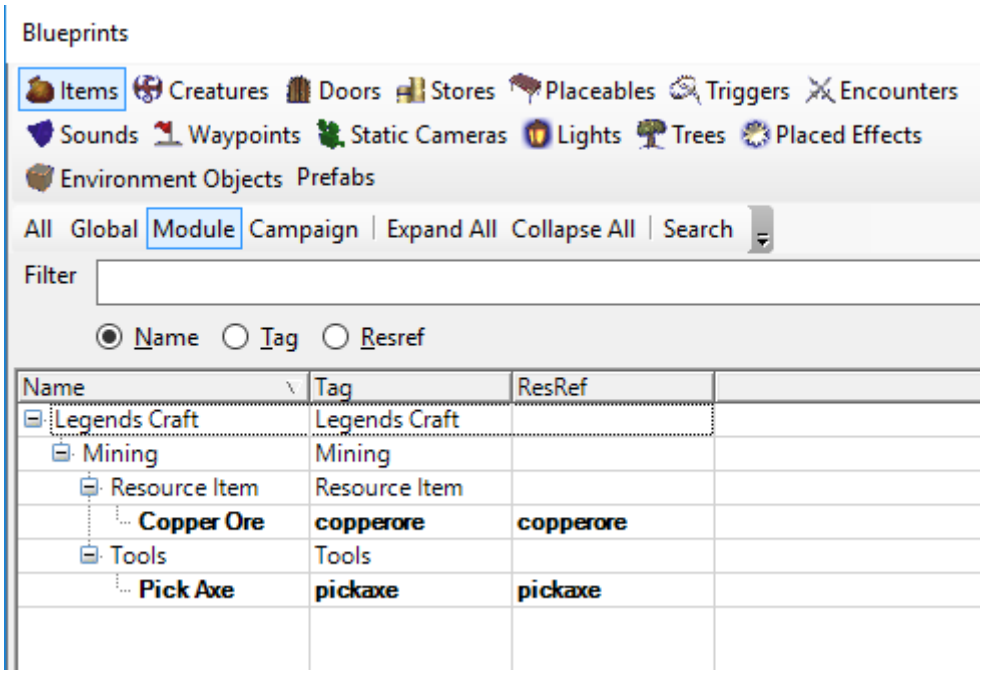


Figure 14 - New Items

Our players will not know how to harvest resources when they enter the world without the proper training. As such we will want to create a basic trainer to teach them how to mine our newly placed copper ore. To do this, load the Legends Craft Plugin again and choose File -> New -> Basic Trainer.

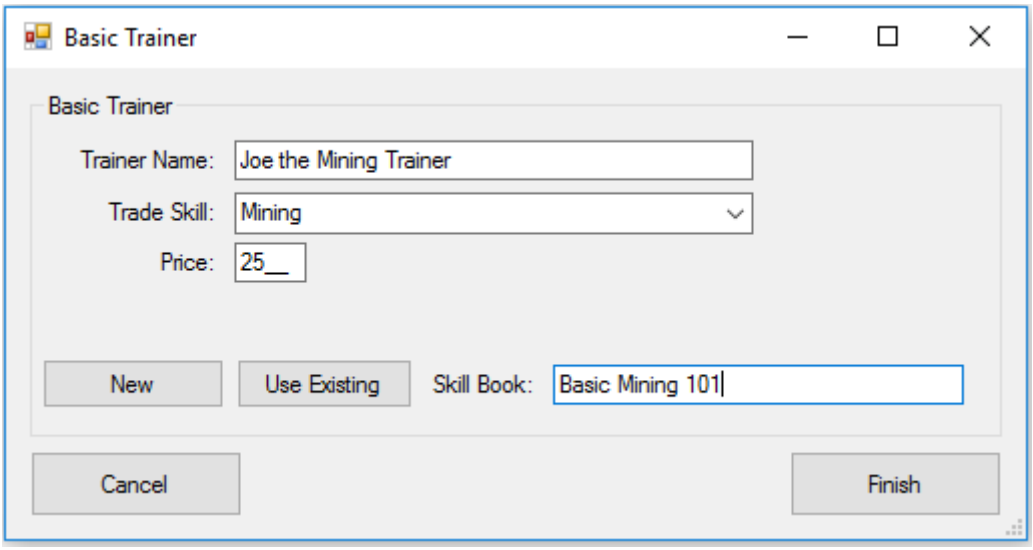


Figure 15 - New Basic Trainer

Give our new trainer a name and select the Mining Tradeskill from the pull down. Also set the training price to 25 gold. This will be how much money our trainer will charge to teach a player how to mine at rank 1 skill. Also, to demonstrate tradeskill books, click the new button and enter a book name called "Basic Mining 101".

Click Finish and review the Creature blueprints in your toolset. Also take a look at the item blueprints for your newly created book. You may want to update the Description field of this book to give the players something to read. Perhaps information on the fact that they will need a Pick Axe to perform any mining would be useful. Place your new trainer in game near the Silver Ore vein. Lastly place 25 gold pieces on the ground for your character to pick up.

NOTE: You'll want to change the appearance of the new trainer to something that fits your world. The Legends Craft plugin is not a character creator tool so it will use a default appearance for items, creatures and placeables. When you ask the plugin to create one of these for you, you'll want to go back and update their appearances and icons to suit your needs.

Figure 16 - In Game View

As you can see this is what your new area should look something like. Load this up on your development server with NWNX. Speak with the trainer, pick up your Pick Axe and start mining!

NOTE: Once the ore vein has been mined out it will disappear. It is up to your spawn system to re-spawn these placeable objects. The Legends Spawn plugin is a great candidate for this if you desire.

Tutorial 2 – The Craft

Now that you've had some practice harvesting, we'll introduce the next type of tradeskill and that is actually creating items from other items. This is crafting in its most basic form. Unlike harvesting, a tradeskill crafting station is required and a recipe to actually make something must be known by the player.

Let's begin by creating a brand new tradeskill for Blacksmithing. Open up the Legends Craft Plugin and select File -> New -> Tradeskill. Using the same concepts learned from Tutorial 1, create a new tradeskill. Ensure that the Harvest Type Tradeskill checkbox is NOT checked.

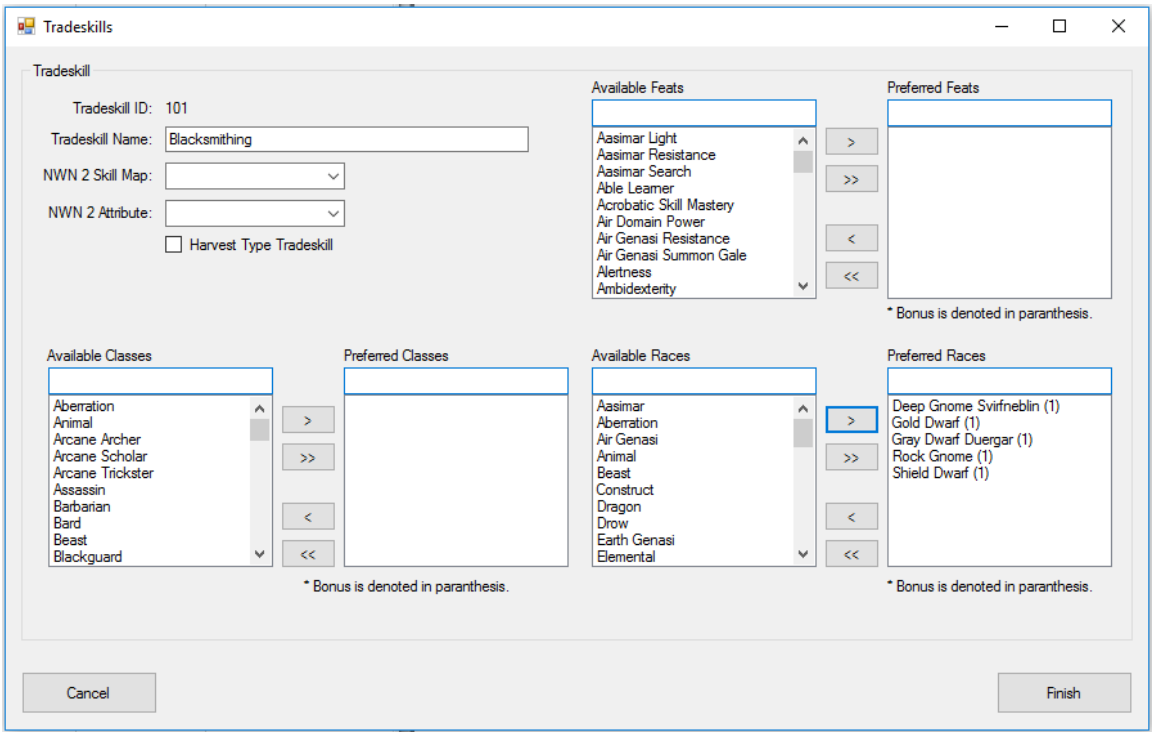


Figure 17 - Blacksmithing Tradeskill

When complete, you must now create a tradeskill station that a player can use this skill and recipes on. In the plugin select File -> New -> Tradeskill Station. Specify a name of "Blacksmith Forge" for this station. Fill the following fields as required:

Tradeskill	This is the tradeskill that this station caters to. For this demonstration we will want to select the Blacksmithing trade. Only blacksmithing recipes will work with this station.
Sound Effect	This is a sound effect that can be heard when the station is in use. Choose blacksmithing for this as well.
Optional Tool	Similar to tools in harvesting tradeskills, this optional tool can be required by the player to perform crafting at this station.

For our example, we will assume all the tools are present at the station so a player will not need a special one.

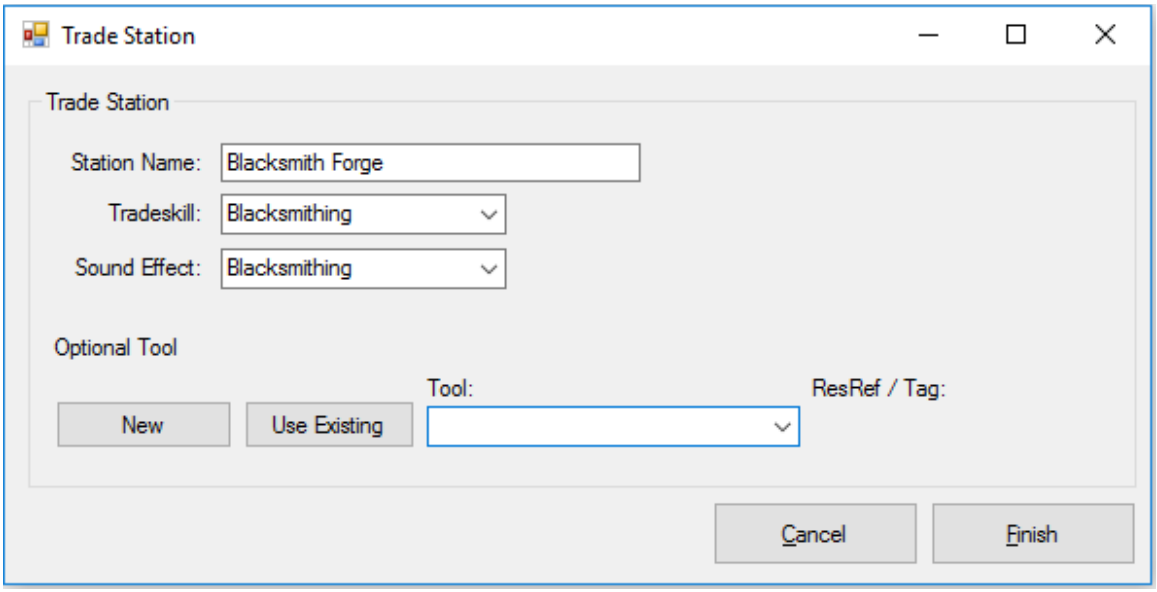


Figure 18 - Blacksmith Forge

Click finish and review your placeable objects and you will find your new tradeskill station. You may update the appearance of this station before you place it if you prefer a different look. Place it in your area when ready.

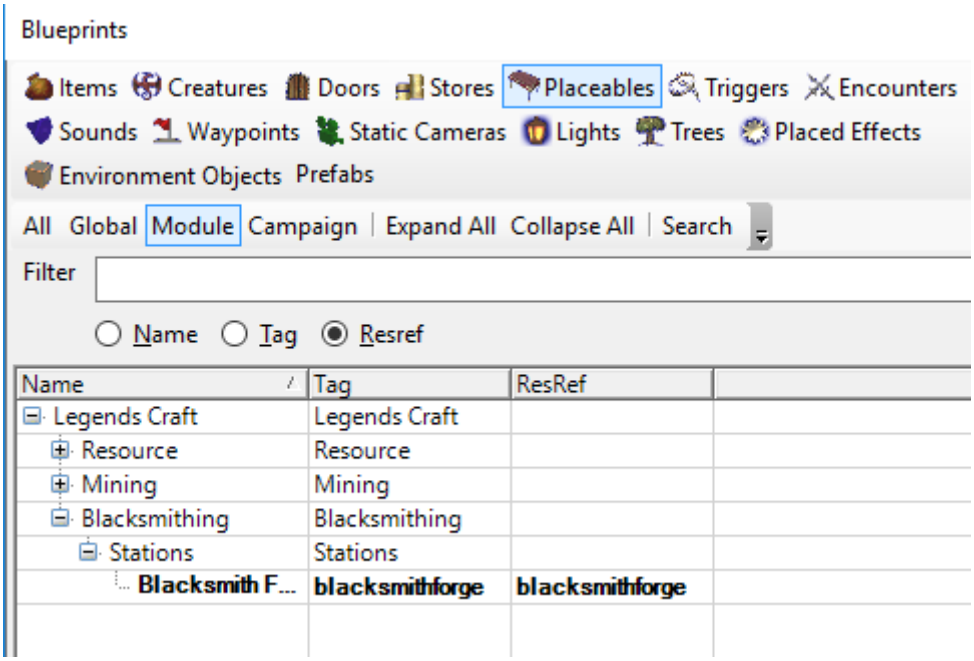


Figure 19 - New Station Placeable

The next step is to create a trainer that will teach the player how to actually perform blacksmithing and how to use the forge itself. This takes on the exact same shape as your Mining trainer above. In the Legends Craft Plugin select File -> New -> Basic Trainer. Ensure this trainer's skill is Blacksmithing and feel free to charge 25 gold for this training as well. Place this new trainer in your area after updating his appearance.

Your area is now ready to teach players how to be blacksmiths but wait! You are missing a key piece. What can the players actually create with this new training and tradeskill station? They will need recipes!

In the Legends Craft Plugin, select Recipes -> New -> Recipe from the menu.

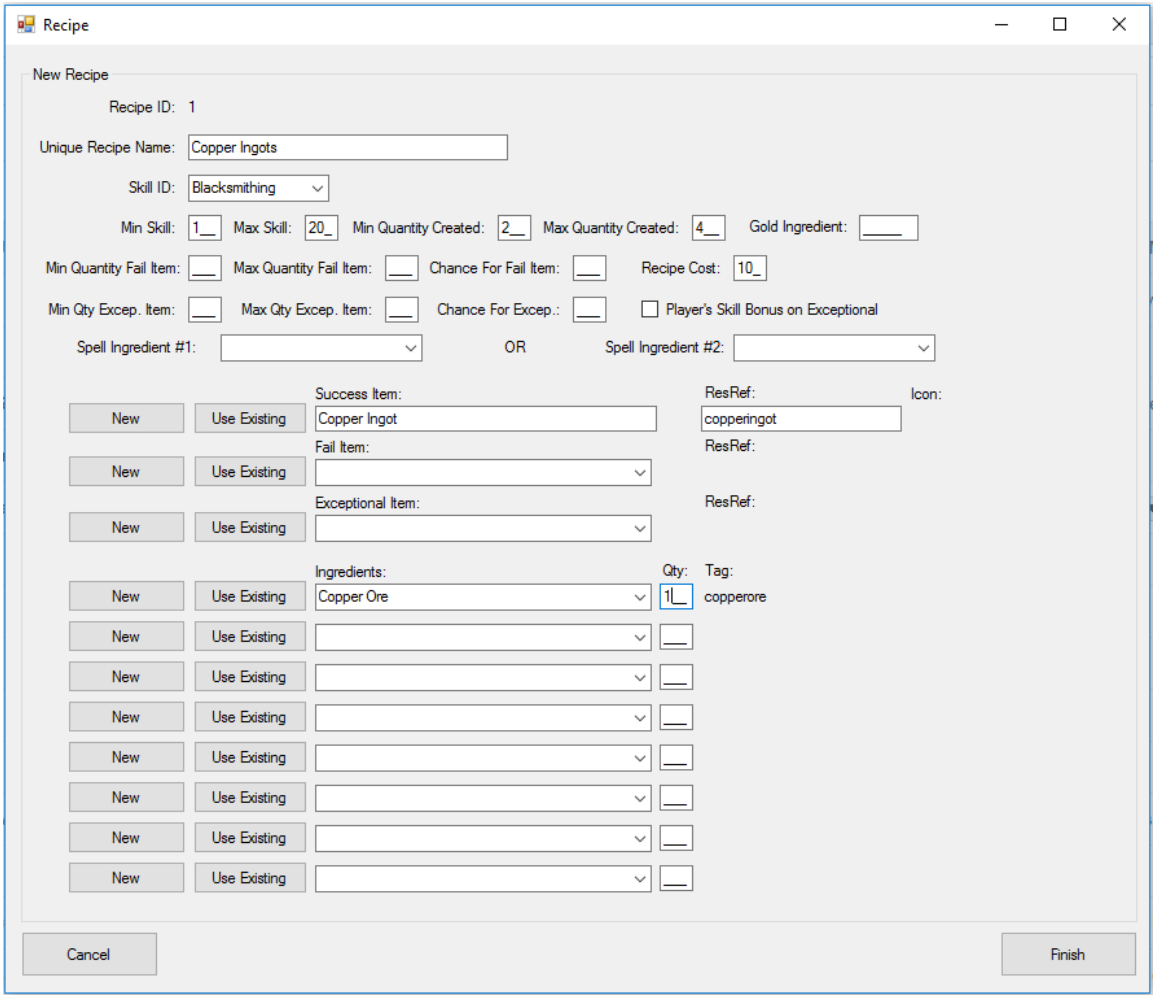


Figure 20 - New Recipe

A recipe is simply instructions on how to create a brand new item from various ingredients of items found in your world. They can be store bought items or even items

crafted from other tradeskills. In this tutorial, we are going to create Copper Ingots from the ore we harvested from tutorial 1. Fill in the fields as described.

Unique Recipe Name	This is the name of our recipe. When selected this recipe to actually craft, we will need a descriptive name for it. Use Copper Ingots as that is what we are making. Ensure the name of this recipe is unique.
Skill ID	This is the tradeskill that this recipe is associated with. For copper ingots, we're going to use Blacksmithing.
Min Skill	These copper ingots are going to be pretty easy to make so set this value to 1 representing the minimum skill points a player must have to create this item.
Max Skill	The maximum skill before this recipe becomes trivial to create and players no longer learn from making it. Enter 20 here.
Min Quantity Created	This is how many ingots at minimum will be forged when we are successful. Enter 2 here.
Max Quantity Created	Enter 4 here which will be the maximum number of ingots we may get from our copper ore on a successful attempt.
Gold Ingredient	This is the amount of gold a PC must contribute to the recipe. For this tutorial, leave it blank.
Min Quantity Fail Item	Should we choose, this will be the minimum quantity of a failure item that can be forged when we are not successful. Leave this blank for this tutorial.
Max Quantity Fail Item	Like above, this is the maximum quantity of a fail item should we choose to have one configured. Leave this blank for this tutorial.
Chance for Fail Item	This is the percentage chance that a failure item will be created instead of the intended item.
Recipe Cost	All recipes have to be learned by the player. There are several ways the player can learn a recipe and the default method is by using the Learning GUI (more on this later). When using the Learning GUI, it will charge the player some gold to learn a recipe. The price of learning this recipe will be here. Enter 10 in this field for this tutorial.

	Recipes found on items do not have a Recipe Cost and this this field is ignored for those. Presumably, the item is purchased from a vendor at a price or found.
Min Qty Excep Item	This is the minimum quantity that would be created if the player is lucky enough to perform such a high quality job that the resulting item is of exceptional quality.
Max Qty Excep Item	This is the maximum quantity that would be created if the player is lucky enough to perform such a high quality job that the resulting item is of exceptional quality.
Chance for Excep	This is the percentage chance that the player will craft an exceptional quality item instead of the normal result. Perhaps the player was trying to create a +1 sword and they managed to create a +2 version.
Player Skill Bonus	This checkbox is to allow highly skilled players a greater chance to create the exceptional version of the product. For each skill point the player possesses ABOVE the MAXIMUM skill for this recipe, they get an additional 1.5 percent chance added to the "Chance for Excep" roll. However, the total percent chance will be limited by the "Exceptional Limit" value on the main Configuration screen.
Spell Ingredient #1	Some recipes require a spell to be cast in order to complete. This is typical for enchanting type tradeskills. If a spell is required by the crafter to be memorized and ready for inclusion in this recipe, selected it here.
Spell Ingredient #2	Some recipes require a spell to be cast in order to complete. This is typical for enchanting type tradeskills. If a spell is required by the crafter to be memorized and ready for inclusion in this recipe, selected it here. NOTE: When selecting 2 spells, the player must have one OR the other and does not use both.
Success Item	This will be the item that a player will receive when they are successful in crafting this recipe. For this tutorial, click new and enter "Copper Ingot" with a resref of "copperingot".
Failure Item	Like success item, this is the item that will appear instead of the success item should the player fail and the chance of a failure item is met.

Exceptional Item	Like the other items, this is actual exceptional item that is given to the player should they be lucky enough to forge one.

The next 8 sections allow you to create up to 8 ingredients for this recipe. Each ingredient item can have various quantities. For our tutorial we will select 1 ingredient of Copper Ore with a quantity of 1. Because in Tutorial 1 we have a harvest tradeskill that gives us Copper Ore already, we can select it from the dropdown box rather than create new. It is always a good idea to search for your item to see if it exists before creating a brand new one. Click finish and review the new Copper Ingot in your item blueprints. Give the new Copper Ingot a fresh icon.

⚠ Whenever you change icons of items for recipe results you must update the icons in the Tradeskill database as well. After you complete changing the icon of your copper ingot, open the Legends Craft Plugin and update the database icons. Choose File -> Update Recipe Icons. Click Update and Finish.

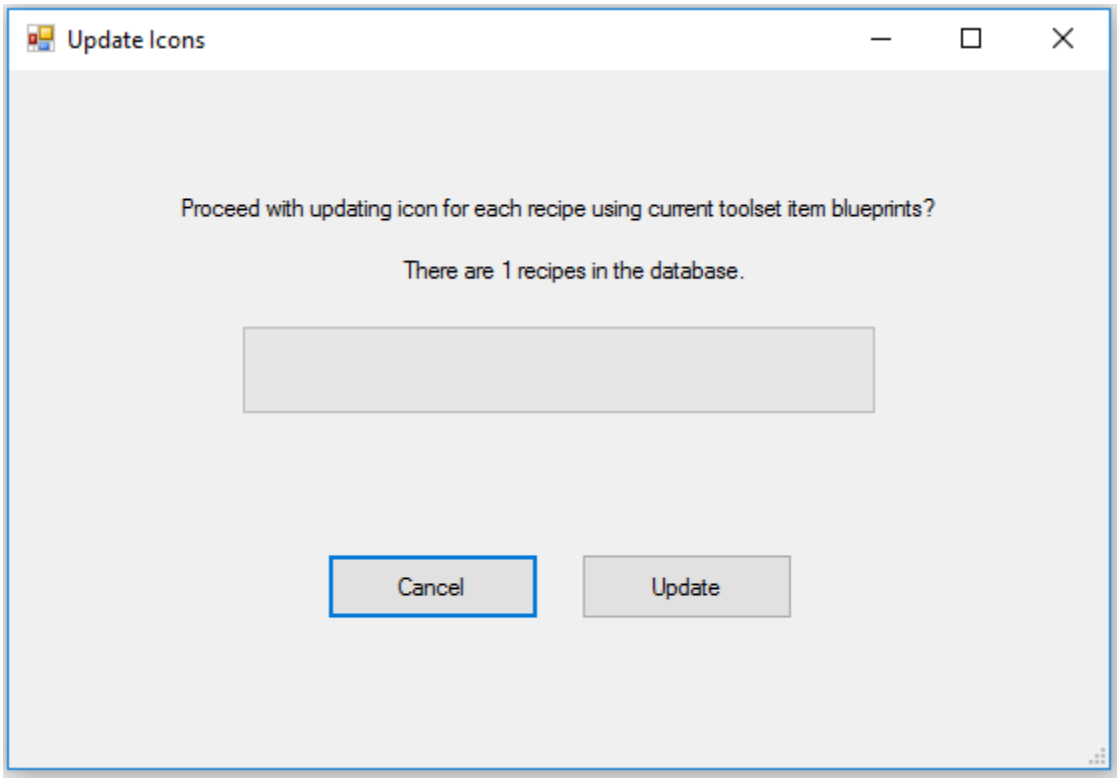


Figure 21 - Always Update your Icons

Finally like tradeskills themselves, you will need someone or something to teach the player how to create this recipe. There are several ways this can be accomplished.

A Recipe Item	A player can learn a single recipe by having them obtain an item from a store, a quest or as treasure. It will come in the form of a scroll that they can use and ultimately add the recipe to their known recipe database.
A Recipe Placeable	You can have an interactive placeable object that when clicked on will bring up a special GUI loaded with recipes that the player can pay for and learn. NOTE: When creating recipes in the plugin, the price will be determined in the "Recipe Cost" field.
An NPC Trainer	You can also create a NPC trainer that can either launch the special training GUI as does the Recipe placeable above which will teach players how to make things for a variety of prices, OR have a classic type of conversation where the NPC will train a player how to craft a list of recipes.

For this tutorial, we will use a special Recipe Placeable. All three of the above methods can be created through the Legends Craft Plugin. There is no need to know how to create the NPC's or conversations. It is all done for you! Load up the Legends Craft plugin and select Recipes -> New -> Recipe Placeable. Give the new placeable object a name and choose Blacksmithing. After you choose blacksmithing, your new recipe will appear in the list below.

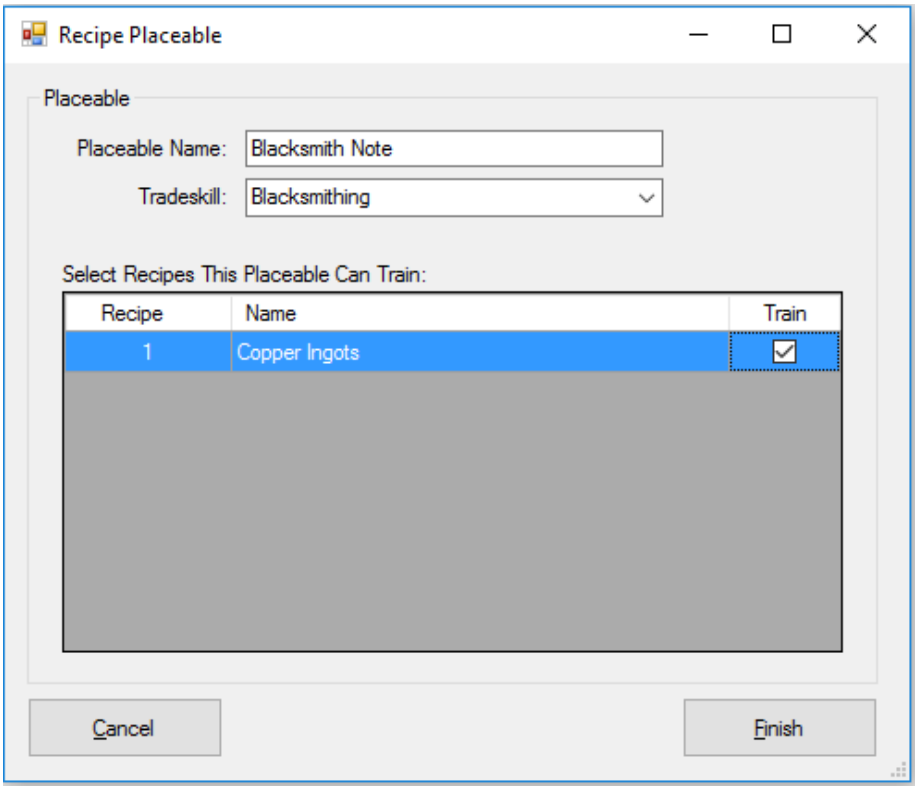


Figure 22 - A Training Placeable

Check the checkbox next to Copper Ingots to tell the system we would like this training placeable to teach players the Copper Ingot recipe when it is used. In this example we are creating a placeable object called the "Blacksmith Note". We'll update its appearance and perhaps it's description for players that examine it to let them know that this is for learning how to make copper ingots. We'll place it near the forge in our game world.

Click finish and review the placeable object blueprints to find your new Recipe Training Placeable.

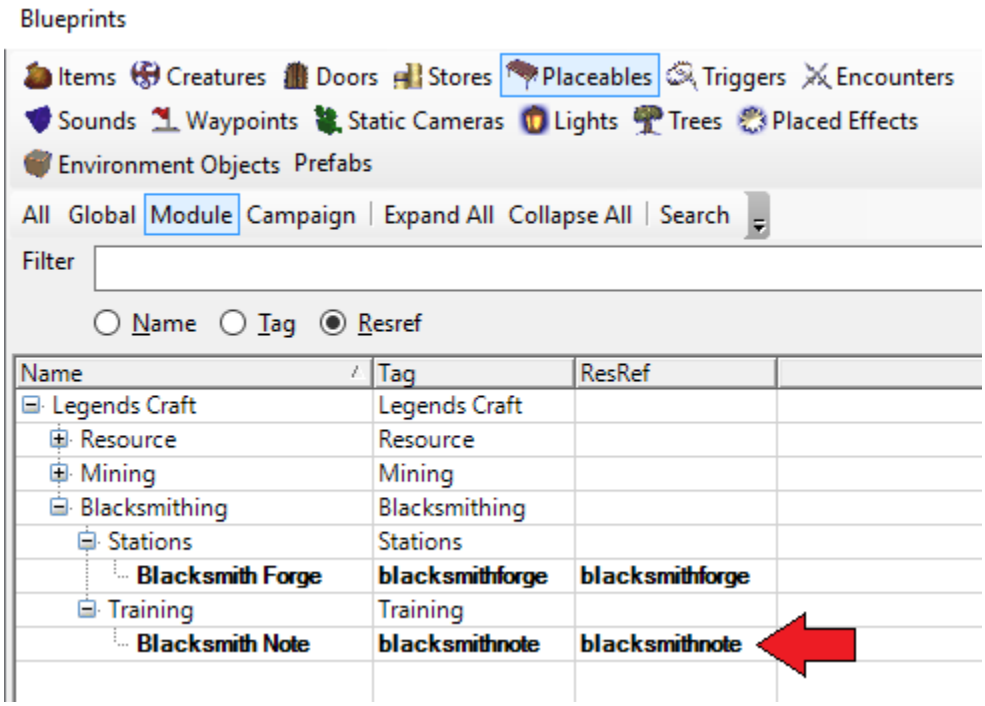


Figure 23 - Recipe Training Placeable

Place this in your game world and you are now ready! Load up your server with NWNX, go mining and gain some copper ore. Come back and talk to the blacksmithing trainer to learn how to smith. Once complete, click on the training book you placed to learn how to make copper ingots. Visit the Blacksmithing bench and start crafting!

Tutorial Summary

You've now learned the basics of the Legends Crafting Plugin. To complete your system you will want to create several tradeskills, with harvestable items and crafting stations along with as many recipes as you dare to create. Adding them in the same manner as the above tutorials and placing them in your game world is quite simple with the Plugin tool for the toolset.

Enjoy!

Part 3 – Understanding Ranks

As previously mentioned there are 10 ranks for all tradeskills that a player can aspire to. It is up to you to decide what sorts of items are harvested or crafted based on these ranks. A player will advance their skill by performing trades in the Legends Craft Plugin. The more success they have, the faster they will learn. Once they reach the top of a rank, they can no longer learn until they are trained to the next rank.

At level 1 in a given tradeskill, a player will have a base score of 1-20. Review the table below to see what ranges of skill fall into each level.

1. Unskillful = Skill 1-20 (Basic Trainer Required)
2. Novice = Skill 21-45 (Advancement Trainer Required)
3. Apprentice = 46-76 (Advancement Trainer Required)
4. Journeyman = 77-110 (Advancement Trainer Required)
5. Veteran = 111-139 (Advancement Trainer Required)
6. Expert = 140-169 (Advancement Trainer Required)
7. Adept = 170-204 (Advancement Trainer Required)
8. Master = 205-245 (Advancement Trainer Required)
9. Grand Master = 246-294 (Advancement Trainer Required)
10. Legendary = 295-and up (Advancement Trainer Required)

The table above represents the ranges of skill for each rank. Using the included spreadsheet, you can determine how easy or how hard it is for a player to succeed and learn in a tradeskill.

For example, consider this spreadsheet cut-out.

GREY:	Percentage Chance of Success
BLUE:	Percentage Chance Per Skill Point
RED:	Minimum Skill Required
GREEN:	Trivial Skill Level (Maximum Skill)
BLACK:	Chance to Learn a Skill Point on Success

Current Skill
9

Copper Ore	1	15	6.67%	60.00%	32.20%
Silver Ore	8	21	7.14%	14.29%	40.00%

We have a recipe that has a 1-15 difficulty. Notice the Red 1 and the Green 15. A player with a skill of 9 would have a 60% chance to succeed based on internal math. A recipe with a skill of 8-21 would have a 14.29% chance of success at 9 points. This means we can have more difficult items WITHIN the same rank. The fact that our second item in this example has a difficulty that goes into rank 2 is not important. The player will still

have to train when they hit 20 skill points, it just means that they can continue to craft this item even into level 2 and still learn from it for a little while.

Included with this plugin is the Microsoft Excel spreadsheet that you can use to enter a player's skill value and see these percentage rates. The first row is represents the STANDARD level boundaries. The second row will allow you to see custom boundaries. Feel free to change the "Current Skill" value, and the second row minimum and maximum values for each level to see the results.

Part 4 – The Other Stuff

This section discusses all the other options in the Legends Craft plugin that were not covered in the tutorials above.

Advancement Trainer

Creating an advancement trainer is used for getting players past Rank 1 (Unskillful). Once a player reaches the top of their rank, they will be notified that they must see a trainer to advance to the next rank. These NPC's can be spread around at the builder's leisure. You can have one trainer that will train all ranks or split it up and put higher rank trainers in hard to reach locations. To create an advancement trainer, select File -> New -> Advancement Trainer.

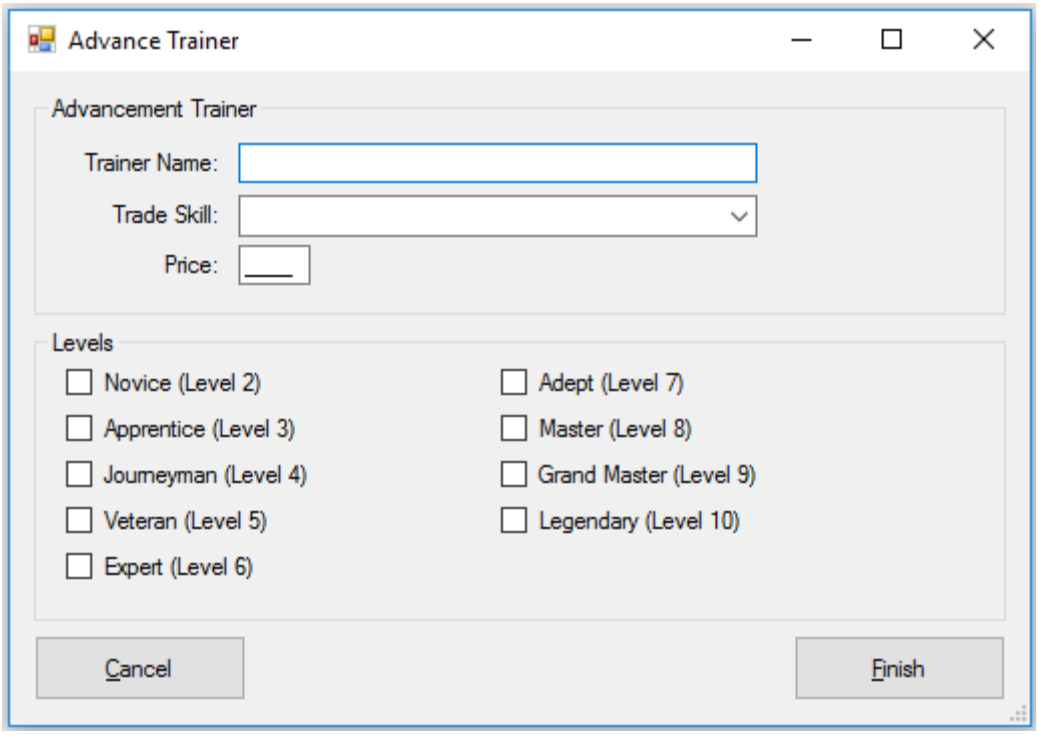


Figure 24 - Advancement Trainer

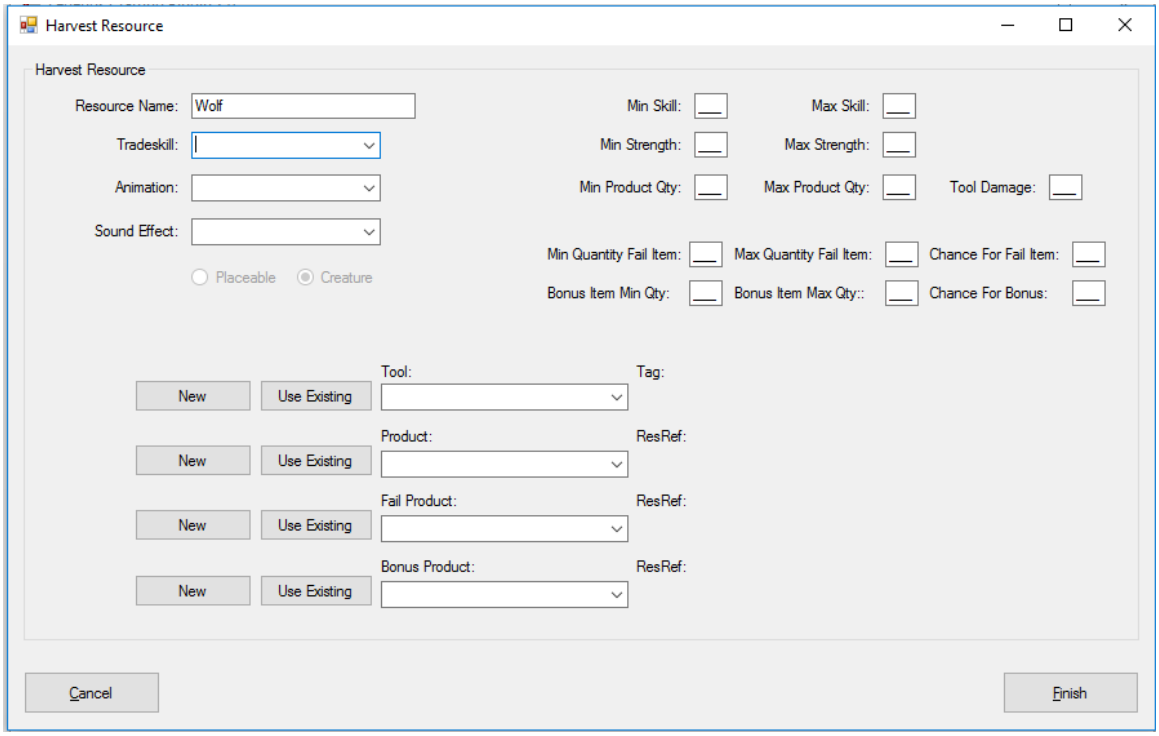
Give your new trainer a name and then select the tradeskill the trainer will teach. The price will be how much this trainer charges to advance. Higher rank trainers may charge more but this is the choice of the world builder.

Each Level or Rank is then checked off for this trainer. These will be the ranks this trainer will advance a player.

Pre-Made Harvest Creature

Harvesting placeable objects such as ore or plants is fairly straight forward and covered in the above tutorials but how about creatures? No harvesting system would be complete if a player couldn't harvest skins and pelts from creatures. This is where the Pre-Made Harvest Creature option comes in.

To create a creature than can be harvested, the creature must already be created in the blue prints. Next, select your custom creature and load the Legends Craft Plugin. Next select File -> New -> Pre-Made Harvest Creature.



This screen behaves exactly like the harvest resource screen for placeable objects. For a definition of each field, see the tutorial above. Once you've filled in all the fields, click Finish and your new creature is ready for resource harvesting. Simply spawn them in your world and defeat them in battle. Once dead, a useable corpse object will appear at their body. Use your harvest tool to attempt to harvest skins or pelts or whatever else you desire.

Recipe Item

Besides the recipe training placeable object demonstrated in the tutorial above, a player can also learn recipes from items in the world. These can be looted from monsters, purchased from vendors or rewards in quests that the builder decides. Once in the players possession however, they can right clicked and activated. If the player has already learned the tradeskill for the recipe, it will be added to their known recipe database.

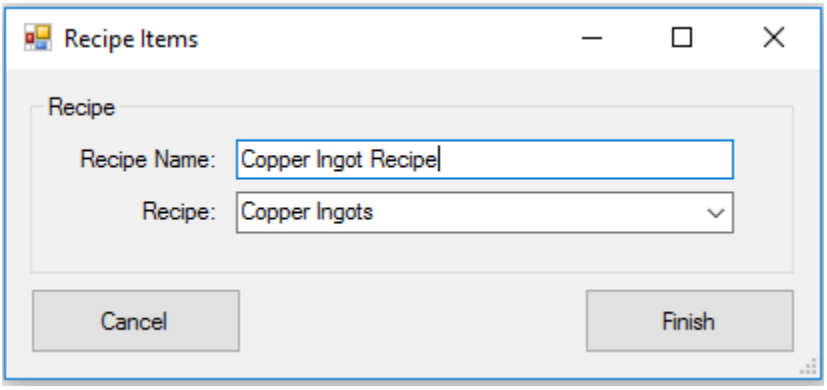


Figure 25 - Recipe Item

When creating a recipe item, you only have to give the item a name and choose a recipe for it. The plugin will create the item and place it in your blueprints at which point you may wish to adjust price, icon and description to suit the needs of your world.

Recipe NPC

A Recipe NPC can train players in two different ways. It can use a recipe training GUI just like the recipe placeable demonstrated in the tutorial above or, it can be performed via a classic NWN2 conversation.

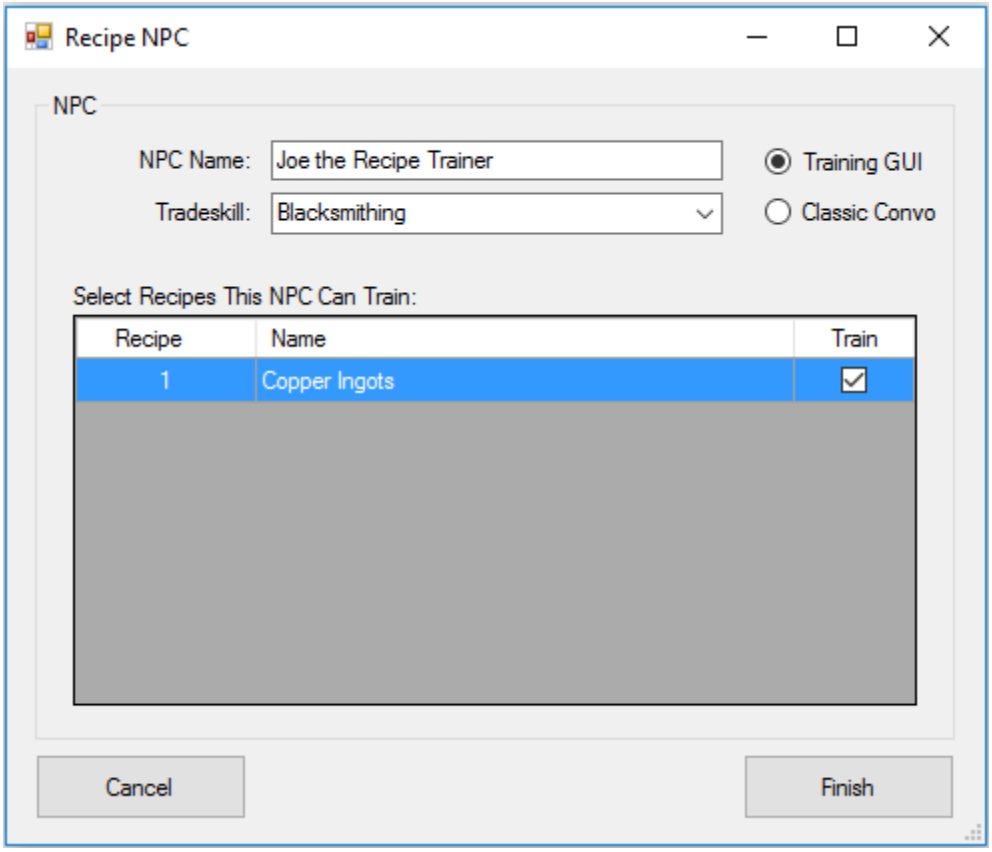


Figure 26 - Recipe Training NPC

Selecting a name and tradeskill as well as which recipes the trainer will teach works exactly like the training placeable however, you have an additional option of using the Training GUI or have the NPC use a classic conversation. Note, that both options will use the Recipe Cost field in the recipe configuration to determine the fee for the recipe training.

Book of Tradeskills

This item can be found in the Item Blueprints under Legends Craft. A world creator can hand this out from an NPC or put it in a store for purchase by players. The book when activated allows a player to see their current score and points for all of their trained tradeskills. It is highly recommended you give this item to players when they begin to learn crafting.

Item Viewer Waypoint

A special waypoint is included in the Legends Craft plugin that allows the character to view recipe results from a crafting station prior to creating it. Any place that a crafting station exists, an item viewer waypoint should be placed on a walkable area, usually in some far off corner players never really visit. The purpose of this waypoint is to allow an examine window to appear when a crafter selects a recipe result to evaluate its statistics prior to creating it. Not having the item viewer waypoint in an area will not hinder or adversely affect the operation of the plugin, it would just mean the "preview" feature of looking at recipe results would not be available.

Final Summary

This system was originally designed for the NWN 2 Persistent World known as Legends. The plugin outlined here was designed as built in to the Legends Quest systems however it was deemed valuable enough to extract into its own stand-alone plugin.

If you have questions you can find me, the author, Marshall (aka Marshall V) in the NWN 2 community forums, sometimes in the NWN IRC channels or just email me at marshall.vyper@yahoo.ca or join me on the forums at http://www.nwn2legends.com

I hope you enjoy this system and feel free to season to your individual needs and tastes! Have Fun and Happy Crafting!