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Anyone here ever try to port [#python](#) scripts that make use of [ArgumentParser](#) into [#Houdini](#)? I have a new workflow tip for you! [#tip](#) [#techart](#) [#procedural](#) [@SideFX](#) [@SideFX Labs](#) [@Sidefx_jp](#)

Lets assume we have this script we would like to run inside an HDA. Instead of running this script in a shell, we want this to run inside a python sop, driven by parameter values from an HDA. What do you do?

```
1 import argparse
2
3 parser = argparse.ArgumentParser(description='Quick Example')
4
5 parser.add_argument('--variable1', type=int, default=1024)
6 parser.add_argument('--variable2', default=False, action='store_true')
7 parser.add_argument('--variable3', type=str, required=True)
8
9 args = parser.parse_args()
10
11 print(args.variable1)
12 print(args.variable2)
13 print(args.variable3)
```

Option 1 would be to rewrite the script by removing the `ArgumentParser`. Makes it a lot cleaner, but a total PIA to update once the source script changes.

```
1 variable1 = node.parent().parm("variable1").evalAsInt()
2 variable2 = bool(node.parent().parm("variable2").evalAsInt())
3 variable3 = node.parent().parm("variable3").evalAsStr()
4
5 print(variable1)
6 print(variable2)
7 print(variable3)
```

What if you could simply insert a single line of code to update the `ArgumentParser` with values retrieved from HDA parameters? Note line 10! That's the only change I made to the source script, meaning its easy to update!

```
1 import argparse
2
3 parser = argparse.ArgumentParser(description='Quick Example')
4
5 parser.add_argument('--variable1', type=int, default=1024)
6 parser.add_argument('--variable2', default=False, action='store_true')
7 parser.add_argument('--variable3', type=str, required=True)
8
9 args = parser.parse_args()
10 args = parse_args_from_node_params(args, node.parent()) # HERE!!
11
12 print(args.variable1)
13 print(args.variable2)
14 print(args.variable3)
```

Here is the trick used on line 10 in the previous image :D

```
1 def parse_args_from_node_params(args, node):
2     type_mapping = {
3         int: lambda _parm: _parm.evalAsInt(),
4         str: lambda _parm: _parm.evalAsString(),
5         float: lambda _parm: _parm.evalAsFloat(),
6         bool: lambda _parm: bool(_parm.evalAsInt()),
7         type(None): lambda _parm: _parm.evalAsString()
8     }
9
10    for parm_name, default_value in vars(args).items():
11        arg_parm = node.parm(parm_name)
12        arg_type = type(default_value)
13        if arg_parm and (arg_type in type_mapping):
14            parse_func = type_mapping[arg_type]
15            args.__dict__[parm_name] = parse_func(arg_parm)
16
17    return args
```



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