Subject: Re: Flatbuffers package
Posted by Xemuth on Tue, 15 Dec 2020 11:50:10 GMT
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Server flatbuffers example:

```
#include <Core/Core.h>
#include "flatbuffer-command/command_generated.h"

using namespace Upp;

//a simple Command struct
struct Command{
 public:
  int id;
  String name;

  Command(int _id, String _name){id = _id; name = _name;}

  String ToString()const{
   String toStr;
   toStr << "Id: " << id << ", Name: " << name;
   return toStr;
  }
};

struct CommandSerializer{
 public:
  CommandSerializer(const Command& cmd){
   flatbuffers::Offset<flatbuffers::String> str1 = builder.CreateString(cmd.name.ToStd()); //First, we
create a special flatbuffers object that handle string
   TcpIpServer::CommandBuilder commandBuilder(builder); //Then we create a commandBuilder
(a special object that will construct our Command (the fbs file))
   commandBuilder.add_id(cmd.id); //We define value of each parameters of our command
   commandBuilder.add_name(str1); //We define value of each parameters of our command
   flatbuffers::Offset<TcpIpServer::Command> freshCommand = commandBuilder.Finish(); //we
retrieve our command by telling our commandBuilder we are done with it
   builder.Finish(freshCommand); //we end the builder of our newly command (named
freshCommand)
  }

  int GetSize(){return builder.GetSize();} //Return a ptr to our serialized object
  uint8_t* GetDatasPtr(){return builder.GetBufferPointer();} //Return size of our serialized object

 private:
  flatbuffers::FlatBufferBuilder builder; //Builder is used to create everything we want with
flatbuffers
};
```

```
Command CommandDeserializer(const uint8_t* datas, int size){
 flatbuffers::Verifier verfier(datas,size); //Verifier is used to verify our buffer of data is a valid
command
 if(TcpIpServer::VerifyCommandBuffer(verfier)){
  const TcpIpServer::Command* serializedCmd = TcpIpServer::GetCommand(datas); //If our
buffer is valid then we retrieve a ptr to the command within this buffer
  return Command(serializedCmd->id(), String(serializedCmd->name()->c_str())); //then we use
our buffer to build our command
 }
 throw Exc("Invalide command");
}

CONSOLE_APP_MAIN
{
 StdLogSetup(LOG_COUT|LOG_FILE);
 TcpSocket server;
 if(!server.Listen(3214, 5)) {
  LOG("Unable to initialize server socket!\n");
  SetExitCode(1);
  return;
 }
 LOG("Waiting for requests..");
 for(;;) {
  TcpSocket s;
  if(s.Accept(server)){

   String datas;
   dword sizeReceived;
   if(s.Get(&sizeReceived, sizeof(sizeReceived)))
    datas = s.Timeout(5000).Get(sizeReceived);
   try{
    LOG(CommandDeserializer((uint8_t*)datas.ToStd().c_str(),datas.GetLength()));

    CommandSerializer cmdValide(Command(0,"Valide"));
    dword sizeToSend = cmdValide.GetSize();
    if(s.Put(&sizeToSend,sizeof(sizeToSend)))
     s.Timeout(5000).Put(cmdValide.GetDatasPtr(),cmdValide.GetSize());
   }catch(Exc& exception){
    CommandSerializer cmdInvalide(Command(-1,"Invalide"));
    dword sizeToSend = cmdInvalide.GetSize();
    if(s.Put(&sizeToSend,sizeof(sizeToSend)))
     s.Timeout(5000).Put(cmdInvalide.GetDatasPtr(),cmdInvalide.GetSize());
   }
  }
 }
}
```

File Attachments

1) ServerFlatbuffers.7z, downloaded 335 times