Kaunas University of technologY

Department of Informatics

Distributed Systems Lab 1 Part B

Create a distributed system for data search using GRPC

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| --- | --- |
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**Web Service/SOAP**

Aim of the lab to distribute the data to different servers and retrieving the data for requested Client using GRPC.

**Architecture to implement**

**Diagram

Description automatically generated**

Each servers having 5 numbers, if server 1 don’t have the number then it will go to another server 2, if server 2 having the number then it will return to server 1, then the server 1 send to the client.

**Proto file**

syntax = "proto3";

option java\_package = "com.jai.grpc";

service asknumber{

rpc login(Request) returns (APIResponse);

}

message Request{

int32 number = 2 ;

}

message APIResponse{

string responsemessage = 1;

}

**Stub file**

**Asknumber.java**

**package** com.jai.grpc;

**public** **final** **class** Asknumber {

**private** Asknumber() {}

**public** **static** **void** registerAllExtensions(

com.google.protobuf.ExtensionRegistryLite registry) {

}

**public** **static** **void** registerAllExtensions(

com.google.protobuf.ExtensionRegistry registry) {

registerAllExtensions(

(com.google.protobuf.ExtensionRegistryLite) registry);

}

**public** **interface** RequestOrBuilder **extends**

// @@protoc\_insertion\_point(interface\_extends:Request)

com.google.protobuf.MessageOrBuilder {

/\*\*

\* <code>int32 number = 2;</code>

\*/

**int** getNumber();

}

/\*\*

\* Protobuf type {@code Request}

\*/

**public** **static** **final** **class** Request **extends**

com.google.protobuf.GeneratedMessageV3 **implements**

// @@protoc\_insertion\_point(message\_implements:Request)

RequestOrBuilder {

**private** **static** **final** **long** serialVersionUID = 0L;

// Use Request.newBuilder() to construct.

**private** Request(com.google.protobuf.GeneratedMessageV3.Builder<?> builder) {

**super**(builder);

}

**private** Request() {

number\_ = 0;

}

@java.lang.Override

**public** **final** com.google.protobuf.UnknownFieldSet

getUnknownFields() {

**return** **this**.unknownFields;

}

**private** Request(

com.google.protobuf.CodedInputStream input,

com.google.protobuf.ExtensionRegistryLite extensionRegistry)

**throws** com.google.protobuf.InvalidProtocolBufferException {

**this**();

**if** (extensionRegistry == **null**) {

**throw** **new** java.lang.NullPointerException();

}

**int** mutable\_bitField0\_ = 0;

com.google.protobuf.UnknownFieldSet.Builder unknownFields =

com.google.protobuf.UnknownFieldSet.newBuilder();

**try** {

**boolean** done = **false**;

**while** (!done) {

**int** tag = input.readTag();

**switch** (tag) {

**case** 0:

done = **true**;

**break**;

**case** 16: {

number\_ = input.readInt32();

**break**;

}

**default**: {

**if** (!parseUnknownFieldProto3(

input, unknownFields, extensionRegistry, tag)) {

done = **true**;

}

**break**;

}

}

}

} **catch** (com.google.protobuf.InvalidProtocolBufferException e) {

**throw** e.setUnfinishedMessage(**this**);

} **catch** (java.io.IOException e) {

**throw** **new** com.google.protobuf.InvalidProtocolBufferException(

e).setUnfinishedMessage(**this**);

} **finally** {

**this**.unknownFields = unknownFields.build();

makeExtensionsImmutable();

}

}

**public** **static** **final** com.google.protobuf.Descriptors.Descriptor

getDescriptor() {

**return** com.jai.grpc.Asknumber.internal\_static\_Request\_descriptor;

}

@java.lang.Override

**protected** com.google.protobuf.GeneratedMessageV3.FieldAccessorTable

internalGetFieldAccessorTable() {

**return** com.jai.grpc.Asknumber.internal\_static\_Request\_fieldAccessorTable

.ensureFieldAccessorsInitialized(

com.jai.grpc.Asknumber.Request.**class**, com.jai.grpc.Asknumber.Request.Builder.**class**);

}

**public** **static** **final** **int** NUMBER\_FIELD\_NUMBER = 2;

**private** **int** number\_;

/\*\*

\* <code>int32 number = 2;</code>

\*/

**public** **int** getNumber() {

**return** number\_;

}

**private** **byte** memoizedIsInitialized = -1;

@java.lang.Override

**public** **final** **boolean** isInitialized() {

**byte** isInitialized = memoizedIsInitialized;

**if** (isInitialized == 1) **return** **true**;

**if** (isInitialized == 0) **return** **false**;

memoizedIsInitialized = 1;

**return** **true**;

}

@java.lang.Override

**public** **void** writeTo(com.google.protobuf.CodedOutputStream output)

**throws** java.io.IOException {

**if** (number\_ != 0) {

output.writeInt32(2, number\_);

}

unknownFields.writeTo(output);

}

@java.lang.Override

**public** **int** getSerializedSize() {

**int** size = memoizedSize;

**if** (size != -1) **return** size;

size = 0;

**if** (number\_ != 0) {

size += com.google.protobuf.CodedOutputStream

.computeInt32Size(2, number\_);

}

size += unknownFields.getSerializedSize();

memoizedSize = size;

**return** size;

}

@java.lang.Override

**public** **boolean** equals(**final** java.lang.Object obj) {

**if** (obj == **this**) {

**return** **true**;

}

**if** (!(obj **instanceof** com.jai.grpc.Asknumber.Request)) {

**return** **super**.equals(obj);

}

com.jai.grpc.Asknumber.Request other = (com.jai.grpc.Asknumber.Request) obj;

**boolean** result = **true**;

result = result && (getNumber()

== other.getNumber());

result = result && unknownFields.equals(other.unknownFields);

**return** result;

}

@java.lang.Override

**public** **int** hashCode() {

**if** (memoizedHashCode != 0) {

**return** memoizedHashCode;

}

**int** hash = 41;

hash = (19 \* hash) + getDescriptor().hashCode();

hash = (37 \* hash) + NUMBER\_FIELD\_NUMBER;

hash = (53 \* hash) + getNumber();

hash = (29 \* hash) + unknownFields.hashCode();

memoizedHashCode = hash;

**return** hash;

}

**public** **static** com.jai.grpc.Asknumber.Request parseFrom(

java.nio.ByteBuffer data)

**throws** com.google.protobuf.InvalidProtocolBufferException {

**return** PARSER.parseFrom(data);

}

**public** **static** com.jai.grpc.Asknumber.Request parseFrom(

java.nio.ByteBuffer data,

com.google.protobuf.ExtensionRegistryLite extensionRegistry)

**throws** com.google.protobuf.InvalidProtocolBufferException {

**return** PARSER.parseFrom(data, extensionRegistry);

}

**public** **static** com.jai.grpc.Asknumber.Request parseFrom(

com.google.protobuf.ByteString data)

**throws** com.google.protobuf.InvalidProtocolBufferException {

**return** PARSER.parseFrom(data);

}

**public** **static** com.jai.grpc.Asknumber.Request parseFrom(

com.google.protobuf.ByteString data,

com.google.protobuf.ExtensionRegistryLite extensionRegistry)

**throws** com.google.protobuf.InvalidProtocolBufferException {

**return** PARSER.parseFrom(data, extensionRegistry);

}

**public** **static** com.jai.grpc.Asknumber.Request parseFrom(**byte**[] data)

**throws** com.google.protobuf.InvalidProtocolBufferException {

**return** PARSER.parseFrom(data);

}

**public** **static** com.jai.grpc.Asknumber.Request parseFrom(

**byte**[] data,

com.google.protobuf.ExtensionRegistryLite extensionRegistry)

**throws** com.google.protobuf.InvalidProtocolBufferException {

**return** PARSER.parseFrom(data, extensionRegistry);

}

**public** **static** com.jai.grpc.Asknumber.Request parseFrom(java.io.InputStream input)

**throws** java.io.IOException {

**return** com.google.protobuf.GeneratedMessageV3

.parseWithIOException(PARSER, input);

}

**public** **static** com.jai.grpc.Asknumber.Request parseFrom(

java.io.InputStream input,

com.google.protobuf.ExtensionRegistryLite extensionRegistry)

**throws** java.io.IOException {

**return** com.google.protobuf.GeneratedMessageV3

.parseWithIOException(PARSER, input, extensionRegistry);

}

**public** **static** com.jai.grpc.Asknumber.Request parseDelimitedFrom(java.io.InputStream input)

**throws** java.io.IOException {

**return** com.google.protobuf.GeneratedMessageV3

.parseDelimitedWithIOException(PARSER, input);

}

**public** **static** com.jai.grpc.Asknumber.Request parseDelimitedFrom(

java.io.InputStream input,

com.google.protobuf.ExtensionRegistryLite extensionRegistry)

**throws** java.io.IOException {

**return** com.google.protobuf.GeneratedMessageV3

.parseDelimitedWithIOException(PARSER, input, extensionRegistry);

}

**public** **static** com.jai.grpc.Asknumber.Request parseFrom(

com.google.protobuf.CodedInputStream input)

**throws** java.io.IOException {

**return** com.google.protobuf.GeneratedMessageV3

.parseWithIOException(PARSER, input);

}

**public** **static** com.jai.grpc.Asknumber.Request parseFrom(

com.google.protobuf.CodedInputStream input,

com.google.protobuf.ExtensionRegistryLite extensionRegistry)

**throws** java.io.IOException {

**return** com.google.protobuf.GeneratedMessageV3

.parseWithIOException(PARSER, input, extensionRegistry);

}

@java.lang.Override

**public** Builder newBuilderForType() { **return** newBuilder(); }

**public** **static** Builder newBuilder() {

**return** DEFAULT\_INSTANCE.toBuilder();

}

**public** **static** Builder newBuilder(com.jai.grpc.Asknumber.Request prototype) {

**return** DEFAULT\_INSTANCE.toBuilder().mergeFrom(prototype);

}

@java.lang.Override

**public** Builder toBuilder() {

**return** **this** == DEFAULT\_INSTANCE

? **new** Builder() : **new** Builder().mergeFrom(**this**);

}

@java.lang.Override

**protected** Builder newBuilderForType(

com.google.protobuf.GeneratedMessageV3.BuilderParent parent) {

Builder builder = **new** Builder(parent);

**return** builder;

}

/\*\*

\* Protobuf type {@code Request}

\*/

**public** **static** **final** **class** Builder **extends**

com.google.protobuf.GeneratedMessageV3.Builder<Builder> **implements**

// @@protoc\_insertion\_point(builder\_implements:Request)

com.jai.grpc.Asknumber.RequestOrBuilder {

**public** **static** **final** com.google.protobuf.Descriptors.Descriptor

getDescriptor() {

**return** com.jai.grpc.Asknumber.internal\_static\_Request\_descriptor;

}

@java.lang.Override

**protected** com.google.protobuf.GeneratedMessageV3.FieldAccessorTable

internalGetFieldAccessorTable() {

**return** com.jai.grpc.Asknumber.internal\_static\_Request\_fieldAccessorTable

.ensureFieldAccessorsInitialized(

com.jai.grpc.Asknumber.Request.**class**, com.jai.grpc.Asknumber.Request.Builder.**class**);

}

// Construct using com.jai.grpc.Asknumber.Request.newBuilder()

**private** Builder() {

maybeForceBuilderInitialization();

}

**private** Builder(

com.google.protobuf.GeneratedMessageV3.BuilderParent parent) {

**super**(parent);

maybeForceBuilderInitialization();

}

**private** **void** maybeForceBuilderInitialization() {

**if** (com.google.protobuf.GeneratedMessageV3

.alwaysUseFieldBuilders) {

}

}

@java.lang.Override

**public** Builder clear() {

**super**.clear();

number\_ = 0;

**return** **this**;

}

@java.lang.Override

**public** com.google.protobuf.Descriptors.Descriptor

getDescriptorForType() {

**return** com.jai.grpc.Asknumber.internal\_static\_Request\_descriptor;

}

@java.lang.Override

**public** com.jai.grpc.Asknumber.Request getDefaultInstanceForType() {

**return** com.jai.grpc.Asknumber.Request.getDefaultInstance();

}

@java.lang.Override

**public** com.jai.grpc.Asknumber.Request build() {

com.jai.grpc.Asknumber.Request result = buildPartial();

**if** (!result.isInitialized()) {

**throw** newUninitializedMessageException(result);

}

**return** result;

}

@java.lang.Override

**public** com.jai.grpc.Asknumber.Request buildPartial() {

com.jai.grpc.Asknumber.Request result = **new** com.jai.grpc.Asknumber.Request(**this**);

result.number\_ = number\_;

onBuilt();

**return** result;

}

@java.lang.Override

**public** Builder clone() {

**return** (Builder) **super**.clone();

}

@java.lang.Override

**public** Builder setField(

com.google.protobuf.Descriptors.FieldDescriptor field,

java.lang.Object value) {

**return** (Builder) **super**.setField(field, value);

}

@java.lang.Override

**public** Builder clearField(

com.google.protobuf.Descriptors.FieldDescriptor field) {

**return** (Builder) **super**.clearField(field);

}

@java.lang.Override

**public** Builder clearOneof(

com.google.protobuf.Descriptors.OneofDescriptor oneof) {

**return** (Builder) **super**.clearOneof(oneof);

}

@java.lang.Override

**public** Builder setRepeatedField(

com.google.protobuf.Descriptors.FieldDescriptor field,

**int** index, java.lang.Object value) {

**return** (Builder) **super**.setRepeatedField(field, index, value);

}

@java.lang.Override

**public** Builder addRepeatedField(

com.google.protobuf.Descriptors.FieldDescriptor field,

java.lang.Object value) {

**return** (Builder) **super**.addRepeatedField(field, value);

}

@java.lang.Override

**public** Builder mergeFrom(com.google.protobuf.Message other) {

**if** (other **instanceof** com.jai.grpc.Asknumber.Request) {

**return** mergeFrom((com.jai.grpc.Asknumber.Request)other);

} **else** {

**super**.mergeFrom(other);

**return** **this**;

}

}

**public** Builder mergeFrom(com.jai.grpc.Asknumber.Request other) {

**if** (other == com.jai.grpc.Asknumber.Request.getDefaultInstance()) **return** **this**;

**if** (other.getNumber() != 0) {

setNumber(other.getNumber());

}

**this**.mergeUnknownFields(other.unknownFields);

onChanged();

**return** **this**;

}

@java.lang.Override

**public** **final** **boolean** isInitialized() {

**return** **true**;

}

@java.lang.Override

**public** Builder mergeFrom(

com.google.protobuf.CodedInputStream input,

com.google.protobuf.ExtensionRegistryLite extensionRegistry)

**throws** java.io.IOException {

com.jai.grpc.Asknumber.Request parsedMessage = **null**;

**try** {

parsedMessage = PARSER.parsePartialFrom(input, extensionRegistry);

} **catch** (com.google.protobuf.InvalidProtocolBufferException e) {

parsedMessage = (com.jai.grpc.Asknumber.Request) e.getUnfinishedMessage();

**throw** e.unwrapIOException();

} **finally** {

**if** (parsedMessage != **null**) {

mergeFrom(parsedMessage);

}

}

**return** **this**;

}

**private** **int** number\_ ;

/\*\*

\* <code>int32 number = 2;</code>

\*/

**public** **int** getNumber() {

**return** number\_;

}

/\*\*

\* <code>int32 number = 2;</code>

\*/

**public** Builder setNumber(**int** value) {

number\_ = value;

onChanged();

**return** **this**;

}

/\*\*

\* <code>int32 number = 2;</code>

\*/

**public** Builder clearNumber() {

number\_ = 0;

onChanged();

**return** **this**;

}

@java.lang.Override

**public** **final** Builder setUnknownFields(

**final** com.google.protobuf.UnknownFieldSet unknownFields) {

**return** **super**.setUnknownFieldsProto3(unknownFields);

}

@java.lang.Override

**public** **final** Builder mergeUnknownFields(

**final** com.google.protobuf.UnknownFieldSet unknownFields) {

**return** **super**.mergeUnknownFields(unknownFields);

}

// @@protoc\_insertion\_point(builder\_scope:Request)

}

// @@protoc\_insertion\_point(class\_scope:Request)

**private** **static** **final** com.jai.grpc.Asknumber.Request DEFAULT\_INSTANCE;

**static** {

DEFAULT\_INSTANCE = **new** com.jai.grpc.Asknumber.Request();

}

**public** **static** com.jai.grpc.Asknumber.Request getDefaultInstance() {

**return** DEFAULT\_INSTANCE;

}

**private** **static** **final** com.google.protobuf.Parser<Request>

PARSER = **new** com.google.protobuf.AbstractParser<Request>() {

@java.lang.Override

**public** Request parsePartialFrom(

com.google.protobuf.CodedInputStream input,

com.google.protobuf.ExtensionRegistryLite extensionRegistry)

**throws** com.google.protobuf.InvalidProtocolBufferException {

**return** **new** Request(input, extensionRegistry);

}

};

**public** **static** com.google.protobuf.Parser<Request> parser() {

**return** PARSER;

}

@java.lang.Override

**public** com.google.protobuf.Parser<Request> getParserForType() {

**return** PARSER;

}

@java.lang.Override

**public** com.jai.grpc.Asknumber.Request getDefaultInstanceForType() {

**return** DEFAULT\_INSTANCE;

}

}

**public** **interface** APIResponseOrBuilder **extends**

// @@protoc\_insertion\_point(interface\_extends:APIResponse)

com.google.protobuf.MessageOrBuilder {

/\*\*

\* <code>string responsemessage = 1;</code>

\*/

java.lang.String getResponsemessage();

/\*\*

\* <code>string responsemessage = 1;</code>

\*/

com.google.protobuf.ByteString

getResponsemessageBytes();

}

/\*\*

\* Protobuf type {@code APIResponse}

\*/

**public** **static** **final** **class** APIResponse **extends**

com.google.protobuf.GeneratedMessageV3 **implements**

// @@protoc\_insertion\_point(message\_implements:APIResponse)

APIResponseOrBuilder {

**private** **static** **final** **long** serialVersionUID = 0L;

// Use APIResponse.newBuilder() to construct.

**private** APIResponse(com.google.protobuf.GeneratedMessageV3.Builder<?> builder) {

**super**(builder);

}

**private** APIResponse() {

responsemessage\_ = "";

}

@java.lang.Override

**public** **final** com.google.protobuf.UnknownFieldSet

getUnknownFields() {

**return** **this**.unknownFields;

}

**private** APIResponse(

com.google.protobuf.CodedInputStream input,

com.google.protobuf.ExtensionRegistryLite extensionRegistry)

**throws** com.google.protobuf.InvalidProtocolBufferException {

**this**();

**if** (extensionRegistry == **null**) {

**throw** **new** java.lang.NullPointerException();

}

**int** mutable\_bitField0\_ = 0;

com.google.protobuf.UnknownFieldSet.Builder unknownFields =

com.google.protobuf.UnknownFieldSet.newBuilder();

**try** {

**boolean** done = **false**;

**while** (!done) {

**int** tag = input.readTag();

**switch** (tag) {

**case** 0:

done = **true**;

**break**;

**case** 10: {

java.lang.String s = input.readStringRequireUtf8();

responsemessage\_ = s;

**break**;

}

**default**: {

**if** (!parseUnknownFieldProto3(

input, unknownFields, extensionRegistry, tag)) {

done = **true**;

}

**break**;

}

}

}

} **catch** (com.google.protobuf.InvalidProtocolBufferException e) {

**throw** e.setUnfinishedMessage(**this**);

} **catch** (java.io.IOException e) {

**throw** **new** com.google.protobuf.InvalidProtocolBufferException(

e).setUnfinishedMessage(**this**);

} **finally** {

**this**.unknownFields = unknownFields.build();

makeExtensionsImmutable();

}

}

**public** **static** **final** com.google.protobuf.Descriptors.Descriptor

getDescriptor() {

**return** com.jai.grpc.Asknumber.internal\_static\_APIResponse\_descriptor;

}

@java.lang.Override

**protected** com.google.protobuf.GeneratedMessageV3.FieldAccessorTable

internalGetFieldAccessorTable() {

**return** com.jai.grpc.Asknumber.internal\_static\_APIResponse\_fieldAccessorTable

.ensureFieldAccessorsInitialized(

com.jai.grpc.Asknumber.APIResponse.**class**, com.jai.grpc.Asknumber.APIResponse.Builder.**class**);

}

**public** **static** **final** **int** RESPONSEMESSAGE\_FIELD\_NUMBER = 1;

**private** **volatile** java.lang.Object responsemessage\_;

/\*\*

\* <code>string responsemessage = 1;</code>

\*/

**public** java.lang.String getResponsemessage() {

java.lang.Object ref = responsemessage\_;

**if** (ref **instanceof** java.lang.String) {

**return** (java.lang.String) ref;

} **else** {

com.google.protobuf.ByteString bs =

(com.google.protobuf.ByteString) ref;

java.lang.String s = bs.toStringUtf8();

responsemessage\_ = s;

**return** s;

}

}

/\*\*

\* <code>string responsemessage = 1;</code>

\*/

**public** com.google.protobuf.ByteString

getResponsemessageBytes() {

java.lang.Object ref = responsemessage\_;

**if** (ref **instanceof** java.lang.String) {

com.google.protobuf.ByteString b =

com.google.protobuf.ByteString.copyFromUtf8(

(java.lang.String) ref);

responsemessage\_ = b;

**return** b;

} **else** {

**return** (com.google.protobuf.ByteString) ref;

}

}

**private** **byte** memoizedIsInitialized = -1;

@java.lang.Override

**public** **final** **boolean** isInitialized() {

**byte** isInitialized = memoizedIsInitialized;

**if** (isInitialized == 1) **return** **true**;

**if** (isInitialized == 0) **return** **false**;

memoizedIsInitialized = 1;

**return** **true**;

}

@java.lang.Override

**public** **void** writeTo(com.google.protobuf.CodedOutputStream output)

**throws** java.io.IOException {

**if** (!getResponsemessageBytes().isEmpty()) {

com.google.protobuf.GeneratedMessageV3.writeString(output, 1, responsemessage\_);

}

unknownFields.writeTo(output);

}

@java.lang.Override

**public** **int** getSerializedSize() {

**int** size = memoizedSize;

**if** (size != -1) **return** size;

size = 0;

**if** (!getResponsemessageBytes().isEmpty()) {

size += com.google.protobuf.GeneratedMessageV3.computeStringSize(1, responsemessage\_);

}

size += unknownFields.getSerializedSize();

memoizedSize = size;

**return** size;

}

@java.lang.Override

**public** **boolean** equals(**final** java.lang.Object obj) {

**if** (obj == **this**) {

**return** **true**;

}

**if** (!(obj **instanceof** com.jai.grpc.Asknumber.APIResponse)) {

**return** **super**.equals(obj);

}

com.jai.grpc.Asknumber.APIResponse other = (com.jai.grpc.Asknumber.APIResponse) obj;

**boolean** result = **true**;

result = result && getResponsemessage()

.equals(other.getResponsemessage());

result = result && unknownFields.equals(other.unknownFields);

**return** result;

}

@java.lang.Override

**public** **int** hashCode() {

**if** (memoizedHashCode != 0) {

**return** memoizedHashCode;

}

**int** hash = 41;

hash = (19 \* hash) + getDescriptor().hashCode();

hash = (37 \* hash) + RESPONSEMESSAGE\_FIELD\_NUMBER;

hash = (53 \* hash) + getResponsemessage().hashCode();

hash = (29 \* hash) + unknownFields.hashCode();

memoizedHashCode = hash;

**return** hash;

}

**public** **static** com.jai.grpc.Asknumber.APIResponse parseFrom(

java.nio.ByteBuffer data)

**throws** com.google.protobuf.InvalidProtocolBufferException {

**return** PARSER.parseFrom(data);

}

**public** **static** com.jai.grpc.Asknumber.APIResponse parseFrom(

java.nio.ByteBuffer data,

com.google.protobuf.ExtensionRegistryLite extensionRegistry)

**throws** com.google.protobuf.InvalidProtocolBufferException {

**return** PARSER.parseFrom(data, extensionRegistry);

}

**public** **static** com.jai.grpc.Asknumber.APIResponse parseFrom(

com.google.protobuf.ByteString data)

**throws** com.google.protobuf.InvalidProtocolBufferException {

**return** PARSER.parseFrom(data);

}

**public** **static** com.jai.grpc.Asknumber.APIResponse parseFrom(

com.google.protobuf.ByteString data,

com.google.protobuf.ExtensionRegistryLite extensionRegistry)

**throws** com.google.protobuf.InvalidProtocolBufferException {

**return** PARSER.parseFrom(data, extensionRegistry);

}

**public** **static** com.jai.grpc.Asknumber.APIResponse parseFrom(**byte**[] data)

**throws** com.google.protobuf.InvalidProtocolBufferException {

**return** PARSER.parseFrom(data);

}

**public** **static** com.jai.grpc.Asknumber.APIResponse parseFrom(

**byte**[] data,

com.google.protobuf.ExtensionRegistryLite extensionRegistry)

**throws** com.google.protobuf.InvalidProtocolBufferException {

**return** PARSER.parseFrom(data, extensionRegistry);

}

**public** **static** com.jai.grpc.Asknumber.APIResponse parseFrom(java.io.InputStream input)

**throws** java.io.IOException {

**return** com.google.protobuf.GeneratedMessageV3

.parseWithIOException(PARSER, input);

}

**public** **static** com.jai.grpc.Asknumber.APIResponse parseFrom(

java.io.InputStream input,

com.google.protobuf.ExtensionRegistryLite extensionRegistry)

**throws** java.io.IOException {

**return** com.google.protobuf.GeneratedMessageV3

.parseWithIOException(PARSER, input, extensionRegistry);

}

**public** **static** com.jai.grpc.Asknumber.APIResponse parseDelimitedFrom(java.io.InputStream input)

**throws** java.io.IOException {

**return** com.google.protobuf.GeneratedMessageV3

.parseDelimitedWithIOException(PARSER, input);

}

**public** **static** com.jai.grpc.Asknumber.APIResponse parseDelimitedFrom(

java.io.InputStream input,

com.google.protobuf.ExtensionRegistryLite extensionRegistry)

**throws** java.io.IOException {

**return** com.google.protobuf.GeneratedMessageV3

.parseDelimitedWithIOException(PARSER, input, extensionRegistry);

}

**public** **static** com.jai.grpc.Asknumber.APIResponse parseFrom(

com.google.protobuf.CodedInputStream input)

**throws** java.io.IOException {

**return** com.google.protobuf.GeneratedMessageV3

.parseWithIOException(PARSER, input);

}

**public** **static** com.jai.grpc.Asknumber.APIResponse parseFrom(

com.google.protobuf.CodedInputStream input,

com.google.protobuf.ExtensionRegistryLite extensionRegistry)

**throws** java.io.IOException {

**return** com.google.protobuf.GeneratedMessageV3

.parseWithIOException(PARSER, input, extensionRegistry);

}

@java.lang.Override

**public** Builder newBuilderForType() { **return** newBuilder(); }

**public** **static** Builder newBuilder() {

**return** DEFAULT\_INSTANCE.toBuilder();

}

**public** **static** Builder newBuilder(com.jai.grpc.Asknumber.APIResponse prototype) {

**return** DEFAULT\_INSTANCE.toBuilder().mergeFrom(prototype);

}

@java.lang.Override

**public** Builder toBuilder() {

**return** **this** == DEFAULT\_INSTANCE

? **new** Builder() : **new** Builder().mergeFrom(**this**);

}

@java.lang.Override

**protected** Builder newBuilderForType(

com.google.protobuf.GeneratedMessageV3.BuilderParent parent) {

Builder builder = **new** Builder(parent);

**return** builder;

}

/\*\*

\* Protobuf type {@code APIResponse}

\*/

**public** **static** **final** **class** Builder **extends**

com.google.protobuf.GeneratedMessageV3.Builder<Builder> **implements**

// @@protoc\_insertion\_point(builder\_implements:APIResponse)

com.jai.grpc.Asknumber.APIResponseOrBuilder {

**public** **static** **final** com.google.protobuf.Descriptors.Descriptor

getDescriptor() {

**return** com.jai.grpc.Asknumber.internal\_static\_APIResponse\_descriptor;

}

@java.lang.Override

**protected** com.google.protobuf.GeneratedMessageV3.FieldAccessorTable

internalGetFieldAccessorTable() {

**return** com.jai.grpc.Asknumber.internal\_static\_APIResponse\_fieldAccessorTable

.ensureFieldAccessorsInitialized(

com.jai.grpc.Asknumber.APIResponse.**class**, com.jai.grpc.Asknumber.APIResponse.Builder.**class**);

}

// Construct using com.jai.grpc.Asknumber.APIResponse.newBuilder()

**private** Builder() {

maybeForceBuilderInitialization();

}

**private** Builder(

com.google.protobuf.GeneratedMessageV3.BuilderParent parent) {

**super**(parent);

maybeForceBuilderInitialization();

}

**private** **void** maybeForceBuilderInitialization() {

**if** (com.google.protobuf.GeneratedMessageV3

.alwaysUseFieldBuilders) {

}

}

@java.lang.Override

**public** Builder clear() {

**super**.clear();

responsemessage\_ = "";

**return** **this**;

}

@java.lang.Override

**public** com.google.protobuf.Descriptors.Descriptor

getDescriptorForType() {

**return** com.jai.grpc.Asknumber.internal\_static\_APIResponse\_descriptor;

}

@java.lang.Override

**public** com.jai.grpc.Asknumber.APIResponse getDefaultInstanceForType() {

**return** com.jai.grpc.Asknumber.APIResponse.getDefaultInstance();

}

@java.lang.Override

**public** com.jai.grpc.Asknumber.APIResponse build() {

com.jai.grpc.Asknumber.APIResponse result = buildPartial();

**if** (!result.isInitialized()) {

**throw** newUninitializedMessageException(result);

}

**return** result;

}

@java.lang.Override

**public** com.jai.grpc.Asknumber.APIResponse buildPartial() {

com.jai.grpc.Asknumber.APIResponse result = **new** com.jai.grpc.Asknumber.APIResponse(**this**);

result.responsemessage\_ = responsemessage\_;

onBuilt();

**return** result;

}

@java.lang.Override

**public** Builder clone() {

**return** (Builder) **super**.clone();

}

@java.lang.Override

**public** Builder setField(

com.google.protobuf.Descriptors.FieldDescriptor field,

java.lang.Object value) {

**return** (Builder) **super**.setField(field, value);

}

@java.lang.Override

**public** Builder clearField(

com.google.protobuf.Descriptors.FieldDescriptor field) {

**return** (Builder) **super**.clearField(field);

}

@java.lang.Override

**public** Builder clearOneof(

com.google.protobuf.Descriptors.OneofDescriptor oneof) {

**return** (Builder) **super**.clearOneof(oneof);

}

@java.lang.Override

**public** Builder setRepeatedField(

com.google.protobuf.Descriptors.FieldDescriptor field,

**int** index, java.lang.Object value) {

**return** (Builder) **super**.setRepeatedField(field, index, value);

}

@java.lang.Override

**public** Builder addRepeatedField(

com.google.protobuf.Descriptors.FieldDescriptor field,

java.lang.Object value) {

**return** (Builder) **super**.addRepeatedField(field, value);

}

@java.lang.Override

**public** Builder mergeFrom(com.google.protobuf.Message other) {

**if** (other **instanceof** com.jai.grpc.Asknumber.APIResponse) {

**return** mergeFrom((com.jai.grpc.Asknumber.APIResponse)other);

} **else** {

**super**.mergeFrom(other);

**return** **this**;

}

}

**public** Builder mergeFrom(com.jai.grpc.Asknumber.APIResponse other) {

**if** (other == com.jai.grpc.Asknumber.APIResponse.getDefaultInstance()) **return** **this**;

**if** (!other.getResponsemessage().isEmpty()) {

responsemessage\_ = other.responsemessage\_;

onChanged();

}

**this**.mergeUnknownFields(other.unknownFields);

onChanged();

**return** **this**;

}

@java.lang.Override

**public** **final** **boolean** isInitialized() {

**return** **true**;

}

@java.lang.Override

**public** Builder mergeFrom(

com.google.protobuf.CodedInputStream input,

com.google.protobuf.ExtensionRegistryLite extensionRegistry)

**throws** java.io.IOException {

com.jai.grpc.Asknumber.APIResponse parsedMessage = **null**;

**try** {

parsedMessage = PARSER.parsePartialFrom(input, extensionRegistry);

} **catch** (com.google.protobuf.InvalidProtocolBufferException e) {

parsedMessage = (com.jai.grpc.Asknumber.APIResponse) e.getUnfinishedMessage();

**throw** e.unwrapIOException();

} **finally** {

**if** (parsedMessage != **null**) {

mergeFrom(parsedMessage);

}

}

**return** **this**;

}

**private** java.lang.Object responsemessage\_ = "";

/\*\*

\* <code>string responsemessage = 1;</code>

\*/

**public** java.lang.String getResponsemessage() {

java.lang.Object ref = responsemessage\_;

**if** (!(ref **instanceof** java.lang.String)) {

com.google.protobuf.ByteString bs =

(com.google.protobuf.ByteString) ref;

java.lang.String s = bs.toStringUtf8();

responsemessage\_ = s;

**return** s;

} **else** {

**return** (java.lang.String) ref;

}

}

/\*\*

\* <code>string responsemessage = 1;</code>

\*/

**public** com.google.protobuf.ByteString

getResponsemessageBytes() {

java.lang.Object ref = responsemessage\_;

**if** (ref **instanceof** String) {

com.google.protobuf.ByteString b =

com.google.protobuf.ByteString.copyFromUtf8(

(java.lang.String) ref);

responsemessage\_ = b;

**return** b;

} **else** {

**return** (com.google.protobuf.ByteString) ref;

}

}

/\*\*

\* <code>string responsemessage = 1;</code>

\*/

**public** Builder setResponsemessage(

java.lang.String value) {

**if** (value == **null**) {

**throw** **new** NullPointerException();

}

responsemessage\_ = value;

onChanged();

**return** **this**;

}

/\*\*

\* <code>string responsemessage = 1;</code>

\*/

**public** Builder clearResponsemessage() {

responsemessage\_ = getDefaultInstance().getResponsemessage();

onChanged();

**return** **this**;

}

/\*\*

\* <code>string responsemessage = 1;</code>

\*/

**public** Builder setResponsemessageBytes(

com.google.protobuf.ByteString value) {

**if** (value == **null**) {

**throw** **new** NullPointerException();

}

checkByteStringIsUtf8(value);

responsemessage\_ = value;

onChanged();

**return** **this**;

}

@java.lang.Override

**public** **final** Builder setUnknownFields(

**final** com.google.protobuf.UnknownFieldSet unknownFields) {

**return** **super**.setUnknownFieldsProto3(unknownFields);

}

@java.lang.Override

**public** **final** Builder mergeUnknownFields(

**final** com.google.protobuf.UnknownFieldSet unknownFields) {

**return** **super**.mergeUnknownFields(unknownFields);

}

// @@protoc\_insertion\_point(builder\_scope:APIResponse)

}

// @@protoc\_insertion\_point(class\_scope:APIResponse)

**private** **static** **final** com.jai.grpc.Asknumber.APIResponse DEFAULT\_INSTANCE;

**static** {

DEFAULT\_INSTANCE = **new** com.jai.grpc.Asknumber.APIResponse();

}

**public** **static** com.jai.grpc.Asknumber.APIResponse getDefaultInstance() {

**return** DEFAULT\_INSTANCE;

}

**private** **static** **final** com.google.protobuf.Parser<APIResponse>

PARSER = **new** com.google.protobuf.AbstractParser<APIResponse>() {

@java.lang.Override

**public** APIResponse parsePartialFrom(

com.google.protobuf.CodedInputStream input,

com.google.protobuf.ExtensionRegistryLite extensionRegistry)

**throws** com.google.protobuf.InvalidProtocolBufferException {

**return** **new** APIResponse(input, extensionRegistry);

}

};

**public** **static** com.google.protobuf.Parser<APIResponse> parser() {

**return** PARSER;

}

@java.lang.Override

**public** com.google.protobuf.Parser<APIResponse> getParserForType() {

**return** PARSER;

}

@java.lang.Override

**public** com.jai.grpc.Asknumber.APIResponse getDefaultInstanceForType() {

**return** DEFAULT\_INSTANCE;

}

}

**private** **static** **final** com.google.protobuf.Descriptors.Descriptor

internal\_static\_Request\_descriptor;

**private** **static** **final**

com.google.protobuf.GeneratedMessageV3.FieldAccessorTable

internal\_static\_Request\_fieldAccessorTable;

**private** **static** **final** com.google.protobuf.Descriptors.Descriptor

internal\_static\_APIResponse\_descriptor;

**private** **static** **final**

com.google.protobuf.GeneratedMessageV3.FieldAccessorTable

internal\_static\_APIResponse\_fieldAccessorTable;

**public** **static** com.google.protobuf.Descriptors.FileDescriptor

getDescriptor() {

**return** descriptor;

}

**private** **static** com.google.protobuf.Descriptors.FileDescriptor

descriptor;

**static** {

java.lang.String[] descriptorData = {

"\n\017asknumber.proto\"\031\n\007Request\022\016\n\006number\030\002" +

" \001(\005\"&\n\013APIResponse\022\027\n\017responsemessage\030\001" +

" \001(\t2,\n\tasknumber\022\037\n\005login\022\010.Request\032\014.A" +

"PIResponseB\016\n\014com.jai.grpcb\006proto3"

};

com.google.protobuf.Descriptors.FileDescriptor.InternalDescriptorAssigner assigner =

**new** com.google.protobuf.Descriptors.FileDescriptor. InternalDescriptorAssigner() {

**public** com.google.protobuf.ExtensionRegistry assignDescriptors(

com.google.protobuf.Descriptors.FileDescriptor root) {

descriptor = root;

**return** **null**;

}

};

com.google.protobuf.Descriptors.FileDescriptor

.internalBuildGeneratedFileFrom(descriptorData,

**new** com.google.protobuf.Descriptors.FileDescriptor[] {

}, assigner);

internal\_static\_Request\_descriptor =

getDescriptor().getMessageTypes().get(0);

internal\_static\_Request\_fieldAccessorTable = **new**

com.google.protobuf.GeneratedMessageV3.FieldAccessorTable(

internal\_static\_Request\_descriptor,

**new** java.lang.String[] { "Number", });

internal\_static\_APIResponse\_descriptor =

getDescriptor().getMessageTypes().get(1);

internal\_static\_APIResponse\_fieldAccessorTable = **new**

com.google.protobuf.GeneratedMessageV3.FieldAccessorTable(

internal\_static\_APIResponse\_descriptor,

**new** java.lang.String[] { "Responsemessage", });

}

// @@protoc\_insertion\_point(outer\_class\_scope)

}

**GRPC.java**

**package** com.jai.grpc;

**import** **static** io.grpc.MethodDescriptor.generateFullMethodName;

**import** **static** io.grpc.stub.ClientCalls.asyncBidiStreamingCall;

**import** **static** io.grpc.stub.ClientCalls.asyncClientStreamingCall;

**import** **static** io.grpc.stub.ClientCalls.asyncServerStreamingCall;

**import** **static** io.grpc.stub.ClientCalls.asyncUnaryCall;

**import** **static** io.grpc.stub.ClientCalls.blockingServerStreamingCall;

**import** **static** io.grpc.stub.ClientCalls.blockingUnaryCall;

**import** **static** io.grpc.stub.ClientCalls.futureUnaryCall;

**import** **static** io.grpc.stub.ServerCalls.asyncBidiStreamingCall;

**import** **static** io.grpc.stub.ServerCalls.asyncClientStreamingCall;

**import** **static** io.grpc.stub.ServerCalls.asyncServerStreamingCall;

**import** **static** io.grpc.stub.ServerCalls.asyncUnaryCall;

**import** **static** io.grpc.stub.ServerCalls.asyncUnimplementedStreamingCall;

**import** **static** io.grpc.stub.ServerCalls.asyncUnimplementedUnaryCall;

/\*\*

\*/

@javax.annotation.Generated(

value = "by gRPC proto compiler (version 1.15.0)",

comments = "Source: asknumber.proto")

**public** **final** **class** asknumberGrpc {

**private** asknumberGrpc() {}

**public** **static** **final** String SERVICE\_NAME = "asknumber";

// Static method descriptors that strictly reflect the proto.

**private** **static** **volatile** io.grpc.MethodDescriptor<com.jai.grpc.Asknumber.Request,

com.jai.grpc.Asknumber.APIResponse> getLoginMethod;

@io.grpc.stub.annotations.RpcMethod(

fullMethodName = SERVICE\_NAME + '/' + "login",

requestType = com.jai.grpc.Asknumber.Request.**class**,

responseType = com.jai.grpc.Asknumber.APIResponse.**class**,

methodType = io.grpc.MethodDescriptor.MethodType.UNARY)

**public** **static** io.grpc.MethodDescriptor<com.jai.grpc.Asknumber.Request,

com.jai.grpc.Asknumber.APIResponse> getLoginMethod() {

io.grpc.MethodDescriptor<com.jai.grpc.Asknumber.Request, com.jai.grpc.Asknumber.APIResponse> getLoginMethod;

**if** ((getLoginMethod = asknumberGrpc.getLoginMethod) == **null**) {

**synchronized** (asknumberGrpc.**class**) {

**if** ((getLoginMethod = asknumberGrpc.getLoginMethod) == **null**) {

asknumberGrpc.getLoginMethod = getLoginMethod =

io.grpc.MethodDescriptor.<com.jai.grpc.Asknumber.Request, com.jai.grpc.Asknumber.APIResponse>newBuilder()

.setType(io.grpc.MethodDescriptor.MethodType.UNARY)

.setFullMethodName(generateFullMethodName(

"asknumber", "login"))

.setSampledToLocalTracing(**true**)

.setRequestMarshaller(io.grpc.protobuf.ProtoUtils.marshaller(

com.jai.grpc.Asknumber.Request.getDefaultInstance()))

.setResponseMarshaller(io.grpc.protobuf.ProtoUtils.marshaller(

com.jai.grpc.Asknumber.APIResponse.getDefaultInstance()))

.setSchemaDescriptor(**new** asknumberMethodDescriptorSupplier("login"))

.build();

}

}

}

**return** getLoginMethod;

}

/\*\*

\* Creates a new async stub that supports all call types for the service

\*/

**public** **static** asknumberStub newStub(io.grpc.Channel channel) {

**return** **new** asknumberStub(channel);

}

/\*\*

\* Creates a new blocking-style stub that supports unary and streaming output calls on the service

\*/

**public** **static** asknumberBlockingStub newBlockingStub(

io.grpc.Channel channel) {

**return** **new** asknumberBlockingStub(channel);

}

/\*\*

\* Creates a new ListenableFuture-style stub that supports unary calls on the service

\*/

**public** **static** asknumberFutureStub newFutureStub(

io.grpc.Channel channel) {

**return** **new** asknumberFutureStub(channel);

}

/\*\*

\*/

**public** **static** **abstract** **class** asknumberImplBase **implements** io.grpc.BindableService {

/\*\*

\*/

**public** **void** login(com.jai.grpc.Asknumber.Request request,

io.grpc.stub.StreamObserver<com.jai.grpc.Asknumber.APIResponse> responseObserver) {

asyncUnimplementedUnaryCall(getLoginMethod(), responseObserver);

}

@java.lang.Override **public** **final** io.grpc.ServerServiceDefinition bindService() {

**return** io.grpc.ServerServiceDefinition.builder(getServiceDescriptor())

.addMethod(

getLoginMethod(),

asyncUnaryCall(

**new** MethodHandlers<

com.jai.grpc.Asknumber.Request,

com.jai.grpc.Asknumber.APIResponse>(

**this**, METHODID\_LOGIN)))

.build();

}

}

/\*\*

\*/

**public** **static** **final** **class** asknumberStub **extends** io.grpc.stub.AbstractStub<asknumberStub> {

**private** asknumberStub(io.grpc.Channel channel) {

**super**(channel);

}

**private** asknumberStub(io.grpc.Channel channel,

io.grpc.CallOptions callOptions) {

**super**(channel, callOptions);

}

@java.lang.Override

**protected** asknumberStub build(io.grpc.Channel channel,

io.grpc.CallOptions callOptions) {

**return** **new** asknumberStub(channel, callOptions);

}

/\*\*

\*/

**public** **void** login(com.jai.grpc.Asknumber.Request request,

io.grpc.stub.StreamObserver<com.jai.grpc.Asknumber.APIResponse> responseObserver) {

asyncUnaryCall(

getChannel().newCall(getLoginMethod(), getCallOptions()), request, responseObserver);

}

}

/\*\*

\*/

**public** **static** **final** **class** asknumberBlockingStub **extends** io.grpc.stub.AbstractStub<asknumberBlockingStub> {

**private** asknumberBlockingStub(io.grpc.Channel channel) {

**super**(channel);

}

**private** asknumberBlockingStub(io.grpc.Channel channel,

io.grpc.CallOptions callOptions) {

**super**(channel, callOptions);

}

@java.lang.Override

**protected** asknumberBlockingStub build(io.grpc.Channel channel,

io.grpc.CallOptions callOptions) {

**return** **new** asknumberBlockingStub(channel, callOptions);

}

/\*\*

\*/

**public** com.jai.grpc.Asknumber.APIResponse login(com.jai.grpc.Asknumber.Request request) {

**return** blockingUnaryCall(

getChannel(), getLoginMethod(), getCallOptions(), request);

}

}

/\*\*

\*/

**public** **static** **final** **class** asknumberFutureStub **extends** io.grpc.stub.AbstractStub<asknumberFutureStub> {

**private** asknumberFutureStub(io.grpc.Channel channel) {

**super**(channel);

}

**private** asknumberFutureStub(io.grpc.Channel channel,

io.grpc.CallOptions callOptions) {

**super**(channel, callOptions);

}

@java.lang.Override

**protected** asknumberFutureStub build(io.grpc.Channel channel,

io.grpc.CallOptions callOptions) {

**return** **new** asknumberFutureStub(channel, callOptions);

}

/\*\*

\*/

**public** com.google.common.util.concurrent.ListenableFuture<com.jai.grpc.Asknumber.APIResponse> login(

com.jai.grpc.Asknumber.Request request) {

**return** futureUnaryCall(

getChannel().newCall(getLoginMethod(), getCallOptions()), request);

}

}

**private** **static** **final** **int** METHODID\_LOGIN = 0;

**private** **static** **final** **class** MethodHandlers<Req, Resp> **implements**

io.grpc.stub.ServerCalls.UnaryMethod<Req, Resp>,

io.grpc.stub.ServerCalls.ServerStreamingMethod<Req, Resp>,

io.grpc.stub.ServerCalls.ClientStreamingMethod<Req, Resp>,

io.grpc.stub.ServerCalls.BidiStreamingMethod<Req, Resp> {

**private** **final** asknumberImplBase serviceImpl;

**private** **final** **int** methodId;

MethodHandlers(asknumberImplBase serviceImpl, **int** methodId) {

**this**.serviceImpl = serviceImpl;

**this**.methodId = methodId;

}

@java.lang.Override

@java.lang.SuppressWarnings("unchecked")

**public** **void** invoke(Req request, io.grpc.stub.StreamObserver<Resp> responseObserver) {

**switch** (methodId) {

**case** METHODID\_LOGIN:

serviceImpl.login((com.jai.grpc.Asknumber.Request) request,

(io.grpc.stub.StreamObserver<com.jai.grpc.Asknumber.APIResponse>) responseObserver);

**break**;

**default**:

**throw** **new** AssertionError();

}

}

@java.lang.Override

@java.lang.SuppressWarnings("unchecked")

**public** io.grpc.stub.StreamObserver<Req> invoke(

io.grpc.stub.StreamObserver<Resp> responseObserver) {

**switch** (methodId) {

**default**:

**throw** **new** AssertionError();

}

}

}

**private** **static** **abstract** **class** asknumberBaseDescriptorSupplier

**implements** io.grpc.protobuf.ProtoFileDescriptorSupplier, io.grpc.protobuf.ProtoServiceDescriptorSupplier {

asknumberBaseDescriptorSupplier() {}

@java.lang.Override

**public** com.google.protobuf.Descriptors.FileDescriptor getFileDescriptor() {

**return** com.jai.grpc.Asknumber.getDescriptor();

}

@java.lang.Override

**public** com.google.protobuf.Descriptors.ServiceDescriptor getServiceDescriptor() {

**return** getFileDescriptor().findServiceByName("asknumber");

}

}

**private** **static** **final** **class** asknumberFileDescriptorSupplier

**extends** asknumberBaseDescriptorSupplier {

asknumberFileDescriptorSupplier() {}

}

**private** **static** **final** **class** asknumberMethodDescriptorSupplier

**extends** asknumberBaseDescriptorSupplier

**implements** io.grpc.protobuf.ProtoMethodDescriptorSupplier {

**private** **final** String methodName;

asknumberMethodDescriptorSupplier(String methodName) {

**this**.methodName = methodName;

}

@java.lang.Override

**public** com.google.protobuf.Descriptors.MethodDescriptor getMethodDescriptor() {

**return** getServiceDescriptor().findMethodByName(methodName);

}

}

**private** **static** **volatile** io.grpc.ServiceDescriptor serviceDescriptor;

**public** **static** io.grpc.ServiceDescriptor getServiceDescriptor() {

io.grpc.ServiceDescriptor result = serviceDescriptor;

**if** (result == **null**) {

**synchronized** (asknumberGrpc.**class**) {

result = serviceDescriptor;

**if** (result == **null**) {

serviceDescriptor = result = io.grpc.ServiceDescriptor.newBuilder(SERVICE\_NAME)

.setSchemaDescriptor(**new** asknumberFileDescriptorSupplier())

.addMethod(getLoginMethod())

.build();

}

}

}

**return** result;

}

}

**ClientService**

package Clientuserservice;

import groupA.Server1;

import com.jai.grpc.Asknumber.APIResponse;

import com.jai.grpc.Asknumber.Request;

import com.jai.grpc.asknumberGrpc.asknumberImplBase;

import io.grpc.stub.StreamObserver;

public class ClientService extends asknumberImplBase {

@Override

public void login(Request request, StreamObserver<APIResponse> responseObserver) {

System.err.println("Asking number service");

//String title=request.getTitle();

int number=request.getNumber();

APIResponse.Builder response = APIResponse.newBuilder();

Server1 replyObj=new Server1();

String reply=replyObj.func(number);

response.setResponsemessage(reply);

responseObserver.onNext(response.build());

responseObserver.onCompleted();

}

}

**Server**

package GrpcServer;

import java.io.IOException;

import io.grpc.Server;

import io.grpc.ServerBuilder;

import Clientuserservice.ClientService;

public class GRPCServer {

public static void main(String args[]) throws IOException, InterruptedException {

System.out.println("starting GRPC Server");

Server server = ServerBuilder.forPort(9090).addService(

new ClientService()).build();

server.start();

System.out.println("server started at "+ server.getPort());

server.awaitTermination();

}

}

**GroupA**

**Server1**

**package** groupA;

**public** **class** Server1 {

**public** String func(**int** a)

{

**int** array[]={0,1,2,3,4};

**for**(**int** i=0;i<5;i++)

{

**if**(array[i]==a)

{

**return** "From Group A server 1 number is "+a;

}

}

Server2 serv2=**new** Server2();

String str=serv2.func2(a);

**return** str;

}

}

**Server2**

**package** groupA;

**public** **class** Server2 {

**public** String func2(**int** a)

{

**int** array[]={5,6,7,8,9};

**for**(**int** i=0;i<5;i++)

{

**if**(array[i]==a)

{

**return** "From Group A server 2 number is "+a;

}

}

Server3 serv3=**new** Server3();

String str=serv3.func3(a);

**return** str;

}

}

**Server3**

**package** groupA;

**import** groupB.\*;

**public** **class** Server3 {

**public** String func3(**int** a)

{

**int** array[]={10,11,12,13,14};

**for**(**int** i=0;i<5;i++)

{

**if**(array[i]==a)

{

**return** "From Group A server 3 number is "+a;

}

}

groupB.Server1 groupBserver1=**new** groupB.Server1();

String str=groupBserver1.func(a);

**return** str;

}

}

**GroupB**

**package** groupB;

**public** **class** Server1 {

**public** String func(**int** a)

{

**int** array[]={15,16,17,18,19};

**for**(**int** i=0;i<5;i++)

{

**if**(array[i]==a)

{

**return** "From Group B server 1 number is "+a;

}

}

Server2 serv2=**new** Server2();

String str=serv2.func2(a);

**return** str;

}

}

**package** groupB;

**public** **class** Server2 {

**public** String func2(**int** a)

{

**int** array[]={20,21,22,23,24};

**for**(**int** i=0;i<5;i++)

{

**if**(array[i]==a)

{

**return** "From Groub B server 2 number is "+a;

}

}

Server3 serv3=**new** Server3();

String str=serv3.func3(a);

**return** str;

}

}

**package** groupB;

**public** **class** Server3 {

**public** String func3(**int** a)

{

**int** array[]={25,26,27,28,29};

**for**(**int** i=0;i<5;i++)

{

**if**(array[i]==a)

{

**return** "From Groub B server 3 number is "+a;

}

}

**return** "No number From Groub A and Group B servers 1,2,3";

}

}

**Sample output**

**If we give number 30 then there is no server contains 30**

Graphical user interface, text, application

Description automatically generated

**If we give number 12 then it will be getting from Group A server 3**

Graphical user interface, text, application

Description automatically generated