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Subject: Patch: Reconnecting PostgreSQL Automatically on Unstable Networks  
Posted by [zsolt](#) on Tue, 27 Apr 2010 17:21:06 GMT

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After a network connection problem or coming back from suspend, it is convenient for your users to reconnect your app to the server automatically.

I did not want to write a lot of code dealing with this problem, so I patched PostgreSQL classes.

Using this patch PostgreSQL classes reconnect to the server on connection problems. They try to reconnect only once and not within transactions.

In void PostgreSQLSession::ExecTrans(const char \* statement) change the rowresult = PQexec(conn, statement);

```
to for(int i=0; i<2; i++){
    result = PQexec(conn, statement);
    if(level==0 && !ConnectionOK())
        if(!ReOpen()) return;
        else continue;
    break;
}
```

and in bool PostgreSQLConnection::Execute() change the row result = PQexecParams(conn, query, 0, NULL, NULL, NULL, NULL, 0);

```
to for(int i=0; i<2; i++){
    result = PQexecParams(conn, query, 0, NULL, NULL, NULL, NULL, 0);
    if(session.level==0 && !session.ConnectionOK())
        if(!session.ReOpen()) return false;
        else continue;
    break;
}
```

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Subject: Re: Patch: Reconnecting PostgreSQL Automatically on Unstable Networks  
Posted by [mirek](#) on Tue, 27 Apr 2010 18:21:39 GMT

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zsolt wrote on Tue, 27 April 2010 13:21 After a network connection problem or coming back from suspend, it is convenient for your users to reconnect your app to the server automatically.

I did not want to write a lot of code dealing with this problem, so I patched PostgreSQL classes.

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    result = PQexecParams(conn, query, 0, NULL, NULL, NULL, NULL, 0);
    if(session.level==0 && !session.ConnectionOK())
        if(!session.ReOpen()) return false;
        else continue;
    break;
}
```

I am not sure this is a good solution - what if you are in the middle of the transaction? Or in the Fetch loop?

Interestingly, I had to deal with this issue quite recently (in PGSQL). In the end I have ended with solution that:

- periodically (via 1s timer; I may make it more frequent in the future) issues "select 0" as sort of ping and automatically reconnects if this fails
- in other cases throws exception and restarts the application (because that is the only solution I consider safe in all cases).

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Subject: Re: Patch: Reconnecting PostgreSQL Automatically on Unstable Networks  
Posted by [zsoft](#) on Tue, 27 Apr 2010 19:19:10 GMT

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Quote:what if you are in the middle of the transaction?

This is why I don't reconnect in transaction (`session.level==0`).

I don't use fetch loop, but I think it can be an other exeption.

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Subject: Re: Patch: Reconnecting PostgreSQL Automatically on Unstable Networks  
Posted by [zsoft](#) on Wed, 28 Apr 2010 12:31:37 GMT

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OK, Mirek. I can see, that this level management is absolutely useless. We have to find out some better way.

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Subject: Re: Patch: Reconnecting PostgreSQL Automatically on Unstable Networks  
Posted by [mirek](#) on Thu, 29 Apr 2010 21:55:23 GMT

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zsolt wrote on Tue, 27 April 2010 15:19Quote:what if you are in the middle of the transaction?

This is why I don't reconnect in transaction (session.level==0).

I don't use fetch loop, but I think it can be an other exeption.

Hm, just curious: How do you read anything from DB then?

Mirek

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Subject: Re: Patch: Reconnecting PostgreSQL Automatically on Unstable Networks  
Posted by [zsolt](#) on Thu, 29 Apr 2010 23:41:40 GMT

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I don't use DECLARE CURSOR and FECTH SQL statements, only simple SELECTS.

If you iterate on the result of a SELECT, it iterates on a table in RAM, AFAIK, so reconnection is not an issue here.

BTW, I changed PostgreSQLSession::Rollback() to:

```
void PostgreSQLSession::Rollback()
{
    ExecTrans("rollback");
    if(level>0) level--;
}
```

and my app is quite usable now on unstable networks.

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Subject: Re: Patch: Reconnecting PostgreSQL Automatically on Unstable Networks  
Posted by [mirek](#) on Fri, 30 Apr 2010 08:53:59 GMT

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zsolt wrote on Thu, 29 April 2010 19:41I don't use DECLARE CURSOR and FECTH SQL statements, only simple SELECTS.

If you iterate on the result of a SELECT, it iterates on a table in RAM, AFAIK, so reconnection is not an issue here.

Ah, I mean U++ Fetch. Am not using cursors and FETCH either.

Well, you are right that in this PGSQL version, the result set is in RAM. It can change in future though...

(Frankly, I was quite surprised by this issue - sometimes I am loading quite big result sets a pgsq allocating 0.5G is no fun...

Quote:

BTW, I changed PostgreSQLSession::Rollback() to:

```
void PostgreSQLSession::Rollback()
```

```
{  
  ExecTrans("rollback");  
  if(level>0) level--;  
}
```

and my app is quite usable now on unstable networks.

I guess this patch cannot cause any harm -> applied.

Mirek

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Subject: Re: Patch: Reconnecting PostgreSQL Automatically on Unstable Networks  
Posted by [zsolt](#) on Tue, 04 May 2010 10:11:03 GMT

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Thanks, BTW, my Scrum Tool uses this reconnecting code since last week and seems to be very useful and stable this way.

Would it be possible to include this feature if it would be optional? The default mode would be the normal behaviour and auto reconnecting mode would be an option?

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Subject: Re: Patch: Reconnecting PostgreSQL Automatically on Unstable Networks  
Posted by [mirek](#) on Mon, 17 May 2010 12:47:18 GMT

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After some thinking, I have added WhenReconnect callback that basically extends your proposal.

Mirek

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Subject: Re: Patch: Reconnecting PostgreSQL Automatically on Unstable Networks

Posted by [zsolt](#) on Mon, 17 May 2010 13:44:34 GMT

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Thanks, I will check and try it soon.

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