IBEXPERT WHITE PAPER

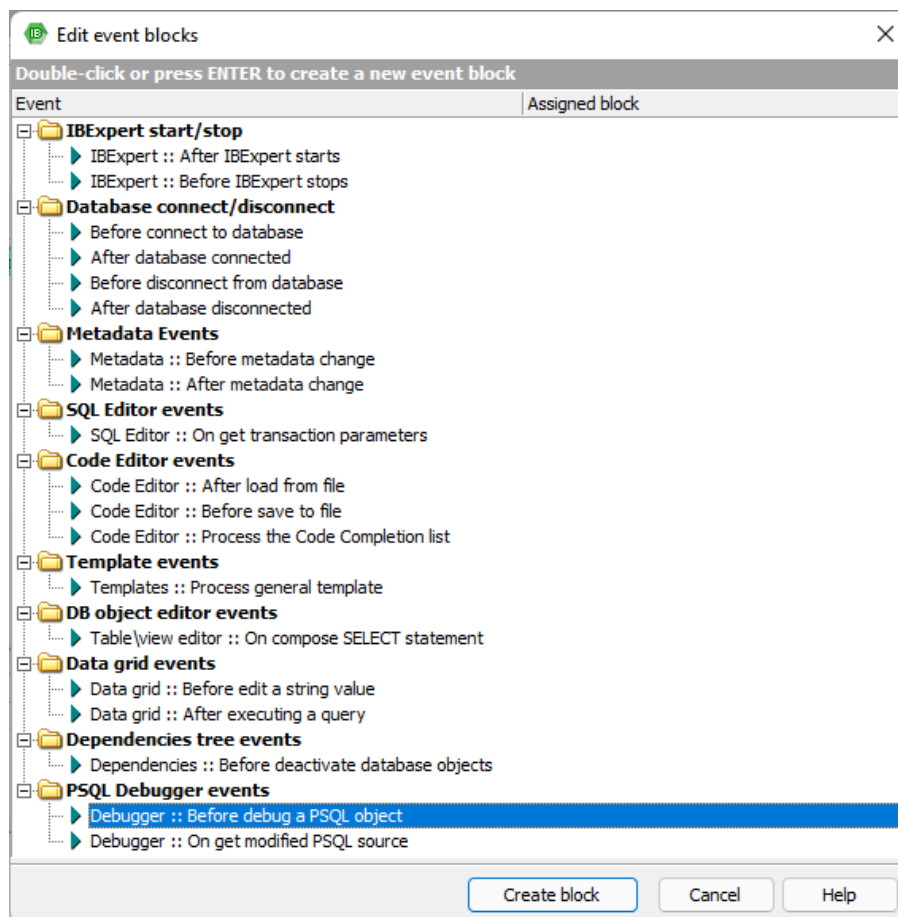## Firebird and IBExpert White Paper

Advanced debugging event block

Fikret Hasovic, February 2022

The *Event Blocks* feature allows you to process certain events within IBExpert.

The latest IBExpert version includes a new feature for advanced debugging, but the blocks have to be added from external templates. These are PSQL Debugger events:

Before debugging a PSQL object and On Get modified PSQL source

So, the first block (*Before debugging a PSQL object*) template now looks as follows:

```
execute ibeblock (
  DatabaseID variant comment          'Internal ID (within IBExpert) of
the database associated to the PSQL debugger',
  ObjectName variant comment          'PSQL object name',
```
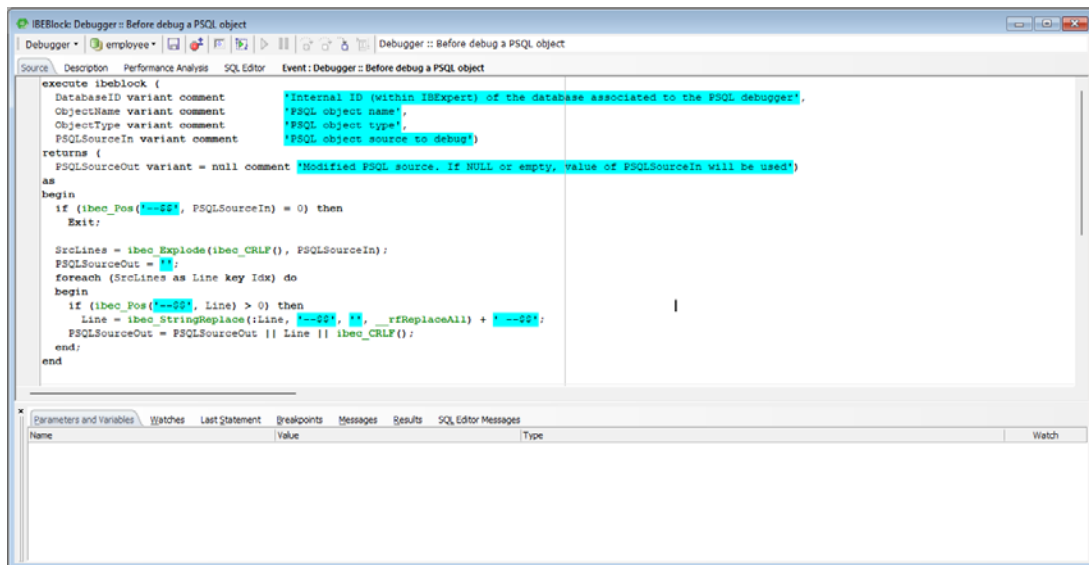
```
   ObjectType variant comment              'PSQL object type',
   PSQLSourceIn variant comment            'PSQL object source to debug')
returns (
   PSQLSourceOut variant = null comment 'Modified PSQL source. If NULL or
empty, value of PSQLSourceIn will be used')
as
begin
   if (ibec_Pos('--$$', PSQLSourceIn) = 0) then
     Exit;

   SrcLines = ibec_Explode(ibec_CRLF(), PSQLSourceIn);
   PSQLSourceOut = '';
   foreach (SrcLines as Line key Idx) do
   begin
     if (ibec_Pos('--$$', Line) > 0) then
       Line = ibec_StringReplace(:Line, '--$$', '', __rfReplaceAll) + ' --
$$';
     PSQLSourceOut = PSQLSourceOut || Line || ibec_CRLF();
   end;
end
```


And the second one (*On Get modified PSQL source*) template:

```
execute ibeblock (
   DatabaseID variant comment              'Internal ID (within IBExpert) of
the database associated to the PSQL debugger',
   ObjectName variant comment              'PSQL object name',
   ObjectType variant comment              'PSQL object type',
```
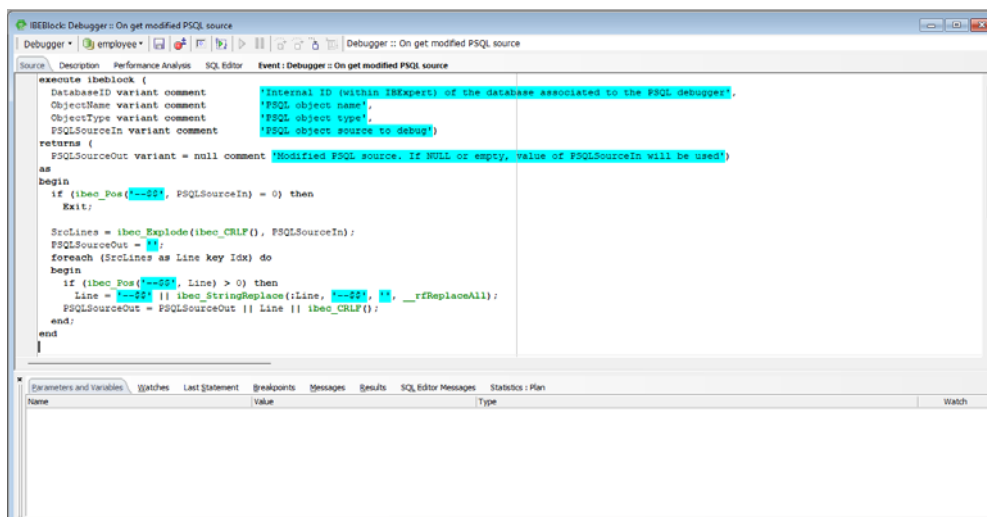
```
  PSQLSourceIn variant comment           'PSQL object source to debug')
returns (
  PSQLSourceOut variant = null comment 'Modified PSQL source. If NULL or
empty, value of PSQLSourceIn will be used')
as
begin
  if (ibec_Pos('--$$', PSQLSourceIn) = 0) then
    Exit;

  SrcLines = ibec_Explode(ibec_CRLF(), PSQLSourceIn);
  PSQLSourceOut = '';
  foreach (SrcLines as Line key Idx) do
  begin
    if (ibec_Pos('--$$', Line) > 0) then
      Line = '--$$' || ibec_StringReplace(:Line, '--$$', '',
__rfReplaceAll);
    PSQLSourceOut = PSQLSourceOut || Line || ibec_CRLF();
  end;
end
```


In practice, this means that you can use the new method of commenting while debugging. To comment you should use following string: --$$. The comment will be removed while in the debugger. For example:

The original source would be something like:

```
create procedure
returns (id bigint)
as
begin
  for
    select id
```

```
    from customer
--$$ where id=123
    into id
do
suspend;
end
```

The *before event* block will change the code to:

```
create procedure
returns (id bigint)
as
begin
  for
    select id
    from customer
     where id=123  --$$
    into id
do
suspend;
end
```

and the *after event* block changes the code back before compilation:

```
create procedure
returns (id bigint)
as
begin
  for
    select id
    from customer
--$$ where id=123
    into id
do
suspend;
end
```

After that, only when the debugger code was changed and the user confirms the changes to be used for the stored procedure.