Notice to Candidate — Important
AxiCorp Software Developer Test Assignments FAQ

Started 27 March 2020 Smith
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Instructions for Candidate (You)

If you are an AxiCorp software developer hiring candidate, please read this *entire* document and ensure you understand it *completely.* If you have any questions, please send them to your HR contact. Their contact details are below.

Do not just read the red text in this document. You will not do well on the test assignment unless you read and understand this entire document.

LinkTek vs. Axiom Tasks (Color Coding)

AxiCorp has two different development groups. We refer to one as "LinkTek" and the other as "Axiom". They use different development technologies from one another. This FAQ PDF is for LinkTek candidates *and* Axiom candidates.

Anything in blue is specifically and exclusively for candidates applying for a LinkTek C# development position.

Anything in orange is specifically and exclusively for candidates applying for an Axiom Revit development position.

Not Yet Used: Anything in green is specifically and exclusively for candidates applying for an Axiom MicroStation Development Language (MDL) development position.

Not Yet Used: Anything in purple is specifically and exclusively for candidates applying for an Axiom C++ development position.

Everything else in this document (red and black text) applies to *all* candidates.

Human Resources ("HR") Contact

Your HR contact is Nikhil Nanavati, Skype ID "nikhil-nanavati".

Is this test paid?

Yes

Is this test timed?

Yes. This test is timed.

Is this test a trick to get free software development from you?

No. We give the same test to every candidate applying for this position.

Then what is the purpose of this test?

This test has *two* purposes:

1. For us to find out if you are the very specific kind of software developer we are looking for.

2. For you to find out if our type of software development work is what you want to work on. The grading factors (code quality) below will tell you a lot about us as a company.

    > **Note:** Even this FAQ should tell you a lot about us as a company and about our development emphasis. If all this does not resonate positively with you, just let us know and don't take this test. No problem!

CRITICALLY IMPORTANT: Code quality points — what exact factors does AxiCorp grade your submission on?

Consideration should be given to *all* of the following items when writing code for this test:

*   Writing *modular* code (such that each program action that will have to be repeated in multiple places in the code is isolated in its own well-defined function).

*   Clearly and unambiguously naming variables, functions, objects, files and other source code elements.

*   Trapping all errors and unexpected conditions.

*   Producing a maximally clear message for each error and unexpected condition your code may encounter.

*   Clearly and effectively documenting your code.

*   Creating intuitive, aesthetic and efficient user interfaces.

*   Meticulously and consistently maintaining the formatting of your source code and comments.

*   Developing code to the above standards *quickly*.

Those are the exact things we grade your submitted source code on. It is *critical* that you focus on *all* of those points while taking this test as they are what we value as a company.

Important Tip: Some candidates only focus on *some* of those points and do poorly on the points they don't focus on. That will almost always result in a poor test score. We actually care about *all* of those things.

Can you (the candidate) keep the code you create during this test?

Sure. Keep a copy of your code if you want. You wrote it and we didn't pay you to write it. When you submit it to us for evaluation, you are providing it to us freely with no strings attached. We will keep the copy you give us.

Files

When the test clock starts, we will provide you with:

1. A description of the test assignment. It will be a software development task with specific requirements. This is usually in a PDF.

2. LinkTek Only (Not Axiom): A database file (.bak) inside a zip file.

When you are done:

- Please provide us with all the files needed to build your program. Do not leave any files out. Zip them up and Skype them to us.

- Please include clear instructions on how to build your test program and to get it running on our own computers. Think through the things that could go wrong. You do not have to spend time making these instructions beautiful, but please make them *clear*.

- Please tell us which Visual Studio version you used.

If your solution doesn't build here using your instructions, that's a serious problem.

Development Technology

Please ask *before* using *any* third-party libraries.

LinkTek C# Assignment (Not Axiom)
- Please use *vanilla* Visual Studio 2017, 2019, or 2022.

- Please target .NET **Framework** 4.6.1. Do not use .NET Standard and do not use .NET Core. Do not use a different .NET Framework version number.

- Please use Windows Presentation Foundation (WPF).

- Please use the Caliburn.Micro MVVM framework — not just the MVVM pattern.

- Please use a modern version (not more than a few years old) of SQL Server or SQL Server Express.

- Please do not use *any* dependencies we would have to download or install on our side.

Axiom Revit Developer Assignment (Not LinkTek)

- Please use the MVVM design pattern in your development.

- Please ensure your solution will build here with *vanilla* Visual Studio 2019 or 2022.

- Please do not use *any* dependencies we would have to download or install on our side.

- Please target .NET **Framework** versions between 4.7 and 4.81. Do not use a .NET Framework version number outside that range. Do not use .NET Standard and do not use .NET Core.

Axiom MicroStation Development Language (MDL) Developer Assignment (Not LinkTek)

We do not currently have any specific instructions for this category.

Axiom C++ Developer Assignment (Not LinkTek)

We do not currently have any specific instructions for this category.

How important is speed (finishing the test fast)?

Finishing really fast but skipping our code quality points will result in bad test scores. A fast test time cannot replace adherence to our code quality points.

Evaluating your time management ability is part of this test.

Take enough time to emphasize our code quality points. Be sure you correctly understand and implement the described test assignment. Implementing something other than that software development task (as described in the document you will receive when the clock starts) will result in *very bad* test scores.

What if you take too long on the test assignment?

LinkTek Only (Not Axiom): If you take more than *approximately* eight (8) hours but get excellent scores on the code quality points, that would be *totally* okay. We have had candidates take up to ten (10) hours on the test but produce a spectacular solution, and we have had candidates do very well in as little as six (6) hours. We have even had candidates take longer than ten (10) hours and still get good scores.

Axiom Revit (Not LinkTek): If you take more than *approximately* five (5) hours but get excellent scores on the code quality points, that would be *totally* okay. We have had candidates take up to seven (7) hours on the test but produce a spectacular solution.

That time frame is *just* a guideline and its purpose is so that you:

a. Understand what is expected. Knowing it is an approximately eight-hour task should tell you a lot about how to implement it.

b. Can make the best use of all the available test time.

c. Can opt out beforehand if you do not want to spend that much time on an unpaid test.

Note: Regardless of how short or long you take to finish the test assignment, you are advised to fully understand and follow *all* of the guidelines in the PDF you are reading right now *and everything* in the test assignment description you will be given when the test starts. **If you neglect the code quality points or any of the test assignment parameters, you will not score well.**

Again: It is okay to spend more than the approximate time mentioned above on the test, as long as you are using the *entire* test time to focus on the code quality points defined in this document.

When does the test start/begin?

The clock starts at the time we agree upon. At the moment the test starts, we will send you the description of the test programming task.

When is the test over/complete/done?

The test clock stops when we receive your last file. If you forget a file and send it later, *that later time* becomes the test end time. This is necessary to prevent someone from "gaming" the test.

If you spread the test over to tomorrow (multiple days), the test is automatically invalid because we have to count the overnight time as time spent on the test.

Please note that we prefer to start the test in *our* morning. If this is not possible for you, we can discuss alternatives that work for you. But, if you are hired, most of our work needs to be on our schedule anyway (so other teammates can talk to you).

Questions during the test?

We want you to get *instant* responses if you have questions **during** the test. **While performing the test assignment,** if you don't get a response from your test administrator within about one minute, please Skype your HR contact and ask that person to immediately call your test administrator on the phone. **We do not want you to experience *any* avoidable delays during your test.**

Note: Sometimes your test administrator is the same person as your HR contact. When that is the case, they know they are your only contact for questions and they will be sure to remain available for you while you work on the test.

Please ask us any questions you have. **Asking questions does not reduce your test score.**

There are some questions we will not answer because problem solving is part of this test. But we will tell you if that is the case after you ask a question and *asking* is encouraged.

No specific question automatically disqualifies you.

No quantity of questions automatically disqualifies you.

Quality of questions

Lazy questions are not good though. Asking a question that is clearly covered in this document or the test assignment document is a waste of our time and could send the message that you:

a. Are not fluent in written English comprehension; or

b. Don't actually read instructions.

Both of those things are negatives.

Please actually read and re-read this FAQ PDF before asking questions that might be answered in it.

Also please re-read the test description (supplied when the test starts) before asking questions that might be answered in it. If you still have questions at that point, <u>definitely ask us right away.</u>

Common mistakes

Here are some common mistakes people taking the test make:

- Assuming something instead of asking us.

- Using some third-party library without asking us first.

- Working on something too long before asking us about it.

- Not strictly following the MVVM pattern.

- Submitting solutions that don't build easily for us, or submitting incomplete build instructions.

- Bad error messages.

- Less than exceptional error handling.

- Inelegant user interface.

- Code which is not modular.

- Scheduling the test for the wrong time and therefore not being able to finish it in one uninterrupted block of time.

- Submitting a solution which is slow.

- Not anticipating common things users of this tool would want to do.

- Creating a solution which is subpar because "this is just the first version." This is the only version upon which we will evaluate your fit for this position — it should demonstrate the very best work you can do, including performance, sensible features, pleasing UI, error handling, error messages, comments, modularity, etc.

When will AxiCorp evaluate my submission?

We will evaluate your test submission source code within approximately two business days. It may take some additional time before our HR department reaches out to you — feel free to check with them after two business days if you haven't heard from them.

After your test has been submitted, please *do not* ask your test administrator for updates — ask your HR contact, whose name is at the top of this document. (Sometimes these are two different people.)

What feedback will I receive?

We are *only* able to offer you the following feedback about your submitted programming solution:

- It *is* what we are looking for.

- It *is not* what we are looking for.

We *will not* provide detailed feedback on your submitted solution. **Please ensure you are okay with that (and every other point in this document)** *before* **agreeing to do the test assignment.**

We do not offer criticisms of candidates. **Plenty of *exceptional* candidates are simply not the developer we are specifically looking for at this time.** If your submitted solution is not what we are looking for, *that is not a reflection on you.* It *only* means your submission is not what we are looking for *at this time*. Please do not take it personally if your submitted solution is not what we are looking for.

We are optimizing for very specific things and trying to balance those in particular ways to meet our business goals.

Please take *this* feedback *in advance:* Since you got to this point in the interview process, you are probably a *very experienced, capable* software developer who does not need any single software development job.

It is also okay if you are not the particular type of software developer we are looking for.

If you don't think code quality points listed earlier in this document are important, or if you think they are not your strong points, please just let us know *now*.

If you aren't excited about the approach we take in our interview and selection process (including this document), please let us know *now*.

In both cases, it is not necessary for you to take this test. **And that is totally okay!** We are looking for a particular kind of software developer — one that shares our values and has a very specific skillset. We are looking for someone with whom our process resonates and who will fit in here with us for a very long time.

It is okay if we are not the particular type of employer *you* are looking for.

We consider this to be a two-way evaluation. This process is an opportunity for *you* to see what kind of business we are. This way you can decide if this is a place you would like to work in the future. **It is okay if you don't think we are a match for you.** We respect that. And it's okay to tell us.

We are also open to your feedback. We want to improve at every opportunity. And if you don't want to offer feedback, that is also totally okay.

What about schedule and language?

We are usually looking for candidates who:

- Have a spoken English comprehension of at least [ILR Level 3](#) (maybe a [2](#) in some cases).

- Have the ability to speak English at [ILR Level 2](#).

- Desire full-time software development work.

- Can work on our schedule.

- Can attend our daily 9:30AM Eastern Time stand-up call most weekdays.

If any of the above are problems for you (language, schedule, etc.) please discuss it with us *before* you take the test. **We respect your time and we do not want to waste it.**

Information below this point is for test maintainers, not for candidates.

Test Time Period

LinkTek (Not Axiom): This document gives an average test time period of eight (8) hours for the LinkTek test assignment. That matches the *LFA* C# test as of 27 March 2020. This time period would not necessarily apply to a different version of this test or to a different test.

Axiom Revit (Not LinkTek): This document gives an average test time period of five (5) hours for the Axiom Revit test assignment. That matches the Axiom Revit test assignment as of 11 April 2023. This time period would not necessarily apply to a different version of this test or to a different test.

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